

# SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

## Final Environmental Assessment for Proposed Rule 1177 – Liquefied Petroleum Gas Transfer and Dispensing

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## PREFACE

This document constitutes the Final Environmental Assessment (EA) for Proposed Rule (PR) 1177 – Liquefied Petroleum Gas Transfer and Dispensing. The Draft EA was released for a 30-day public review and comment period from April 3, 2012 to May 2, 2012. One comment letter was received from the public on the Draft EA. This comment letter, along with responses to the comments, is included in Appendix C of this document.

Subsequent to release of the Draft EA, minor modifications were made to PR 1177. To facilitate identification, modifications to the document are included as underlined text and text removed from the document is indicated by ~~strike through~~. Staff has reviewed the modifications to PR 1177 and concluded that none of the modifications alter any conclusions reached in the Draft EA, nor provide new information of substantial importance relative to the draft document. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15073.5. Therefore, this document now constitutes the Final EA for PR 1177.

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## **CHAPTER 1**

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### **PROJECT DESCRIPTION**

**Introduction**

**California Environmental Quality Act**

**Project Location**

**Project Objectives**

**Project Background**

**Affected LPG Equipment and Methods of Compliance**

**Project Description**

## **INTRODUCTION**

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977<sup>1</sup> 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 district<sup>2</sup>. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP<sup>3</sup>. The 2007 AQMP concluded that major reductions in emissions of particulate matter (PM), oxides of sulfur (SOx) and oxides of nitrogen (NOx) are necessary to attain the state and national ambient air quality standards for ozone, particulate matter with an aerodynamic diameter of 10 microns or less (PM10) and particulate matter with an aerodynamic diameter of 2.5 microns or less (PM2.5). More emphasis is placed on NOx and SOx emission reductions because they provide greater ozone and PM emission reduction benefits than volatile organic compound (VOC) emission reductions. VOC emission reductions, however, continue to be necessary, especially to assist with achieving the ozone and PM2.5 ambient air quality standards. PR 1177 would partially implement 2007 AQMP Control Measure CM #2007 MCS-07 – Application of All Feasible Measures, to reduce fugitive emissions of VOCs from the transfer and dispensing of LPG, as explained in more detail below.

Ozone, a criteria pollutant, is formed when NOx and VOCs react in the atmosphere and has been shown to adversely affect human health. The federal one-hour<sup>4</sup> and eight-hour ozone standards were exceeded in all four counties and in the Salton Sea Air Basin in 2010. The Central San Bernardino Mountain area recorded the greatest number of exceedences of the one-hour state standard (52 days), eight-hour state standard (101 days), and eight-hour federal standard (74 days). However, none of the four counties had health advisory days in 2010. Altogether, in 2010, the South Coast Air Basin exceeded the federal eight-hour ozone standard on 102 days, the state one-hour ozone standard on 79 days, and the state eight-hour ozone standard on 131 days.

In May 1992, the California Air Resources Board (CARB) conducted a study to determine the usage patterns of liquefied petroleum gas (LPG) which is classified as a VOC, and to estimate emissions resulting from the transfer operations for the entire state of California. This effort was the first attempt to quantify LPG transfer emissions in California and the study found that total emissions were estimated to be 1,131 tons per year (3.11 tons per day) or the equivalent of 464,000 gallons of LPG emitted as fugitive VOCs. LPG emissions identified in the CARB survey were based on 722 million gallons of LPG transferred in California. The CARB survey also relied upon data provided by the National Propane Gas Association (NPGA). The report also concluded that fugitive LPG emissions from the fixed liquid level gauge (FLLG), a liquid level indicator relied upon to indicate when the tank reaches capacity during filling operations, were just as substantial as emissions from filling line disconnections. Under CARB's Innovative Clean Air Technologies (ICAT) grant program, in 2006, the Adept Group Inc. evaluated and recommended methods to reduce fugitive VOC emissions from FLLGs during LPG tank filling

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

<sup>2</sup> Health and Safety Code, §40460 (a).

<sup>3</sup> Health and Safety Code, §40440 (a).

<sup>4</sup> The federal one-hour ozone standard was replaced by the federal eight-hour ozone standard, effective June 15, 2005.

operations. Subsequently, the District, in partnership with the Western Propane Gas Association (WPGA), conducted a review of the areawide emissions inventory, including a series of source tests to quantify FLLG emission rates. The updated operating parameters and emission rates resulted in a revised emission inventory of 8.6 tons of VOC per day within the district.

The 2007 AQMP, Control Measure CM#2007 MCS-07 – Application of All Feasible Measures, contains unspecified VOC reduction goals. Further, the California Clean Air Act (CCAA) requires districts to achieve and maintain state standards by the earliest practicable date and for extreme non-attainment areas, to include all feasible measures pursuant to the Health and Safety Code §§40913, 40914, and 40920.5. The term “feasible” is defined in the Title 14 of the California Code of Regulations, §15364, as a measure “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.”

Based on CARB’s study, the subsequent evaluation and recommendations made by the Adept Group Inc. relative to LPG emissions, the development of low emission FLLGs and connectors, and the general VOC reduction goals in the 2007 AQMP, PR 1177 – Liquefied Petroleum Gas Transfer and Dispensing, would partially implement Control Measure CM #2007 MCS-07 – Application of All Feasible Measures, to reduce fugitive emissions of VOCs from the transfer and dispensing of LPG. The processes contributing to these emissions include delivery and transfer of LPG to residential, industrial and commercial users, fueling stations and cylinder refueling. PR 1177 would apply to the transfer of LPG to and from stationary storage tanks, ~~and~~ cargo tanks ~~(–including bobtails, tanker trucks and rail tank cars),~~ and cylinders, and the transfer of LPG into portable refillable tanks. Upon full implementation, the anticipated emission reductions of VOCs from implementing PR 1177 are estimated at 6.1 tons per day at full implementation.

### **CALIFORNIA ENVIRONMENTAL QUALITY ACT**

PR 1177 is a discretionary action by a public agency, which has potential for resulting in direct or indirect changes to the environment and, therefore, is considered 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 and SCAQMD Rule 110. 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 or negative declaration once the Secretary of the Resources Agency has certified the regulatory program. SCAQMD’s regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110.

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, the SCAQMD has prepared this Final ~~draft~~-EA to address the potential adverse environmental impacts associated with the proposed project. The Final ~~draft~~-EA is a public disclosure document intended to: (a) provide the lead agency, responsible agencies, decision makers and the general public with information on the environmental effects of the proposed project; and, (b) be used as a tool by decision makers to facilitate decision making on the proposed project.



SCAQMD's review of the proposed project shows that PR 1177 would not have a significant adverse effect on the environment. Because PR 1177 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.

One comment letter was received relative to the analysis prepared in the Draft EA during the 30-day public review period (from April 3, 2012 to May 2, 2012). This comment letter, along with responses to the comments, is included in Appendix C of this document. Prior to making a decision on the proposed rule, the SCAQMD Governing Board must review and certify that the Final EA complies with CEQA as providing adequate information on the potential adverse environmental impacts of the proposed rule. None of the comments in the letter alter any conclusions reached in the Draft EA, nor provide new information of substantial importance relative to the draft document. Comments received on the Draft EA during the public comment period and responses to comments will be prepared and included in the Final EA for the proposed project.

## **PROJECT LOCATION**

PR 1177 would reduce fugitive VOC emissions from the transfer and dispensing of LPG at facilities, not otherwise subject to SCAQMD Rule 1173 - Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Refineries and Chemical Plants, throughout the SCAQMD's jurisdiction. The SCAQMD has jurisdiction over an area of 10,473 square miles, consisting of the four-county South Coast Air Basin (Basin) and the Riverside County portions of the Salton Sea Air Basin (SSAB) and the Mojave Desert Air Basin (MDAB) referred to hereafter as the district. The Basin, which is a subarea of the district, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The 6,745 square-mile Basin 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 and MDAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal non-attainment area (known as the Coachella Valley Planning Area) is a subregion of both Riverside County and the SSAB and is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1-1).

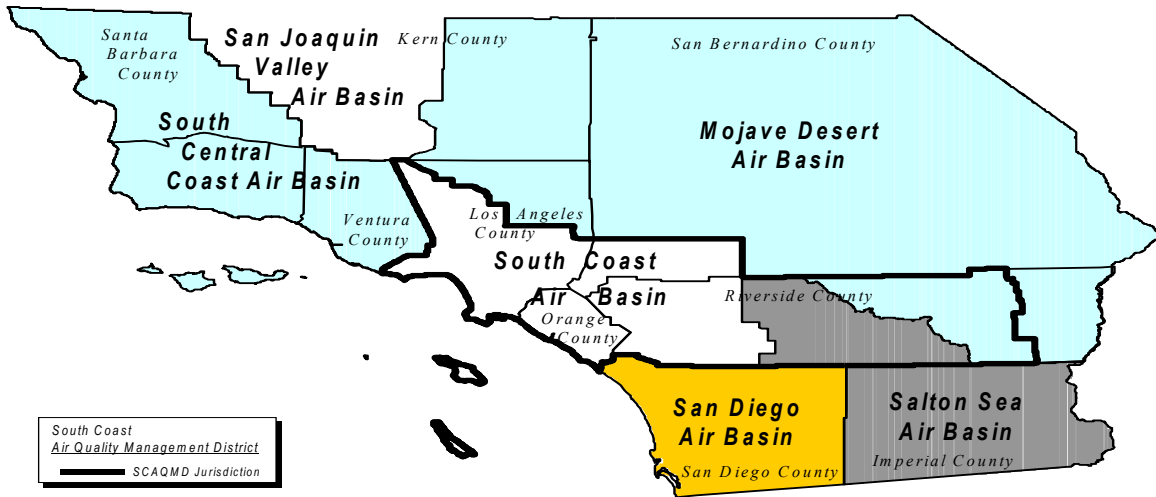


Figure 1-1

Boundaries of the South Coast Air Quality Management District

## PROJECT OBJECTIVES

The project objectives of the proposed project include the following. One objective is to implement, in part, 2007 AQMP Control Measure CM#2007 MCS-07 to assist the SCAQMD in its efforts to attain and maintain all state and federal ozone and PM ambient air quality standards. The main objective of PR 1177, however, is to reduce fugitive VOC emissions during the transfer and dispensing of LPG at facilities not otherwise subject to SCAQMD Rule 1173. PR 1177 would target processes contributing to these emissions, including delivery and transfer of LPG to residential, industrial and commercial users, fueling stations and cylinder refueling. Specifically, PR 1177 would apply to the transfer of LPG to and from stationary storage tanks, and cargo tanks (including bobtanks, tanker trucks and rail tank cars), and cylinders, and the transfer of LPG into portable tanks.

## PROJECT BACKGROUND

### LPG Properties

LPG is a petroleum product composed predominantly of any of the following hydrocarbons or mixtures thereof: propane, propylene, butanes (normal or isobutane) and to a lesser extent butylenes, and is classified as a VOC. Although consisting mainly of propane and butane, in some parts of the country, propane itself is commonly referred to as LPG. Unlike gasoline, which is a liquid under normal or standard temperatures and atmospheric conditions (pressure), LPG is a vapor under similar conditions, and must be stored and transported in closed containers under pressure to retain its liquefied state. LPG may also be refrigerated to reduce the pressure at which it has to be stored.

LPG is colorless and odorless and about 1.5 times as heavy as air in the vapor state. Therefore, in general it is necessary, as a fire and safety precaution, to contain an odorant in order to warn

users of its presence in the event of leaks. Organosulfur compounds are usually used for this purpose with the most common odorant being ethyl mercaptan. Most states require a minimum of one pound of odorant to be injected into 10,000 gallons of LPG loaded. In addition, LPG is classified by the National Fire Protection Association (NFPA) as a flammable gas and as an extremely flammable liquid (fire rating = 4)<sup>5</sup>. Due to the flammability of LPG, proper handling and storage of LPG is also regulated by the Department of Transportation (DOT) and the Occupational Safety and Health Administration (OSHA) as a hazardous material.

Because, LPG is typically sold as a liquid, it is metered and paid for on a per volume basis in accordance with standards mandated by the Bureau of Weights and Measures. Thus, the task of transferring LPG from storage containers in a liquid state needs to be accomplished under normal atmospheric conditions, but at operating pressures higher than atmospheric through the use of pumps or vapor compressors in a closed system. In order for LPG to remain in a liquid state when transferred, operating pressure cannot be compromised. Thus, maintaining a closed, pressurized system serves to reduce fire and safety risks as well as creates an incentive that ensures that the customer is paying for product that is actually transferred rather than paying for lost product.

The properties of LPG are unique because LPG can be stored and easily (and more cheaply) transported in a liquid state and used later in a gaseous state. Most commercial and industrial applications require LPG to be converted from a liquid state to a gaseous state and this is readily accomplished by lowering the operating pressure to atmospheric conditions. The advantage obtained from reduced transportation costs associated with liquefied LPG is sufficient to offset the cost of actually liquefying and maintaining the LPG in a liquid state. Lastly, LPG burns relatively cleanly, resulting in lower greenhouse gas (GHG) emissions than most other fossil fuels when measured on a total fuel cycle<sup>6</sup>.

### **LPG Applications**

LPG has multiple uses in numerous applications ranging from cooking, heating, air conditioning and transportation, as well as industrial uses where LPG can be used as a fuel in metallurgical plants or as a standby fuel. In some cases LPG is used as a chemical feedstock at manufacturing plants, and is also available for use in motor vehicles, where it is commonly referred to as autogas, although its introduction to the motor vehicle fuel market has thus far been limited.

From the point of LPG production either from natural gas processing or crude oil refining to where the product reaches the end user, LPG is bought, sold, transported or distributed by wholesalers and refiners, retail bulk plants and other functions to be utilized in multiple applications. The facilities and operations affected by PR 1177 are mainly represented by two Standard Industrial Classification (SIC) codes, 4925 - Mixed, Manufactured, or LPG Production and/or Distribution [North American Industry Classification System (NAICS) - no NAICS equivalent] and 5984 - LPG (Bottled Gas) Dealers [NAICS 454312]. However, processes not represented by either SIC code, but which include the transfer or dispensing of LPG, may still be subject to the requirements in PR 1177 and will be evaluated on an individual basis to determine

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<sup>5</sup> NFPA Flammability Rating: 0 = Not Combustible; 1 = Combustible if heated; 2 = Caution: Combustible liquid flash point of 100° F to 200° F; 3 = Warning: Flammable liquid flash point below 100° F; 4 = Danger: Flammable gas or extremely flammable liquid

<sup>6</sup> Energetics, "Propane Reduces Greenhouse Gas Emissions – A Comparative Analysis," p. 3, 2009.

rule applicability. The following discussion describes the various LPG usage categories and the specific applications in each category.

Industrial: Industrial applications of LPG usage occur in manufacturing plants where the LPG is used as fuel for standby equipment, space heating, and flame cutting and metallurgical furnaces.

Commercial: Commercial applications of LPG usage typically occur at facilities such as motels and restaurants where LPG is utilized for space heating, water heating, cooking and laundering. The commercial category also includes sales of LPG to bottle fillers, campgrounds, and hardware stores.

Residential: In California and the district, residential LPG usage accounted for the largest market share of LPG sales. Typically, residential LPG is distributed in areas where there is a lack of infrastructure for distributing natural gas. Residential customers use LPG for space heating, indoor and outdoor cooking, water heating, swimming pool heating, clothes drying, lighting and cooling. Recreational vehicle (RV) fueling is also included in the residential market category and LPG is used in RVs for power generation, heating and refrigeration.

Chemical: The chemical market segment in the district accounts for only 20 percent of total LPG sales. LPG is sold to the petrochemical industry where it is used as a raw material in various chemical processes. Some typical products manufactured from LPG include ethylene, benzene, toluene, xylene, and methanol which are feed chemicals for manufacturing polymers and other specialty chemicals.

Internal Combustion Engine Fuel: The majority of LPG in this category is used as forklift fuel because VOC emissions from propane combustion are much less than if diesel or gasoline was used to fuel the forklifts. For this reason, LPG-fueled forklifts are widely used inside warehouses. In addition, LPG is also commonly used for fueling internal combustion engines that run highway vehicles, and oil field drilling and production equipment.

Agricultural: Agricultural use of LPG on farms accounts for about seven percent of total sales in the district. LPG is used by the farming industry for fueling tractors, irrigation engines, standby electric generators, space heaters in buildings (including farm houses). LPG is also used for cooking, crop drying, tobacco curing, poultry, and other related agricultural applications.

Sales to Retail: Wholesalers of LPG supply retail locations where 20-pound cylinder filling occurs such as dispensing stations or hardware stores which conduct LPG cylinder sales as part of exchange programs. An exchange program is when a customer brings in an empty portable LPG cylinder, and exchanges it for a full replacement cylinder. Exchange program cylinders are filled by weight at bulk loading facilities using an automated system and then delivered by trucks to exchange sites so that no LPG filling activities occur at the retail sites.

### **LPG Transportation Activities and Transfer Methods**

There are three main ways that LPG is transported: 1) via railroad tank cars; 2) via tanker trucks; and, 3) via bobtail trucks. Depending on which way the LPG is transported, the transfer and dispensing method will vary according to the type of transportation involved. The following discussion describes each transportation activity and its corresponding transfer method.

Railroad Tank Car: Railroad tank cars deliver LPG to bulk plant unloading stations in very large quantities. Railroad tank cars are by far the largest DOT tanks that transport LPG, ranging in size from 4,000 gallons water capacity to 45,000 gallons water capacity. Each railroad tank car that transports LPG is equipped with fittings and valves enclosed in a protective dome that is located on the top of the cargo tank. There are valves, including the emergency shut-off valve, housed in the dome on the top of the railroad tank car. Also included in the dome area are liquid and vapor hose connections which connect to the plant piping system to allow the transfer of LPG from the railroad tank car to different locations within the plant. The sizes of railroad tank cars observed in the district range from 30,000 gallons water capacity to 34,000 gallons water capacity and railroad tank cars in this size range can be emptied within 45 minutes to one hour with the use of a compressor or pump.

A typical LPG railroad tank car has openings only on the top and none on the bottom. Unloading racks or stations have a ladder and platform that provide access to a manway on the railroad tank car, which provides access to the valves within the dome. Because railroad tank cars are not equipped with their own pumps or compressors, loading and offloading of product is accomplished via liquid and vapor hose connections each equipped with an emergency shutoff valve, that connect directly to the bulk plant's piping and pumping system. Multiple tank cars may be loaded or unloaded without moving the cars.

During offloading, the bulk plant's liquid pump cannot fully empty all of the LPG from the railroad tank car. Typically, there is a small amount of LPG left in the railroad tank car that is referred to as the "liquid heel." In addition, even if most of the liquid may be pumped out of the railroad tank car, the tank would still contain vapors in the air space above the liquid level left in the tank. These remaining vapors may have the equivalent of as much as three percent of the tank's capacity.

A compressor is equipped with a four-way valve system that can be used to facilitate the transfer of LPG from the railroad tank car to the bulk plant's stationary storage tank. In order to move liquid LPG product from the railroad tank car to the stationary storage tank, the vapor portion of the LPG in the stationary storage tank is drawn into the compressor through the vapor line and is slightly compressed. The compressed vapor then enters the top of the railroad tank car, thereby increasing the pressure in the railroad tank car and inversely reducing the pressure in the stationary storage tank. This difference in pressure between the railroad tank car and the stationary storage tank will cause the liquid to move through the separate liquid line from the railroad tank car into the stationary storage tank.

Once all of the liquid has been removed from the railroad tank car, the compressor four-way valve system setting is rotated 90 degrees to allow the vapor flow to change direction, thereby pulling vapors from the top of the railroad tank car and discharging them back into the liquid section of the stationary storage tank. This reversal of direction will prevent excessive pressure build up in the stationary storage tank. When this process is complete, the liquid line valve is placed in the closed position. The existing liquid in the stationary storage tank will condense the returned vapor into additional liquid. The goal of this process is to facilitate the movement of the vapors and condense them into liquid form in such a way that the changes in pressure in the two vessels are gradual.

**Tanker Truck:** Tanker trucks, also referred to as truck transports, are another way LPG can be delivered. Tanker trucks transporting LPG typically have a water capacity of approximately 10,000 gallons. Because of their size, tanker trucks deliver LPG to facilities that have a substantial storage capacity such as bulk loading facilities, including industrial sources or chemical plants.

To unload a tanker truck, the liquid line from the tanker truck is connected to the liquid line of the storage tank. Similarly, vapor lines from the tanker truck and the storage tank are also connected, thereby forming a closed loop vapor return/equalization system that promotes the efficient transfer of LPG from the tanker truck to the storage tank.

Unlike railroad tank cars, tanker trucks are equipped with either a pump or a compressor that is used during the LPG offloading process. However, using a compressor is preferred over a pump because it is more effective in facilitating a more complete transfer of liquid LPG from the tanker truck to the storage tank via the transfer lines. If a pump is used to offload the tanker truck, the transfer of LPG is not as complete because the hose of the liquid line may have some retention of residual liquid in it.

**Bobtail Truck:** Bobtail trucks are the third way LPG is transported to its customers. A bobtail truck is much smaller than a tanker truck such that a bobtail truck has a water capacity in the range of 2,500 gallons to 3,000 gallons. Due to their smaller size, bobtail trucks are used to transport smaller volumes of LPG to residential, industrial (for forklift tank fueling), commercial and retail sales facilities. These facilities tend to store relatively small amounts (less than 10,000 gallons) of LPG. For example, a bobtail truck can make multiple deliveries with one truck load of LPG to both residential and commercial customers, since residential tanks are typically sized between approximately 150 gallons water capacity and 500 gallons water capacity and commercial tanks can be as large as 1,000 gallons water capacity.

Unlike a tanker truck, a bobtail truck does not have a vapor return/equalization line. However, a bobtail truck is equipped with a pump that transfers LPG to the customer's storage tank via an extended hose line. Upon completion of the transfer process, the hose is disconnected and rolled back onto a spool at the end of the truck.

Also, unlike a tanker truck, when a bobtail truck is loaded with LPG, the bobtail truck is equipped with a FLLG which may be opened to varying degrees either intermittently or continuously, depending on operator practice. Opening of the FLLG ensures that the product (LPG) in the tank remains at a safe level during filling. The bobtail truck's cargo tank usually has a separate gauge that indicates the LPG volume, and an operator will usually determine that a tank is filled when liquid level is somewhere in the range of 80 to 87 percent capacity depending on the season, temperature or the period of time that the LPG is allowed to remain in the cargo tank before delivery.

### **LPG Storage**

LPG storage can occur in portable storage cylinders or in stationary storage tanks. The following paragraphs describe each type of LPG storage.

**Cylinders:** Propane cylinders are the most common type of portable LPG storage vessels. All cylinders used for LPG storage are manufactured according to DOT specifications. The most

common type of LPG storage cylinder is a barbecue cylinder. Barbecue cylinders are typically used in gas grills, but they are also used to fuel outdoor space heaters such as those used on patios at outdoor restaurants. Barbecue cylinders are rated at 20 pounds which is equivalent to 4.7 gallons water capacity. In addition, a barbecue cylinder can be refilled at a local retailer or exchanged at a location that participates in a cylinder exchange program. Exchange program cylinders are filled by weight at bulk loading facilities using an automated system and then delivered by trucks to exchange sites so that no LPG filling activities occur at the retail exchange sites. According to the WPGA, over the last few years there has been a shift from refilling barbecue cylinders at retail stations to exchanging empty cylinders at exchange sites.

Forklift Cylinders: Forklifts are standard equipment found predominantly at industrial facilities and warehouses and can be used either indoors or outdoors. The fuel tank that is connected to the forklift is referred to as a forklift cylinder. Because forklift cylinders can be disconnected from the forklift for refilling or replacement, forklift cylinders, like barbecue cylinders, are portable. Thirty-three pound LPG cylinders can hold approximately 7.9 gallons of LPG and are typically used to power most of the forklifts used at industrial sites. There are some larger forklifts in use that are equipped with 40-pound LPG cylinders that can hold approximately 9.4 gallons of LPG. LPG used to fuel forklift cylinders is typically in liquid form. Also, forklift cylinders are frequently mounted horizontally on the back of the forklift, but some forklift designs have vertical mounts. In either case, the fuel gauge on a forklift is designed to accurately indicate LPG levels when the forklift cylinder is in either a horizontal or a vertical position.

To refill forklift cylinders, a forklift cylinder delivery service, similar to a barbecue cylinder exchange, is offered by many companies. In addition, there are other LPG providers that make service calls to fill the forklift cylinders onsite. Forklift cylinders can be filled either by weight or by volume, but cylinders that are filled offsite and are transported are required to be filled by weight according to DOT regulations. In addition, forklift cylinders that are filled by volume, can be filled either by relying on a gravity-fill system, a pressure-fill system using a pump and motor, or filled directly from a bobtail truck.

Residential and Commercial Storage Tanks: In addition to portable cylinders, LPG storage containers also include stationary storage tanks that are used at residential and commercial facilities. Storage tanks can range from 150 gallons to 500 gallons for residential applications and from 250 gallons to 1,100 gallons for commercial applications. Both residential and commercial storage tanks are filled by bobtail trucks and may be filled up to levels ranging from 80 percent to 87 percent of the tank's total capacity depending on the ambient temperature. In addition, some of these tanks have more than one FLLG to accommodate the different fill levels. For example, during the summer months, operators are more likely to fill these tanks to the 80 percent level to allow for expansion at higher ambient temperatures.

### **LPG Fuel Dispensing**

A dispensing system for LPG fuel consists of four essential functional components: 1) a storage tank; 2) a pump; 3) a metering unit; and, 4) component-connection piping (including valves and other control elements) that leads from the metering unit to the dispensing nozzle or connector.

The design of the dispensing system must also reflect its use in a specific delivery application. For example, in situations where LPG is dispensed or transferred from a bulk loading facility storage tank to a tanker truck, the transfer is typically completed at a rate of 100 gallons per

minute (gpm) or higher. However, when the same tanker truck makes its deliveries, the transfer rate of LPG will range from approximately 50 gpm to 60 gpm for retail deliveries. However, for residential deliveries via bobtail trucks, the LPG transfer rate to smaller sized storage tanks is approximately 30 gpm.

During the LPG dispensing process, the dispensing system is a closed system that is designed to prevent any liquid or vapor leaks during the transfer while being able to withstand high pressures. A dispensing system for LPG is required to comply with operating pressures pursuant to the standards developed by the American Society of Mechanical Engineers (ASME) Pressure Vessel Code, Section 8 and adopted by the Uniform Fire Code. The dispensing system must also be capable of: 1) minimizing the production of vapor within the system; and, 2) eliminating small amounts of vapor that are released to the atmosphere. Lastly, the dispensing system shall be equipped with pressure relief valves that are designed to control the amount of LPG vented to the atmosphere in the event when internal pressures exceed safety limits.

Storage Tank and Pump: A stationary storage tank is designed with a liquid fill inlet for receiving LPG and a discharge line with an outlet for dispensing LPG. A storage tank also has a vapor port that accommodates the insertion of a pressure equalization line to increase delivery efficiency under certain circumstances. The vapor port also allows for volumetric testing or system calibration. The pump provides pressure to move product from the storage tank to the receiving tank and the pump design and operating characteristics are based on its application. Also, the discharge rate and pressure of the dispensing system have to be appropriate for the system to which it delivers product.

Metering Unit: A metering unit is a device that measures the volume of liquid LPG as it passes through the meter during the dispensing process. The amount of LPG that is metered is simultaneously available to the operator and customer during the dispensing process, which allows the system operator and customer to monitor the amount of liquid that is being continuously dispensed throughout the delivery.

Vapor Eliminator and Differential Pressure Valve: As liquid is drawn from the storage tank and transferred to a receiving tank, the pressure of the liquid LPG will drop and subsequently cause some of the liquid LPG to boil. Boiling LPG will create excess vapor that increases the amount of vapor in the tank's vapor space. This occurrence is typical of any liquid LPG delivery and dispensing. To help minimize the amount of vapor that is generated during the dispensing process, the metering unit is equipped with a vapor eliminator and a differential pressure valve. The purpose of the vapor eliminator and differential pressure valve is to prevent vapor from entering the meter so that only liquid can pass through the meter for measurement. The vapor eliminator separates any vapor that is produced from the liquid flow before it reaches the meter and returns it to the vapor space in the storage tank.

The differential pressure valve maintains the pressure so that the LPG remains in a liquid state as it passes through the meter. The differential pressure valve restricts flow on the discharge side of the meter to maintain a uniform pressure in the piping and metering element upstream that is at or above the product vapor pressure.

Receiving Vessels: Receiving vessels are tanks that receive the delivered product for storage. During LPG dispensing activities, both the receiving tank and the delivery system contain a



combination of vapor and liquid LPG at all times. As the liquid is pumped into the receiving tank, the liquid level rises and in turn, causes the existing vapor in the tank to become compressed. Increased compression on the vapors in the receiving tank causes the pressure and temperature in the receiving tank to rise. Eventually equilibrium is established when the vapor in the receiving tank condenses and returns to the liquid phase.

Vapor Return Systems: Previously, older vapor return systems were designed to alleviate the pressure build-up problem in receiving tanks by connecting a vapor line between the vapor spaces of the delivery tank and the receiving tank. The vapor line connection between the two tanks would allow for equilibrium to occur in both the delivery tank and the receiving tank. However, this is not beneficial to the purchaser because product that was being purchased was forcing existing product in the tank to be returned to the seller in the form of vapor.

As a result, delivery systems now consist of a pipe from the receiving tank that is extended into the vapor space and is designed in such a way that the incoming liquid product is sprayed upward toward the top of the tank. As cooler liquid droplets descend they condense the vapor, thereby lowering the pressure in the receiving tank and allowing the system pump to deliver liquid product more efficiently.

LPG Motor Fuel Dispensing: The construction of a filling station to dispense LPG for motor fuel is similar to a gasoline filling station. Filling stations that dispense LPG offer a range of retail (e.g., immediate payment upon completion of fill) or billing services depending on customer demand. A filling station dispenser can be designed with a basic pumping and metering system or with a sophisticated state-of-the-art data collection and processing module equivalent to the technology in place at gasoline dispensing stations. A typical fill rate of a motor vehicle using LPG is about 10 gallons per minute.

