AGENDA

CITY OF CARSON

REGULAR MEETING OF THE ENVIRONMENTAL COMMISSION

701 East Carson Street, Carson, CA 90745

EXECUTIVE CONFERENCE ROOM, 2ND FLOOR

Wednesday, November 5, 2014

6:30 p.m.

1. **CALL TO ORDER:**
2. **PLEDGE OF ALLEGIANCE:**
3. **ROLL CALL:** Environmental Commissioners: Burr, Hellerud, Hopson, Jimenez, Love, Mack, Muckey, Perry, Taylor
4. **AGENDA POSTING CERTIFICATION:** In accordance with the Americans with Disabilities Act of 1990, if you require a disability related modification or accommodation to attend or participate in this meeting, including auxiliary aids or services, please call the City Clerk's office at 310-952-1720 at least 48 hours prior to the meeting. (Government Code Section 54954.2)
5. **AGENDA APPROVAL:**
6. **ORAL COMMUNICATIONS:** For items **NOT** on the agenda. Speakers are limited to three minutes.
7. **MINUTES APPROVAL:**
   a. July 2, 2014
   b. August 6, 2014
   c. October 1, 2014
8. **UNFINISHED BUSINESS**
   a. City of Carson Water Conservation Initiative
   b. City of Carson Public Health Initiative
9. **NEW BUSINESS**
   a. Notice of Completion of Draft Environmental Impact Report, Phillips 66 Los Angeles Refinery Ultra Low Sulfur Diesel Project, AQMD
   b. Cleanup Plan of Dense Non-Aqueous Phase Liquid (DNAPL) at Montrose Superfund Site, United States Environmental Protection Agency
   c. Environmental Impact Report for Mitsubishi Cement Facility Modification Project, Port of Long Beach
   d. Toxic Air Contaminant Reduction for Compliance with SCAQMD Rules 1420.1 and 1402 at the Exide Technologies Facility in Vernon, California
10. **WRITTEN COMMUNICATIONS**
    a. OPR Newsletter, October 2014
    b. California Cap and Trade Expenditure Plan
    c. Op Terra Energy Services Article
11. **ORAL COMMUNICATIONS**
    a. Audience
    b. Commissioners
    c. Staff
       i. Oil Code Update
       ii. Notice of Preparation of a Draft Environmental Impact Report, Tesoro Los Angeles Refinery Integration and Compliance Project
12. **ADJOURNMENT**

Upcoming Meetings: December 3, January 7 (Dark), February 4, March 4, April 1

Item 7

Minutes Approval

MINUTES
ENVIRONMENTAL COMMISSION
September 3, 2014

6:30 PM

CALL TO ORDER: 6:50 pm

PLEDGE OF ALLEGIANCE: Chairperson Love

ROLL CALL: Planner Saied Naaseh called the roll as follows:

Present: Commissioners: Burr, Hopson, Jimenez Hellerud, Love, Mack, Muckey, Perry, Silva, Taylor.

Absent: N/A

Staff Present: Planner Saied Naaseh

SECRETARY'S REPORT

N/A

AGENDA APPROVAL

Approved 8-0

MINUTES APPROVAL

a. September 3, 2014 (8-0), Corrected the date on the agenda

UNFINISHED BUSINESS

a. California Cap and Trade Expenditure Plan, Staff provided an overview of the program. Commission stated that the proceeds from the grant should directly impact the community to improve their quality of life.

NEW BUSINESS

a. City of Carson Water Conservation Initiative, staff provided an overview and solicited comments from the Commission. The Commission continued the item to the next meeting to provide additional input.
b. Notice of Preparation of a Draft Environmental Impact Report, 4747 Daisy Avenue, Long Beach, Commission expressed no concerns regarding the project.
c. Notice of Preparation of a Draft Environmental Impact Report, Tesoro Los Angeles Refinery Integration and Compliance Project, staff provided an overview, Chairperson Love and Commissioner Muckey volunteered to meet with staff to provide comments on the project.

d. City of Carson Public Health Initiative, Commission discussed researching what has been done already, and research AQMD, EPA, and Office of Environmental Health Hazard Assessment's CalEnviroScreen and requested this item to be continued to the next meeting.