### **LPG Fugitive Emissions**

During LPG transfer activities, there are many transfer points in the distribution chain that are inefficient, so fugitive emissions of LPG are released with each transfer, which translates into product loss. Specifically, LPG fugitive emissions from transfer and dispensing operations are released from three main areas: 1) volatilization of entrapped product during disconnection of LPG supply and transfer lines; 2) leaks in the equipment used for transfer and dispensing; and, 3) venting through FLLGs used as a safety device to ensure that pressurized receiving containers, cylinders and tanks are not overfilled.

The FLLG is usually found on bobtail truck tanks, stationary tanks and portable storage tanks and is attached to a dip tube that extends into the LPG storage container. The tube is inserted to be at the maximum level to which a receiving tank is to be filled and this level is set to 80 percent of the tank's capacity with the remainder as vapor space to account for impacts of fluctuating temperature. The connection outside of the tank serves as a bleed valve. When the valve is opened during filling, LPG vapor is pushed through the FLLG and, when the desired volume is reached, liquid LPG is ejected, thereby providing the operator with a visual indication that the tank has reached its capacity and filling is complete.

According to LPG transfer operators and field observations, LPG transfer practices seem to vary relative to the period of time the FLLG is left open. The 2011 edition of NFPA 58 – Liquefied Petroleum Gas Code, §7.3.1 contains the following requirements with respect to venting: part

(1) allows FLLGs to vent to the atmosphere provided that the maximum flow would not exceed that from a No. 54 drill orifice; part (2) allows the venting of LPG between shutoff valves before disconnecting the liquid transfer line from the container; and, part (3) allows the use of bleeder valves. Thus, NFPA 58 allows the limited venting of LPG gas where necessary via FLLGs or bleeder valves.

Further, NFPA 58 requires that the FLLG be used during LPG transfer mainly to address fire and safety concerns associated with overfills and possible release of large quantities of LPG. Numerous LPG industry members have indicated that they comply with this practice when transferring LPG to a storage tank equipped with a FLLG, while other members who monitor the transfer adjust the valve at different stages during the transfer process. As such, each LPG transfer event can release varying amounts of fugitive emissions to the atmosphere depending on the operator.

**AFFECTED LPG EQUIPMENT AND METHODS OF COMPLIANCE**

Table 1-1 contains a summary of all the LPG equipment that will be affected by adopting PR 1177, the corresponding compliance activity per equipment, and the number of affected units.

**Table 1-1**  
**Summary of Affected LPG Equipment and PR 1177 Compliance Activity**

Affected LPG Equipment	PR 1177 Compliance Activity	Number of Affected Units
Residential Storage Tanks	Install replacement low emission FLLGs	39,712 <sup>1</sup>
Commercial Storage Tanks	Install replacement low emission FLLGs	5,643 <sup>1</sup>
Barbecue Cylinder Overpressure Devices	1. Convert from fill by volume to fill by weight system (supplier); 2. Exchange customer's existing, non-compliant cylinder with new cylinder; 3. Install replacement low emission FLLGs and low emission connectors on customer's existing cylinder; or, 4. Customer to purchase new, compliant cylinder	71,000 <sup>2</sup>
Bobtail Trucks	Install replacement low emission FLLGs	250
Bobtail Truck Dispensers	Install replacement low emission connectors	250
Tanker Trucks	Install replacement low emission connectors	100
Forklift Tanks, not using Gravity Fill	Install replacement low emission FLLGs	60,000 <sup>1</sup>
Forklift Tanks supplied from on-site tank sized between 46 gallons and 125 gallons, using Gravity Fill	Remove existing tanks and convert to cylinder exchange program	2,038 <sup>3</sup>
Delivery Trucks for Forklift cylinder exchange program	New delivery trucks needed to specifically accommodate deliveries of forklift cylinders	6
Forklift Tanks supplied from on-site tank sized between 172 gallons and 288 gallons, using Gravity Fill	Convert to a pressure-fill system by replacing each existing tank with a larger tank (499 gallon capacity) and installing a pump/motor	196 <sup>3</sup>
Forklift Tanks supplied from on-site tank sized between 499 gallons and 1,150 gallons, using Gravity Fill	Convert to a pressure-fill system by installing one pump/motor per tank	415 <sup>3</sup>
Service Dispensers (Hose End from stationary tank to portable tank)	Install replacement low emission connectors	5,000 <sup>4</sup>
Bulk Loading Operations with tanks > 10,000 gallons	Conduct quarterly inspections per year	200 (facilities) <sup>5</sup>

<sup>1</sup> LPG Tank Inventory provided by WPGA, Draft Staff Report for Proposed Rule 1177 – Liquefied Petroleum Gas Transfer and Dispensing, Appendix A, March 2012.

<sup>2</sup> Industry estimates that 50 percent of the total barbecue tank inventory (e.g., 142,000) is included in the exchange program that employs the fill by weight process which is carried out with the FLLG or “bleeder” valve closed. The remaining 50 percent will be addressed by PR 1177.

<sup>3</sup> Approximately 2,141 facilities currently fill their 2,649 forklift tanks using a fill by gravity system. These facilities will, depending on tank size, either convert to a cylinder exchange program, a pressure-fill system using a pump and motor per tank, or direct fill from a bobtail truck.

<sup>4</sup> Based on WPGA survey data.

<sup>5</sup> The number of facilities is shown instead of the number of affected units because the compliance activity pertains to inspections of bulk loading operations at each facility that is equipped with one or more tanks sized at 10,000 gallons or larger. While each facility has at least one tank within this size range, multiple tanks sized at 10,000 gallons or more may exist at one facility. Nonetheless, the number of inspections directly correspond to the number of facilities, and not the number of qualifying tanks at these facilities.

There are two main control techniques for reducing fugitive VOC emissions from LPG transfer and dispensing activities: fixed liquid level gauges (FLLGs) and low emission connectors. In

addition to the retrofitting existing barbecue cylinders and dispensers with FLLGs, and dispensers with low emission connectors, respectively, LPG suppliers may choose to convert their existing fill by volume system to a fill by weight system for barbecue cylinders or LPG customers may either buy a new barbecue cylinder fitted with a No. 72 orifice drill size FLLG or participate in a barbecue cylinder exchange program. Lastly, there are multiple options available for transferring LPG into forklift cylinders that currently use a gravity fill system.

Each of these methods of compliance is described in the following sections.

### **Fixed Liquid Level Gauge (FLLG)**

A FLLG, also referred to as a bleeder valve, is a safety device that can be used to determine the level of LPG in a tank. The FLLG is connected to a fixed dip tube that extends into the tank. The dip tube is typically set at a length equal to 80 percent liquid level tank capacity. The FLLG combined with the dip tube is designed so that during the filling process, when the LPG entering the tank reaches the 80 percent mark, liquid will flow out of the opened FLLG or bleeder valve. When this occurs, the delivery operator will know that the tank has reached its maximum filling capacity. The maximum filling level will vary based on the season because external conditions, especially ambient temperature, will affect the expansion of LPG in the tank vapor space.

Currently, a FLLG with a No. 54 orifice drill size is used on most tanks and cylinders, although some tank owners have already retrofitted tanks with a No. 72 orifice drill size. The higher the number of the orifice drill size the smaller the actual orifice size will be. A low emission FLLG fitted with a No. 72 orifice size results in a physical configuration with a cross-sectional diameter of 0.025 inch when vented during LPG transfer or dispensing activities. Thus, using a No. 72 orifice drill size, which would be required under PR 1177, will result in a reduced amount of LPG emitted from the FLLG during the filling process.

There are several manufacturers that are currently producing and distributing these low emission FLLGs with smaller orifices. SCAQMD staff's research of FLLG manufacturers has determined that, although the No. 72 orifice drill size valve may not yet be available in commercial quantities for barbecue cylinders, they are available for storage tanks, forklift cylinders and cargo tanks. One manufacturer has indicated that the low emission FLLG is available in both brass and stainless steel for bobtail applications. Manufacturers further indicated that the lead time for bringing low emission FLLGs for barbecue cylinder applications to market is expected to range from a few weeks to a few months. They also anticipate little difficulty in meeting the expected demand that would be result from the timelines established for compliance with the requirements in PR 1177.

Installation of a low emission FLLG can be handled in a variety of ways, as follows: 1) a new tank, at the time of manufacture, can be equipped with a low emission FLLG; 2) an existing tank that is taken out of service for repair or during regularly scheduled maintenance, such as recertification, can be retrofitted with a low emission FLLG as part of that service call or recertification; or, 3) an existing tank can be retrofitted at the time of the next LPG delivery prior to refilling the tank. In each of these examples, the installation of the replacement low emission FLGGs is not expected to result in noticeable differences in appearance or function relative to the existing FLLGs.

### **Low Emission Connectors**

A low emission connector is designed to result in a maximum emission release of four cubic centimeters of LPG when disconnected. Low emission connectors are designed for use in various applications within the LPG transfer and dispensing industry. Low emission connectors are designed to minimize the volume enclosed between two connection points, which limits the release of entrapped liquid upon disconnection. Other types of low emission connectors are used for the dispensing of LPG into cylinders. Low emission connectors may be able to achieve a reduction in fugitive emissions of up to 99.6 percent when compared to standard connectors in use today.

Installation of low emission connectors such as on bobtail trucks, tanker trucks and service dispensers (hoses) that connect between a stationary tank and a portable tank, can be handled in a variety of ways. For example, for bobtail trucks and tanker trucks, the retrofit can be done on site by operators at the shut-off valve as part of regular maintenance. Similarly, to retrofit a service dispenser, the LPG provider can make the switch-out during a regular refill visit. In each of these examples, the installation of the replacement low emission connectors is not expected to result in noticeable differences in appearance or function relative to the existing low emission connectors.

### **Compliance Options for Barbecue Cylinders**

To comply with the requirements in PR 1177 that pertain to the overfill protection devices on barbecue cylinders, there is one compliance option available for the LPG supplier and three compliance options available for the customer, as explained in the following paragraphs.

On the supplier end, relative to how barbecue cylinders are filled, an LPG supplier that currently uses a fill by volume system for its stationary storage tank can convert to a fill by weight system. In order to do so, the LPG supplier would need to have a scale that may also be equipped with an automatic shut-off valve and the scale would need to be placed adjacent to the existing stationary storage tank so that the automatic shut-off valve can be connected to the LPG dispenser. Once the system is converted to fill by weight, the automatic shut-off valve will recognize when the barbecue cylinder, as it sits on the scale, reaches the maximum allowable weight during the filling process. The benefit of using a fill by weight system is that barbecue cylinders will no longer require the bleeder valve to be open during the filling process.

For customers or owners of barbecue cylinders, there are three options available to make sure that their cylinders are PR 1177-compliant, as follows: 1) the LPG supplier can exchange each customer's existing, non-compliant empty cylinder for a full cylinder at the point of exchange; 2) the LPG supplier can install a replacement low emission FLLG on each customer's existing cylinder at the time when a refill is needed; or, 3) the customer can purchase a new, compliant cylinder from a retailer and recycle the old cylinder at the point of purchase.

### **Conversions from Gravity-Fill Systems for Forklift Tanks**

For existing forklift tanks that are currently gravity-filled via an existing stationary storage tank, converting to the smaller low emission FLLG orifice would result in a roughly fivefold increase in filling time. Rather than continue to utilize gravity-filling in this manner, the operator may choose to pursue an alternative compliance option. The operator will have the following compliance options available to convert from gravity-fill systems: 1) remove the existing stationary storage tank and convert to a portable forklift cylinder exchange program or fill on-site

program (e.g., filling cylinders directly from a bobtail truck) by buying multiple portable cylinders and installing a cage to store these cylinders; 2) convert to a pressure-fill system by replacing the existing stationary storage tank with a new, larger stationary storage tank that is also equipped with a pump and motor; or, 3) convert to a pressure-fill system by installing a pump and motor on an existing stationary storage tank.

Implementation of each of these options is expected to vary based on the size of the existing, stationary storage tanks and what would be needed to maintain the current supply of LPG based on the baseline forklift usage relative to cost. For example, for a facility with a small existing storage tank (e.g., within the range of 46 gallons and 125 gallons), the amount of LPG needed to operate the forklifts is relatively small. As such, the facility operator would likely remove the existing stationary storage tank and instead purchase multiple, portable forklift cylinders that can be filled as part of a cylinder exchange program or fill on-site program. In this scenario, when a cylinder becomes empty, it can be exchanged with a full, stand-by replacement cylinder. Then, the empty cylinders can either be picked up by the LPG provider and replaced with full cylinders, or the LPG provider can send a bobtail truck to fill the empty cylinders at the facility site.

However, in order to participate in a portable cylinder exchange program or fill on-site program, the facility operator would also be required to install a storage cage to contain the portable cylinders that are not in use. Cylinder cages enable LPG cylinders to be both stored securely and safely outdoors. LPG storage cages are typically lockable, with open air metal mesh sides, and either rigid or castor-wheeled feet, with brakes on two of the castors. LPG storage cages are required to be positioned in the open air on level concrete or compact ground. The siting of LPG storage cages are also subject to a variety of requirements as specified in NFPA 58, §§6.2.2, 6.4.5, and 8.4.1, depending, for example, upon the amount of LPG to be stored and distances to the following types of receptors:

- 1) Nearest important building or group of buildings.
- 2) Line of adjoining property that can be built upon.
- 3) Busy thoroughfares or sidewalks on other than private property.
- 4) Line of adjoining property occupied by schools, churches, hospitals, athletic fields or other points of public gathering.
- 5) Dispensing station.

As part of the cylinder exchange program, the LPG supplier will either be delivering filled cylinders and picking up empty cylinders or delivering LPG and filling the facility-owned cylinders directly through a bobtail truck. To accommodate the potential business for cylinder deliveries, each of the six LPG suppliers anticipate that they will need to buy one new truck to specifically handle the potential shift from bobtail LPG deliveries to a cylinder exchange program.

For a facility with a medium-sized existing storage tank (e.g., within the range of 172 gallons and 288 gallons), the amount of LPG needed to operate the forklifts is large enough to justify converting to a larger sized storage tank equipped with a pressure-fill system. In this example, a smaller storage tank can be replaced with a larger 499-gallon capacity storage tank equipped with a pump and motor.

For a facility with a large-sized existing storage tank (e.g., within the range of 499 gallons and 1,150 gallons), the amount of LPG needed to operate the forklifts is very large such that no tank replacement would be needed. Instead, the facility operator can convert the existing tank to a pressure-fill system by retrofitting the tank with a pump and motor.

Lastly, while not required, facilities converting from gravity-fill systems that choose to maintain an on-site tank could also choose to further upgrade to fill by weight by installing a scale. However, it is unlikely that a fill by weight upgrade would be widely implemented because of the low volumes used by current gravity fill operations.

## **PROJECT DESCRIPTION**

The following summarizes the requirements in PR 1177. A copy of PR 1177 is included in Appendix A.

### Purpose - Subdivision (a)

The purpose of PR 1177 is to reduce fugitive VOC emissions during the transfer and dispensing of LPG.

### Applicability - Subdivision (b)

PR 1177 would apply to the transfer of LPG to and from stationary storage tanks, ~~and cargo tanks (including bobtails, tanker trucks and rail tank cars)~~, and cylinders, and the transfer of LPG into portable tanks.

### Definitions - Subdivision (c)

For clarity, continuity, and consistency with standard terms used in the LPG industry, PR 1177 includes 26 definitions of the following terms that are used throughout the rule: bobtail truck, bubble test, cargo tank, connector, container, cylinder, fill by weight, fixed liquid level gauge (FLLG), inspection, liquid tight, low emission FLLG, LPG or liquefied petroleum gas, LPG bulk loading facility, LPG low emission connector, LPG transfer and dispensing facility, LPG vapor recovery or equalization system, LPG vapors, mobile fueler, owner/operator, portable cylinder, portable storage tank, railroad tank car, stationary cylinder, stationary storage tank, valve, and vapor tight.

### Equipment and Operation Requirements - Subdivision (d)

This subdivision is divided into two categories that focus on LPG transfers: 1) at bulk loading facilities; and, 2) at transfer and dispensing facilities, as follows:

LPG Transfer at LPG Bulk Loading Facilities – paragraph (d)(1):

- PR 1177 will require operators of railroad tank cars and ~~tanker trucks~~ mobile fuelers equipped with vapor recovery or equalization systems to be maintained and operated according to manufacturer's specifications. [subparagraph (d)(1)(A)]
- PR 1177 will require the vapor return lines and liquid lines, including the hose, fittings and gaskets which facilitate the movement of LPG to be properly connected between the cargo tank and the stationary storage tank and maintained to ensure that the system remains vapor tight and liquid tight during the transfer process. [subparagraphs (d)(1)(B) and (d)(1)(C)]

LPG Transfer at LPG Transfer and Dispensing Facilities – paragraph (d)(2):

- Effective July 1, 2013, PR 1177 will require all owned or leased cargo tanks, stationary storage tanks, and cylinders that are used to transfer or dispense LPG to be fitted with LPG low emission connectors. [subparagraph (d)(2)(A)]
- Effective July 1, 2013, PR 1177 will allow dispensing of LPG to a stationary storage tank provided that either the FLLG is closed during the LPG transfer, using a filling technique or technology that monitors maximum fill level without use of an FLLG. [clause (d)(2)(B)(i)]
- Effective July 1, 2013, PR 1177 will allow dispensing of LPG to a newly installed stationary storage tank provided that it is equipped with a low emission FLLG. [subclause (d)(2)(B)(ii)(I)]
- Effective July 1, 2013, PR 1177 will require existing stationary storage tanks that are currently taken out of service or will be taken out of service to be equipped with a low emission FLLG prior to returning to service. [subclause (d)(2)(B)(ii)(I)]
- Effective July 1, 2015, PR 1177 will allow dispensing of LPG to a stationary storage tank without a low emission FLLG until July 1, 2017, provided that prior to July 1, 2015, the tank has been documented to show that a low emission FLLG cannot be safely installed without relocation and that a low emission FLLG is installed prior to being returned to service. [subclause (d)(2)(B)(ii)(II)]
- Effective July 1, 2013, PR 1177 will allow dispensing of LPG to or all owned or leased bobtails provided that either the FLLG is closed during the LPG transfer, or a filling technique or technology that monitors maximum fill level is employed without the use of the FLLG. [clause (d)(2)(C)(i)]
- Effective July 1, 2013, PR 1177 will allow dispensing of LPG to a new bobtail provided that it is equipped with a low emission FLLG. [subclause (d)(2)(C)(ii)(I)]
- Effective July 1, 2013, PR 1177 will allow dispensing of LPG to a bobtail without a low emission FLLG until July 1, 2017, provided that prior to July 1, 2013 the bobtail has been documented to show that the bobtail is scheduled to undergo a pressure test or similar maintenance activity that would require evacuation of the cargo tank and that a low emission FLLG is installed prior to being returned to service. [subclause (d)(2)(C)(ii)(II)]
- Effective July 1, 2017, PR 1177 will allow dispensing of LPG to a portable tank provided that either the FLLG is closed during the LPG transfer or a filling technique or technology that monitors maximum fill level without the use of an FLLG. [clause (d)(2)(D)(i)]
- Effective July 1, 2017, PR 1177 will require portable tanks to be equipped with a low emission FLLG. [clause (d)(2)(D)(ii)]

Owner/Operator Leak Detection Program Requirements -Subdivision (e)

Effective January 1, 2012, this subdivision contains leak detection requirements applicable to owners and/or operators of LPG bulk loading facilities and LPG transfer and dispensing facilities that offer LPG for sale to an end user, as follows:

- PR 1177 will require daily physical inspections of all connectors involved with the transfer of LPG to check for evidence of leaks. [paragraph (e)(1)]



- PR 1177 will require a leak check inspection of LPG connectors on stationary storage tanks and cargo tanks used to supply LPG to stationary storage tanks or cargo tank by using an analyzer or bubble test every 90 days. [paragraph (e)(2)]
- PR 1177 will require an employee training program for workers who will be responsible for conducting physical leak check inspections. [paragraph (e)(3)]
- PR 1177 will require leaking equipment or connectors to be taken out of service, repaired, and re-inspected prior to being returned to operation. PR 1177 will also require records be kept to memorialize the chain of events associated with the repaired equipment or connectors. [paragraph (e)(4)]
- PR 1177 contains a clarification that any leak or defect discovered during a required physical inspection that is repaired prior to returning to service will not be considered a violation of any vapor tight standard of Rule 1177. [paragraph (e)(4)]

#### Recordkeeping Requirements - Subdivision (f)

PR 1177 contains requirements for the following records to be maintained by owners/operators for at least two years, as follows:

- PR 1177 will require service personnel to provide records of installation, inspections and repairs of FLLGs or connectors immediately after completion of service. In addition, PR 1177 will also require owners/operators to maintain the results of testing or other maintenance records that are relied upon to demonstrate compliance. [subparagraph (f)(1)(A)]
- PR 1177 will require owners/operators to keep maintenance records of each vapor recovery or equalization system for railroad tank cars or ~~tanker trucks~~ mobile fuelers to demonstrate that each system is maintained according to manufacturer specifications. [subparagraph (f)(1)(B)]
- PR 1177 will require owners/operators to maintain current documentation which identifies that installed low emission FLLGs and connectors meet the low emission criteria. [paragraph (f)(2)]

#### Reporting Requirements - Subdivision (g)

- PR 1177 will require an owner/operator of an LPG bulk loading facility whose primary business is LPG transfer and dispensing to submit to the SCAQMD a report of monthly LPG purchase and dispensing volumes for calendar years 2013, 2014 and 2015 by July 1st of 2014, 2015, and 2016, respectively. [paragraph (g)(1)]
- PR 1177 will require an owner/operator of an LPG transfer and dispensing facility that offers LPG for sale to an end user to either submit a report of monthly LPG purchase and dispensing volumes for calendar years 2013, 2014, and 2015 by July 1 of the following year or arrange to have their LPG suppliers include their purchase volumes with their report submittal. [paragraph (g)(2)]
- PR 1177 will require an owner/operator of an LPG bulk loading facility to submit an end of year inventory of the facility's low emission connectors for calendar year 2013 by July 1, 2014. [paragraph (g)(3)]
- PR 1177 will require an owner/operator of an LPG bulk loading facility to submit an end of year inventory of their facility's containers which are associated with LPG storage or transfer for calendar years 2013, 2014, 2015, 2016, and 2017 by July 1 of 2014, 2015, 2016, 2017, and 2018, respectively. The inventory shall include the number of affected

containers by category and the number of all installed low emission FLLGs. [paragraph (g)(4)]

Test Method - Subdivision (h)

PR 1177 will require that measurements of leak concentrations to be conducted in accordance with the United States Environmental Protection Agency's (USEPA) Reference Method 21 by using an analyzer that is calibrated with methane prior to the inspection. PR 1177 establishes a leak as a measurement greater than 10,000 parts per million (ppm).

Confidentiality of Information - Subdivision (i)

PR 1177 will allow information submitted to the SCAQMD to be designated as exempt from disclosure provided that the owner/operator clearly specifies which information or data would qualify for the exempt from disclosure designation in accordance with the California Public Records Act per Government Code §6250-6276.48.

Exemptions - Subdivision (j)

PR 1177 will include three exemptions, as follows:

- The transfer of LPG into any container with a water capacity less than four gallons will be exempt from the requirements of PR 1177. [paragraph (j)(1)]
- Facilities that are subject to the requirements of SCAQMD Rule 1173 will be exempt from the requirements of PR 1177. [paragraph (j)(2)]
- The requirements in PR 1177 to either equip a portable storage tank with a low emission FLLG or to use a fill by weight or alternative fill technique will not apply to LPG cylinders that are specifically dedicated and installed for use with recreational vehicles. [paragraph (j)(3)]

## **CHAPTER 2 - ENVIRONMENTAL CHECKLIST**

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**Introduction**

**General Information**

**Environmental Factors Potentially Affected**

**Determination**

**Environmental Checklist and Discussion**

**INTRODUCTION**

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

**GENERAL INFORMATION**

Project Title:	<del>Final Draft</del> Environmental Assessment (EA) for Proposed Rule (PR) 1177 – Liquefied Petroleum Gas Transfer and Dispensing
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
CEQA Contact Person:	Ms. Barbara Radlein (909) 396-2716
PR 1177 Contact Person:	Mr. Kennard Ellis (909) 396-2457
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:	SCAQMD staff is proposing to adopt PR 1177 to reduce emissions of VOCs from the transfer and dispensing of LPG during deliveries to residential, industrial and commercial users, transfers to fueling stations and cylinder refueling. PR 1177 would apply to the transfer of LPG to and from stationary storage tanks, <del>and</del> cargo tanks (including bobtails, tanker trucks and rail tank cars), <del>and</del> <u>cylinders</u> , and <u>the transfer of LPG</u> into portable refillable tanks.
Surrounding Land Uses and Setting:	Not applicable
Other Public Agencies Whose Approval is Required:	Not applicable

## ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with a "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Aesthetics  | <input type="checkbox"/> Geology and Soils                          | <input type="checkbox"/> Population and Housing            |
| <input type="checkbox"/> Agriculture and Forestry Resources                  | <input checked="" 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 checked="" type="checkbox"/> Solid/Hazardous Waste  |
| <input type="checkbox"/> Cultural Resources                                  | <input type="checkbox"/> Mineral Resources                          | <input checked="" type="checkbox"/> Transportation/Traffic |
| <input checked="" type="checkbox"/> Energy                                   | <input checked="" type="checkbox"/> Noise                           | <input checked="" type="checkbox"/> Mandatory Findings     |

**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 (a) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards, and (b) 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: March 30, 2012

Signature: Steve Smith

Steve Smith, Ph.D.  
Program Supervisor

**ENVIRONMENTAL CHECKLIST AND DISCUSSION**

PR 1177 would apply to the transfer of LPG to and from stationary storage tanks, ~~and~~ cargo tanks (~~including~~ bobtails, tanker trucks and rail tank cars), and cylinders, and the transfer of LPG into portable refillable tanks. The emissions inventory for sources that will be regulated by PR 1177 is comprised of fugitive VOC emissions released from LPG transfer and dispensing operations within the district. The sources of fugitive emissions are categorized by the following activities:

- Disconnection of liquid line
- Disconnection of vapor line
- Disconnection of the “jump line” that is used to connect truck and trailer cargo tanks.
- Vapor released from the FLLG
- Liquid released from the FLLG

By requiring the use of low emission connectors for transfer and dispensing of LPG to limit the discharge of LPG upon disconnection, the installation of low emission FLLGs on applicable receiving tanks (e.g., stationary tanks, portable tanks, and cargo tanks), the conversion of gravity-fill systems for filling forklift cylinders, and, the conversion of fill by volume systems for filling barbecue cylinders, PR 1177 is estimated to reduce VOC emissions from these sources by 6.1 tons per day. In order to achieve these emission reductions, physical modifications (e.g., the installation of low emission FLLGs and low emission connectors, the conversion of gravity-fill systems for filling forklift cylinders, and the conversion from fill by volume systems for filling barbecue cylinders) would need to be made on various LPG storage and transfer equipment. The effects of implementing these physical modifications have been analyzed in this chapter.

All other provisions in PR 1177 would not require any new physical modifications in order to achieve compliance, such as: 1) conducting routine leak detection inspections and repair by trained personnel; 2) keeping records and submitting reports to demonstrate compliance with PR 1177, and, 3) conduct proper maintenance of vapor recovery or equalization systems at bulk loading facilities. Thus, because these compliance activities would not involve any physical modifications, they are not expected to create any adverse environmental effects.

Therefore, the answers to the following checklist items are based on only the physical modifications that would be used to meet the requirements of PR 1177.

	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>I. AESTHETICS.</b> 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"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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 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) & d)** In order to comply with PR 1177, physical modifications (e.g. the installation of low emission FLLGs and low emission connectors and the resultant conversion of gravity-fill systems for filling forklift cylinders) would need to be made on various LPG storage and transfer equipment. Specifically, PR 1177 would require low emission FLLGs to be installed on residential tanks, commercial tanks, portable cylinders, bobtail trucks, and forklift tanks. These installations could be handled in a variety of ways: 1) a new tank, at the time of manufacture, could be equipped with a low emission FLLG; 2) an existing tank that is taken out of service for repair or part of regularly schedule maintenance such as recertification could be retrofitted with a low emission FLLG as part of that service call or recertification; or, 3) an existing tank could be retrofitted at the time of the next LPG delivery prior to refilling the tank.

PR 1177 would also require the installation of low emission connectors on bobtail trucks, tanker trucks and service dispensers (hoses) that connect between a stationary tank and a portable tank. These installations could be handled in a variety of ways. For example, for bobtail trucks and tanker trucks, the retrofit could be done on site by operators at the shut-off valve as part of regular maintenance. Similarly, to retrofit a service dispenser, the LPG provider could make the switch-out during a regular refill visit.

Installing or replacing existing FLLGs and connectors with PR 1177-compliant devices is not expected to noticeably alter the appearance or function relative to the existing FLLGs and connectors as there is little difference in the size and shape between compliant and noncompliant connectors and FLLGs.

To comply with the requirements in PR 1177 that pertain to the overfill protection devices on portable or barbecue cylinders, only the compliance option for the LPG supplier to convert a barbecue cylinder filling system from a fill by volume system to a fill by weight system is expected to create a visible, physical change. Specifically, under this option, the LPG supplier



would need to have a scale that may be equipped with an automatic shut-off valve and the scale would need to be placed adjacent to the existing stationary storage tank so that the automatic shut-off valve can be connected to the LPG dispenser. Because the size profile of the existing storage tank is so much larger than the scale and automatic shut-off that would be installed, and that the scale is a portable piece of equipment, the change in physical appearance is not expected to be substantially noticeable.

The other three compliance options for barbecue cylinders (exchanging barbecue cylinders, retrofitting barbecue cylinders, or buying new barbecue cylinders) focus on physical changes to the inner workings of the barbecue cylinder which would not noticeably change the outside appearance of the barbecue cylinder.

The resultant conversion of gravity-fill systems for filling forklift cylinders by converting to a cylinder exchange program, fill on-site program, or pressure-fill system may cause some physical changes at affected facilities. These facilities would be expected to, depending on tank size, either convert to a cylinder exchange program or a pressure-fill system using a pump and motor per tank.

The conversion to a cylinder exchange program or fill on-site program would mean the removal of existing stationary storage tanks in the estimated size range from 46 gallons to 125 gallons and the installation of a storage cage to hold four to 16 portable cylinders. The dimensions of a four cylinder capacity storage cage are approximately 3.25 feet high, 2.75 feet wide, and 3.0 feet deep and would occupy a footprint of 8.25 square feet. Similarly, the dimensions of a 16 cylinder capacity storage cage are approximately 5.8 feet high, 5.0 feet wide, and 3.0 feet deep and would occupy a footprint of 15 square feet. Since the footprint of the storage cage is similar to or less than that of the storage tank being removed (e.g., one 125-gallon LPG storage tank has a footprint of approximately 16 square feet), the overall visual profile for a conversion from a gravity-fill system to a cylinder exchange program is not expected to dramatically change.

The conversion to a pressure-fill system could involve the replacement of a smaller tank (e.g., within the estimated size range of 172 gallons to 288 gallons) with a larger tank (e.g., 499 gallon capacity) plus a small pump and motor rated up to 1.25 horsepower (HP) with flowrate of up to 15 gallons per minute (gpm). The replacement of a smaller tank with a larger tank could require the removal of an existing concrete pad and replacing it with a larger concrete pad. For example, the dimensions of a 250 gallon tank are approximately 7.2 feet wide by 3.3 feet high which is equivalent to a footprint of approximately 24 square feet. As a point of comparison, the dimensions of a 499 gallon tank are approximately 10 feet wide by 3.1 feet high which is equivalent to a footprint of approximately 31 square feet. Further, an additional two square feet may be needed to accommodate space for the pump and motor system. While the size of the footprint is expected to increase by approximately nine square feet, the projected increase in footprint is relatively small when compared to the size of warehouse space where forklifts are typically used.

Lastly, for some facilities, the conversion to a pressure-fill system could involve the upgrade of an existing tank (e.g., within the estimated size range of 499 gallons to 1,150 gallons) with a new pump and motor rated up to 3.0 HP with flowrate of up to 35 gpm. As mentioned previously, the dimensions of a 499 gallon tank are approximately 10 feet wide by 3.1 feet high which is equivalent to a footprint of approximately 31 square feet and the dimensions of a 1,150 gallon

tank are approximately 8.75 feet wide by 5.0 feet high which is equivalent to a footprint of approximately 43.75 square feet. In this example, since the tanks are existing and operational, no changes to the size profile of the storage tank or the existing concrete pad would be necessary and only a new concrete pad of up to two square feet would potentially be needed to accommodate the new pump and motor adjacent to the tank, if the existing concrete pad does not have sufficient space available.

Manufacturing or retrofitting tanks equipped with low emission FLLG valves and low emission connectors on LPG dispensing equipment would not appreciably change the visual profile of the building(s) where LPG storage and dispensing equipment are manufactured or serviced, because any changes to the manufacturing or service processes would occur inside the facility's buildings and, therefore, would not affect the exterior of the structure in any way.

For the aforementioned reasons, in each of these situations, the overall visual profile is not expected to cause a noticeable visual change from the existing setting. Thus, implementation of PR 1177 would not result in any new construction of buildings or other structures that would obstruct scenic resources or degrade the existing visual character of a site, including but not limited to, trees, rock outcroppings, or historic buildings.

With regard to potential light and glare impacts, PR 1177 would require minor modifications to existing equipment or replacing existing equipment (e.g., LPG storage tanks) with other storage tanks of similar size or larger. Neither modifications nor replacements would be expected to affect hours of operation, so additional operating hours at night that could require additional nighttime lighting would not be required or necessary. Further, additional light or glare impacts in the areas near affected facilities, because equipment used to comply with PR 1177 are not considered to be light generating equipment

Based upon these considerations, significant adverse aesthetics impacts are not anticipated and will not be further analyzed in this ~~Final Draft~~ EA. Since no significant adverse 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
<b>II. AGRICULTURE AND FOREST RESOURCES.</b> 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"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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)** Implementation of PR 1177 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, a Williamson Act contract, forest land, or timberland. Similarly, the proposed project would not require affected facility operators to acquire additional land to modify or replace existing equipment. Any physical changes at a facility in response to converting from gravity-fill systems for forklifts would be limited to existing facilities in typically commercial and industrial areas. In addition, any physical changes in response to converting from fill by volume to fill by weight for barbecue cylinders would be limited to existing facilities like gas stations or other retail LPG suppliers. Further, the manufacturing or retrofit of tanks equipped with low emission FLLG valves and low emission connectors would

not require converting farmland to non-agricultural uses because these activities are expected to occur completely within the confines of existing affected industrial, commercial, residential, retail, or agricultural settings where the LPG storage and dispensing activities currently occur.

The use of low emission FLLGs and low emission connectors that would be required to comply with the requirements in PR 1177 is expected to be similar in function to the existing devices being replaced, including LPG storage and dispensing activities occurring in agricultural settings. Even though there may be LPG transfer and dispensing activities in agricultural settings, installing low emission FLLGs and low emission connectors on the affected units to comply with PR 1177 will be a one-time event and will not affect farming or agricultural practices. For these same reasons, PR 1177 would not result in the loss of forest land or conversion of forest land to non-forest use.

Based upon these considerations, significant adverse agriculture and forest resources impacts are not anticipated and will not be further analyzed in this ~~Draft~~-Final EA. 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
<b>III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS.</b>				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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 adopting and implementing PR 1177 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**

<b>Mass Daily Thresholds <sup>a</sup></b>		
<b>Pollutant</b>	<b>Construction <sup>b</sup></b>	<b>Operation <sup>c</sup></b>
<b>NO<sub>x</sub></b>	100 lbs/day	55 lbs/day
<b>VOC</b>	75 lbs/day	55 lbs/day
<b>PM<sub>10</sub></b>	150 lbs/day	150 lbs/day
<b>PM<sub>2.5</sub></b>	55 lbs/day	55 lbs/day
<b>SO<sub>x</sub></b>	150 lbs/day	150 lbs/day
<b>CO</b>	550 lbs/day	550 lbs/day
<b>Lead</b>	3 lbs/day	3 lbs/day
<b>Toxic Air Contaminants (TACs), Odor, and GHG Thresholds</b>		
<b>TACs</b> (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)	
<b>Odor</b>	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
<b>GHG</b>	10,000 MT/yr CO <sub>2</sub> eq for industrial facilities	
<b>Ambient Air Quality Standards for Criteria Pollutants <sup>d</sup></b>		
<b>NO<sub>2</sub></b>  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)	
<b>PM<sub>10</sub></b> 24-hour average annual average	10.4 $\mu\text{g}/\text{m}^3$ (construction) <sup>e</sup> & 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$	
<b>PM<sub>2.5</sub></b> 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (construction) <sup>e</sup> & 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
<b>SO<sub>2</sub></b> 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99 <sup>th</sup> percentile) 0.04 ppm (state)	
<b>Sulfate</b> 24-hour average	25 $\mu\text{g}/\text{m}^3$ (state)	
<b>CO</b>  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)	
<b>Lead</b> 30-day Average Rolling 3-month average Quarterly average	1.5 $\mu\text{g}/\text{m}^3$ (state) 0.15 $\mu\text{g}/\text{m}^3$ (federal) 1.5 $\mu\text{g}/\text{m}^3$ (federal)	

<sup>a</sup> Source: SCAQMD CEQA Handbook (SCAQMD, 1993)

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

<sup>c</sup> For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.

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

<sup>e</sup> 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 CO<sub>2</sub>eq = metric tons per year of CO<sub>2</sub> equivalents       $>$  = greater than

**III.a)** The 2007 Air Quality Management Plan, specifically Control Measure CM#2007 MCS-07 – Application of All Feasible Measures, contains general VOC emission reduction goals. PR 1177 would partially implement CM#2007 MCS-07 to achieve VOC emission reductions from LPG transfer and dispensing activities. Therefore, PR 1177 is not expected to conflict with or obstruct implementation of the applicable air quality control plan because the 2007 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 2007 AQMP) would bring the district into attainment with all applicable national and state ambient air quality standards. Therefore, PR 1177 is not expected to significantly conflict or obstruct implementation of the applicable air quality plan, but instead, would contribute to attaining and maintaining the ozone and PM standards by achieving VOC reductions.

**III.b) & f)** For a discussion of these items, refer to the following analysis:

### Construction Impacts

Construction impacts were analyzed for all the LPG equipment that would be affected by adopting PR 1177 in accordance with the compliance dates summarized in Table 2-2.

**Table 2-2**  
**Summary of Affected LPG Equipment and PR 1177 Compliance**

Affected LPG Equipment	Number of Affected Units	Compliance Activity	Compliance Date
Residential Storage Tanks	39,712	Install replacement low emission FLLGs	a. July 1, 2013 for new tanks or existing tanks taken out of service b. July 1, 2017 if documentation provided regarding unsafe retrofit c. July 1, 2015 for all others
Commercial Storage Tanks	5,643	Install replacement low emission FLLGs	a. July 1, 2013 for new tanks or existing tanks taken out of service b. July 1, 2017 if documentation provided regarding unsafe retrofit c. July 1, 2015 for all others

**Table 2-2 (continued)**  
**Summary of Affected LPG Equipment and PR 1177 Compliance**

<b>Affected LPG Equipment</b>	<b>Number of Affected Units</b>	<b>Compliance Activity</b>	<b>Compliance Date</b>
Barbecue Cylinder Overpressure Devices	71,000	1. Convert from fill by volume to fill by weight system (3,300 suppliers); 2. Exchange customer's existing empty cylinder with a full cylinder; 3. Install replacement low emission FLLG on each customer's existing cylinder; or, 4. Customer to purchase new cylinder equipped with low emission FLLGs and low emission connectors	a. July 1, 2013 for low emission connector retrofit on dispenser b. July 1, 2017 for FLLG retrofit or no FLLG if fill by weight with existing FLLG closed
Bobtail Trucks	250	Install replacement low emission FLLGs	a. July 1, 2013 for new or leased bobtails b. July 1, 2017 if documentation is provided by July 1, 2013 for pressure test, maintenance, etc.
Bobtail Truck Dispensers	250	Install replacement low emission connectors	July 1, 2013
Tanker Trucks	100	Install replacement low emission connectors	July 1, 2013
Forklift Tanks, not using Gravity Fill	60,000	Install replacement low emission FLLGs	July 1, 2017
Forklift Tanks sized between 46 gallons and 125 gallons, using Gravity Fill	2,038	Remove existing tanks and convert to cylinder exchange program	July 1, 2017
Delivery Trucks for forklift cylinder exchange program	6	Purchase new delivery trucks needed to specifically accommodate deliveries of forklift cylinders*	July 1, 2017*
Forklift Tanks sized between 172 gallons and 288 gallons, using Gravity Fill	196	Convert to a pressure-fill systems by replacing each existing tank with one larger tank (499 gallon capacity) and installing a pump/motor	July 1, 2017

\* While there is no compliance requirement in PR 1177 for LPG providers to buy a new delivery truck for the forklift cylinder exchange program, but the timing by which these new truck purchases are expected to occur will correspond to the July 1, 2017 compliance date for the conversion of forklift tanks sized between 46 gallons and 125 gallons, using gravity fill, to a cylinder exchange program.



**Table 2-2 (concluded)**  
**Summary of Affected LPG Equipment and PR 1177 Compliance**

<b>Affected LPG Equipment</b>	<b>Number of Affected Units</b>	<b>Compliance Activity</b>	<b>Compliance Date</b>
Forklift Tanks sized between 499 gallons and 1,150 gallons, using Gravity Fill	415	Convert to a pressure-fill system by installing one pump/motor per existing tank	July 1, 2017
Service Dispensers (Hose End from stationary tank to portable tank)	5,000	Install replacement low emission connectors	July 1, 2013
Bulk Loading Operations with tanks > 10,000 gal	200 (facilities)	Conduct quarterly inspections per year	January 1, 2013

#### **Installing Low Emission FLLGs and Low Emission Connectors**

In order to comply with PR 1177, physical modifications (e.g. the installation of low emission FLLGs and low emission connectors, the conversion of fill by volume for filling barbecue cylinders, and the conversion of gravity-fill systems for filling forklift cylinders) would need to be made on various LPG storage and transfer equipment. Specifically, PR 1177 would require low emission FLLGs to be installed on residential tanks, commercial tanks, barbecue cylinders, bobtail trucks, and forklift tanks, unless these tanks are filled by a technique or technology that does not require the FLLG to be opened. These installations can be handled in a variety of ways: 1) a new tank, at the time of manufacture, can be equipped with a low emission FLLG; 2) an existing tank that is taken out of service for repair or part of regularly schedule maintenance, such as recertification, can be retrofitted with a low emission FLLG as part of that service call or recertification; or, 3) an existing tank can be retrofitted with a low emission FLLG at the time of the next LPG delivery prior to refilling the tank. Physical modifications on affected equipment that would require the replacement of FLLGs as shown in Table 2-2 are expected to occur through the use of hand tools, instead of high emitting off-road construction equipment or other equipment requiring a generator, and drop-in replacement units or parts.

PR 1177 will also require the installation of low emission connectors on bobtail trucks, tanker trucks and service dispensers (hoses) that connect between a stationary tank and a portable tank. These installations can be handled in a variety of ways. For example, for bobtail trucks and tanker trucks, the retrofit can be done on site by operators at the shut-off valve as part of regular maintenance. Similarly, to retrofit a service dispenser, the LPG provider can make the switch-out during a regular refill visit. Physical modifications on affected equipment that would require the replacement of low emission connectors as shown in Table 2-2 are expected to occur through the use of hand tools, instead of high emitting off-road construction equipment or other equipment requiring a generator, and drop-in replacement units or parts.

The first step of the replacement process is that each LPG provider would need to order PR 1177-compliant replacement parts and the amount of parts ordered would directly correspond to the number of customers and the number of affected equipment per customer. Because LPG providers typically keep replacement parts on-hand to have during regular service calls and leak repairs, any additional replacement parts that would be required by PR 1177 would be offset by an equal reduction in orders for the older, non-compliant replacement parts. Thus, this analysis assumes that there would not be an increase in the need for additional delivery trips for the delivery of PR1177-compliant parts.

The second step of the replacement process would be for each LPG provider to work with each customer, according to the compliance schedule in PR 1177, to decide which affected equipment would be retrofitted with new low emission FLLGs and/or low emission connectors. Once this determination is made, the LPG provider would schedule the replacement as part of a regular delivery or regular maintenance service call, as appropriate. Because the majority of replacements could be accomplished by a service technician during regular LPG deliveries or maintenance service calls, whether on-site or off-site as determined based on the location of the affected equipment, with the use of hand tools, this analysis assumes that PR 1177 would not require heavy-duty construction equipment. Further, for these same reasons, PR 1177 would not cause an increase in deliveries or service calls for the sole purpose of replacing old FLLGs and low emission connectors with PR 1177-compliant devices. Thus, for any affected LPG equipment identified in Table 2-2 with a compliance activity shown to require the installation of replacement low emission FLLGs or replacement low emission connectors, the analysis assumes that there would be no new truck trips for the delivery of the replacement parts and there would be no new truck trips for the LPG providers to actually install the replacement parts on the affected units. Since there would be no new truck trips that would associated with these installations and no use of construction equipment, no increase in combustion emissions above the existing setting are expected to occur as a result of implementing this portion of PR 1177.

### **Barbecue Cylinders**

To comply with the requirements in PR 1177 that pertain to the overfill protection devices on barbecue cylinders, only the compliance option for the LPG supplier to convert a barbecue cylinder filling system from a fill by volume system to a fill by weight system is expected to create a physical change at an affected facility. Specifically, under this option, the LPG supplier would need to install a scale that may be equipped with an automatic shut-off valve and the scale would need to be placed adjacent to the existing stationary storage tank so that the automatic shut-off valve can be connected to the LPG dispenser. Scales that are used for weighing barbecue cylinders during the filling process are typically portable units that consist of a single platform. Dimensions of a typical scale are approximately 1.5 feet long by 2.25 feet deep which is equivalent to a footprint of 3.4 square feet. An LPG scale is a pre-fabricated self-supporting unit that is delivered in a container complete and ready to operate. Because the scale is a portable unit, there is no requirement to anchor the scale to a concrete slab. Once the scale is delivered, it may take one to two existing employees to offload and place the scale in the needed location and one employee using hand tools to connect the optional automatic shut-off valve, as applicable.

There are approximately 3,300 facilities that currently provide LPG service for filling barbecue cylinders. Currently, an estimated 71,000 barbecue cylinders are filled by volume at service stations. Of these facilities, approximately 20 percent or 660 are estimated to continue to use a

fill by volume system when filling barbecue cylinders. The remaining 80 percent are projected to use an existing fill by weight system for barbecue cylinder refilling. To convert to a fill by weight system, one scale plus one automatic shut-off valve is assumed to be installed for each facility that currently utilizes a fill by volume system. Thus, 660 scales and 660 optional automatic shut-off valves may be installed at 660 facilities. For compatibility reasons, the manufacturer of the scale is expected to be the same as the manufacturer of the automatic shut-off valve. Therefore, it is expected that both units would be shipped together in one delivery trip per facility. WPGA has projected that these affected facilities will take about one year from the adoption of PR 1177 to begin assessing future compliance activities that will pertain to conversions to fill by weight systems<sup>7</sup>. Since the compliance date is July 1, 2017, WPGA assumes that conversions would be expected to occur over a more conservative time-frame – a four-year period (e.g., between July 1, 2013 and July 1, 2017), instead of the five-year period (e.g., June 1, 2012 to July 1, 2017) that would be provided under PR 1177. Thus, the delivery and installation of 660 scales and 660 optional automatic shut-off valves over a four-year period, at 260 working days per year, results in an average of one round trip delivery per day. To provide a more conservative analysis of delivery trips, the average number of truck trips is doubled to provide a peak daily trip rate of up to two round trip deliveries per day. Table 2-3 contains a summary of the peak daily “worst-case” construction emissions from delivery trips associated with the conversion to fill by weight systems for barbecue cylinders.

**Table 2-3**  
**Peak Daily “Worst-Case” Construction Emissions from the Conversion to Fill by Weight Systems for Barbecue Cylinders**

Peak Construction Activity	VOC (lb/day)	CO (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
<b>Delivery of Scales/Valves (2 round trips/day)</b>	0	3	3	0.01	0	0
<b>Peak TOTAL</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0.01</b>	<b>0</b>	<b>0</b>
Significance Threshold	75	550	100	150	150	55
<b>Exceed Significance?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

Lastly, the other three compliance options for barbecue cylinders (exchanging barbecue cylinders, retrofitting barbecue cylinders, or buying new barbecue cylinders) focus on fitting each cylinder with a low emission FLLG. The physical modifications that may be made on barbecue cylinders that would require the replacement of FLLGs are described in the previous section pertaining to installing compliant low emission FLLGs on various equipment. Thus, no new truck trips that would be associated with the installations of compliant low emission FLLGs on barbecue cylinders, no use of construction equipment, and no increase in combustion emissions above the existing setting are expected to occur as a result of implementing this portion of PR 1177.

### **Forklift Cylinders**

The conversion of gravity-fill systems for filling forklift cylinders by converting to a cylinder exchange program, fill on-site program, or pressure-fill system may cause some physical changes at affected facilities. These facilities would be expected to, depending on tank size, either

<sup>7</sup> Personal communication between Kennard Ellis, SCAQMD and Lesley Brown Garland, Western Propane Gas Association (WPGA), March 8, 2012.

convert to a cylinder exchange program, fill on-site program, or a pressure-fill system using a pump and motor per tank.

#### Conversion to Cylinder Exchange or Fill On-site Program

The conversion to a cylinder exchange program or fill on-site program would mean the removal of existing stationary storage tanks in the estimated size range from 46 gallons to 125 gallons with a footprint of approximately 16 square feet. Currently, degassing and then removing a storage tank must be done by LPG professionals who are required to be licensed, which demonstrates that they are knowledgeable regarding the procedures for dismantling and removing LPG tanks, including all of the valves and fittings. The current procedures for removing an LPG tank typically include the following: 1) the tank is inspected and assessed for its overall condition and value by a licensed LPG professional; 2) the tank is degassed and cleaned; 3) the tank is disconnected from the concrete slab; and, 4) the tank is hauled away. Because it is common for used LPG tanks to have economic value, used LPG tanks are frequently restored or repaired and recertified for reuse elsewhere. For damaged or deteriorated LPG tanks unfit for resale, the tanks can either be disposed of or the metal can be sold for scrap. It is important to note, however, that even if a tank is removed, there is no requirement in PR 1177 to install a new stationary storage tank or remove or otherwise disturb the existing concrete pad upon which the LPG tank previously rested.

In this example, there are 2,308 existing tanks, ranging in capacity between 46 gallons and 125 gallons, that may be removed from affected facilities. Of these tanks, the size distribution is as follows: 250 tanks in the 46 gallon size; 330 tanks in the 50 gallon size; 1,308 tanks in the 96 gallon size, and 150 tanks in the 125 gallon size. As is the case with barbecue cylinders, the final compliance date is July 1, 2017. However, WPGA assumes that it will take industry about one year to decide how to address complying with PR 1177. Thus, WPGA estimated that conversions would be expected to occur over a more conservative, shortened time-frame – a four-year period (e.g., between July 1, 2013 and July 1, 2017), instead of a five-year period (e.g., June 1, 2012 to July 1, 2017)<sup>8</sup>. Further, the removal of each tank is assumed to correspond to one round trip. The LPG industry utilizes medium-duty crane trucks (15,000 gross vehicle weight) for tank removals.

Based on the aforementioned assumptions, the removal of 2,038 existing tanks, over a four-year period, at 260 working days per year may result in an average of two tank removals per day. To provide a more conservative analysis of tank removals, the average number of tank removals per day is doubled to provide a peak daily “worst-case” rate of four tank removals per day.

The next step in the process of converting to a cylinder exchange program for forklift tanks is to quantify the number of LPG cylinders that need to be purchased and delivered. This number is based on the capacity of the cylinder (e.g., one filled LPG forklift cylinder contains 33 pounds, which is equivalent to approximately 7.9 gallons of LPG) at a ratio proportionate to the storage capacity offset for each removed stationary storage tank. For example, six new cylinders would be needed for every 46 gallon or 50 gallon tank removed, 12 new cylinders would be needed for every 96 gallon tank removed, and 16 new cylinders would be needed for every 125 gallon tank removed.

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<sup>8</sup> Personal communication between Kennard Ellis, SCAQMD and Lesley Brown Garland, Western Propane Gas Association (WPGA), March 8, 2012.

Lastly, because these surplus cylinders would need a suitable storage location, each owner/operator of an affected facility would also be required to purchase and install a storage cage capable of holding as little as four cylinders (to replace the 46 gallon and 50 gallon sized tanks that were removed) up to as many 16 portable cylinders (to replace the 125 gallon sized tanks that were removed). Thus, each owner/operator of the 1,530 affected facilities would also be expected to purchase 1,530 storage cages of varying sizes by July 1, 2017. LPG storage cages are typically lockable, with open air metal mesh sides, and either rigid or castor-wheeled feet, with brakes on two of the castors. LPG storage cages are required to be positioned in the open air on level concrete or compact ground. The siting of LPG storage cages are also subject to a variety of requirements as specified in NFPA 58, §§6.2.2, 6.4.5, and 8.4.1 depending on the amount stored and distances to a variety of different types of receptors (for more information on distance requirements, see the discussion under the section entitled *Conversions from Gravity-Fill Systems for Forklift Tanks*). Thus, installation of a storage cage does not require any construction activities such as pouring a new concrete slab or bolting the cage to an existing concrete slab.

In summary, as part of the process of converting to a cylinder exchange program, the owners/operators of the 1,530 affected facilities would be expected to purchase 21,576 portable LPG cylinders and 1,530 storage cages by July 1, 2017 as summarized in Table 2-4.

**Table 2-4**  
**Cylinders & Storage Cages Needed For Equivalency**  
**with Existing Storage Capacity for Forklift Tanks**

	Existing Tanks				TOTAL
	46 gallon	50 gallon	96 gallon	125 gallon	
<b>No. of Facilities</b>	250	330	800	150	<b>1,530</b>
<b>No. of Existing Tanks to be Removed</b>	250	330	1,308	150	<b>2,038</b>
<b>No. of Replacement Cylinders Needed</b>	1,500	1,980	15,696	2,400	<b>21,576</b>
<b>No. of Cylinder Storage Cages Needed</b>	250	330	800	150	<b>1,530</b>

Notes:

1. One forklift cylinder can hold approximately 7.9 gallons of LPG.
2. The storage capacity of one 46-gallon tank or one 50-gallon tank is equivalent to approximately six forklift cylinders.
3. The storage capacity of one 96-gallon tank is equivalent to approximately 12 forklift cylinders.
4. The storage capacity of one 125-gallon tank is equivalent to 16 forklift cylinders.
5. One storage cage is needed per facility and the size of the storage cages can vary between holding four cylinders and 16 cylinders.

WPGA assumes that it will take industry about one year to decide how to address complying with this aspect of PR 1177. Thus, WPGA assumes that conversions would be expected to occur over a more conservative, shortened time-frame – a four-year period (e.g., between July 1, 2013 and July 1, 2017), instead of a five-year period (e.g., June 1, 2012 to July 1, 2017)<sup>9</sup>. The purchase of the replacement cylinders and storage cages is assumed to correspond to one combined round trip delivery per facility. Thus, the purchase and delivery of replacement cylinders and storage cages to 1,530 facilities, over a four-year period at 260 working days per year, is estimated to result in an average of two deliveries per day. To provide a more

<sup>9</sup> Personal communication between Kennard Ellis, SCAQMD and Lesley Brown Garland, Western Propane Gas Association (WPGA), March 8, 2012.

conservative analysis of delivery trips, the average number of delivery trips is doubled to provide a peak daily trip rate of up to four round trip deliveries per day.

Table 2-5 contains a summary of the peak daily “worst-case” construction emissions from the truck trips associated with removing existing LPG storage tanks, and delivering replacement cylinders and storage cages as part of converting to a cylinder exchange program for forklift tanks.

**Table 2-5**  
**Peak Daily “Worst-Case” Construction Emissions from the Conversion**  
**to a Cylinder Exchange Program for Forklift Tanks**

<b>Peak Construction Activity</b>	<b>VOC (lb/day)</b>	<b>CO (lb/day)</b>	<b>NO<sub>x</sub> (lb/day)</b>	<b>SO<sub>x</sub> (lb/day)</b>	<b>PM10 (lb/day)</b>	<b>PM2.5 (lb/day)</b>
<b>Tank Removal Truck Trips (4 roundtrips per day)</b>	1	6	6	0.01	0	0
<b>Delivery of replacement cylinders and storage cages (4 roundtrips per day)</b>	1	6	6	0.01	0	0
<b>Peak TOTAL</b>	<b>2</b>	<b>11</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Significance Threshold</b>	75	550	100	150	150	55
<b>Exceed Significance?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

Lastly, as part of the conversion to a cylinder exchange program, the empty portable forklift cylinders can either be picked up and full cylinders can be dropped off via a cylinder delivery truck or the facility can continue to receive LPG via a bobtail truck to fill their empty cylinders on-site. For any facility that previously received LPG via a bobtail truck to fill a stationary storage tank that will continue to receive LPG via a bobtail truck to directly fill their forklift cylinders instead, the peak daily bobtail truck trips are not expected to increase above the existing setting. However, for LPG suppliers to deliver full replacement cylinders and to pick up empty cylinders, WPGA indicated that all six of the LPG suppliers would need to purchase one new delivery truck each that is designed specifically to accommodate deliveries of forklift cylinders since their current bobtail trucks are not equipped to handle cylinder deliveries. However, because the deliveries that these trucks would be making would be offset by an equal reduction in trips previously made by bobtail trucks to deliver bulk LPG to the previous stationary storage tanks, no net increase in truck trips is anticipated to result in response to the purchase of the new trucks.

#### Conversion to Pressure-Fill Systems

The conversion to a pressure-fill system could involve the replacement of a smaller tank (e.g., within the estimated size range of 172 gallons to 288 gallons) with a larger tank (e.g., 499 gallon capacity) plus a small pump and motor rated up to 1.25 HP with flowrate of up to 15 gpm. Currently, degassing and removing a storage tank must be done by LPG professionals who are required to be licensed, which demonstrates that they are knowledgeable regarding the procedures for dismantling and removing LPG tanks, including all of the valves and fittings. The current procedures for removing an LPG tank typically include the following: 1) the tank is inspected and assessed for its overall condition and value by a licensed LPG professional; 2) the tank is degassed and cleaned; 3) the tank is disconnected from the concrete slab; and, 4) the tank is hauled away. Because it is common for used LPG tanks to have economic value, used LPG tanks are frequently restored or repaired and recertified for reuse elsewhere. For damaged or

deteriorated LPG tanks unfit for resale, the tanks can either be disposed of or the metal can be sold for scrap.

The replacement of a smaller tank with a larger tank could require the removal of an existing concrete pad and pouring of a larger concrete pad. Since horizontal tanks generally occupy a larger footprint than vertical tanks of the same capacity, this analysis assumes that each removed tank will be replaced with a new horizontal tank. For example, the dimensions of an existing, horizontal 250 gallon tank is approximately 7.2 feet long by 3.3 feet high which occupies a footprint of approximately 24 square feet. As a point of comparison, the dimensions of a new, horizontal 499-gallon tank is approximately 10 feet long by 3.1 feet high which would occupy a footprint of approximately 31 square feet. Further, an additional two square feet may be needed to accommodate the pump and motor system. Thus, the installation of a new 499-gallon tank equipped with a pump and motor system would require a slightly larger concrete slab to accommodate approximately 33 square feet, an increase of approximately nine square feet larger than the existing setting.

Lastly, for some facilities, the conversion to a pressure-fill system could involve the upgrade of an existing tank (e.g., within the estimated size range of 499 gallons to 1,150 gallons) with a new pump and motor rated up to 3.0 HP with flowrate of up to 35 gpm. While no demolition activities would be required, an additional two square feet may be needed to accommodate space for the new pump and motor system. If the concrete slab for the existing LPG storage tank is not large enough to accommodate the new pump and motor system, an additional concrete slab may need to be poured adjacent to the existing tank for this purpose.