WRITTEN COMMUNICATIONS

a. N/A

ORAL COMMUNICATIONS

a. **Audience**,
   i. N/A

b. Commissioners,
   i. Requested staff to update the commission on the Op Terra Energy Services efforts

c. Staff
   i. Introduced new alternate, Marcelo Silva
   i. Provided update on the Oil Code Community Workshop, Commission requested staff to email the oil code when available.
   ii. Provided information on the clean energy vehicles parking definition
   iii. Informed the commission regarding the Montrose Superfund Site, Commission requested staff to email copy of the Montrose Superfund Site information
   iv. Informed the commission regarding Philipps 66 project
   v. Inquired on Commission's desire to meet on January 7, 2015, Voted to be dark on January 7, 2015 (8-1 with Muckey voting no).
   vi.

AJOURNMENT

At 8:10 pm, the meeting was adjourned to November 5, 2014, 6:30 pm.

_____
CHAIRPERSON LOVE

ATTEST:

_____
SAIED NAASEH, ASSOCIATE PLANNER

Item 8

Unfinished Business

CITY OF CARSON

STAFF COMMUNICATION TO
THE ENVIRONMENTAL COMMISSION

UNFINISHED BUSINESS November 5, 2014

SUBJECT: City of Carson Water Conservation Initiative

REQUEST: Discuss and provide feedback on the City of Carson Water Conservation Initiative

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I. Introduction

On September 3, 2014, the Commission continued this item to allow more time for the Commission to develop ideas for water conservation.

II. Background and Analysis

On January 17, 2014, Governor Jerry Brown issued a drought "state of emergency" declaration in response to record-low water levels in California's rivers and reservoirs, as well an abnormally low snowpack. The declaration calls on public agencies to implement a variety of measures.

Water conservation ideas will help to manage the supplied potable water to the city in the short and long term, and to avoid or minimize the effects of drought and shortage within the city. Such a program is essential to ensure a reliable and sustainable minimum supply of water for the public health, safety and welfare of current and future generations.

III. Recommendation

Discuss and provide feedback on the City of Carson Water Conservation Initiative

IV. Exhibits

1. None

Prepared by: _____

Julio Gonzalez, Acting Manager, Storm Water Quality Programs
Saied Naaseh, Associate Planner

CITY OF CARSON

STAFF COMMUNICATION TO
THE ENVIRONMENTAL COMMISSION

UNFINISHED BUSINESS November 5, 2014

SUBJECT: City of Carson Public Health Initiative

REQUEST: Review, discuss, and provide ideas to develop the City of Carson Public Health Initiative

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I. Introduction

The physical location of Carson with near-by freeways, airports, ports, and rail lines limit our ability to improve air quality and all associated health impacts. In addition, established polluting industries contribute a great deal to the local and regional economy and eliminating them will certainly have negative impacts on the local economy. Furthermore, new businesses are also moving in that could impact public health as well.

On September 3, 2014, the Commission continued this item to allow more time for Commission to research existing information regarding public health issues impacting Carson residents. The Commission has expressed an interest in improving public health in the City of Carson. This item is intended to solicit ideas on how to assess the health of Carson citizens, identify the contributing factors, identify ways to improve it, and fund the improvements. This item will be on the agenda until a firm recommendation is formed that can be presented to the City Council.

II. Background and Analysis

The Commission voted to research existing information available from other sources such as AQMD, EPA, and Office of Environmental Health Hazard Assessment's CalEnviroScreen. Each commissioner will share their findings at the meeting. Attached is the air quality monitoring section of the Philips 66 DEIR with some pertinent information regarding health impacts.