Table 2-6 summarizes the quantities and capacities of existing LPG storage tanks that may be converted to pressure-fill systems.

**Table 2-6**  
**Conversion of Existing Storage Capacity to Pressure-Fill Systems for Forklift Tanks**

	Existing Tanks						TOTAL
	172 gallon	250 gallon	288 gallon	499 gallon	1,000 gallon	1,150 gallon	
<b>No. of Facilities</b>	11	100	85	350	5	60	<b>611</b>
<b>No. of Existing Tanks to be Removed</b>	11	100	85	0	0	0	<b>196</b>
<b>No. of Concrete Pads to be Demolished and Re-Poured</b>	11	100	85	0	0	0	<b>196</b>
<b>No. of New Replacement Tanks Needed (with 499 gallon capacity)</b>	11	100	85	0	0	0	<b>196</b>
<b>No. of Pumps/Motors Needed</b>	11	100	85	350	5	60	<b>611</b>
<b>Size of Pumps &amp; Motors Needed</b>	1.25 HP; 15 gpm	1.25 HP; 15 gpm	1.25 HP; 15 gpm	1.25 HP; 15 gpm	3 HP 35 gpm	3 HP 35 gpm	

Key: HP = horsepower; gpm = gallons per minute

In this example, there are 196 existing tanks, ranging in capacity between 172 gallons and 288 gallons, that may be removed from affected facilities and replaced with 196 new tanks sized at a 499-gallon capacity each and equipped with one pump and motor system per tank for a total of 196 units. Of these tanks, the size distribution is as follows: 11 tanks in the 172-gallon size; 100

tanks in the 288-gallon size; and 85 tanks in the 288-gallon size. In addition, there are 415 existing tanks, ranging in capacity between 499 gallons and 1,150 gallons, that may be equipped with one pump and motor system per tank, for a total of 415 units.

As is the case with the forklift cylinder conversions discussed in the previous section, the compliance date is July 1, 2017. However, WPGA assumes that it will take industry about one year to decide how to address complying with PR 1177. Thus, WPGA estimated that conversions would be expected to occur over a more conservative, shortened time-frame – a four-year period (e.g., between July 1, 2013 and July 1, 2017), instead of a five-year period (e.g., June 1, 2012 to July 1, 2017)<sup>10</sup>. To remove 196 tanks over a four-year period, at 260 working days per year, results in an average of 0.18 round trip delivery per day. To provide a more conservative analysis of delivery trips, the average number of truck trips is doubled to provide a peak daily trip rate of up to one round trip deliveries per day. The LPG industry utilizes medium-duty crane trucks (15,000 gross vehicle weight) for removing old tanks and delivering new tanks.

In addition, the manufacturer of the pump and motor system is not necessarily expected to be the same as the manufacturer of the replacement LPG tank. Thus, to install 611 pump and motor systems at 611 facilities, over a four-year period, at 260 working days per year, results in an average of 0.59 round trip delivery per day. To provide a more conservative analysis of delivery trips, the average number of truck trips is doubled to provide a peak daily trip rate of up to one round trip delivery per day.

Based on the aforementioned assumptions, the removal of 196 existing tanks, over a four-year period, at 260 working days per year may result in an average of one tank removal per day or a peak daily “worst-case” of two tank removals per day. Similarly, the delivery of 196 new tanks, over the same four-year period, may result in an average of one tank delivery per day or a peak daily “worst-case” of two tank deliveries per day. Lastly, the delivery of 611 pump and motor systems, over the same four-year period, may result in an average of one pump and motor delivery per day or a peak daily “worst-case” of two pump and motor deliveries per day.

Table 2-7 contains a summary of the peak daily “worst-case” construction emissions from the truck trips and construction activities associated with removing existing LPG storage tanks, and delivering replacement storage tanks, and delivering pumps and motors as part of converting to a pressure-fill system for certain forklift tanks.

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<sup>10</sup> Personal communication between Kennard Ellis, SCAQMD and Lesley Brown Garland, Western Propane Gas Association (WPGA), March 8, 2012.



**Table 2-7**  
**Peak Daily “Worst-Case” Construction Emissions from the Conversion**  
**to a Pressure-Fill System for Forklift Tanks**

Peak Construction Activity	VOC (lb/day)	CO (lb/day)	NO <sub>x</sub> (lb/day)	SO <sub>x</sub> (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
<b>Tank Removal Truck Trips</b> (2 roundtrips per day)	0.41	2.82	3.15	0.01	0.12	0.10
<b>Delivery of replacement Tanks</b> (2 roundtrips per day)	0.41	2.82	3.15	0.01	0.12	0.10
<b>Delivery of pump and motor systems</b> (2 roundtrips per day)	0.41	2.82	3.15	0.01	0.12	0.10
<b>Off-Road Construction Equipment</b>	1.27	4.77	6.87	0.01	0.44	0.41
<b>On-Road Construction Worker Vehicles</b>	0.04	0.43	0.04	0.00	0.01	0.00
<b>On-Road Construction Waste Hauling</b>	0.21	1.41	1.58	0.00	0.06	0.05
<b>Peak TOTAL</b>	<b>3</b>	<b>15</b>	<b>18</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>Significance Threshold</b>	75	550	100	150	150	55
<b>Exceed Significance?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

### Quarterly Inspections of Bulk Loading Operations

PR 1177 would require LPG providers to conduct quarterly inspections at approximately 200 bulk loading facilities that have one or more storage tanks greater than 10,000 gallons in capacity. The analysis in this EA assumes that these facilities are already conducting inspections as part of their existing fire safety requirements and, thus, PR 1177 would not be expected to create new trips that would be associated with the quarterly inspection requirement. Since there would be no new truck trips that would be associated with these quarterly inspection, no increase in combustion emissions above the existing setting are expected to occur as a result of implementing this portion of PR 1177.

### Summary of Construction Assumptions

With respect to analyzing the logistics of implementing these device replacements, a summary of the CEQA assumptions that were applied to the analysis in this EA is shown in Table 2-8.

**Table 2-8**  
**Summary of Affected LPG Equipment and CEQA Assumptions for PR 1177 Compliance**

Affected LPG Equipment	Number of Affected Units	Compliance Activity	Compliance Date	CEQA Assumptions
Residential Storage Tanks	39,712	Install replacement low emission FLLGs	<ul style="list-style-type: none"> <li>a. July 1, 2013 for new tanks or existing tanks taken out of service</li> <li>b. July 1, 2017 if documentation provided regarding unsafe retrofit</li> <li>c. July 1, 2015 for all others</li> </ul>	<ul style="list-style-type: none"> <li>a. Each new tank would be already manufactured with a low emission FLLG (e.g., no new trips). For existing tanks taken out of service for other reasons, the retrofit can occur as part of the other service (e.g., no new trips)</li> <li>b. For documented tanks taken out of service for other reasons, the retrofit can occur as part of the other service (e.g., no new trips).</li> <li>c. Existing tanks can be retrofitted during existing service call trip during LPG refills (e.g., no new trips).</li> </ul>
Commercial Storage Tanks	5,643	Install replacement low emission FLLGs	<ul style="list-style-type: none"> <li>a. July 1, 2013 for new tanks or existing tanks taken out of service</li> <li>b. July 1, 2017 if documentation provided regarding unsafe retrofit</li> <li>c. July 1, 2015 for all others</li> </ul>	<ul style="list-style-type: none"> <li>a. Each new tank would be already manufactured with a low emission FLLG (e.g., no new trips). For existing tanks taken out of service for other reasons, the retrofit can occur as part of other service (e.g., no new trips).</li> <li>b. For documented tanks taken out of service for other reasons, the retrofit can occur as part of other service (e.g., no new trips).</li> <li>c. Existing tanks can be retrofitted during existing service call trip during LPG refills (e.g., no new trips).</li> </ul>

**Table 2-8 (continued)**  
**Summary of Affected LPG Equipment and CEQA Assumptions for PR 1177 Compliance**

Affected LPG Equipment	Number of Affected Units	Compliance Activity	Compliance Date	CEQA Assumptions
Barbecue Cylinder	71,000	<ol style="list-style-type: none"> <li>1. Convert from fill by volume to fill by weight system (3,300 suppliers);</li> <li>2. Exchange customer's empty cylinder with a full cylinder;</li> <li>3. Install replacement low emission FLLG on each customer's existing cylinder; or,</li> <li>4. Customer to purchase new cylinder equipped with low emission FLLG</li> </ol>	<ol style="list-style-type: none"> <li>a. July 1, 2013 for low emission connector retrofit on dispenser</li> <li>b. July 1, 2017 for FLLG retrofit or no new FLLG if fill by weight with existing FLLG closed</li> </ol>	<ol style="list-style-type: none"> <li>a. Installation of each low emission connector can be handled during regular general maintenance of dispenser or as part of a cylinder exchange program (e.g., no new trips).</li> <li>b. Installation of each low emission FLLG can occur during regular general maintenance of dispenser or as part of a cylinder exchange program (e.g., no new trips). However, the timing would be dependent upon when the cylinder needs to be re-certified. For example, new tanks are first certified for 12 years, but after the initial certification, cylinders are required to be re-certified every five years. Further, since the WPGA assumes that 50 percent or 35,500 cylinders are filled-by-weight, only 35,500 cylinders are assumed to need new low emission FLLGs.</li> <li>c. Converting from fill by volume to fill by weight is assumed to affect 20 percent of the 3,300 facilities (e.g., 660 facilities) that are currently suppliers of LPG within the district. Each affected facility is assumed to install a scale equipped with an optional automatic shut-off valve. The analysis assumes that the deliveries of the scales equipped with automatic shut-off valves would create two new round trip truck trips.</li> </ol>
Bobtail Trucks	250	Install replacement low emission FLLGs	<ol style="list-style-type: none"> <li>a. July 1, 2013 for new or leased bobtails</li> <li>b. July 1, 2017 if documentation is provided by July 1, 2013 for pressure test, maintenance, etc.</li> </ol>	<ol style="list-style-type: none"> <li>a. Since hydrotesting of bobtail trucks is currently required at the time of manufacture and again at a DOT-certified testing facility every five years, retrofit of low emission FLLGs can occur when the bobtail is being re-certified (e.g., no new trips).</li> <li>b. Since documented bobtail trucks are also required to undergo hydrotesting at a DOT-certified testing facility every five years, retrofit of low emission FLLGs can occur when the bobtail is being re-certified (e.g., no new trips).</li> </ol>

**Table 2-8 (continued)**  
**Summary of Affected LPG Equipment and CEQA Assumptions for PR 1177 Compliance**

<b>Affected LPG Equipment</b>	<b>Number of Affected Units</b>	<b>Compliance Activity</b>	<b>Compliance Date</b>	<b>CEQA Assumptions</b>
Bobtail Truck Dispensers	250	Install replacement low emission connectors	July 1, 2013	Retrofit of low emission connectors can be done on site by operators or service technicians at the shut-off valve as part of regular maintenance (e.g., no new trips).
Tanker Trucks	100	Install replacement low emission connectors	July 1, 2013	Retrofit of low emission connectors can be done on site by operators or service technicians at the shut-off valve as part of regular maintenance (e.g., no new trips).
Forklift Tanks, not using Gravity Fill	60,000	Install replacement low emission FLLGs	July 1, 2017	Installation of low emission FLLGs can be done during regular general maintenance (e.g., no new trips). However, the timing is dependent upon when the tank needs to be re-certified. For example, new tanks are first certified for 12 years, but after the initial certification, tanks are required to be re-certified every five years.
Forklift Tanks supplied from on-site tank sized between 46 gallons and 125 gallons, using Gravity Fill	2,038	Remove existing tanks and convert to cylinder exchange program	July 1, 2017	The removal of each tank is assumed to correspond to four new round trips per day. In addition, the delivery and exchange of cylinders is assumed to correspond to four new round trips per day.
Delivery Trucks for forklift cylinder exchange program	6	Purchase new delivery trucks needed to specifically accommodate deliveries of forklift cylinders*	July 1, 2017*	Because LPG suppliers may need to deliver cylinders which will offset some deliveries of LPG directly through a bobtail truck (e.g., reduction in old bobtail truck trips) and instead would be delivering filled cylinders and picking up empty cylinders as part of the cylinder exchange program (e.g., equal increase in new cylinder delivery truck trips). Thus, no net increase in new truck trips is anticipated.
Forklift Tanks supplied from on-site tank sized between 172 gallons and 288 gallons, using Gravity Fill	196	Convert to a pressure-fill systems by replacing each existing tank with one larger tank (499 gallon capacity) and installing a pump/motor	July 1, 2017	Existing storage tanks are assumed to be replaced with a larger 499 gallon capacity storage tank equipped with a pump and motor in order to convert to a pressure-fill system. The removal of 196 existing tanks is assumed to result in two new truck trips per day. Similarly, the delivery of 196 new tanks is assumed to result in two new truck trips per day. Lastly, the delivery of 196 pump and motor systems is assumed to result in one new truck trip per day. Thus, a total increase of five new truck trips is assumed to occur.

**Table 2-8 (concluded)**  
**Summary of Affected LPG Equipment and CEQA Assumptions for PR 1177 Compliance**

<b>Affected LPG Equipment</b>	<b>Number of Affected Units</b>	<b>Compliance Activity</b>	<b>Compliance Date</b>	<b>CEQA Assumptions</b>
Forklift Tanks supplied from on-site tank sized between 499 gallons and 1,150 gallons, using Gravity Fill	415	Convert to a pressure-fill system by installing one pump/motor per existing tank	July 1, 2017	The amount of LPG needed to operate the forklifts is very large such that no tank replacement is assumed to be needed. Instead, the facility operator is assumed to convert the existing tank to a pressure-fill system by retrofitting the tank with a pump and motor. The delivery of 415 pump and motor systems is assumed to result in one new truck trip per day.
Service Dispensers (Hose End from stationary tank to portable tank)	5,000	Install replacement low emission connectors	July 1, 2013	LPG provider would make switch out during regular refill visit (e.g., no new trips).
Bulk Loading Operations with tanks > 10,000 gal	200 (facilities)	Conduct quarterly inspections per year	January 1, 2013	The 800 trips that would be required to conduct quarterly inspections would be incorporated into each facility's regular maintenance schedule (e.g., no new trips).

\* While there is no compliance requirement in PR 1177 for LPG providers to buy a new delivery truck for the forklift cylinder exchange program, but the timing by which these new truck purchases are expected to occur will correspond to the July 1, 2017 compliance date for the conversion of forklift tanks sized between 46 gallons and 125 gallons, using gravity fill, to a cylinder exchange program.

### **Construction Emissions Summary**

Since all of the various compliance activities pertaining to implementing PR 1177 are expected to overlap with each other, Table 2-9 contains a summary of all the construction emissions associated with the proposed project.

**Table 2-9**  
**Summary of Peak Daily “Worst-Case” Construction Emissions**  
**from PR 1177 (All Emission Sources)**

Peak Construction Activity	VOC (lb/day)	CO (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
<b>Barbecue Cylinders:</b> Delivery of Scales/Valves (2 round trips/day)	0	3	3	0.01	0	0
<b>Forklift Cylinder Conversions:</b> Tank Removal Truck Trips (4 roundtrips per day)	1	6	6	0.01	0	0
<b>Forklift Cylinder Conversions:</b> Delivery of replacement cylinders and storage cages (4 roundtrips per day)	1	6	6	0.01	0	0
<b>Forklift Tank Pressure-Fill Conversions:</b> Tank Removal Truck Trips (2 roundtrips per day)	0.41	2.82	3.15	0.01	0.12	0.10
<b>Forklift Tank Pressure-Fill Conversions:</b> Delivery of replacement Tanks (2 roundtrips per day)	0.41	2.82	3.15	0.01	0.12	0.10
<b>Forklift Tank Pressure-Fill Conversions:</b> Delivery of pump and motor systems (2 roundtrips per day)	0.41	2.82	3.15	0.01	0.12	0.10
<b>Forklift Tank Pressure-Fill Conversions:</b> Off-Road Construction Equipment	1.27	4.77	6.87	0.01	0.44	0.41
<b>Forklift Tank Pressure-Fill Conversions:</b> On-Road Construction Worker Vehicles	0.04	0.43	0.04	0.00	0.01	0.00
<b>Forklift Tank Pressure-Fill Conversions:</b> On-Road Construction Waste Hauling	0.21	1.41	1.58	0.00	0.06	0.05
<b>Peak TOTAL</b>	<b>5</b>	<b>29</b>	<b>34</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>Significance Threshold</b>	75	550	100	150	150	55
<b>Exceed Significance?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

As a result according to the preceding analysis of potential construction impacts, there would be no significant adverse construction air quality impacts resulting from the proposed project for any criteria pollutants.

### Operational Impacts

In order to comply with PR 1177, physical modifications (e.g., the installation of low emission FLLGs and low emission connectors, the conversion of fill by volume for filling barbecue cylinders, and the conversion of gravity-fill systems for filling forklift cylinders), as described above in the “Construction Impacts” section, would need to be made on various LPG storage and transfer equipment to limit the discharge of LPG into the atmosphere. By making these physical

modifications to affected equipment, PR 1177 is estimated to reduce VOC emissions from these sources by 6.1 tons per day upon full implementation. Thus, PR 1177 is expected to have a direct and beneficial VOC emission reductions effect.

It is important to note that once the physical modifications are made during the construction phase, few changes to operational activities are expected. Specifically, of all the compliance activities summarized in Table 2-8, only two categories of LPG affected equipment are expected to experience slight changes from baseline in their daily operational activities, as follows: 1) conversions to a forklift cylinder exchange program; and, 2) conversions to a forklift tank pressure-fill system for existing stationary tanks sized between 172 gallons and 288 gallons.

Operational activities associated with conversions to a forklift cylinder exchange program are expected to change because cylinder truck trips will be needed to accommodate regularly scheduled deliveries of filled replacement cylinders in exchange for empty cylinders. However, since the facilities that convert to a cylinder exchange program would no longer have a stationary LPG storage tank in place, refills of the cylinders would either occur via a delivery of full, replacement cylinders on a cylinder delivery truck or the cylinders could be filled via a regularly scheduled bulk delivery of LPG via a bobtail truck. Since the operational activities will require one new cylinder delivery truck for each of the six LPG suppliers and one less bobtail truck delivery to each customer participating in a forklift cylinder exchange program, there would be no net increase in truck trips for operational activities associated with conversions to a forklift cylinder exchange program. In addition, because trucks delivering cylinders and bobtail trucks delivering bulk LPG are both considered medium-duty trucks with the same emission factors, no change to operational air quality impacts is expected for any bobtail truck trip that is replaced with a cylinder delivery truck trip.

Similarly, changes to operational activities may also occur as a result of conversions to a forklift tank pressure-fill system for existing stationary tanks sized between 172 gallons and 288 gallons because these conversions are expected to result in one new, larger-sized tank (499-gallon capacity) to replace each removal of an existing, smaller storage tank. From an operational point of view, one bobtail truck would still be needed to deliver LPG to fill the stationary, storage tank in one day, but since the replacement storage tank would be sized at a larger capacity, more LPG would be transferred per delivery to fill the tank. Since the receiving facility would have a larger storage capacity, it would take longer to use up the LPG and, thus, bobtail deliveries would occur less frequently on an annual basis. However, the amount of deliveries expected to occur on a peak day would be expected to remain the same.

Lastly, no other criteria pollutants are expected to be directly affected by PR 1177, because of the narrow regulatory focus of PR 1177. Further, since PR 1177 does not alter the existing operating practices of LPG transfer and dispensing activities, no increases in secondary criteria pollutant impacts, such as combustion emissions from air pollution control equipment are expected from the proposed project. Therefore, PR 1177 is not expected to create significant adverse operational air quality impacts.

**III.c)** The preceding analysis concluded that the increase in construction emissions would create less than significant air quality impacts and a reduction of 6.1 tons per day of operational VOC emissions would not exceed the applicable SCAQMD construction or operational significant thresholds. Since PR 1177 is not expected to create significant adverse air quality impacts, the

proposed project is not expected to be cumulatively considerable as defined in CEQA Guidelines §15064(h)(1) and, therefore, is not expected to create significant adverse cumulative air quality impacts.

**III.d)** As explained in Section III.b), PR 1177 is estimated to reduce VOC emissions from various sources, including LPG tanks and transfer and dispensing equipment located at or near residences and other sensitive receptors, by 6.1 tons per day upon full implementation. While LPG is not classified as a toxic or as a hazardous air pollutant, it is a regulated substance subject to both the California and Federal Risk Management Plan (RMP) programs in accordance with the California Code of Regulations (CCR), Title 19, §2770.4.1 and Chapter 40 of the Code of Federal Regulations(CFR) Part 68, §68.126. A Risk Management Plan (RMP) is a document prepared by the owner or operator of a stationary source containing detailed information including, but not limited to:

- Regulated substances held onsite at the stationary source;
- Offsite consequences of an accidental release of a regulated substance;
- The accident history at the stationary source;
- The emergency response program for the stationary source;
- Coordination with local emergency responders;
- Hazard review or process hazard analysis;
- Operating procedures at the stationary source;
- Training of the stationary source's personnel;
- Maintenance and mechanical integrity of the stationary source's physical plant; and
- Incident investigation.

The threshold quantity for propane as a regulated substance for accidental release prevention is 10,000 pounds. However, when LPG is used as a fuel by an end user (as is frequently the case with residential portable and stationary storage tanks), or when it is held for retail sale as a fuel, it is excluded from these RMP requirements, even if the amount exceeds the threshold quantity. As such, there are some LPG storage and transfer equipment under PR 1177 that are subject to the RMP requirements and some that are not, irrespective of their location to sensitive receptors.

Trucks delivering cylinders and bobtail trucks delivering bulk LPG are both considered medium-duty trucks with the same emission factors. Fuels for medium duty trucks can include both gasoline and diesel. In 1998, CARB identified diesel particulate matter from internal combustion engines as a toxic air contaminant. Even if all medium duty trucks affected by the proposed project are diesel-fueled trucks, no increases in exposure to diesel particulate matter are expected for the following reasons. For facilities switching to a forklift cylinder exchange program, operational activities would require one new cylinder delivery truck for each of the six LPG suppliers and one less bobtail truck delivery to each customer participating in the forklift cylinder exchange program. This means that there would be no net increase in truck trips for operational activities associated with conversions to a forklift cylinder exchange program. Because deliveries by these medium duty trucks would be offset by an equal reduction in trips previously made by bobtail trucks to deliver bulk LPG to the previous stationary storage tanks, no net increase in truck trips is anticipated to result in response to the purchase of the new trucks and, therefore, no increase in exposure by nearby sensitive receptors, if any, to diesel particulate matter would occur.



Reducing VOC emissions by 6.1 tons per day in the district, PR 1177 is expected to contribute to the SCAQMD's efforts to attain and maintain all state and national ambient air quality standards for ozone, PM10, and PM2.5, throughout the district. Since these standards are health-based standards, improving air quality would also create human health benefits. Because the proposed project will not increase medium duty truck traffic to LPG transfer and dispensing equipment, no increased exposure to diesel particulate matter to nearby sensitive receptors are anticipated. Therefore, PR 1177 is not expected to create significant adverse air quality impacts to sensitive receptors.

**III.e)** Odor problems depend on individual circumstances, materials involved, and individual odor sensitivities. For example, individuals can differ quite markedly from the population average in their sensitivity to odor due to any variety of innate, chronic or acute physiological conditions. This includes olfactory adaptation or smell fatigue (i.e., continuing exposure to an odor usually results in a gradual diminution or even disappearance of the smell sensation).

Because LPG is odorless, as a fire and safety precaution, to warn users of its presence in the event of leaks, approximately one pound of ethyl mercaptan for every 10,000 gallons of LPG is added as an odorant. Thus, if there is an odor detected during LPG transfer and dispensing activities, there may be a leak and immediate attention would be required to prevent an explosion or fire. As a supplement to existing safety practices currently employed within the LPG industry, PR 1177 contains requirements for leak detection and repair to minimize LPG leaks and in turn, minimize the exposure of people to substantial odors. These requirements combined with the overall effect of reducing 6.1 tons per day of VOC from LPG transfer and dispensing activities will minimize the potential for exposure to odors.

Lastly, as already noted, PR 1177 would only require the limited use of heavy-duty diesel construction equipment for removing existing concrete pads and installing, larger, replacement concrete pads at 196 facilities that convert to a pressure-fill system for existing stationary tanks sized between 172 gallons and 288 gallons that are used for filling forklift cylinders. Because these limited construction activities will occur at 196 existing facilities spread out over four years throughout the district and high emitting heavy-duty construction equipment are not expected to be used for construction activities, no noticeable odor impacts associated with diesel exhaust from either on-road or off-road mobile sources are expected to occur.

For these reasons, PR 1177 is not expected to create new objectionable odors that would affect a substantial number of people.

**III.g) & h)** Global warming is the observed increase in average temperature of the earth's surface and atmosphere. The primary cause of global warming is an increase of greenhouse gas (GHG) emissions in the atmosphere. The six major types of GHG emissions identified in the Kyoto Protocol are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulfur hexafluoride (SF<sub>6</sub>), haloalkanes (HFCs), and perfluorocarbons (PFCs). The GHG emissions absorb longwave radiant energy emitted by the earth, which warms the atmosphere. The GHGs also emit longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation emitted by the atmosphere is known as the "greenhouse effect."

Combustion processes generate GHG emissions in addition to criteria pollutants. The following analysis focuses on directly emitted CO<sub>2</sub> and CH<sub>4</sub> because these are the primary GHG pollutants emitted during the combustion process and are the GHG pollutants for which emission factors are most readily available. CO<sub>2</sub> and CH<sub>4</sub> emissions were estimated using emission factors from CARB's EMFAC2007 and Offroad2007 models.

The analysis of GHGs is a much 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 CO<sub>2</sub> 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. GHG emissions are typically considered to be cumulative impacts because GHG emissions from a single project would have no noticeable effect on global climate. Instead, it is the GHG emissions contributions from multiple projects that affect global climate.

The primary sources of GHG emissions for the proposed project would be from converting LPG suppliers from fill by volume to fill by weight would require construction truck trips associated with the delivery and installation of scales and automatic shut-off valve and the combustion emissions from these truck trips have the potential to increase CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub> emissions, which is typically expressed in CO<sub>2</sub> equivalents or CO<sub>2</sub>e. For the purposes of addressing the GHG emission impacts from PR 1177, the overall impacts of CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub> emissions from the proposed project were estimated and evaluated from initial implementation of the proposed project beginning July 1, 2013 to July 1, 2017<sup>11</sup>.

Without employing the VOC emission controls as part of the proposed project, there would be no change to the CO<sub>2</sub>, N<sub>2</sub>O, or CH<sub>4</sub> emissions baseline over the same time frame. However, implementation of PR 1177 would require some physical changes to affected equipment requiring construction activities. As a result, construction emissions of criteria pollutants and GHGs are expected to be generated by the proposed project. Table 2-10 summarizes the GHG impacts as CO<sub>2</sub>eq from construction activities. Refer to Appendix B for the GHG calculations.

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<sup>11</sup> Even though compliance can begin as soon as the PR 1177 is adopted (e.g., June 1, 2012), WPGA assumes that compliance activities that would involve construction would be expected to occur over a more conservative time-frame – a four-year period (e.g., between July 1, 2013 and July 1, 2017), instead of the five-year period (e.g., June 1, 2012 to July 1, 2017) that would be provided under PR 1177. Personal communication between Kennard Ellis, SCAQMD and Lesley Brown Garland, Western Propane Gas Association (WPGA), March 8, 2012.

**Table 2-10**  
**Overall CO<sub>2</sub>eq Increases Due to Construction Activities**

Construction Category	CO <sub>2</sub> (lb/day)	CH <sub>4</sub> (lb/day <sup>1</sup> )	N <sub>2</sub> O (lb/day <sup>1</sup> )	CO <sub>2</sub> e (lb/day)	CO <sub>2</sub> eq (MT <sup>2</sup> )	CO <sub>2</sub> eq (MT/project <sup>2</sup> )	CO <sub>2</sub> eq (MT/yr <sup>2,3</sup> )
Barbecue Cylinders	556	0	0	557	0	167	6
Forklift Cylinder Conversions	2,225	0	0	2,227	1	1,802	60
Forklift Tank Pressure-Fill Conversions	2,891	0	0	2,895	1	392	13
<b>GHG Construction TOTAL</b>	<b>5,673</b>	<b>0</b>	<b>0</b>	<b>5,679</b>	<b>3</b>	<b>2,360</b>	<b>79</b>
<b>Significance Threshold</b>	n/a	n/a	n/a	n/a	n/a	n/a	<b>10,000</b>
<b>Exceed Significance?</b>	n/a	n/a	n/a	n/a	n/a	n/a	<b>NO</b>

<sup>1</sup> CH<sub>4</sub> and N<sub>2</sub>O are so low, the net result is substantially less than 1.0 pound per day.

<sup>2</sup> 1 metric ton (MT) = 2,205 pounds

<sup>3</sup> GHGs from construction activities are amortized over 30 years.

Once construction is complete, additional GHG emissions are expected to be generated due to the additional electricity that may be needed to operate the pump/motor systems that would be installed for certain stationary LPG storage tanks that supply forklift tanks. Table 2-11 summarizes the amount of electricity that will be needed to operate the pump/motor systems after converting to pressure fill systems for forklift tanks. Refer to Appendix B for the calculations.