III. Recommendation

Review, discuss, and provide ideas to develop the City of Carson Public Health Initiative

IV. Exhibits

1. Philips 66 DEIR Air Quality Monitoring Section

Prepared by: _____

Saied Naaseh, Associate Planner

ITEM NO. 8b

monitoring was 142 μg/m³, at Palm Springs in Coachella Valley. The FEM Basin's max was 104 μg/m³ at Mira Loma.
e) - Federal annual PM10 standard (AAM > 50 μg/m³) was revoked in 2006. State standard is annual average (AAM) > 20 μg/m³
f) - PM2.5 samples were collected every 3 days at all sites except for station numbers 069, 072, 077, 087, 3176, 4144 and 4165, where samples were taken daily, and station number 5818 where samples were taken every 6 days. PM2.5 statistics listed above are for the FRM data only. FEM PM2.5 continuous monitoring instruments were operated at some of the above locations. Max 24-hour average PM2.5 concentration recorded at FEM sites was 79.0 μg/m³ at Central LA. U.S. EPA has revised the annual PM2.5 standard from annual average (AAM) 15.0 μg/m³ to 12.0 μg/m³, effective March 18, 2013. State standard is annual average (AAM) > 12.0 μg/m³.
g) - High PM10 and PM2.5 data samples excluded in accordance with the EPA Exceptional Event Regulation are as follows: PM10 (FEM) data recorded on August 9 (270 μg/m³) and January 21 (207 μg/m³) both at Indio; PM2.5 (FRM) at Azusa (39.6 μg/m³) and Fontana (39.9 μg/m³), both recorded on July 5.
h) – Federal lead standard is 3-months rolling average > 0.15 μg/m³; state standard is monthly average ≥1.5 μg/m³. Lead statistics listed above are for population-oriented sites only; standards were not exceeded at any of these sites.
i) – State sulfate standard is 24-hour ≥25 μg/m³. There is no federal standard for sulfate.

The air quality in the area also is in compliance with the federal eight-hour ozone standard, the federal 24-hour PM10 standard, and the federal 24-hour and annual average PM2.5 standards. The air quality in the South Coast Los Angeles County area is not in compliance with the state 24-hour PM10 and PM2.5 standards (SCAQMD, 2012a).

3.2.2.4 Air Quality Monitoring

This section provides an overview of air quality in the district. It is the responsibility of the SCAQMD to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone, CO, NO_2, PM10, PM2.5, SO2, lead, and sulfate. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards and in the case of PM10 and SO2. California has also established standards for sulfates, visibility reducing particles, hydrogen sulfide, and vinyl chloride. The state and national ambient air quality standards for each of these pollutants and their effects on health are summarized in Table 3.1-1. The SCAQMD monitors levels of various criteria pollutants at 34 monitoring stations. The 2001-2012 air quality data from SCAQMD's monitoring stations are presented in Table 3.1-2.

3.2.2.4.1 Carbon Monoxide

CO is a colorless, odorless, relatively inert gas. It is a trace constituent in the unpolluted troposphere, and is produced by both natural processes and human activities. In remote areas far from human habitation, carbon monoxide occurs in the atmosphere at an average background concentration of 0.04 ppm, primarily as a result of natural processes such as forest fires and the oxidation of methane. Global atmospheric mixing of CO from urban and industrial sources creates higher background concentrations (up to 0.20 ppm) near urban areas. The major source of CO in urban areas is incomplete combustion of carbon-containing fuels, mainly gasoline.

CO is a primary pollutant, meaning that it is directly emitted into the air, not formed in the atmosphere by chemical reaction of precursors, as is the case with ozone and other secondary pollutants. Ambient concentrations of CO in the Basin exhibit large spatial and temporal variations due to variations in the rate at which CO is emitted and in the meteorological conditions that govern transport and dilution. Unlike ozone, CO tends to reach high concentrations in the fall and winter months. The highest concentrations frequently occur on weekdays at times consistent with rush hour traffic and late night during the coolest, most stable portion of the day.

In 2003, the SCAQMD monitored levels of various criteria pollutants at 32 monitoring stations. The Basin has technically met the CO standards since 2002. No exceedances of the CO standards occurred in 2004 and in 2005, CO concentrations did not exceed the standards anywhere in the Basin for the third consecutive year. As a result, in 2004, the SCAQMD formally requested the U.S. EPA to re-designate the Basin from non-attainment to attainment with the CO National Ambient Air Quality Standards. On February 24, 2007, U.S. EPA published in the Federal Register its proposed decision to re-designate the Basin from non-attainment to attainment for CO. The comment period on the re-designation proposal closed on March 16, 2007 with no comments received by the U.S. EPA. On May 11, 2007, U.S. EPA published in the Federal Register its final decision to approve the SCAQMD's request for re-designation from non-attainment to attainment for CO, effective June 11, 2007.