**Table 2-11**  
**Electricity Needed to Convert to Pressure-Fill Systems for Forklift Tanks**

	Existing Tanks						TOTAL
	172 gallon	250 gallon	288 gallon	499 gallon	1,000 gallon	1,150 gallon	
<b>No. of Facilities</b>	11	100	85	350	5	60	<b>611</b>
<b>No. of Existing Tanks to be Removed</b>	11	100	85	0	0	0	<b>196</b>
<b>No. of New Replacement Tanks Needed (with 499 gallon capacity)</b>	11	100	85	0	0	0	<b>196</b>
<b>No. of Pumps/Motors Needed</b>	11	100	85	350	5	60	<b>611</b>
<b>Size of Pumps &amp; Motors Needed in horsepower (HP)</b>	1.25	1.25	1.25	1.25	3	3	<b>n/a</b>
<b>Size of Pumps &amp; Motors Needed per Tank in kilowatts (kW)</b>	0.93	0.93	0.93	0.93	2.24	2.24	<b>n/a</b>
<b>Fill Rate of Pump in gallons per minute (gpm)</b>	15	15	15	15	35	35	<b>n/a</b>
<b>Filling Frequency of New Tanks</b>	once per month (12 days/year)	once per month (12 days/year)	once per month (12 days/year)	once every two weeks (24 days/year)	once every two weeks (24 days/year)	once every two weeks (24 days/year)	<b>n/a</b>
<b>Time Needed to Fill 1 Tank when equipped w/pump and motor in hours/day</b>	0.19	0.28	0.32	0.55	0.48	0.55	<b>n/a</b>
<b>Electricity Needed to fill All tanks during one day megawatt-hours (MWh/day)</b>	0.0020	0.0259	0.0254	0.1809	0.0053	0.0735	<b>0.31</b>

The amount of electricity that the pumps may need can be used to estimate the amount of CO<sub>2</sub>eq emissions that may be generated as a result of operation activities of the newly installed pump/motor systems for forklift tanks. Table 2-12 summarizes the GHG impacts as CO<sub>2</sub>eq from pump/motor operation activities. Refer to Appendix B for the GHG calculations.

**Table 2-12**  
**Overall CO<sub>2</sub>eq Increases Due to Operation Activities**

Operational GHG Activity	Peak Electricity Demand (MWh/day)	CO <sub>2</sub> (MT/yr)	N <sub>2</sub> O (MT/yr <sup>1</sup> )	CH <sub>4</sub> (MT/yr <sup>1</sup> )	CO <sub>2</sub> eq (MT/yr <sup>2</sup> )
Operation of pump/motor systems <sup>3</sup>	0.31	3.43	0.0000	0.0000	3

<sup>1</sup> CH<sub>4</sub> and N<sub>2</sub>O are so low, the net result is substantially less than 1.0 metric ton per year.

<sup>2</sup> 1 metric ton (MT) = 2,205 pounds

<sup>3</sup> The emission factor is 1,110 lb CO<sub>2</sub>eq/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).

**Table 2-13**  
**Summary of Total GHG Emissions as CO<sub>2</sub>eq Increases Due to PR 1177**

	CO <sub>2</sub> eq from Temporary Construction Activities <sup>1,2</sup> (MT/yr)	CO <sub>2</sub> eq from Operational Electricity Use From Pumps/Motors <sup>1</sup> (MT/yr)	Total CO <sub>2</sub> eq <sup>1</sup> (MT/yr)	CO <sub>2</sub> eq significance Threshold <sup>1</sup> (MT/yr)	Significant?
<b>TOTAL</b>	<b>79</b>	<b>3</b>	<b>82</b>	<b>10,000</b>	<b>NO</b>

<sup>1</sup> 1 metric ton = 2,205 pounds

<sup>2</sup> GHGs from temporary construction activities are amortized over 30 years.

### GHG Summary

While PR 1177 is not expected to increase the amount of LPG combusted as fuel or alter the manufacturing processes of replacement equipment, PR 1177 would slightly alter the deliveries of replacement equipment needed for construction. Further, in limited situations (e.g., concrete pad removal and replacement), PR 1177 may require the use of some heavy-duty diesel construction equipment. However, because PR 1177 is designed within the current regulatory framework applicable to the LPG industry relative to the timing of inspections and maintenance, PR 1177 will not create new operational truck trips for these purposes. In addition, CO<sub>2</sub>, N<sub>2</sub>O, and CH<sub>4</sub> emissions would not be expected to change due to the reduction in fugitive LPG emissions because LPG does not contain CO<sub>2</sub>, N<sub>2</sub>O, or CH<sub>4</sub>. Further, PR 1177 does not require an increase in the demand for or the combustion of LPG, so no change in combustion GHG emissions would be expected to occur. Based on the above analysis, PR 1177 has the potential to increase GHG emissions as CO<sub>2</sub>eq by approximately 82 metric tons per year, which is below the GHG significance threshold of 10,000 metric tons per year for industrial sources. Thus, the GHG impacts that may result from the proposed project are less than significant.

As shown above, overall PR 1177 is not expected to exceed the SCAQMD's GHG significance threshold for industrial projects. On an individual basis, some affected facilities would not be expected to generate GHG emission impacts, while GHG emission impacts, primarily from construction activities at over 600 affected facilities replacing existing tanks with new tanks, would be substantially less than one metric ton per year. If these affected facilities are located in a city or county with an adopted GHG reduction plan, it is unlikely that a GHG emission increase per facility of less than one metric ton per year would conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

**Air Quality and GHG Analysis Conclusion**

Based on the preceding evaluation of air quality impacts from PR 1177, SCAQMD staff has concluded that PR 1177 does not have the potential to generate significant adverse air quality and GHG impacts. Since less than significant adverse air quality and GHG impacts were identified, no mitigation measures are necessary or required.

	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>IV. BIOLOGICAL RESOURCES.</b>				
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"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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)** PR 1177 would require low emission FLLGs to be installed on the following types of LPG tanks: residential tanks, commercial tanks, portable tanks, bobtail trucks, and forklift tanks. These installations could be handled in a variety of ways: 1) a new tank, at the time of manufacture, can be equipped with a low emission FLLG; 2) an existing tank that is taken out of service for repair, or part of regularly schedule maintenance such as recertification can be retrofitted with a low emission FLLG as part of that service call or recertification; or, 3) an existing tank can be retrofitted with a low emission FLLG at the time of the next LPG delivery prior to refilling the tank.

PR 1177 would also require the installation of low emission connectors on bobtail trucks, tanker trucks and service dispensers (hoses) that connect between a stationary tank and a portable tank. These installations can be handled in a variety of ways. For example, for bobtail trucks and tanker trucks, the retrofit could be done on site by operators at the shut-off valve as part of regular maintenance. Similarly, to retrofit a service dispenser, the LPG provider can make the switch-out during a regular refill visit.

In each of these examples, the installation of these low emission devices is not expected to be noticeably different in appearance or function relative to the existing FLLGs and connectors. In addition, it is expected that the devices installed would be drop-in replacement units that would not need heavy-duty diesel construction equipment for installation. Instead, hand tools may be used to install the replacement devices.

The conversion of gravity-fill systems for filling forklift cylinders by converting to a cylinder exchange program, fill on-site program, or pressure-fill system may cause some physical changes at affected facilities. These existing facilities would be expected to, depending on tank size, either convert to a cylinder exchange program or a pressure-fill system using a pump and motor per tank.

The conversion to a cylinder exchange program or fill on-site program for the forklift cylinders would mean the removal of smaller existing stationary storage tanks and the installation of a storage cage to hold four to 16 portable cylinders. The conversion to a pressure-fill system could involve the replacement of a medium-sized tank (e.g., within the estimated size range of 172 gallons to 288 gallons) with a larger tank (e.g., 499 gallon capacity) plus a small pump and motor. The tank replacements could require the removal of an existing concrete pad and replacing it with a larger concrete pad. Lastly, for some facilities, the conversion to a pressure-fill system could involve the upgrade of an existing tank (e.g., within the estimated size range of 499 gallons to 1,150 gallons) with a new pump and motor.

It is expected that affected facility operators who choose to replace gravity-fill systems and install a storage cage to hold portable cylinders or replace existing tanks with larger size pressure-fill tanks would perform all modifications within the boundaries of the existing facility. Space requirements for storage cages to hold portable cylinders are relatively small, so cages would likely be placed on the site of the old tank or elsewhere on site as long as the distance requirements of NFPA 58, §§6.2.2, 6.4.5, and 8.4.1 are adhered to. Similarly, for those affected facility operators who choose to replace existing gravity fill tanks with larger pressure-fill tanks, would likely install the new tank at the same location as the old tank. If for any reason there are space limitations that preclude installing a storage cage to hold portable cylinders or replacing an existing tank with a new larger tank, then the affected facility operators would likely convert to a cylinder exchange program or, in the case of replacing one tank with a second tank, the replacement tank could be the same size as the old tank. It is speculative to assume that affected facility operators would purchase additional land for constructing storage cages to hold portable cylinders or replacing existing tanks with new, larger tanks because additional adjacent land may not be available and the cost of purchasing additional land would likely be substantially greater than conversion to a cylinder exchange program. Therefore, the potential effects of purchasing additional land will not be considered further.

As indicated in the preceding paragraph, it is speculative to assume that affected facility operators would need to acquire land to comply with the provisions of PR 1177. Although, implementing PR 1177 could result in minor construction activities associated with the placement of storage cages to hold portable cylinders or new tanks to replace old tanks, it is expected that any new structures would be built entirely within the boundaries of the existing facility. As a result, implementing PR 1177 is not expected to adversely affect in any way habitats that support riparian habitat, are federally protected wetlands, or are migratory corridors. Similarly, although implementing PR 1177 could result in construction of small structures entirely within the boundaries of existing facilities, special status plants, animals, or natural communities are not expected to be adversely affected by the proposed project.

**IV.e) & f)** It is not envisioned that PR 1177 would conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans because it is not likely that the proposed project would require acquisition of additional land to convert from



gravity-fill tanks to other compliance options. Further, any construction of any structures would occur entirely within the boundaries of existing facilities, so no development in protected areas is anticipated. Further, PR 1177 would require compliance activities at existing facilities that are located in appropriately zoned areas. Compliance with PR 1177 is not expected to require zoning changes that could affect or conflict with any adopted Habitat Conservation Plans, Natural Community Conservation Plans, or any other relevant habitat 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 PR 1177 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 adverse biological resources impacts are not anticipated and will not be further analyzed in this Draft EA. Since no significant adverse biological 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
<b>V. CULTURAL RESOURCES.</b> 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), b), c), & d)** PR 1177 does not require 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, although in some cases, affected facility operators may choose compliance options that result in minor construction activities as discussed below. The predominate activities expected to occur as a result of PR 1177 is the removal of old and replacement with new low emission FLLGs and low emission connectors on LPG transfer and dispensing equipment. Compliant devices are drop in replacements, so removal and installation would occur primarily using hand tools.

The conversion of gravity-fill systems for filling forklift cylinders by converting to a cylinder exchange program, fill on-site program, or pressure-fill system may cause some physical changes at affected facilities. These existing facilities would be expected to, depending on tank size, either convert to a cylinder exchange program, fill on-site program, or a pressure-fill system using a pump and motor per tank.

The conversion to a cylinder exchange program or fill on-site program for forklift cylinders would mean the removal of smaller existing stationary storage tanks and the installation of a storage cage to hold four to 16 portable cylinders. The conversion to a pressure-fill system could involve the replacement of a medium-sized tank (e.g., within the estimated size range of 172 gallons to 288 gallons) with a larger tank (e.g., 499 gallon capacity) plus a small pump and motor. The tank replacements could require the removal of an existing concrete pad and replacing it with a larger concrete pad. Lastly, for some facilities, the conversion to a pressure-fill system could involve the upgrade of an existing tank (e.g., within the estimated size range of 499 gallons to 1,150 gallons) with a new pump and motor.

Since some tank replacements could require the removal and replacement of an existing concrete pad, some construction-related activities may occur that would minimally disturb soil in order to expand the size of the new concrete pad by a small amount. However, the analysis assumes that the replacement of an existing concrete pad or expansion of an existing concrete pad, if needed, will be in the same location of or immediately adjacent to the previous concrete pad, whose area was previously disturbed.

In general, facilities that would be affected by PR 1177 are existing facilities that are typically located in commercial or industrial areas. Any cultural resources present in such areas would have been highly disturbed in the past due to the original construction and development in the area of roadways, utilities, and other types of infrastructure. Similarly, construction of each affected facility would have caused further disturbances of the each facility's site. Consequently, depending on when the area of each affected facility was developed, any cultural resources encountered in the past would likely have been destroyed. If development occurred in the recent past, there are stringent laws in place with regard how to treat the discovery of culturally significant resources, which include: contingency funding and a time allotment sufficient to allow recovering an archaeological sample or to employ one of the avoidance measures, data recovery through excavation, et cetera. For these reasons, it is unlikely that PR 1177 compliance options that involve minor construction activities, would uncover culturally significant resources at affected facilities.

For the aforementioned reasons, no impacts to historical or cultural resources are anticipated to occur. PR 1177 is not expected to require physical changes to the environment that would disturb paleontological or archaeological resources or disturb human remains interred outside of formal cemeteries. Furthermore, it is envisioned that the areas where the affected devices exist are already either devoid of significant cultural resources or whose cultural resources have been previously disturbed.

Based upon these considerations, significant adverse cultural resources impacts are not expected from implementing PR 1177 and will not be further assessed in this ~~Draft~~ Final EA. 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
<b>VI. ENERGY.</b> Would the project:				
a) Conflict with adopted energy conservation plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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 checked="" type="checkbox"/>	<input 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)** Some of the physical modifications that are expected to occur as a result of implementing PR 1177 are the removal of old and replacement with new low emission FLLGs and low emission connectors on various LPG transfer and dispensing equipment. Because of the small size of the replacement parts, the items are expected to be ordered in bulk and combined with a shipment of other items that may be needed to be kept on hand for conducting regular

maintenance. Thus, no increases in supply delivery trips which could increase fuel use are expected.

Once the new low emission FLLGs and low emission connectors are delivered, replacement of these devices are drop in replacements, so removal and installation would occur primarily using hand tools. Thus, no large heavy-duty construction equipment that would need electricity, diesel or gasoline to function would be required to implement this portion of PR 1177. Further, neither the old nor the replacement devices need electricity to function.

The conversion of gravity-fill systems for filling forklift cylinders by converting to a cylinder exchange program, fill on-site program or pressure-fill system may cause some physical changes at affected facilities that would be expected to have a slight energy impact. These existing facilities would be expected to, depending on tank size, either convert to a cylinder exchange program, fill on-site program, or a pressure-fill system using a pump and motor per tank.

The conversion to a cylinder exchange program or fill on-site program for forklift cylinders would mean the removal of smaller existing stationary storage tanks and the installation of a storage cage to hold four to 16 portable cylinders. The conversion to a pressure-fill system could involve the replacement of a medium-sized tank (e.g., within the estimated size range of 172 gallons to 288 gallons) with a larger tank (e.g., 499 gallon capacity) plus a small pump and motor. The tank removal and replacements could require the removal of an existing concrete pad and replacing it with a larger concrete pad. Lastly, for some facilities, the conversion to a pressure-fill system could involve the upgrade of an existing tank (e.g., within the estimated size range of 499 gallons to 1,150 gallons) with a new pump and motor.

Thus, some construction equipment, such as the Bobcat M-series compact excavators, operating on diesel or gasoline fuels would likely be used for any necessary physical modifications. In addition, some supply delivery trips, worker trips, and hauling truck trips are expected to occur as a result of implementing these portions of PR 1177. These trips are expected to increase fuel use (e.g., diesel and gasoline) and this fuel use is summarized in Table 2-14. In addition, because the conversion to pressure fill systems for forklift tanks would require the use of pump/motor systems that need electricity to function, some energy impacts that pertain to slight increases in electricity demand are expected. However, because the penetration of natural gas vehicles into on-road and off-road mobile source fleets has been relatively minor, none of the construction equipment, worker trips or truck trips are expected to be fueled by natural gas, no energy impacts from the use of natural gas are expected.

Energy information, as it relates to construction and operational activities, was derived as part of the air quality analysis in this chapter and are summarized in Table 2-14. The analysis shows an overall increase in diesel and gasoline use during construction of approximately 314 gallons per day and three gallons per day, respectively, and an overall increase in peak electricity demand during operation of 0.31 megawatt-hours per day. The energy calculations are shown in Appendix B of this [Final Draft EA](#).

**Table 2-14**  
**Summary of Overall Increases in Energy Use**

<b>Equipment Category</b>	<b>Diesel Fuel Usage (gal/day)</b>	<b>Gasoline Fuel Usage (gal/day)</b>	<b>Peak Electricity Demand (MWh/day)</b>
<b>Barbecue Cylinders</b>	33.33	0	0
<b>Forklift Cylinder Conversions</b>	133.34	0	0
<b>Forklift Tank Pressure-Fill Conversions</b>	147.35	3	0.31
<b>TOTAL Usage for Proposed Project</b>	<b>314</b>	<b>3</b>	<b>0.31 = 0.01 MW (instantaneous)</b>
Threshold Fuel Supply <sup>a</sup>	1,086,000,000	6,469,000,000	8,362 MW <sup>b</sup> (instantaneous)
% of Fuel Supply	0.00003%	0.00000005%	0.0002%
Significant (Yes/No) <sup>c</sup>	No	No	No

<sup>a</sup> Year 2000 California Energy Commission (CEC) projections. Construction activities in future years would yield similar results.

<sup>b</sup> California Energy Demand 2008-2018 Staff Revised Forecast, Staff Final Report, California Energy Commission, , November 2007 (CEC-200-2007-015-SF2). See Form 1.4 b, Peak Demand by LSE: summer Peak Demand Coincident with Planning Area Peak for the following agencies/areas: SCE (Anaheim, Azusa, Banning, Colton, Metropolitan Water District, Rancho Cucamonga, Riverside and Vernon), Cities of Burbank, Glendale and Pasadena, and LADWP.  
<http://www.energy.ca.gov/2007publications/CEC-200-2007-015/CEC-200-2007-015-SF2.PDF>

<sup>c</sup> SCAQMD's energy threshold is 1% or more of supply.

**KEY:**

MWh = megawatt-hour

MW (Megawatt) = 1 MW = 1,000 kilowatts (KW)

Since the proposed project does not exceed the SCAQMD's energy threshold of one percent of supply for both diesel and gasoline fuels and electricity, the proposed project is expected to have less than significant energy demand impacts due to fuel use during construction or electricity demand during operation. Further, once construction is completed, the fuel use projected during construction will end. Increased fuel demand during construction activities to comply with PR 1177 is not considered to be a wasteful use of energy and, therefore, is not considered to be a significant energy impact. Thus, any potential increased fuel demand impacts during construction would be less than what has been analyzed during the peak for the proposed project because once construction is completed, demand for diesel or gasoline fuels for construction of projects to comply with PR 1177 would cease. Similarly, increased electricity demand during operation is not considered to be a wasteful use of electrical energy and therefore, is not considered to be significant.

Since the proposed project does not exceed any of the SCAQMD's energy thresholds of one percent of supply, the proposed project is expected to have less than significant energy impacts. Further, because the increase in electricity demand is below the SCAQMD's energy significance threshold of one percent above available supplies, any increased demand that may result from the proposed project can be met with the existing electrical capacity at each of the affected facilities. Lastly, based on this analysis, it is not anticipated that new or substantially altered power utility systems will need to be built to accommodate any additional electricity demands created by the proposed project.

For the above reasons, even if affected facilities are subject to adopted energy conservation plans or energy standards, implementation of PR 1177 would not be expected to increase demand for electricity during operation or gasoline and diesel fuel use during construction, to the extent that there would be conflicts with adopted energy conservation plans or violate existing energy standards. Additionally, those who manufacture or install PR 1177-compliant devices are expected to comply with any relevant existing energy conservation plans and standards because the manufacture and replacement of compliant devices would likely require the same equipment as is currently used by the LPG industry.

**VI.b), c), & d)** The manufacturing of compliant replacement devices is expected to create little or no additional demand for energy at affected facilities because activities and practices that involve the manufacturing or application of these compliant devices are already in place and are not expected to change as a result of implementing PR 1177. Based on the analysis in the Section III Air Quality and Greenhouse Gases of this EA, manufacturers are expected to use the same or functionally similar materials to manufacture compliant replacement devices when compared to existing devices. As such, PR 1177 would require little or no additional energy use to manufacture compliant devices and replace old devices. For these reasons, PR 1177 will not increase the demand for energy or require new or modified energy utilities.

Once the new low emission FLLGs and low emission connectors are delivered, replacement of these devices are drop in replacements, so removal and installation would occur primarily using hand tools. Thus, no heavy-duty construction equipment that would need electricity or fuel to function would be required. Further, neither the old nor the replacement devices need electricity, natural gas, gasoline or diesel fuel to function.

However, the conversion to a fill by weight system for barbecue cylinders and the conversion of gravity-fill systems for filling forklift cylinders by converting to either a cylinder exchange program, fill-on site, or pressure-fill system may cause some physical changes at affected facilities and some of these changes would be expected to have a slight energy impact. As indicated in discussion VI. a) & e) above. The analysis shows an overall increase in diesel and gasoline use during construction of approximately 314 gallons per day and three gallons per day, respectively, and an overall increase in peak electricity demand during operation of 0.31 megawatt-hours per day. Further, any potential increased fuel demand impacts during construction would be less than what has been analyzed during the peak for the proposed project because once construction is completed, demand for diesel or gasoline fuels for construction of projects to comply with PR 1177 would cease. Similarly, increased electricity demand during operation is not considered to be a wasteful use of electrical energy and therefore, is not considered to be significant.

In light of the above information and because the primary effect of PR 1177 would be to reduce fugitive emissions of LPG without creating significant construction or operational impacts, PR 1177 would not create any significant adverse effects on peak and base period demands for electricity, natural gas, or other forms of energy, or adversely affect energy producers or energy distribution infrastructure.

Based upon these considerations, PR 1177 is not expected to generate significant adverse energy resources impacts and will not be discussed further in this ~~Draft~~-Final EA. Since less than 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
<b>VII. GEOLOGY AND SOILS.</b> 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), b), & c)** The physical modifications that are expected to occur as a result of implementing PR 1177 is the removal of old FLLGs and connectors and replacement with new low emission FLLGs and low emission connectors on various LPG transfer and dispensing equipment. Replacement of these devices are drop in replacements, so removal and installation would occur primarily using hand tools. Thus, no heavy-duty diesel-fueled construction equipment would be required. Therefore, retrofitting affected equipment with PR 1177-compliant devices is not expected to affect geology or soils.

The manufacture of low emission FLLGs and low emission connectors is expected to occur at existing industrial facilities that already manufacture these devices so no changes to equipment or operations are expected to be necessary to continue to manufacture these compliant devices. The function of the compliant devices is essentially the same the devices being replaced, so effects, if any, on geology or soils would not change compared to the existing setting.

The conversion of gravity-fill systems for filling forklift cylinders by converting to a cylinder exchange program, fill on-site program, or pressure-fill system may cause some physical changes at affected facilities. These existing facilities would be expected to, depending on tank size, either convert to a cylinder exchange program, fill on-~~site~~site, or a pressure-fill system using a pump and motor per tank.

The conversion to a cylinder exchange program or fill on-site program for forklift cylinders would mean the removal of smaller existing stationary storage tanks and the installation of a storage cage to hold four to 16 portable cylinders. The conversion to a pressure-fill system could involve the replacement of a medium-sized tank (e.g., within the estimated size range of 172 gallons to 288 gallons) with a larger tank (e.g., 499 gallon capacity) plus a small pump and motor. The tank replacements could require the removal of an existing concrete pad and replacing it with a larger concrete pad. Lastly, for some facilities, the conversion to a pressure-fill system could involve the upgrade of an existing tank (e.g., within the estimated size range of 499 gallons to 1,150 gallons) with a new pump and motor.

Since some tank replacements could require the removal and replacement of an existing concrete pad, some construction-related activities may occur that would minimally disturb soil in order to expand the size of the new concrete pad. Because there may be space constraints at affected



facilities and the disturbed area would be very small, small scale equipment, such as the Bobcat M-series compact excavators, would likely be used. The analysis in the “Aesthetics” section concluded that up to nine square feet of area per affected facility could potentially be disturbed as part of replacing or modifying an existing concrete pad. However, the analysis also assumes that the replacement of an existing concrete pad or expansion of an existing concrete pad, if needed, will be in the same location of or immediately adjacent to the previous concrete pad, whose area was previously disturbed and likely, previously graded. Thus, any potential disruption or overcovering of soil is expected to be minimal and limited to previously paved or small new paved areas within existing facilities. To the extent that existing affected facilities are already located on unstable geologic units or soils, this is part of the existing setting. As explained above, there are no provisions in PR 1177 that would adversely affect the stability of local geologic units or soils.

Since PR 1177 would not require the construction of new structures or modify any existing structures, PR 1177 would not expose persons or property to new geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards.

There are no provisions in PR 1177 that would require the construction of new or modified structures or the construction or installation of air pollution control equipment that would call for the changes in topography or surface relief features, the erosion of beach sand, or a change in existing siltation rates. In addition, the proposed project would not require the drilling or removal of underground products (e.g., water, crude oil, etc.) that could produce subsidence effects. Since no major groundwork or earth moving activities would be required as part of implementing PR 1177, no new landslides effects or other changes to unique geologic features would occur.

**VII.d) & e)** Since PR 1177 is not expected to involve major or substantial earth-moving activities, no persons or property would be exposed to new impacts from expansive soils or soils. Further, because PR 1177 does not require construction of any structures that require wastewater disposal, the installation of septic tanks or other alternative waste water disposal systems is not anticipated as a result of adopting PR 1177.

Based upon these considerations, significant geology and soils impacts are not expected from the implementation of PR 1177 and will not be further analyzed in this ~~Final Draft~~ EA. Since no significant geology and soils impacts were identified, no mitigation measures are necessary or required.

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	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
<b>VIII. HAZARDS AND HAZARDOUS MATERIALS.</b> 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"/>
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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), c), & h)** PR 1177 would regulate existing and new LPG transfer and dispensing activities at affected facilities and LPG is considered an existing fire hazard. A number of physical or chemical properties may cause a substance to be a fire hazard. With respect to determining whether any substance is classified as a fire hazard, MSDS lists the National Fire Protection Association 704 flammability hazard ratings (i.e., NFPA 704). NFPA 704 is a “standard (that) provides a readily recognized, easily understood system for identifying flammability hazards and their severity using spatial, visual, and numerical methods to describe in simple terms the relative flammability hazards of a material<sup>12</sup>. Using this standard, LPG is rated “4” as an extreme flammability hazard and is rated “1” for a slight health hazard.

Although substances can have the same NFPA 704 Flammability Ratings Code, other factors can make each substance’s fire hazard very different from each other. For this reason, additional chemical characteristics, such as auto-ignition temperature, boiling point, evaporation rate, flash point, lower explosive limit (LEL), upper explosive limit (UEL), and vapor pressure, are also considered when determining whether a substance is fire hazard. The following is a brief description of each these chemical characteristics.

Auto-ignition Temperature: The auto-ignition temperature of a substance is the lowest temperature at which it will spontaneously ignite in a normal atmosphere without an external source of ignition, such as a flame or spark. The auto-ignition temperature of LPG is 878 degrees Fahrenheit (470 degrees Centigrade).

Boiling Point: The boiling point of a substance is the temperature at which the vapor pressure of the liquid equals the environmental pressure surrounding the liquid. Boiling is a process in which molecules anywhere in the liquid escape, resulting in the formation of vapor bubbles within the liquid. The boiling point of LPG is -40 degrees Fahrenheit (-40 degrees Centigrade).

Evaporation Rate: Evaporation rate is the rate at which a material will vaporize (evaporate, change from liquid to a vapor) compared to the rate of vaporization of a specific known material. This quantity is represented as a unitless ratio. For example, a substance with a high evaporation rate will readily form a vapor which can be inhaled or explode, and thus have a higher hazard risk. Evaporation rates

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<sup>12</sup> National Fire Protection Association, FAQ for Standard 704.  
<http://www.nfpa.org/faq.asp?categoryID=928&cookie%5Ftest=1#23057>

generally have an inverse relationship to boiling points, (i.e., the higher the boiling point, the lower the rate of evaporation). The LPG evaporates at a ratio of 272:1 from liquid to vapor.

Flash Point: Flash point is the lowest temperature at which a volatile liquid can vaporize to form an ignitable mixture in air. Measuring a liquid's flash point requires an ignition source. At the flash point, the vapor may cease to burn when the source of ignition is removed. There are different methods that can be used to determine the flashpoint of a solvent but the most frequently used method is the Tagliabue Closed Cup standard (ASTM D56), also known as the TCC. The flashpoint is determined by a TCC laboratory device which is used to determine the flash point of mobile petroleum liquids with flash point temperatures below 175 degrees Fahrenheit (79.4 degrees Centigrade).

Flash point is a particularly important measure of the fire hazard of a substance. For example, the Consumer Products Safety Commission (CPSC) promulgated Labeling and Banning Requirements for Chemicals and Other Hazardous Substances in 15 U.S.C. §1261 and 16 CFR Part 1500. Per the CPSC, the flammability of a product is defined in 16 CFR Part 1500.3 (c)(6) and is based on flash point. For example, a liquid needs to be labeled as: 1) "Extremely Flammable" if the flash point is below 20 degrees Fahrenheit; 2) "Flammable" if the flash point is above 20 degrees Fahrenheit but less than 100 degrees Fahrenheit; or, 3) "Combustible" if the flash point is above 100 degrees Fahrenheit up to and including 150 degrees Fahrenheit.

The flash point of LPG is -155 degrees Fahrenheit (-104 degrees Centigrade). Because the flash point is below 20 degrees Fahrenheit, LPG is classified as extremely flammable.

Lower Explosive Limit (LEL): The lower explosive limit of a gas or a vapor is the limiting concentration (in air) that is needed for the gas to ignite and explode or the lowest concentration (percentage) of a gas or a vapor in air capable of producing a flash of fire in presence of an ignition source (e.g., arc, flame, or heat). If the concentration of a substance in air is below the LEL, there is not enough fuel to continue an explosion. In other words, concentrations lower than the LEL are "too lean" to burn. For example, methane gas has a LEL of 4.4 percent (at 138 degrees Centigrade) by volume, meaning 4.4 percent of the total volume of the air consists of methane. At 20 degrees Centigrade, the LEL for methane is 5.1 percent by volume. If the atmosphere has less than 5.1 percent methane, an explosion cannot occur even if a source of ignition is present. When the concentration of methane reaches 5.1 percent, an explosion can occur if there is an ignition source. The LEL of LPG is 2.1 percent by volume.

Upper Explosive Limit (UEL): The upper explosive limit of a gas or a vapor is the highest concentration (percentage) of a gas or a vapor in air capable of producing a flash of fire in presence of an ignition source (e.g., arc, flame, or heat). Concentrations of a substance in air above the UEL are "too rich" to burn. The UEL of LPG is 9.5 percent by volume.

Vapor Pressure: Vapor pressure is an indicator of a chemical's tendency to evaporate into gaseous form. Depending on how LPG is stored, the vapor pressure can range between 23 pounds per square inch gauge (psig) to 132 psig at 70 degrees Fahrenheit (21.1 degrees Centigrade).

While LPG is classified as a fire hazard, it is not classified as a toxic or as a hazardous air pollutant. LPG is a regulated substance subject to both the California and Federal RMP programs in accordance with the CCR, Title 19, §2770.4.1 and Chapter 40 of the CFR Part 68, §68.126<sup>13</sup>. A RMP is a document prepared by the owner or operator of a stationary source containing detailed information including, but not limited to:

- Regulated substances held onsite at the stationary source;
- Offsite consequences of an accidental release of a regulated substance;
- The accident history at the stationary source;
- The emergency response program for the stationary source;
- Coordination with local emergency responders;
- Hazard review or process hazard analysis;
- Operating procedures at the stationary source;
- Training of the stationary source's personnel;
- Maintenance and mechanical integrity of the stationary source's physical plant; and
- Incident investigation.

The threshold quantity for LPG (as propane) as a regulated substance for accidental release prevention is 10,000 pounds. However, when LPG is used as a fuel by an end user (as is frequently the case with residential portable and stationary storage tanks), or when it is held for retail sale as a fuel, it is excluded from these RMP requirements, even if the amount exceeds the threshold quantity. As such, there are some LPG storage and transfer equipment under PR 1177 that are subject to the RMP requirements and some that are not, irrespective of their location to sensitive receptors such as schools.

PR 1177 would regulate existing and new transfer and dispensing activities of LPG only. However, PR 1177 would not cause new LPG transfer and dispensing activities to occur or existing activities to increase. Further, PR 1177 would not cause an increase in the production of LPG to be made available on the market for later transfer and dispensing.

Lastly, while impacts associated with fire hazards would be considered significant if the project creates a significant fire hazard to the public through the use of more flammable materials by consumers, PR 1177 will not increase the use of LPG or cause a switch of the use of LPG to some other fuel type as explained in the following paragraph. Even for those 196 facilities that replace their existing tanks with new larger tanks, PR 1177 will not increase the use of LPG, because the LPG use is based on the demand for fueling the forklift cylinders. Further, for those facilities that replace their existing tanks with new, larger tanks (e.g., 499 gallon), the installation and operation of these larger tanks will still be subject to rigorous permitting, operational and inspection requirements per NFPA standards. For example, LPG tanks sized at 125 gallons or greater require a permit that is renewable every five years and the tanks have to be reinspected by an

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<sup>13</sup> The federal RMP program is administered in California through the California Accidental Release Prevention (CalARP) program (Health & Safety Code (H&SC), §§ 25531 to 25543.3 and California Code of Regulations, Title 19 (19 CCR or "Title 19"), §§ 2735.1 to 2785.1).

authorized inspector upon permit renewal. Further, permits are valid for a specific tank at a specific location. If a tank is replaced, the permit is invalid and new permit is required for the new replacement tank. Lastly, LPG tanks sized at 125 gallons or greater are required to be equipped with level gauges and thermometers.

Operators who currently transfer and dispense LPG are well aware of the hazardous nature of LPG, including its flammability and receive periodic training for the safe handling of LPG for the following reasons. Facility operators with a dispensing system for LPG are required to comply with operating pressures pursuant to the standards developed by the American Society of Mechanical Engineers (ASME) Pressure Vessel Code, Section 8; NFPA 58 with regard to venting LPG to the atmosphere; and for LPG tanks that are subject to RMP requirements, the operators must obtain permits from, and submit RMPs to the local Certified Unified Program Agency (CUPA) which is typically the city or county fire department. For similar reasons, industrial and commercial customers on the receiving end of LPG deliveries are also well aware of the safety issues associated with LPG. Residential customers, through warning labels on the portable cylinders and on the units to which the portable cylinders connect, are notified of the flammability dangers associated with LPG. PR 1177 will not cause a change in the existing requirements for the safe handling of LPG in all of these situations.

Reducing VOC emissions by 6.1 tons per day, PR 1177 is expected to contribute to the SCAQMD's efforts to attain and maintain all state and national ambient air quality standards for ozone, PM10, and PM2.5 in the district. Since these standards are health-based standards, improving air quality would also create a human health benefits and may produce slight a slight fire safety benefit by reducing or eliminating the small amounts of vapor that are released to the atmosphere during LPG dispensing, especially to nearby sensitive receptors relative to the location of LPG transfer and dispensing equipment.

Based on the above information, PR 1177 is not expected to create significant adverse hazards and hazardous materials impacts.

**VIII.d)** Government Code §65962.5 typically refers to a list of facilities that may be subject to Resource Conservation and Recovery Act (RCRA) permits. Since PR 1177 relates to LPG transfer and dispensing activities, PR 1177 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 non-compliant FLLGs and low emission connectors with PR 1177-compliant FLLGs and low emission connectors, the conversion to fill by weight systems for barbecue cylinders, and the conversion to either cylinder exchanges or pressure fill systems for forklift tanks are not expected to generate increased hazardous waste about the existing baseline or interfere with existing hazardous waste management programs. Accordingly, PR 1177 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, affected facilities would be expected to continue to manage any and all hazardous materials and hazardous waste, in accordance with federal, state and local regulations.

**VIII.e)** Since the implementation of PR 1177 is not expected to generate significant adverse new hazardous emissions in general (see the discussions under *III. Air Quality and Greenhouse*

*Gas Emissions*) or increase the manufacture or use of hazardous materials (see discussion VIII.a), b), c), & h) above), PR 1177 is not expected to increase or create any new safety hazards to people working or residing in the vicinity of public/private airports.

**VIII.f)** As already noted, low emission FLLGs and low emission connectors would likely be manufactured using the same or functionally similar materials as the current non-compliant LPG flow devices in place today. Further, LPG, irrespective of PR 1177, will continue to be manufactured, transported, stored and used in the same or similar quantities. For these reasons, PR 1177 is not expected to conflict with business emergency response plans. With respect to suppliers and sellers of LPG, 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:

1. Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
2. Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;
3. Procedures to mitigate a release or threatened release to minimize any potential harm or damage to persons, property or the environment;
4. Procedures to notify the necessary persons who can respond to an emergency within the facility;
5. Details of evacuation plans and procedures;
6. Descriptions of the emergency equipment available in the facility;
7. Identification of local emergency medical assistance; and
8. Training (initial and refresher) programs for employees in:
  - a. The safe handling of hazardous materials used by the business;
  - b. Methods of working with the local public emergency response agencies;
  - c. The use of emergency response resources under control of the handler; and
  - d. 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. Based on the analysis in VIII.a), b), & c) and VIII.h), PR 1177 will not worsen or change the already hazardous properties of LPG. Therefore, PR 1177 is not expected to impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

**VIII.g)** Since PR 1177 will not change the amount of LPG that is manufactured, transported, and distributed, implementation of PR 1177 is not expected to increase fire hazards. In actuality, by reducing the amount of released VOCs as fugitive LPG, PR 1177 may reduce the chances for fire hazards that may otherwise occur because of a leak (see VIII. a), b), c) &h)). Further, many of the affected manufacturing, storage, and distributing facilities are located in appropriately zoned commercial or industrial areas, which do not typically include wildlands. For those affected facilities located near wildlands, the facilities would likely be devoid of brush or landscape plants specifically for fire safety reasons. For these reasons, risk of loss or injury associated with wildland fires is not expected as a result of implementing PR 1177. Therefore, PR 1177 is not expected to be significant for exposing people or structures to risk of loss, injury or death involving wildland fires.

Based upon these considerations, significant hazards and hazardous materials impacts are not expected from the implementation of PR 1177. 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
<b>IX. HYDROLOGY AND WATER QUALITY.</b> 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), h) & i)** Since PR 1177-compliant technologies (e.g., low emission FLLGs and low emission connectors ) do not utilize water as part of the LPG transfer and dispensing, no additional water demand or wastewater generation is expected to result from the retrofitting affected units with PR 1177-compliant devices. Because PR 1177 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. Therefore, no water demand impacts are expected as the result of implementing PR 1177.

PR 1177 would not require construction of new buildings. Some affected facilities have a compliance option of removing smaller existing gravity-fill stationary storage tanks and replacing them with larger pressure-fill tanks. The analysis in the “Aesthetics” section concluded that up to nine square feet of area per affected facility could potentially be disturbed as part of replacing or modifying an existing concrete pad. Affected facilities that replace existing tanks with new tanks would likely use the same concrete pads or demolish existing pads and construct new pads in approximately the same locations. Consequently, the proposed project is not expected to interfere substantially with groundwater recharge. For these same reasons, PR 1177 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 PR 1177 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. For these reasons, PR 1177 is not expected to require additional wastewater disposal capacity, violate any water quality standard or wastewater discharge requirements, or otherwise substantially degrade water quality.

Complying with PR 1177 will not change existing operations at affected facilities, nor would it result in an increased water demand that would cause a generation of increased volumes of wastewater because the water is not required as part of the LPG transfer and dispensing process. As a result, there are no potential changes in water demand or wastewater volume or composition expected from complying with the requirements in PR 1177. Further, PR 1177 is not expected to cause affected facilities to violate any water quality standard or wastewater discharge requirements since there would be no water needed and no wastewater volumes generated as a result of implementing PR 1177.

Since PR 1177 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. c) & g)** PR 1177 would not require construction of new buildings. Some affected facilities have the compliance option of replacing an existing gravity-fill tank with a new larger pressure-fill tank. The analysis in the “Aesthetics” section concluded that up to nine square feet of area per affected facility could potentially be disturbed as part of replacing or modifying an existing concrete pad. Affected facilities that replace existing tanks with new tanks would likely use the same concrete pads or demolish existing pads and construct new pads in approximately the same locations. For these reasons PR 1177 is not expected to increase storm water discharge. For the same reasons PR 1177 would not increase storm water runoff during operation. Therefore, no new storm water discharge treatment facilities or modifications to existing facilities will be required due to the implementation of PR 1177. Accordingly, PR 1177 is not expected to generate any impacts relative to construction of new storm water drainage facilities.

**IX. d)** Implementation of PR 1177 in industrial and commercial settings would occur at existing facilities that are typically located in areas that are paved and already have drainage infrastructures in place. Since PR 1177 would not involve major construction activities that

would include activities such as site preparation, grading, et cetera, no changes to storm water runoff, drainage patterns, groundwater characteristics, or flow are expected. Therefore, these impact areas are not expected to be affected by PR 1177.

**IX. e) & f)** The proposed project would not require construction of new housing, contribute to the construction of new building structures, or require modifications or changes to existing structures. Further, PR 1177 is not expected to require additional permanent workers at affected facilities. Therefore, PR 1177 is not expected to generate construction of any new structures in 100-year flood areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood delineation map. As a result, PR 1177 is not expected to expose people or structures to any new flooding risks, or make worse any existing flooding risks. Finally, PAR 1177 will not affect any potential flood hazards inundation by seiche, tsunami, or mud flow that may already exist relative to existing facilities or create new hazards at existing facilities.

In conclusion, PR 1177 is not expected to have any water demand or water quality impacts for the following reasons:

- The proposed project does not increase demand on the existing water supply.
- The proposed project does not increase demand for total water by more than 5,000,000 gallons per day.
- The proposed project does not increase demand for potable water by more than 262,820 gallons per day.
- The proposed project does not require construction of new water conveyance infrastructure.
- The proposed project does not create a substantial increase in mass inflow of effluents to public wastewater treatment facilities.
- The proposed project does not result in a substantial degradation of surface water or groundwater quality.
- The proposed project does not result in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The proposed project does not result in alterations to the course or flow of floodwaters.

Based on these considerations, significant adverse impacts to hydrology and water quality are not expected to occur from implementing PR 1177. Since there are no significant adverse impacts, no mitigation measures are required.

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	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
<b>X. LAND USE AND PLANNING.</b>				
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)** There are no provisions in PR 1177 that would require construction or installation of air pollution control equipment. It is expected that compliance with PR 1177 would be achieved primarily through replacing existing FLLGs and connectors with PR 1177-compliant low emission FLLGs and low emission connectors, converting to fill by weight systems for barbecue cylinders, and converting to cylinder exchange or pressure fill systems for filling forklift tanks. Further, because the low emission FLLGs and low emission connectors are drop-in replacements within existing units, no heavy-duty, diesel-fueled construction equipment would be needed. For converting to fill by weight systems for barbecue cylinders, and converting to cylinder exchange or pressure fill systems for forklift tanks, some minor construction activities and additional truck trips may be needed. However, as explained in the *IV. Biological Resources* section, it is expected that affected facility operators who choose to replace gravity-fill systems and install a storage cage to hold portable cylinders or replace existing tanks with larger size pressure-fill tanks would perform all modifications within the boundaries of the existing facility. Further, it is speculative to assume that affected facility operators would purchase additional land for constructing storage cages to hold portable cylinders or replacing existing tanks with new, larger tanks because additional adjacent land may not be available and the cost of purchasing additional land would likely be substantially greater than conversion to a cylinder exchange program. For these reasons and because of the limited scope of these activities as explained previously in the *III. Air Quality and Greenhouse Gas Emissions* discussion, implementation of PR 1177 would not be expected to cause any major modifications that would have the effect of physically dividing an established community.

**X.b)** There are no provisions in PR 1177 that would affect land use plans, policies, or regulations for the same reasons given in discussion X. a) above. Further, land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by PR 1177 requirements.

Based upon these considerations, significant land use and planning impacts are not expected from the implementation of PR 1177. 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
<b>XI. MINERAL RESOURCES.</b> 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)** There are no provisions in PR 1177 that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Some examples of mineral resources are gravel, asphalt, bauxite, and gypsum, which are commonly used for construction activities or industrial processes. Since the main focus of PR 1177 is to replace FLLGs and connectors with low emission FLLGs and low emission connectors, to convert to fill by weight systems for barbecue cylinders, and to convert to either cylinder exchange or pressure fill systems for forklift tanks, PR 1177 would have no effect on the use of important minerals, such as those described above. Therefore, no new demand for mineral resources is expected to occur and significant adverse mineral resources impacts from implementing PR 1177 are not anticipated.

Based upon these aforementioned considerations, significant mineral resources impacts are not expected from the implementation of PR 1177. Since no significant mineral 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
<b>XII. NOISE.</b> 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)** Modifications or changes associated with implementing the proposed project involving construction equipment would typically occur at existing facilities that are located in commercial or industrial settings. The existing noise environment at each of the affected facilities is typically dominated by noise from existing equipment onsite, vehicular traffic around the facilities, and trucks entering and exiting each facility premises.

It is expected that compliance with PR 1177 would be achieved primarily through replacing existing FLLGs and connectors with low emission FLLGs and low emission connectors, converting to fill by weight systems for barbecue cylinders, and converting to either cylinder exchange or pressure fill systems for forklift tanks. Low emission FLLGs and low emission connectors are drop-in replacements within existing units, so no heavy-duty, diesel-fueled

construction equipment would be needed. Replacement of FLLGs and connectors would not require heavy-duty diesel-fueled construction equipment. Instead, the replacements can be made with hand tools. Neither the hand tools nor the replaced devices generate noise or ground vibration.

Construction activities for the proposed project may generate some noise associated with the use of construction equipment and construction-related traffic. Specifically, while there are no provisions in PR 1177 that would require major construction of new or modified structures or the construction or installation of air pollution control equipment, some minor, short-term construction activities involving off-road equipment and truck deliveries associated with conversions to either cylinder exchange or pressure fill systems for forklift tanks may cause temporary noise impacts on-site during construction. Because of potential size constraints at each affected facility and the small area within each facility that would need to be disturbed, small scale construction equipment such as Bobcat M-series equipment would likely be used. According to the manufacturer<sup>14</sup>, noise levels from M-series equipment can be 60 percent lower than comparable equipment. Further, noise levels are reduced by six dBA for each doubling distance from the noise source. If there are structures or walls between the noise source and offsite receptors, noise levels would be reduced even further.

For facility operators who choose to convert to pressure fill systems for forklift tanks, installation of small (e.g., within the range of 1.25 HP to 3.0 HP) pump and motor systems is expected and may be a permanent source of noise at an affected facility. The noise rating for a typical pump and motor system within this size range is approximately 70 decibels (dBA) or less, per unit, which is equivalent to the sound of a vacuum cleaner. The pump and motor systems would be located immediately adjacent to a storage tank within the property lines of each existing affected facility and would only operate when the storage tank is being filled. As shown in Table 2-11, the amount of time it would take to fill the largest tank - a tank sized at 1,150 gallons - with the assistance of a 3.0 HP pump and motor system would be approximately 33 minutes. Further, the analysis assumes the fill frequency for the largest tank to be twice per month or 24 fills per year. As indicated in the construction noise discussion, noise levels are reduced by six dBA for each doubling distance from the noise source and the presence of structures or walls between the noise source and offsite receptors would be reduced noise levels even further. Thus, if pump and motor systems are installed, new noise sources would be present at affected facilities during project, but would unlikely to be distinguishable from other local noise sources.

Nonetheless, noise from the proposed project, whether from construction or operation activities, is not expected to produce noise in excess of current operations measurable at the property line of each of the existing facilities because it is expected that each facility affected will comply with all existing noise control laws or ordinances. Further, Occupational Safety and Health Administration (OSHA) and California-OSHA (CalOSHA) have established noise standards to protect worker health. Because the noise level may increase within an affected facility intermittently and at a level that would not be expected to be noticeable at the property line, PR 1177 is not expected to expose persons to the permanent generation of excessive or prolonged noise levels above current levels where the affected devices are located. Further, because the pumps are relatively small, PR 1177 is not expected to generate substantial ground vibrations.

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<sup>14</sup> Bobcat. 2012. Two Big Reasons to get M-powered. <http://www.bobcat.com/loaders/models/skidsteer/s850>.



In summary, any potential noise increases that may result from implementing PR 1177 are not expected to be noticeable at the property line and further, are expected within the allowable noise levels established by the local noise ordinances for commercial and industrial areas, and thus are expected to be less than significant.

**XII.d)** Though some of the facilities affected by the proposed project may be located at sites within an airport land use plan, or within two miles of a public airport, the intermittent noise from construction equipment, truck trips, or the operation of pump and motor systems would not expose people residing or working in the project area to an additional degree of excessive noise levels for the same reasons described in discussion XII. a), b), & c) above. Indeed ambient noise levels near airports have the potential to be much higher than other areas because of the noise associated with airplanes landing and taking off. All noise producing equipment must comply with local noise ordinances and applicable OSHA or CalOSHA workplace noise reduction requirements.

Based upon these considerations, significant noise impacts are not expected from the implementation of PR 1177. 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
<b>XIII. POPULATION AND HOUSING.</b>				
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)** The proposed project is not anticipated to generate any significant effects, either direct or indirect, on the district's population or population distribution as no permanent additional workers are anticipated to be required to comply with PR 1177. Replacement of existing FLLGs and connectors with low emission FLLGs and low emission connectors on LPG

transfer and dispensing equipment typically requires one worker as part of an existing service call, which can be accommodated by the existing labor pool in southern California. No additional workers would be required to manufacture the replacement parts needed to comply with PR 1177 because the low emission FLLGs and low emission connectors are already being manufactured and are currently in use and would continue to be used in greater numbers.

PR 1177 may require some minor, short-term construction activities involving off-road equipment and truck deliveries associated with conversions to either cylinder exchange or pressure fill systems for forklift tanks to occur. Specifically, two construction workers may be needed to handle any removal and repouring of concrete pads as part of converting some forklift tanks to pressure fill systems. Because the analysis assumes that at most, it may take five days to remove, re-frame and re-pour concrete, the additional construction workers would be needed on a short-term basis.

Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing PR 1177. As such, PR 1177 would not result in changes in population densities or induce significant growth in population. Further, PR 1177 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 persons or housing elsewhere in the district.

Based upon these considerations, significant population and housing impacts are not expected from the implementation of PR 1177. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>XIV. PUBLIC SERVICES.</b> 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)** Potential adverse impacts to fire departments as a result of implementation of PR 1177 are not expected to occur for the following reasons. In general, there are potential fire hazard impacts associated with the storage and handling of LPG because it is classified by the NFPA as a flammable gas and as an extremely flammable liquid (fire rating = 4)<sup>15</sup>. Due to the flammability of LPG, proper handling and storage of LPG is also regulated by the Department of Transportation (DOT) and the Occupational Safety and Health Administration (OSHA) as a hazardous material.

Service technicians for LPG service calls are required to be licensed, which demonstrates that they are knowledgeable regarding the procedures for dismantling and removing LPG tanks, including all of the valves and fittings. They are already highly trained in safety and fire protection procedures due to the highly flammable nature of LPG. For example, service technicians receive training on filling and dispensing procedures for LPG, leak detection, and leak repair. Service technicians are also trained in conducting regular maintenance of equipment used for LPG dispensing and transfer activities. Thus, since the main physical modifications that would occur as a result of implementing PR 1177 would be the replacement of old FLLGs and connectors with low emission FLLGs and low emission connectors, which are functionally identical to the replaced devices, there is no reason to expect that PR 1177 would cause service technicians to need additional fire protection as part of their day-to-day activities. Further, the functionally identical replacement of these devices would not be expected to cause an increase in accidental release of LPG (a hazardous material) such that fire departments would have to respond more frequently to accidental release incidences. In fact, because PR 1177 is expected to reduce or eliminate the small amounts of vapor that are released to the atmosphere during LPG dispensing, there is the potential for a slight reduction in the probability of fires or explosions during dispensing activities.

Conversion to fill by weight systems for barbecue cylinders to pressure-fill systems for forklift tanks would also rely on the same licensed LPG service technicians. In addition to their training in safety and fire protection procedures, LPG service technicians also have expertise with regard to emptying and dismantling any storage tanks, installing new tanks, connecting automatic shut-off valve to barbecue cylinder scales, and connecting pump and motor systems to forklift tanks.

PR 1177 will not increase the amount of LPG (a hazardous and flammable material) to be used at the affected sites or cause a switch of the use of LPG to some other fuel type as explained in the following discussion. In addition, for those 196 facilities that are assumed to replace their existing tanks with new larger tanks, PR 1177 will not increase the use of LPG, because the LPG use is based on the demand for fueling the forklift cylinders and not necessarily, the quantity of

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<sup>15</sup> NFPA Flammability Rating: 0 = Not Combustible; 1 = Combustible if heated; 2 = Caution: Combustible liquid flash point of 100° F to 200°F; 3 = Warning: Flammable liquid flash point below 100°F; 4 = Danger: Flammable gas or extremely flammable liquid

LPG stored in the supply tank. Further, for those facilities that replace their existing tanks with new, larger tanks (e.g., 499 gallon), the installation and operation of these larger tanks will still be subject to rigorous permitting, operational and inspection requirements per NFPA standards. For example, LPG tanks sized at 125 gallons or greater require a permit that is renewable every five years and the tanks, as with the replaced tanks, have to be reinspected by an authorized inspector upon permit renewal. Further, permits are valid for a specific tank at a specific location. If a tank is replaced, the permit is invalid and new permit is required for the new replacement tank. Lastly, LPG tanks sized at 125 gallons or greater are required to be equipped with level gauges and thermometers.

Thus, once the new tanks are permitted and inspected, fire departments would not have to conduct additional safety inspections beyond what would already be required as part of the replacement process. Lastly, since it is expected that implementing PR 1177 would not increase the use of LPG (a hazardous and flammable material), there would be no need for new or additional fire fighting resources nor is PR 1177 expected to adversely affect fire departments' abilities to maintain acceptable service ratios, response times or other performance objectives.

**XIV.b)** Local police departments are also first responders to emergency situations such as fires, for example, to cordon off the area and provide crowd control. As noted in Section VIII.a), b), c) & h), PR 1177 is not expected to significantly increase adverse hazards or hazardous material impacts. Similarly as explained in Section XIV.a), implementing PR 1177 is not expected to increase fire hazards compared to the existing setting. As a result, no significant adverse impacts to local police departments such as maintaining acceptable service ratios, response times or other performance objectives are expected because no increases in hazardous material or fire emergencies are anticipated.

**XIV.c) & d)** The local labor pool (e.g., workforce) of employees who will be replacing the FLLGs and low emission connectors, removing and installing tanks equipped with pump and motor systems, and connecting automatic shut-off valves to barbecue cylinder scales as part of their day-to-day activities is expected to remain the same since PR 1177 would not trigger substantial changes to current manufacture of the replacement devices or to the number of LPG service calls. Therefore, with no increase in local population anticipated (see discussion "XIII. Population and Housing"), construction of new schools or additional demands on existing schools are not anticipated. Therefore, no significant adverse impacts are expected to local schools.

**XIV.e)** PR 1177 would not result in the need for new or physically altered facilities, in order to maintain acceptable service ratios. As noted in other sections, PR 1177 is not expected to increase the use of LPG, a hazardous and flammable material that would require public agency oversight or affect in any way public agency service ratios, response times or other performance objectives. Further, there would be no increase in population and, therefore, no need for physically altered government facilities.

Based upon these considerations, significant adverse public services impacts are not expected from the implementation of PR 1177. 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
<b>XV. RECREATION.</b>				
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)** As discussed under “Land Use and Planning” above, there are no provisions in PR 1177 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments. No land use or planning requirements would be altered by the adoption of PR 1177, which only affects LPG transfer and dispensing equipment at existing facilities. Further, PR 1177 would not affect in any way district population growth or distribution (see Section XIII), in ways that could 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 the implementation of PR 1177. 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
<b>XVI. SOLID/HAZARDOUS WASTE.</b>				
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>

### Significance Criteria

The proposed project impacts on solid/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)** Compliance with PR 1177 focuses primarily on the replacement of non-compliant FLLGs and connectors used in LPG transfer and dispensing activities with low emission FLLGs and low emission connectors. Because PR 1177 would require old, non-compliant FLLGs and connectors to be replaced with new devices, an increase in the amount of solid waste is expected to be generated when the replacements occur. The composition of the old FLLGs and connectors are typically made of metal such as brass or steel. Thus, any scrap metal generated due to replacements of FLLGs and connectors has economic value and is expected to be recycled. Further, since replacement of these devices would not require the use of hazardous materials, no hazardous materials waste is expected to be generated from implementing PR 1177.

In addition to replacing existing FLLGs and connectors with low emission FLLGs and low emission connectors, PR 1177 may also involve conversions to fill by weight systems for barbecue cylinders, and conversions to cylinder exchange or pressure fill systems for forklift tanks and these conversions may involve some minor construction activities that may generate solid waste.

For example, for barbecue cylinder conversions, an LPG supplier that currently uses a fill by volume system for its stationary storage tank can convert to a fill by weight system. In order to do so, the LPG supplier would need to have a scale that may be equipped with an automatic shut-off valve and the scale would need to be placed adjacent to the existing stationary storage tank so that the automatic shut-off valve (if installed) can be connected to the LPG dispenser. The packaging for the scale and automatic shut-off valve may be considered solid waste, but because it is likely to mostly be comprised of cardboard which has a monetary value, the packaging will likely be recycled, rather than disposed of in a landfill.

For customers or owners of barbecue cylinders, there are three options available to make sure that their cylinders are PR 1177-compliant, as follows: 1) the LPG supplier could exchange each

customer's existing, empty cylinder for a full cylinder at the point of exchange recycle the old cylinder; 2) the LPG supplier could install a replacement low emission FLLG on each customer's existing cylinder at the time when a refill is needed and recycled the old devices; or, 3) the customer could purchase a new cylinder fitted with a low emission FLLG from a retailer and recycle the old cylinder at the point of purchase.

For existing forklift tanks that are currently gravity-filled via an existing stationary storage tank, the operator would have three compliance options available to convert from gravity-fill systems: 1) remove the existing stationary storage tank and convert to a portable forklift cylinder exchange program by buying multiple portable cylinders and installing a cage to store these cylinders; 2) convert to a pressure-fill system by replacing the existing stationary storage tank with a new, larger stationary storage tank that is also equipped with a pump and motor; or, 3) convert to a pressure-fill system by installing a pump and motor on an existing stationary storage tank.

If the operator chooses to remove a tank, it is less likely the removed tank would be disposed of in a landfill because used LPG tanks have economic value. Used LPG tanks are frequently restored or repaired and recertified for reuse elsewhere. For damaged or deteriorated LPG tanks unfit for resale, the tanks can either be disposed of or the metal can be sold for scrap.

It is important to note, however, that even if a tank is removed, there is no requirement in PR 1177 to remove or otherwise disturb the existing concrete pad upon which the LPG tank previously rested. However, if the operator needs to modify or remove an existing concrete pad to make room for a new larger storage tank, for example, the removed concrete would be a new, one-time waste stream. The analysis in the "Aesthetics" section concluded that the largest area of a concrete pad that could be demolished would be approximately 24 square feet for a 250 gallon tank. Assuming the concrete pad is six inches thick, approximately 12 cubic feet or 1.3 cubic yards of construction waste may be generated per tank removed. The analysis estimates that 196 facilities may need to remove the concrete pads that previously supported their LPG storage tanks. Thus, the maximum amount of solid waste that may be generated from demolishing 196 concrete pads from replacing tanks sized between 172 gallons and 288 gallon with larger 499 gallon tanks is approximately 261 cubic yards. For solid waste disposal, facility operators will likely dispose of their solid waste in a landfill located within the district.

Specifically, construction-related waste would be disposed of at a Class II (industrial) or Class III (municipal) landfill. There are 48 Class II/Class III landfills within the SCAQMD's jurisdiction. Based on a search of the California Integrated Waste Management Board's Solid Waste Information System (SWIS) on May 16, 2007, the landfills that accept construction waste in Los Angeles, Orange, Riverside and San Bernardino counties have a combined remaining disposal capacity of approximately 750,846,000 cubic yards (1,250,367,507 tons). Thus, 261 cubic yards of solid waste that may be generated by the proposed project represents 0.00003 percent of landfill disposal capacity within the district.

Lastly, PR 1177 is not expected to significantly increase existing waste or generate new waste, either solid or hazardous<sup>16</sup>, as a result of manufacturing PR 1177-compliant devices (e.g., low

<sup>16</sup> As explained in Section IX - Hydrology and Water Quality, no liquid wastes are expected to be generated by PR 1177. Further, because the disposal of liquid wastes in landfills is prohibited, the discussion in this section will only focus on solid and hazardous waste.

emission FLLGs and low emission connectors), since manufacturing operations are already using the same or functionally similar materials and disposal methods to produce these devices.

Thus, no hazardous waste products associated with adopting PR 1177 were identified and nonhazardous solid waste impacts specifically associated with PR 1177 are expected to be minor. As a result, no substantial change in the amount or character of solid or hazardous waste streams is expected to occur. For these reasons, PR 1177 is not expected to substantially increase the volume of solid or hazardous wastes from affected facilities, require additional waste disposal capacity, or generate waste that does not meet applicable local, state, or federal regulations.

Based upon these considerations, PR 1177 is not expected to increase the volume of solid or hazardous wastes in amounts that exceed the disposal capacities of existing municipal or hazardous waste disposal facilities or require additional waste disposal capacity. Further, implementing PR 1177 is not expected to interfere with any affected facility's ability to comply with applicable local, state, or federal waste disposal regulations.

Therefore, significant adverse solid or hazardous waste impacts are not expected from the implementation of PR 1177. Since no significant solid/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
<b>XVII. TRANSPORTATION/TRAFFIC.</b>				
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"/>



	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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/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)** The manufacture or use of PR 1177-compliant devices is not expected to adversely affect transportation or traffic. In general, the volumes of PR 1177-compliant devices are not expected to increase when compared to the volumes of non-compliant devices currently used and to be replaced. Thus, the current level of transportation demands related to transporting replacement devices is not expected to increase. PR 1177 is not expected to affect existing operations or use of compliant devices that would change or cause additional worker trips to distribution or retail facilities or increase transportation demands or services. Therefore, since no substantial increase in operational-related trips are anticipated, implementing PR 1177 is not expected to significantly adversely affect circulation patterns on local roadways or the level of service (LOS) at intersections near affected facilities or other sites that use LPG.

Minor construction activities resulting from implementing the proposed project may generate a slight, albeit temporary, increase in traffic in the areas of each affected facility associated with construction workers, construction equipment, the delivery of construction materials, and the hauling away of waste materials. Table 2-15 summarizes the truck trips that are assumed to occur during construction. Due to the small number of trips that may be needed during construction activities at affected facilities and the small number of affected facilities that may replace existing tanks, it is highly unlikely that the daily trips would noticeably affect the LOS at any intersection in the vicinity of affected facilities because the trips would be dispersed throughout the district.

**Table 2-15**  
**Summary of Construction Truck Trips**

PR 1177 Equipment Category	Transportation Activity During Construction	Peak Round Trips per Day
Barbecue Cylinders	Delivery of Scales/Valves	2
Forklift Cylinder Conversions	Tank Removal Truck Trips	4
Forklift Cylinder Conversions	Delivery of replacement cylinders and storage cages	4
Forklift Tank Pressure-Fill Conversions	Tank Removal Truck Trips	2
Forklift Tank Pressure-Fill Conversions	Delivery of replacement Tanks	2
Forklift Tank Pressure-Fill Conversions	Delivery of pump and motor systems	2
Forklift Tank Pressure-Fill Conversions	Off-Road Construction Equipment	1
Forklift Tank Pressure-Fill Conversions	On-Road Construction Worker Vehicles	2
Forklift Tank Pressure-Fill Conversions	On-Road Construction Waste Hauling	1
	<b>TOTAL</b>	<b>20</b>
	<b>Significance Threshold</b>	<b>350</b>
	<b>Exceed Significance?</b>	<b>NO</b>

Based on the information above, the work force at each affected facility is not expected to increase as a result of the proposed project so no new work commute trips would be generated. Further, as demonstrated in Table 2-15, the proposed project is not expected to cause a

significant increase in construction-related traffic relative to the existing traffic load and capacity of the street systems surrounding the affected facilities. Also, for the aforementioned reasons, the proposed project is not expected to exceed, either individually or cumulatively, the current LOS of the areas surrounding the affected facilities during construction .

**XVII.c)** The height and appearance of the existing structures where the PR 1177-compliant devices would be manufactured or used is not expected be affected in any way because existing vapor control devices are similar in size to compliant devices. For this same reason, installing PR 1177-compliant devices at affected facilities is not expected noticeably affect the height profile of affected facilities. The proposed project has the potential for some affected facility operators to replace a gravity-fill tank with a potentially larger pressure-fill tank. For example, the dimensions of a 250 gallon tank are approximately 7.2 feet wide by 3.3 feet high which is equivalent to a footprint of approximately 24 square feet. As a point of comparison, the dimensions of a 499 gallon tank are approximately 10 feet wide by 3.1 feet high which is equivalent to a footprint of approximately 31 square feet while the dimensions of a 1,150 gallon tank are approximately 8.75 feet wide by 5.0 feet high which is equivalent to a footprint of approximately 43.75 square feet. Consequently, implementation of PR 1177 is not expected to require construction of structures that have the potential to adversely affect air traffic patterns. Further, PR 1177 would not affect in any way air traffic in the region because the compliant FLLGs and low emission connectors are typically shipped via ground transportation and not by air.

**XVII.d)** The manufacturing and use of PR 1177-compliant devices is meant for LPG transfer and dispensing equipment and, thus, is not expected to require construction or modification of structures or roadways. Further, complying with PR 1177 requirements, which may include replacing existing tanks with new tanks at affected facilities, would also not involve construction or modifications to existing roadways. Consequently, implementing the proposed project would not create roadway hazards or incompatible roadway uses.

**XVII.e)** Use of PR 1177-compliant devices is not expected to affect or require changes to emergency access at affected facilities or other sites where LPG transfer and dispensing activities occur since PR 1177 would not require construction or physical modifications to any structure associated with manufacturing or selling PR 1177-compliant devices (e.g., low emission FLLGs and low emission connectors). The manufacture and use of PR 1177-compliant devices are specific to LPG transfer and dispensing equipment and, thus, would not be expected to affect businesses' emergency response plans (see discussion in Section VIII.f). Therefore, PR 1177 is not expected to adversely affect emergency access.

**XVII.f)** No modifications at facilities or other sites where LPG transfer and dispensing activities occur are expected that would conflict with alternative transportation, such as bus turnouts, bicycle racks, et cetera. Although some affected facilities that have LPG transfer and dispensing equipment may be maintenance and fueling stations for public transit buses, installing PR 1177 compliant devices to reduce fugitive emissions is not expected to affect the performance or safety of affected transit facilities (see the *VIII. Hazards and Hazardous Materials* discussion above). Consequently, implementing PR 1177 would not create any conflicts with these modes of transportation.

Based upon these considerations, PR 1177 is not expected to generate significant adverse transportation/traffic impacts. Since no significant transportation/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
<b>XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.</b>				
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 checked="" type="checkbox"/>	<input 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"/>

**XVIII.a)** As discussed in the “Biological Resources” section of this EA, PR 1177 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because the proposed project would likely only require the replacement of FLLGs and connectors with low emission FLLGs and low emission connectors on LPG transfer and dispensing equipment at existing sites. Furthermore, it is envisioned that the areas where the affected devices exist are already either devoid of significant biological resources or whose biological resources have been previously disturbed.

The proposed project does not require the acquisition of land to comply with the provisions of PR 1177. Also, implementation of PR 1177 may result in construction of cages to store propane cylinders or new tanks that would replace existing tanks. However, construction of any structures is expected to occur entirely within the boundaries of existing affected facilities. As a result, implementing PR 1177 is not expected to adversely affect in any way habitats that support riparian habitat, are federally protected wetlands, or are migratory corridors. Similarly, since implementing PR 1177 would not require construction of any structures, special status plants, animals, or natural communities and important examples of the major periods of California history or prehistory are not expected to be adversely affected by the proposed project.

**XVIII.b)** Based on the preceding analyses, PR 1177 is not expected to generate any project-specific significant adverse environmental impacts for the following reasons. The environmental topics checked ‘No Impact’ (e.g., aesthetics, agriculture and forestry resources, biological resources, cultural resources, geology and soils, hydrology and water quality, land use and planning, mineral resources, population and housing, public services, and recreation) would not be expected to make any contribution to potential cumulative impacts whatsoever. For the environmental topics checked ‘Less than Significant Impact’ (e.g., air quality, energy, hazards and hazardous materials, noise, solid/hazardous waste, and transportation/traffic), the analysis indicated that project impacts would not exceed any project-specific significance thresholds. 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.

**XVIII.c)** Based on the preceding analyses, PR 1177 is not expected to cause adverse effects on human beings, either directly or indirectly. Less than significant air quality and greenhouse gases, energy, hazards and hazardous materials, noise, solid/hazardous waste, and transportation/traffic impacts from implementing PR 1177 were identified. PR 1177 would result in a reduction of 6.1 tons of VOC emissions per day by minimizing excess releases of LPG, a VOC as well as a flammable material, into the atmosphere. By minimizing releases of excess LPG into the atmosphere, PR 1177 would also reduce potential existing flammable impacts associated with LPG handling and storage, a benefit.

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

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### PROPOSED RULE 1177

In order to save space and avoid repetition, please refer to the latest version of Proposed Rule 1177 located elsewhere in the Governing Board Package. The version of Proposed Rule 1177 that was circulated with the Draft EA and released on April 3, 2012 for a 30-day public review and comment period ending May 2, 2012 was identified as “PR1177-v01-r48.”

Original hard copies of the Draft EA, which include the draft version of the proposed 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**

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### **ASSUMPTIONS AND CALCULATIONS**

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**Worksheet B-12**  
**Barbecue Cylinder Conversions**

**Activity**                      **No. of Scales/Auto Shut-off Valves**                      **3,300 facilities service barbecue cylinders - 20% currently fill by volume (660 facilities)**  
**Converting LPG Suppliers from fill by volume systems to fill by weight systems**                      **1**                      **delivery and installation of 660 scales and 660 automatic shut-off valves to occur between 7/1/2013 and 7/1/2017**

average                      1 scale-valve/day                      peak                      2 scales-valves/day

Activity	Days/wk	Wks/month	Days/month	Months	Total Days	Crew Size
Delivery of Scale/Valve	5	4.33	21.67	0	1.00	1
<b>Total</b>			<b>0</b>		<b>1.00</b>	

Delivery/Installation of Scales/Valves	Fuel	Number Needed	Number of Round trips/day	Round-trip Distance (miles/day)	Mileage Rate (miles/gallon)	2013 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)	N2O (lb/hr)*
Medium Duty Delivery Truck (> 8,500 lbs)	diesel	1	1	100	6	0.0021	0.0141	0.0158	0.0000	0.0006	0.0005	2.7816	0.0001	0.0001

\*N2O values are estimated from a ratio of N2O emissions factors to CH4 emission factors (e.g., 0.94) as presented for on-road vehicles in CARB's Regulation for Mandatory Reporting of GHG Emissions.

Incremental Increase in Combustion Emissions	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)	N2O (lb/day)	CO2eq (lb/day)	CO2eq (MT*)	CO2eq (MT*/project)	CO2eq (MT*/yr)
Medium Duty Delivery Truck (> 8,500 lbs)	0.41	2.82	3.15	0.01	0.12	0.10	556.33	0.02	0.02	562	0.26	168.33	6
<b>SUBTOTAL</b>	<b>0.41</b>	<b>2.82</b>	<b>3.15</b>	<b>0.01</b>	<b>0.12</b>	<b>0.10</b>	<b>556.33</b>	<b>0.02</b>	<b>0.02</b>	<b>562.39</b>	<b>0.26</b>	<b>168.33</b>	<b>5.61</b>

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)

Total Incremental Combustion Emissions	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)	N2O (lb/day)	CO2eq (lb/day)	CO2eq (MT*)	CO2eq (MT*/project)	CO2eq (MT*/yr)
<b>Peak TOTAL</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>556</b>	<b>0</b>	<b>0</b>	<b>562</b>	<b>0</b>	<b>168</b>	<b>6</b>
Significant Threshold	75	550	100	150	150	55	n/a	n/a	n/a	n/a	n/a	n/a	10,000
<b>Exceed Significance?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>NO</b>

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

**Worksheet B-12**  
**Barbecue Cylinder Conversions ~~to Forklift Cylinder Exchange~~ (concluded)**

Incremental Increase in Fuel Usage From Delivery Trucks	Total Hours	Equipment Type	Diesel Fuel Usage (gal/hr)	Total Diesel Fuel Usage (gal/day)	Total Gasoline Fuel Usage (gal/day)
Medium Duty Delivery Truck (> 8,500 lbs)	N/A	Delivery Truck	N/A	33.33	N/A
			<b>TOTAL</b>	<b>33</b>	<b>0</b>

Sources:

On-Road Mobile Emission Factors (EMFAC 2007 v2.3), Scenario Year 2013, On-Road Vehicles, Delivery Truck > 8,500 lbs.

<http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html>

**Worksheet B-2**  
**Conversions to Forklift Cylinder Exchange**

**Activity**                                      **No. of Tanks**                                      **2,038 existing tanks in size range between 46 gallons & 125 gallons to be removed from 1,530 facilities**  
**21,576 new cylinders and 1,530 storage cages will be delivered to 1,530 facilities**  
**removal and hauling away of existing tanks & delivery of replacement cylinders and storage cages to occur between 7/1/2013 and 7/1/2017**

Converting to a  
Cylinder Exchange  
Program for Forklift  
Tanks (sized between  
46 gallons and 125  
gallons)

1

average                                      2                                      removed  
average                                      2                                      tank/day  
delivery trips/day                                      peak  
delivery trips/day                                      peak                                      4                                      removed tanks/day  
4                                      delivery trips/day

Activity	Days/wk	Wks/month	Days/month	Months	Total Days	Crew Size
Haul away removed tank	5	4.33	21.67	0	1.00	1
Deliver Replacement Cylinders/Storage Cages	5	4.33	21.67	0	1.00	1
<b>Total</b>			<b>0</b>		<b>2</b>	

Removal of existing tanks	Fuel	Number Needed	Number of Round trips/day	Round-trip Distance (miles/day)	Mileage Rate (miles/gallon)	2013 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)	N2O (lb/hr)*
On-Road Equipment Type														
Medium Duty (15,000 GVW) crane truck for tank removals	diesel	1	1	100	6	0.0021	0.0141	0.0158	0.0000	0.0006	0.0005	2.7816	0.0001	0.0001
Medium Duty (>8,000 lbs) delivery truck	diesel	1	1	100	6	0.0021	0.0141	0.0158	0.0000	0.0006	0.0005	2.7816	0.0001	0.0001

\*N2O values are estimated from a ratio of N2O emissions factors to CH4 emission factors (e.g., 0.94) as presented for on-road vehicles in CARB's Regulation for Mandatory Reporting of GHG Emissions.

Incremental Increase in Combustion Emissions	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)	N2O (lb/day)	CO2eq (lb/day)	CO2eq (MT*)	CO2eq (MT*/project)	CO2eq (MT*/yr)
Medium Duty (15,000 GVW) crane truck	0.83	5.63	6.31	0.01	0.24	0.20	1112.65	0.04	0.04	1125	0.51	1039.59	35
Medium Duty (>8,000 lbs) delivery truck	0.83	5.63	6.31	0.01	0.24	0.20	1112.65	0.04	0.04	1125	0.51	780.459	26
<b>SUBTOTAL</b>	<b>1.65</b>	<b>11.26</b>	<b>12.62</b>	<b>0.02</b>	<b>0.48</b>	<b>0.40</b>	<b>2225.31</b>	<b>0.08</b>	<b>0.07</b>	<b>2249.56</b>	<b>1.02</b>	<b>1820.05</b>	<b>60.67</b>

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)

**Worksheet B-23**  
**Conversions to Forklift Cylinder Exchange (concluded)**  
**Conversions to Forklift Pressure Fill (continued)**

Total Incremental Combustion Emissions	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)	N2O (lb/day)	CO2eq (lb/day)	CO2eq (MT*)	CO2eq (MT*/project)	CO2eq (MT*/yr)
<b>Peak TOTAL</b>	<b>2</b>	<b>11</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2225</b>	<b>0</b>	<b>0</b>	<b>2250</b>	<b>1</b>	<b>1820</b>	<b>61</b>
Significant Threshold	75	550	100	150	150	55	n/a	n/a	n/a	n/a	n/a	n/a	10,000
<b>Exceed Significance?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>NO</b>

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

Incremental Increase in Fuel Usage From Delivery Trucks	Total Hours	Equipment Type	Diesel Fuel Usage (gal/hr)	Total Diesel Fuel Usage (gal/day)	Total Gasoline Fuel Usage (gal/day)
Medium Duty (15,000 GVW) crane truck	N/A	Crane Truck	N/A	66.67	N/A
Medium Duty (>8,000 lbs) delivery truck	N/A	Delivery Truck	N/A	66.67	N/A
		<b>TOTAL</b>		<b>133</b>	<b>0</b>

Sources:  
 On-Road Mobile Emission Factors (EMFAC 2007 v2.3), Scenario Year 2013, On-Road Vehicles, Delivery Truck > 8,500 lbs.  
<http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html>

**Worksheet B-3  
Conversions to Forklift Pressure Fill**

**Activity**                      **No. of Tanks**                      **196 existing tanks in size range between 172 gallons & 288 gallons to be removed from 196 facilities**  
**196 new tanks and 611 pump and motor systems to be delivered to 611 facilities**  
**removal and hauling away of existing tanks & delivery of replacement tanks plus pumps/motors to occur between 7/1/2013 and 7/1/2017**

**Converting to a Pressure-Fill System for Forklift Tanks (sized between 172 gallons and 1,150 gallons)**

**1**

average                      1 removed tank/day                      peak                      2 removed tanks/day  
average                      1 delivery new tank/day                      peak                      2 deliveries new tanks/day  
average                      1 delivery pump & motor/day                      peak                      2 deliveries pumps & motors/day

Activity	Days/wk	Wks/month	Days/month	Months	Total Days	Crew Size
Haul away removed tank	5	4.33	21.67	0	1.00	1
Deliver Replacement Tank	5	4.33	21.67	0	1.00	1
Deliver Pump/Motor systems	5	4.33	21.67	0	1.00	1
Demo Existing Concrete Pad	5	4.33	21.67	0	1.00	2
Pour New Concrete Pad	5	4.33	21.67	0	5.00	2
<b>Total</b>				<b>0</b>	<b>9.00</b>	

Construction Re: Concrete Pad	Rating	Number Needed	Operation Schedule (hr/day)	2013 Off-Road Emission Factors									
				Fuel	(hp)	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)
front end loader	diesel	50	1	4	0.1200	0.3641	0.3118	0.0004	0.0292	0.0269	31.1	0.0108	0.0102
concrete saw	diesel	comp.	1	4	0.1002	0.4088	0.5572	0.0007	0.0452	0.0416	58.5	0.0090	0.0085
jack hammer	diesel	comp.	1	4	0.0872	0.3765	0.7938	0.0013	0.0330	0.0304	123	0.0079	0.0074
cement mixer	diesel	comp.	1	4	0.0091	0.0421	0.0556	0.0001	0.0026	0.0024	7.2	0.0008	0.0008

\*N2O values are estimated from a ratio of N2O emissions factors to CH4 emission factors (e.g., 0.94) as presented for off-road vehicles in CARB's Regulation for Mandatory Reporting of GHG Emissions.

**Worksheet B-3  
Conversions to Forklift Pressure Fill (continued)**

Removal of existing tanks, delivery of new tanks, and delivery of pumps/motors	Fuel	Number Needed	Number of Round trips/day Needed	Round-trip Distance (miles/day)	Mileage Rate (miles/gallon)	2013 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)	N2O (lb/mile)*
Medium Duty (15,000 GVW) crane truck for tank removals & deliveries	diesel	1	1	100	6	0.0021	0.0141	0.0158	0.0000	0.0006	0.0005	2.7816	0.0001	0.0001
Medium Duty (>8,000 lbs) delivery truck for pump & motor systems	diesel	1	1	100	6	0.0021	0.0141	0.0158	0.0000	0.0006	0.0005	2.7816	0.0001	0.0001
Offsite (Construction Worker Vehicle)	gasoline	2	1	30	20	0.0007	0.0071	0.0007	0.0000	0.0001	0.0001	1.1009	0.0001	0.0001
Medium Duty (>8,000 lbs) waste haul truck	diesel	1	1	100	6	0.0021	0.0141	0.0158	0.0000	0.0006	0.0005	2.7816	0.0001	0.0001

\*N2O values are estimated from a ratio of N2O emissions factors to CH4 emission factors (e.g., 0.94) as presented for on-road vehicles in CARB's Regulation for Mandatory Reporting of GHG Emissions.

Incremental Increase in Onsite Combustion Emissions from Construction Equipment	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)	N2O (lb/day)	CO2eq (lb/day)	CO2eq (MT*)	CO2eq (MT*/project)	CO2eq (MT*/yr)
front end loader	0.48	1.46	1.25	0.00	0.12	0.11	124.60	0.04	0.04	138	0.06	12	0.41
concrete saw	0.40	1.64	2.23	0.00	0.18	0.17	233.85	0.04	0.03	245	0.11	22	0.73
jack hammer	0.35	1.51	3.18	0.01	0.13	0.12	490.65	0.03	0.03	500	0.23	44	1.48
cement mixer	0.04	0.17	0.22	0.00	0.01	0.01	28.99	0.00	0.00	30	0.01	3	0.09
<b>SUBTOTAL</b>	<b>1.27</b>	<b>4.77</b>	<b>6.87</b>	<b>0.01</b>	<b>0.44</b>	<b>0.41</b>	<b>878.10</b>	<b>0.11</b>	<b>0.11</b>	<b>913.78</b>	<b>0.41</b>	<b>81.23</b>	<b>2.71</b>

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lbs/day)

**Worksheet B-3  
Conversions to Forklift Pressure Fill (continued)**

<b>Incremental Increase in Combustion Emissions</b>	<b>VOC (lb/day)</b>	<b>CO (lb/day)</b>	<b>NOx (lb/day)</b>	<b>SOx (lb/day)</b>	<b>PM10 (lb/day)</b>	<b>PM2.5 (lb/day)</b>	<b>CO2 (lb/day)</b>	<b>CH4 (lb/day)</b>	<b>N2O (lb/day)</b>	<b>CO2eq (lb/day)</b>	<b>CO2eq (MT*)</b>	<b>CO2eq (MT*/project)</b>	<b>CO2eq (MT*/yr)</b>
Medium Duty (15,000 GVW) crane truck - tank removals	0.41	2.82	3.15	0.01	0.12	0.10	556.33	0.02	0.02	562	0.26	50	1.67
Medium Duty (15,000 GVW) crane truck - tank deliveries	0.41	2.82	3.15	0.01	0.12	0.10	556.33	0.02	0.02	562	0.26	50	1.67
Medium Duty (>8,000 lbs) delivery truck	0.41	2.82	3.15	0.01	0.12	0.10	556.33	0.02	0.01	559	0.25	155	5.16
Offsite (Construction Worker Vehicle)	0.04	0.43	0.04	0.00	0.01	0.00	66.05	0.00402	0.00	66	0.03	35	1.18
Medium Duty (>8,000 lbs) waste haul truck	0.21	1.41	1.58	0.00	0.06	0.05	278.16	0.01	0.00	278	0.13	25	0.82
<b>SUBTOTAL</b>	<b>1.49</b>	<b>10.28</b>	<b>11.08</b>	<b>0.02</b>	<b>0.43</b>	<b>0.35</b>	<b>2013.20</b>	<b>0.07</b>	<b>0.04</b>	<b>2028.36</b>	<b>0.92</b>	<b>314.92</b>	<b>10.50</b>

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)

<b>Total Incremental Combustion Emissions</b>	<b>VOC (lb/day)</b>	<b>CO (lb/day)</b>	<b>NOx (lb/day)</b>	<b>SOx (lb/day)</b>	<b>PM10 (lb/day)</b>	<b>PM2.5 (lb/day)</b>	<b>CO2 (lb/day)</b>	<b>CH4 (lb/day)</b>	<b>N2O (lb/day)</b>	<b>CO2eq (lb/day)</b>	<b>CO2eq (MT*)</b>	<b>CO2eq (MT*/project)</b>	<b>CO2eq (MT*/yr)</b>
<b>Peak TOTAL</b>	<b>3</b>	<b>15</b>	<b>18</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>2891</b>	<b>0</b>	<b>0</b>	<b>2942</b>	<b>1</b>	<b>396</b>	<b>13</b>
Significant Threshold	75	550	100	150	150	55	n/a	n/a	n/a	n/a	n/a	n/a	10,000
<b>Exceed Significance?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>NO</b>

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

**Worksheet B-3**  
**Conversions to Forklift Pressure Fill (continued)**

Incremental Increase in Fuel Usage	Total Hours	Equipment Type	Diesel Fuel Usage (gal/hr)	Total Diesel Fuel Usage (gal/day)	Total Gasoline Fuel Usage (gal/day)
Medium Duty (15,000 GVW) crane truck - tank removals	N/A	Crane Truck	N/A	33.33	N/A
Medium Duty (15,000 GVW) crane truck - tank deliveries	N/A	Crane Truck	N/A	33.33	N/A
Medium Duty (>8,000 lbs) delivery truck	N/A	Delivery Truck	N/A	33.33	N/A
Medium Duty (>8,000 lbs) Haul truck	N/A	Haul Truck	N/A	3.00	N/A
Operation of Portable Equipment	4	front end loader	3.048	12.19	N/A
Operation of Portable Equipment	4	Concrete Saw	2.68	10.72	N/A
Operation of Portable Equipment	4	jack hammer	2.68	10.72	N/A
Operation of Portable Equipment	4	cement mixer	2.68	10.72	N/A
Workers' Vehicles - Commuting	N/A	Light-Duty Vehicles	N/A	N/A	3.00
<b>TOTAL</b>				<b>147.35</b>	<b>3</b>

Sources:

1. On-Road Mobile Emission Factors (EMFAC 2007 v2.3), Scenario Year 2013, On-Road Vehicles, Delivery Truck > 8,500 lbs.  
<http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html>
2. Off-Road Mobile Emission Factors, Scenario Year 2012  
[http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html/offroadEF07\\_25.xls](http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html/offroadEF07_25.xls)
3. PM2.5 Significance Thresholds and Calculation Methodology, Appendix A - Updated CEIDARS Table with PM2.5 Fractions  
[http://www.aqmd.gov/ceqa/handbook/PM2\\_5/PM2\\_5.html/finalAppA.doc](http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html/finalAppA.doc)



**Worksheet B-4  
Summary of Construction Emissions**

<b>Total Incremental Combustion Emissions by Category</b>	<b>VOC (lb/day)</b>	<b>CO (lb/day)</b>	<b>NOx (lb/day)</b>	<b>SOx (lb/day)</b>	<b>PM10 (lb/day)</b>	<b>PM2.5 (lb/day)</b>	<b>CO2 (lb/day)</b>	<b>CH4 (lb/day)</b>	<b>N2O (lb/day)</b>	<b>CO2eq (lb/day)</b>	<b>CO2eq (MT*)</b>	<b>CO2eq (MT*/project)</b>	<b>CO2eq (MT*/yr)</b>
Barbecue Cylinder	0.41	2.82	3.15	0.01	0.12	0.10	556.33	0.02	0.02	562.39	0.26	168.33	5.61
Forklift Cylinder Exchange	1.65	11.26	12.62	0.02	0.48	0.40	2225.31	0.08	0.07	2249.56	1.02	1820.05	60.67
Forklift Pressure-Fill Conversion	2.75	15.05	17.96	0.03	0.87	0.76	2891.30	0.19	0.15	2942.15	1.33	396.14	13.20
<b>Peak Average TOTAL</b>	<b>5</b>	<b>29</b>	<b>34</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>5673</b>	<b>0</b>	<b>0</b>	<b>5754</b>	<b>3</b>	<b>2385</b>	<b>79</b>
Significant Threshold	75	550	100	150	150	55	n/a	n/a	n/a	n/a	n/a	n/a	10,000
<b>Exceed Significance?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>NO</b>

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

<b>Incremental Increase in Fuel Usage</b>	<b>Total Hours</b>	<b>Equipment Type</b>	<b>Diesel Fuel Usage (gal/hr)</b>	<b>Total Diesel Fuel Usage (gal/day)</b>	<b>Total Gasoline Fuel Usage (gal/day)</b>
Barbecue Cylinder	N/A	Delivery Truck	N/A	33.33	N/A
Forklift Cylinder Exchange	N/A	Delivery Truck	N/A	133.33	N/A
Forklift Pressure Fill	N/A	Various	N/A	147.35	3
<b>TOTAL</b>				<b>314</b>	<b>3</b>

Sources:  
On-Road Mobile Emission Factors (EMFAC 2007 v2.3), Scenario Year 2013, On-Road Vehicles, Delivery Truck > 8,500 lbs.

<http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html>

**Worksheet B-45**  
**Operational Electricity due to Pump/Motor Systems**

<i>Existing Tank Size in gallons (gal)</i>	<b>172</b>	<b>250</b>	<b>288</b>	<b>499</b>	<b>1,000</b>	<b>1,150</b>	<b>TOTAL</b>
<b>No. of Facilities</b>	11	100	85	350	5	60	<b>611</b>
<b>No. of Existing Tanks to be Removed</b>	11	100	85	0	0	0	<b>196</b>
<b>Filling Frequency of Existing Tanks</b>	once every two weeks	once every two weeks	once every two weeks	once every two weeks	once every two weeks	once every two weeks	<b>n/a</b>
<b>No. of Concrete Pads to be Demolished and Re-Poured</b>	11	100	85	0	0	0	<b>196</b>
<b>No. of New Replacement Tanks Needed (with 499 gallon capacity)</b>	11	100	85	0	0	0	<b>196</b>
<b>No. of Pumps/Motors Needed</b>	11	100	85	350	5	60	<b>611</b>
<b>Size of Pumps &amp; Motors Needed in horsepower (HP)</b>	1.25	1.25	1.25	1.25	3	3	<b>n/a</b>
<b>Size of Pumps &amp; Motors Needed per Tank in kilowatts (kW)</b>	0.93	0.93	0.93	0.93	2.24	2.24	<b>n/a</b>
<b>Fill Rate of Pump in gallons per minute (gpm)</b>	15	15	15	15	35	35	<b>n/a</b>
<b>Filling Frequency of New Tanks</b>	once per month (12 days/year)	once per month (12 days/year)	once per month (12 days/year)	once every two weeks (24 days/year)	once every two weeks (24 days/year)	once every two weeks (24 days/year)	<b>n/a</b>
<b>Time Needed to Fill 1 Tank when equipped w/pump and motor in minutes</b>	11.47	16.67	19.20	33.27	28.57	32.86	<b>n/a</b>
<b>Time Needed to Fill 1 Tank when equipped w/pump and motor in hours</b>	0.19	0.28	0.32	0.55	0.48	0.55	<b>n/a</b>
<b>Electricity Needed to fill 1 tank during one day kilowatt-hours (kWh/day)</b>	0.18	0.26	0.30	0.52	1.07	1.23	<b>3.54</b>
<b>Electricity Needed to fill All tanks during one day kilowatt-hours (kWh/day)</b>	1.96	25.89	25.35	180.88	5.33	73.50	<b>312.92</b>
<b>Electricity Needed to fill All tanks during one day megawatt-hours (MWh/day)</b>	0.0020	0.0259	0.0254	0.1809	0.0053	0.0735	<b>0.31</b>
<b>Electricity Needed to fill All tanks in one year megawatt-hours (MWh/yr)</b>	0.0235	0.3107	0.3042	2.1706	0.0639	0.8821	<b>3.76</b>
<b>Instantaneous Electricity Needed to fill All tanks during one day in megawatts (MW)</b>	0.0001	0.0011	0.0011	0.0075	0.0002	0.0031	<b>0.0130</b>
<b>Electricity Significance Threshold: 1% of supply (8362 MW - instantaneous electricity)</b>	0.00000%	0.00001%	0.00001%	0.00009%	0.00000%	0.00004%	<b>0.0002%</b>
<b>Significant for Electricity?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

<b>Operational GHG Activity</b>	<b>Amount</b>	<b>Units</b>	<b>GHG Emissions Source</b>	<b>CO2 (MT/yr)</b>	<b>N2O (MT/yr)</b>	<b>CH4 (MT/yr)</b>	<b>Total CO2eq (MT/yr)</b>
electricity - increased use for operation of pumps/motors*	0.31	MWh/day	Electricity GHGs	3.43	0.0000	0.0000	3

\*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)

**APPENDIX C**

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**COMMENT LETTER ON THE DRAFT EA AND RESPONSES TO COMMENTS**

Comment Letter #1  
(Native American Heritage Commission, April 27, 2012)

STATE OF CALIFORNIA

Edmund G. Brown, Jr., Governor

**NATIVE AMERICAN HERITAGE COMMISSION**

915 CAPITOL MALL, ROOM 264  
SACRAMENTO, CA 95814  
(916) 653-6251  
Fax (916) 657-5390  
Web Site www.nahc.ca.gov  
na\_nahc@pacbell.net



April 27, 2012

Mr. Steve Smith  
**South Coast Air Quality Management District**  
21865 Copley Drive  
Diamond Bar, CA 91765

Re: **SCH#2012041008; Notice of Completion; draft Environmental Assessment (Negative Declaration) for the "Proposed Rule 1177 – Liquefied Petroleum Gas Transfer & Dispensing Project," located in the South Coast AQMD Jurisdiction, California.**

Dear Mr. Smith:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3<sup>rd</sup> 604).

This letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

1-1

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance.' In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect. The NAHC did not conduct a Sacred Lands File (SLF) search within the 'area of potential effect (APE), the South AQMD jurisdiction. As you know there are numerous Native American cultural resources in this geographic area of California.

The NAHC 'Sacred Sites,' as defined by the Native American Heritage Commission and the California Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r).

1-2

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you

make contact with the list of Native American Contacts on the attached list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Pursuant to CA Public Resources Code § 5097.95, the NAHC requests cooperation from other public agencies in order that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and Section 2183.2 that requires documentation, data recovery of cultural resources.

1-2  
Cont'd

Furthermore, the NAHC if the proposed project is under the jurisdiction of the statutes and regulations of the National Environmental Policy Act (e.g. NEPA; 42 U.S.C. 4321-43351). Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the "area of potential effect."

1-3

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254( r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for inadvertent discovery of human remains mandate the processes to be followed in the event of a discovery of human remains in a project location other than a 'dedicated cemetery'.

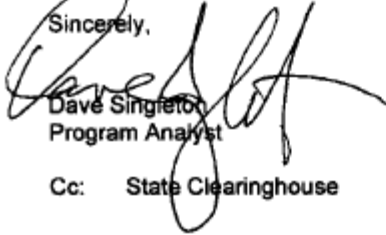
To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

1-4

Finally, when Native American cultural sites and/or Native American burial sites are prevalent within the project site, the NAHC recommends 'avoidance' of the site as referenced by CEQA Guidelines Section 15370(a).

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,



Dave Singleton  
Program Analyst

Cc: State Clearinghouse

Attachment: Native American Contact List

**Native American Contacts**  
Los Angeles, San Bernardino, Riverside and Orange Counties  
April 27, 2012

**Cabazon Band of Mission Indians**  
David Roosevelt, Chairperson  
84-245 Indio Springs      Cahuilla  
Indio      , CA 92203-3499  
(760) 342-2593  
(760) 347-7880 Fax

**Soboba Band of Mission Indians**  
Scott Cozaet, Chairperson; Attn: Carrie Garcia  
P.O. Box 487      Luiseno  
San Jacinto      , CA 92581  
carrieg@soboba-nsn.gov  
(951) 654-2765  
(951) 654-4198 - Fax

**Pechanga Band of Mission Indians**  
Paul Macarro, Cultural Resources Manager  
P.O. Box 1477      Luiseno  
Temecula      , CA 92593  
**(951) 770-8100**  
pmacarro@pechanga-nsn.  
gov  
(951) 506-9491 Fax

**Torres-Martinez Desert Cahuilla Indians**  
Mary Resvaloso, Chairperson  
PO Box 1160      Cahuilla  
Thermal      , CA 92274  
mresvaloso@torresmartinez.  
(760) 397-0300  
(760) 397-8146 Fax

**Ramona Band of Cahuilla Mission Indians**  
Joseph Hamilton, Chairman  
P.O. Box 391670      Cahuilla  
Anza      , CA 92539  
admin@ramonatribe.com  
(951) 763-4105  
(951) 763-4325 Fax

**Twenty-Nine Palms Band of Mission Indians**  
Darrell Mike, Chairperson  
46-200 Harrison Place      Chemehuevi  
Coachella      , CA 92236  
tribal-epa@worldnet.att.net  
(760) 775-5566  
(760) 808-0409 - cell - EPA  
(760) 775-4639 Fax

**San Manuel Band of Mission Indians**  
James Ramos, Chairperson  
26569 Community Center Drive      Serrano  
Highland      , CA 92346  
(909) 864-8933  
(909) 864-3724 - FAX  
(909) 864-3370 Fax

**Joseph R. Benitez (Mike)**  
P.O. Box 1829      Chemehuevi  
Indio      , CA 92201  
(760) 347-0488  
(760) 408-4089 - cell

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed

**Native American Contacts**  
 Los Angeles, San Bernardino, Riverside and Orange Counties  
 April 27, 2012

Chemehuevi Reservation  
 Charles Wood, Chairperson  
 P.O. Box 1976 Chemehuevi  
 Chemehuevi Valley CA 92363  
 chair1cit@yahoo.com  
 (760) 858-4301  
 (760) 858-5400 Fax

Tongva Ancestral Territorial Tribal Nation  
 John Tommy Rosas, Tribal Admin.  
 Private Address Gabrielino Tongva  
**tattnlaw@gmail.com**  
 310-570-6567

Fort Mojave Indian Tribe  
 Tim Williams, Chairperson  
 500 Merriman Ave Mojave  
 Needles, CA 92363  
 (760) 629-4591  
 (760) 629-5767 Fax

Colorado River Indian Tribe  
 Ginger Scott, Museum Curator; Lisa Swick, Coord  
 26600 Mojave Road Mojave  
 Parker, AZ 85344 Chemehuevi  
 crit.museum@yahoo.com  
 (928) 669-9211-Tribal Office  
 (928) 669-8970 ext 21  
 (928) 669-1925 Fax

Ti'At Society/Inter-Tribal Council of Pimu  
 Cindi M. Alvitre, Chairwoman-Manisar  
 3094 Mace Avenue, Apt. B Gabrielino  
 Costa Mesa, CA 92626  
 calvitre@yahoo.com  
 (714) 504-2468 Cell

Gabrielino/Tongva San Gabriel Band of Mission  
 Anthony Morales, Chairperson  
 PO Box 693 Gabrielino Tongva  
 San Gabriel, CA 91778  
 GTTribalcouncil@aol.com  
 (626) 286-1632  
 (626) 286-1758 - Home  
 (626) 286-1262 -FAX

Juaneno Band of Mission Indians Acjachemen Nation  
 David Belardes, Chairperson  
 32161 Avenida Los Amigos Juaneno  
 San Juan Capistrano CA 92675 m  
 chiefdavidbelardes@yahoo.  
 (949) 493-4933 - home  
 (949) 293-8522

AhaMaKav Cultural Society, Fort Mojave Indian  
 Linda Otero, Director  
 P.O. Box 5990 Mojave  
 Mohave Valley AZ 86440  
**(928) 768-4475**  
 LindaOtero@fortmojave.com  
 (928) 768-7996 Fax

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**Native American Contacts**  
Los Angeles, San Bernardino, Riverside and Orange Counties  
April 27, 2012

Santa Rosa Band of Mission Indians  
John Marcus, Chairman  
P.O. Box 391820                      Cahuilla  
Anza                      , CA 92539  
(951) 659-2700  
(951) 659-2228 Fax

Morongo Band of Mission Indians  
Michael Contreras, Cultural Heritage Prog.  
12700 Pumarra Road                      Cahuilla  
Banning                      , CA 92220                      Serrano  
**(951) 201-1866 - cell**  
mcontreras@morongo-nsn.  
gov  
(951) 922-0105 Fax

Augustine Band of Cahuilla Mission Indians  
Mary Ann Green, Chairperson  
P.O. Box 849                      Cahuilla  
Coachella                      , CA 92236  
(760) 398-4722  
760-369-7161 - FAX

San Manuel Band of Mission Indians  
Ann Brierty, Policy/Cultural Resources Department  
26569 Community Center, Drive                      Serrano  
Highland                      , CA 92346  
(909) 864-8933, Ext 3250  
abrierty@sanmanuel-nsn.  
gov  
(909) 862-5152 Fax

Gabrielino Tongva Nation  
Sam Dunlap, Chairperson  
P.O. Box 86908                      Gabrielino Tongva  
Los Angeles                      , CA 90086  
samdunlap@earthlink.net  
  
(909) 262-9351 - cell

Torres-Martinez Desert Cahuilla Indians  
Diana L. Chihuahua, Vice Chairperson, Cultural  
P.O. Box 1160                      Cahuilla  
Thermal                      , CA 92274  
760) 397-0300, Ext. 1209  
(760) 272-9039 - cell (Lisa)  
(760) 397-8146 Fax

Juaneno Band of Mission Indians Acjachemen Nation  
Anthony Rivera, Chairman  
31411-A La Matanza Street                      Juaneno  
San Juan Capistrano                      CA 92675-2674  
arivera@juaneno.com  
(949) 488-3484  
(949) 488-3294 - FAX  
(530) 354-5876 - cell

Cabazon Band of Mission Indians  
Judy Stapp, Director of Cultural Affairs  
84-245 Indio Springs                      Cahuilla  
Indio                      , CA 92203-3499  
**markwardt@cabazonindia**  
  
(760) 342-2593  
(760) 347-7880 Fax

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**Native American Contacts**  
Los Angeles, San Bernardino, Riverside and Orange Counties  
April 27, 2012

Fort Mojave Indian Tribe  
Nora McDowell, Cultural Resources Coordinator  
500 Merriman Ave                      Mojave  
Needles , CA 92363  
NoraMcDowall@fortmojave.  
(760) 629-4591  
(760) 629-5767 Fax

Morongo Band of Mission Indians  
Robert Martin, Chairperson  
12700 Pumarra Road                      Cahuilla  
Banning , CA 92220                      Serrano  
(951) 849-8807  
(951) 755-5200  
(951) 922-8146 Fax

Juaneno Band of Mission Indians  
Alfred Cruz, Cultural Resources Coordinator  
P.O. Box 25628                      Juaneno  
Santa Ana , CA 92799  
alfredcruz@sbcglobal.net  
714-998-0721  
714-998-0721 - FAX  
714-321-1944 - cell

Pechanga Band of Mission Indians  
Mark Macarro, Chairperson  
P.O. Box 1477                      Luiseno  
Temecula , CA 92593  
tbrown@pechanga-nsn.gov  
(951) 770-6100  
(951) 695-1778 Fax

Juaneno Band of Mission Indians  
Adolph 'Bud' Sepulveda, Vice Chairperson  
P.O. Box 25828                      Juaneno  
Santa Ana , CA 92799  
bssepul@yahoo.net  
714-838-3270  
714-914-1812 - CELL  
bsepul@yahoo.net

William J. Pink  
48310 Pechanga Road                      Luiseno  
Temecula , CA 92592  
wjpink@hotmail.com  
(909) 936-1216  
Prefers e-mail contact

Agua Caliente Band of Cahuilla Indians  
Chairperson  
5401 Dinah Shore Drive                      Cahuilla  
Palm Springs, CA 92262  
lfreogoz@aguacaliente-nsn.gov  
(760) 325-3400  
(760) 325-0593 Fax

Serrano Nation of Indians  
Goldie Walker  
P.O. Box 343                      Serrano  
Patton , CA 92369

Agua Caliente Band of Cahuilla Indians THPO  
Patricia Tuck, Tribal Historic Preservation Officer  
5401 Dinah Shore Drive Cahuilla  
Palm Springs, CA 92264  
ptuck@augacaliente-nsn.gov  
(760) 699-6907

(760) 699-6924- Fax

Augustine Band of Cahuilla Mission Indians  
Karen Kupcha  
P.O. Box 849 Cahuilla  
Coachella, CA 92236  
(760) 398-4722  
916-369-7161 - FAX

Juaneño Band of Mission Indians  
Sonia Johnston, Tribal Chairperson  
P.O. Box 25628 Juaneno  
Santa Ana, CA 92799  
sonia.johnston@sbcglobal.net  
714-323-8312  
714-998-0721

Juaneno Band of Mission Indians  
Anita Espinoza  
1740 Concerto Drive Juaneno  
Anaheim, CA 92807  
neta777@sbcglobal.net  
(714) 779-8832

Fort Mojave Indian Tribe  
Esadora Evanston, Environmental Coordinator  
500 Merriman Ave Mojave  
Needles, CA 92363  
region9epa@ftmojave.com  
(760) 326-1112  
(760) 629-4591  
(760) 629-5767 Fax

Cahuilla Band of Indians  
Chairperson  
PO Box 391760 Cahuilla  
Anza, CA 92539  
tribalcouncil@cahuilla.net  
915-763-5549

Pauma & Yuima Reservation  
Charles Devers, Cultural Committee  
P.O. Box 369 Luiseno  
Pauma Valley CA 92061  
paumareservation@aol.com  
(760) 742-1289  
(760) 742-3422 Fax

Pechanga Cultural Resources Department  
Anna Hoover, Cultural Analyst  
P.O. Box 2183 Luiseño  
Temecula, CA 92593  
ahoover@pechanga-nsn.gov  
951-770-8104  
(951) 694-0446 - FAX

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**Native American Contacts**  
Los Angeles, San Bernardino, Riverside and Orange Counties  
April 27, 2012

**SOBOBA BAND OF LUISENO INDIANS**  
Joseph Ontiveros, Cultural Resource Department  
P.O. BOX 487 Luiseno  
San Jacinto , CA 92581  
jontiveros@soboba-nsn.gov  
(951) 663-5279  
(951) 654-5544, ext 4137

**Responses to Comment Letter #1**

(Native American Heritage Commission, April 27, 2012)

- 1-1 This comment identifies the Native American Heritage Commission (NAHC) as a trustee agency for the protection and preservation of Native American cultural resources. The comment also identifies laws and regulation pertinent to protecting Native American cultural resources. No further response is necessary.
- 1-2 This comment refers to the CEQA Guidelines requirement to address archaeological and historical resources in CEQA documents. SCAQMD staff is aware of these requirements and the CEQA document for PR 1177 complies with all relevant CEQA requirements.

This comment also states that the NAHC did not conduct a Sacred Lands File search to identify Native American cultural resources within the area of potential effect (APE), but states that there are numerous Native American cultural resources in geographic area of SCAQMD. However, as explained on pages 2-39 and 2-40 of the Draft EA, potential significant adverse impacts on cultural resources are not anticipated:

*“In general, facilities that would be affected by PR 1177 are existing facilities that are typically located in commercial or industrial areas. Any cultural resources present in such areas would have been highly disturbed in the past due to the original construction and development in the area of roadways, utilities, and other types of infrastructure. Similarly, construction of each affected facility would have caused further disturbances of the each facility’s site. Consequently, depending on when the area of each affected facility was developed, any cultural resources encountered in the past would likely have been destroyed. If development occurred in the recent past, there are stringent laws in place with regard how to treat the discovery of culturally significant resources, which include: contingency funding and a time allotment sufficient to allow recovering an archaeological sample or to employ one of the avoidance measures, data recovery through excavation, et cetera. For these reasons, it is unlikely that PR 1177 compliance options that involve minor construction activities, would uncover culturally significant resources at affected facilities.*

*For the aforementioned reasons, no impacts to historical or cultural resources are anticipated to occur. PR 1177 is not expected to require physical changes to the environment that would disturb paleontological or archaeological resources or disturb human remains interred outside of formal cemeteries. Furthermore, it is envisioned that the areas where the affected devices exist are already either devoid of significant cultural resources or whose cultural resources have been previously disturbed.”*

Lastly, this comment recommends the SCAQMD to make early contact with the list of Native American Contacts included as an attachment to the NAHC letter, to identify potential impacts to Native American cultural resources and to work with these contacts to identify any concerns regarding the proposed project. The SCAQMD maintains a specific list of Native American contacts that includes contacts previously provided by the NAHC for other SCAQMD lead agency projects. At the time of release of the Draft EA for public review and comment, the following 43 Native American contacts were provided a Notice of Completion of the Draft EA on April 3, 2012

and at the time of the close of comment period (e.g., May 3, 2012), none have provided comments regarding the proposed project or contacted the SCAQMD in any way:

1. Margaret Park, Agua Caliente Band of Cahuilla Indians, 5401 Dinah Shore Dr ,Palm Springs, CA 92264, (760) 699-6907, (760) 699-6924 Fax, [mpark@aguacaliente-nsn.gov](mailto:mpark@aguacaliente-nsn.gov)
2. Linda Otero, AhaMaKav Cultural Society, Fort Mojave Indian Tribe, PO Box 5990, Mohave Valley, AZ 86440, (928) 768-4475, (928) 768-7996 Fax
3. Karen Kupcha, Augustine Band of Cahuilla Mission Indians, PO Box 846, Coachella, CA 92236, (760) 365-1373, [Cmarvel@kupcha.com](mailto:Cmarvel@kupcha.com)
4. Darlene Coombs, Cabazon Band of Mission Indians, 84-245 Indio Springs Parkway, Indio, CA 92203-3499, (760) 342-2593, [dcoombes@cabazonindians-nsn.gov](mailto:dcoombes@cabazonindians-nsn.gov)
5. John James, Cabazon Band of Mission Indians, 84-245 Indio Springs Parkway, Indio, CA 92203-3499, (760) 342-2593, (760) 347-7880, [nmarkwardt@cabazonindians-nsn.gov](mailto:nmarkwardt@cabazonindians-nsn.gov)
6. Judy Stapp, Cabazon Band of Mission Indians, 84-245 Indio Springs Parkway, Indio, CA 92203-3499, (760) 342-2593, (760) 347-7880 fax, [jstapp@cabazonindians-nsn.gov](mailto:jstapp@cabazonindians-nsn.gov)
7. Alvino Silva, Cahuilla Band of Indians, 2034 W. Westward, Banning, CA 92220, (951) 849-3450
8. Anthony Madrigal Jr., Cahuilla Band of Indians, PO Box 391761, Anza, CA 92539, (951) 763-2631, (951) 763-2632 fax, [environmental@cahuilla.net](mailto:environmental@cahuilla.net)
9. Maurice Chacon, Cahuilla Band of Indians, PO Box 391760, Anza, CA 92539, (951) 763-2631, (951) 763-2632 fax, [environmental@cahuilla.net](mailto:environmental@cahuilla.net)
10. Joseph Benitez, Chemehuevi, PO Box 1829, Indio, CA 92201, (760) 347-0488
11. Charles Wood, Chemehuevi Reservation, PO Box 1976, Chemehuevi Valley, CA 92363, (760) 858-4301, (760) 858-5400 fax, [chemehuevit@yahoo.com](mailto:chemehuevit@yahoo.com)
12. Michael Tsosie, Colorado River Reservation, 26600 Mojave Rd, Parker, AZ 85344, (928) 208-4211
13. Esadora Evanston, Fort Mojave Indian Tribe, 500 Merriman Ave, Needles, CA 92363, (760) 629-4591, (760) 629-5767 fax, [region9epa@ftmojave.com](mailto:region9epa@ftmojave.com)
14. Keeny Escalanti, Fort Yuma Quechan Indian Nation, PO Box 1899, Yuma, AZ 85366, (760) 572-0213, (760) 572-2102 fax
15. Anthony Morales, Gabrielino Tongva Band of Mission Indian, PO Box 693, San Gabriel, CA 91778, (626) 286-1632, (626) 286-1262 fax, [chiefrbwife@aol.com](mailto:chiefrbwife@aol.com)
16. Alfred Cruz, Juaneno Band of Mission Indians, PO Box 25628, Santa Ana, CA 92799, (714) 998-0721, [alfredgacruz@sbcglobal.net](mailto:alfredgacruz@sbcglobal.net)
17. Anita Espinoza, Juaneno Band of Mission Indians, 1740 Concerto Drive , Anaheim, CA 92807, (714) 779-8832
18. Joe Ocampo, Juaneno Band of Mission Indians, 1108 E. 4th Street, Santa Ana, CA 92701, (714) 547-9676
19. Sonia Johnston, Juaneno Band of Mission Indians, PO Box 25628, Santa Ana, CA 92799, (714) 323-8312, [sonia.johnston@sbcglobal.net](mailto:sonia.johnston@sbcglobal.net)
20. Chris Ortiz, Los Coyotes Band of Mission Indians, PO Box 189, Warner, CA 92086, (760) 782-0711, [loscoyotesepa@yahoo.com](mailto:loscoyotesepa@yahoo.com)
21. Elizabeth Medina, Los Coyotes Band of Mission Indians, PO Box 189, Warner, CA 92086, (760) 782-0711, (760) 782-2701 fax, [los\\_coyotes@ymail.com](mailto:los_coyotes@ymail.com)
22. Elizabeth Bogdanski, Morongo Band of Cahuilla Mission Indians, 12700 Pumarra Rd, Banning, CA 92220, (951) 755-5271, [LBogdanski@morongo-nsn.gov](mailto:LBogdanski@morongo-nsn.gov)
23. Nina Hapner, Native American Environmental Protection Coalition, 42143 Avenida Alvarado, Unit 2A, Temecula CA 92590, (951) 296-5595, (951) 296-5109 fax, [nhapner@naepc.com](mailto:nhapner@naepc.com)

24. Ana Hoover, Pechanga Band of Mission Indians, (951) 308-9295, ahoover@pechanga-nsn.gov
25. Paul Macarro, Pechanga Band of Mission Indians, (951) 676-2768, (951) 506-9491 fax, pmacarro@pechanga-nsn.gov
26. Syndi Smallwood, Pechanga Band of Mission Indians, PO Box 1477, Temecula, CA 92593, (951) 770-6150, ssmallwood@pechanga-nsn.gov
27. Manuel Hamilton, Ramona Band of Cahuilla Indians, PO Box 391670, Anza, CA 92539, (951) 763-4105, (951) 763-4325 fax, admin@ramonatribe.com
28. Reginald Agunwah, Ramona Band of Cahuilla Indians, PO Box 391670, Anza, CA 92539, (951) 763-4105, [admin@ramonatribe.com](mailto:admin@ramonatribe.com)
29. John Gomez, Ramona Band of Mission Indians, PO Box 391670, Anza, CA 92539, (951) 763-4105, (951) 763-4325 fax, admin@ramonatribe.com
30. Joseph Hamilton, Ramona Band of Mission Indians, PO Box 391670, Anza, CA 92539, (951) 763-4105, (951) 763-4325 fax, admin@ramonatribe.com
31. John Valenzuela, San Fernando Band of Mission Indians, PO Box 402597, Hesperia, CA 92340, (661) 753-9833, (760) 949-1604 fax
32. Ann Brierty, San Manuel Band of Mission Indians, (909) 425-3590, (909) 862-5152 fax, abrierty@sanmanuel-nsn.gov
33. Jacquelyn (Jacky) Gonzales Hollingsworth, San Manuel Band of Serano Mission Indians, 101 Pure Water Ln, Highland, CA 92346, (909) 864-8933 x2177, [jgonzales@sanmanuel-nsn.gov](mailto:jgonzales@sanmanuel-nsn.gov)
34. John Marcus, Santa Rosa Band of Mission Indians, PO Box 609, Hemet, CA 92546, (951) 658-5311, (909) 658-6733 fax, srtribaloffice@aol.com
35. Erica Helms-Schenk, Soboba Band of Luiseno Indians, 23904 Soboba Rd, San Jacinto, CA 92583, (951) 663-8333, ehelms@soboba-nsn.gov
36. Vicky Varres, Soboba Band of Mission Indians, PO Box 487, San Jacinto, CA 92581, (951) 654-2765, (951) 654-4198 fax, varres@soboba-nsn.gov
37. Cindi Alvitre, Ti'At Society – Gabrielino, 6515 E Seaside Walk, #C, Long Beach, CA 90803, calvitre@yahoo.com
38. Alberto Ramirez, Torres-Martinez Desert Cahuilla Indians, PO Box 1160, Thermal, CA 92274, (760) 397-0300, (760) 397-8146 fax, [albertor@torresmartinez.org](mailto:albertor@torresmartinez.org)
39. Dian Chihuahua, Torres-Martinez Desert Cahuilla Indians, PO Box 1160, Thermal, CA 92274, (760) 397-0300, (760) 397-8146 fax, [cultural\\_monitor@yahoo.com](mailto:cultural_monitor@yahoo.com)
40. Ernest Morreo, Torres-Martinez Desert Cahuilla Indians, PO Box 1160, Thermal, CA 92274, (760) 397-0300, (760) 397-8146 fax, [maxtm@aol.com](mailto:maxtm@aol.com)
41. Gerardo Bojorquez, Torres-Martinez Desert Cahuilla Indians, 66725 Martinez Rd, Thermal, CA 92274, (760) 397-0300, gbojorquez@torresmartinez.org
42. Raymond Torres, Torres-Martinez Desert Cahuilla Indians, PO Box 1160, Thermal, CA 92274, (760) 397-0300, (760) 397-3925 fax, [rtorres@torresmartinez.org](mailto:rtorres@torresmartinez.org)
43. Darrell Mike, Twenty-Nine Palms Band of Mission Indians, 46-200 Harrison Place, Coachella, CA 92236, (760) 775-5566, (760) 863-2449 fax

SCAQMD staff will update the above contact list to reflect any additions or revisions as provided in the attachment to NAHC's comment letter so that notices pertaining to future SCAQMD lead agency projects can be transmitted accordingly. However, it would be helpful in the future if the list NAHC provides could be checked for completeness and accuracy prior to transmittal, as it appears that there are multiple entries with incomplete information, such as missing affiliations and truncated or incorrect email addresses. For example, the contact information for Mary Resvaloso, Joseph Benitez, David Belardes, Judy Stapp, Nora McDowell, Adolph 'Bud' Sepulveda, Sonia Johnson, and Mark Macarro contain incomplete and/or inconsistent information. SCAQMD staff

requests the NAHC to provide corrected information for these individuals so that the contact list can be fully and accurately updated. In addition, the SCAQMD's area of jurisdiction is defined in SCAQMD Rule 103 – Definition of Geographical Areas<sup>17</sup>. SCAQMD staff recommends that the NAHC review SCAQMD Rule 103 and, if any tribal contacts within the area of SCAQMD's jurisdiction are not already included in the SCAQMD's Native American contact list (see above), provide that list to SCAQMD staff so the additional contacts can receive future notices of SCAQMD CEQA projects.

- 1-3 This comment recommends the SCAQMD to consult with tribes and interested Native American consulting parties on the NAHC list if the proposed project is subject to the requirements of the National Environmental Policy Act (NEPA). The proposed project is not under federal jurisdiction and, therefore, is not subject to the requirements in NEPA. However, as mentioned in Response to Comment 1-2, the SCAQMD evaluated the potential for impacts to Native American sites and concluded that such sites would not be adversely affected by PR 1177. Further, the SCAQMD provided a Notice of Completion of the Draft EA of the proposed project to all of the parties included on the NAHC's contact list on April 3, 2012.
- 1-4 This comment cites PRC §5097.98, California Government Code §27491 and Health and Safety Code §7050.5, which all include provisions for accidental discovery of archaeological resources during construction. As explained in Response to Comment 1-2, the proposed project is not expected to have any impact on historic properties of religious and cultural significance, human remains, or Native American cemeteries. As a result, no impacts to historical, archaeological or paleontological resources (as defined in §15064.5 of the CEQA Guidelines) are expected as a result of implementation of the proposed project. Thus, with no impacts to historical, archaeological or paleontological resources, no mitigation measures, such as "avoidance of the site" per CEQA Guidelines §15370(a), are required.

Lastly, this comment recommends that consultation between tribes, lead agencies, project proponents, and their contractors should occur. As noted in Response 1-2, the SCAQMD maintains a comprehensive list of Native American contacts in the southern California region. The Native American contacts on this list receive notices for all projects where the SCAQMD is lead agency. With regard to Native American tribes and organizations contacted about the proposed project, refer to Response to Comment 1-2.

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<sup>17</sup> <http://www.aqmd.gov/rules/reg/reg01/r103.pdf>