More recently, carbon monoxide concentrations were measured at 26 locations in the Basin and neighboring SSAB areas in 2012. Carbon monoxide concentrations did not exceed the standards between 2008 and 2012. The highest eight-hour average carbon monoxide concentration recorded (4.7 ppm in the South Central Los Angeles County area in 2011) was 52 percent of the federal eight-hour carbon monoxide standard of 9.0 ppm.

CO Health Effects: Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart. Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.

Reductions in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels. These include pre-term births and heart abnormalities.

3.2.2.4.2 Ozone

Ozone (O_3), a colorless gas with a sharp odor, is a highly reactive form of oxygen. Ozone is formed from atmospheric, photochemical reactions involving primarily NOx and VOCs, so it was not inventoried. High ozone concentrations exist naturally in the stratosphere. Some mixing of stratospheric ozone downward through the troposphere to the earth's surface does occur; however, the extent of ozone transport is limited. At the earth's surface in sites remote from urban areas ozone concentrations are normally very low (e.g., from 0.03 ppm to 0.05 ppm).

The district exceeded the federal health one-hour standard for ozone on 36 days in 2001, with maximum levels approximately 58 percent higher than the national ambient air quality standard. This represents the number of days a standard was exceeded anywhere in the district. In 2002, the district exceeded the federal health one-hour standard for ozone on 49 days, with maximum levels approximately 36 percent higher than the national ambient air quality standard (SCAQMD, 2003).

In 2005, the District regularly monitored ozone concentrations at 29 locations in the Basin and the SSAB. All areas monitored were below the stage 1 episode level (0.20 ppm), but the maximum concentrations in the Basin exceeded the health advisory level (0.15 ppm). Maximum ozone concentrations in the SSAB areas monitored by the SCAQMD were lower than in the Basin and were below the health advisory level (SCAQMD, 2007). The one-hour federal standard was not exceeded in areas along or near the coast, due in large part to the prevailing sea breeze which transports polluted air inland before high ozone concentrations can be reached.

In 2005, the location in the nation most frequently exceeding the federal standard levels for ozone was within the Basin. Also, five of the ten locations in the nation that most frequently exceeded the eight-hour average federal ozone standard level were located in the district. In 2005, the Basin exceeded the federal standards for ozone on a total of 84 days at one or more locations; this compares to 119 days in 2003 and 90 days in 2004 (based on the existing eight-hour average federal standard for ozone at the time).

The standard was exceeded most frequently in the Central San Bernardino Mountains extending from Central San Bernardino Valleys through the Riverside-San Bernardino area in the east, and in the Santa Clarita Valleys in the west. The Central San Bernardino Mountains area recorded the greatest number of exceedances of the state standard (80 days), one-hour and eight-hour federal standards (18 days and 69 days, respectively) and health advisory level (seven days). Similarly, maximum one-hour and eight-hour average ozone concentrations (0.182 ppm and 0.145 ppm, both recorded in Central San Bernardino Mountains areas) were 146 and 171 percent of the federal standard, respectively.

In 2010, the SCAQMD regularly monitored ozone concentrations at 29 locations in the Basin and SSAB. Maximum ozone concentrations for all areas monitored were below the stage 1 episode level (0.20 ppm) and below the health advisory level (0.15 ppm).

Maximum ozone concentrations in the SSAB areas monitored by the SCAQMD were lower than in the Basin and were below the health advisory level. Specifically, maximum one-hour and eight-hour average ozone concentrations were 0.143 ppm and 0.123 ppm, respectively (the maximum one-hour was recorded in the Central San Bernardino Valley 1 area, the eight-hour maximum was recorded in the Central San Bernardino Mountains area). The federal one-hour ozone standard was revoked and replaced by the eight-hour average ozone standard effective June 15, 2005. U.S. EPA has revised the federal eight-hour ozone standard from 0.84 ppm to 0.075 ppm, effective May 27, 2008. The maximum eight-hour concentration was 164 percent of the new federal standard. The maximum one-hour concentration was 159 percent of the one-hour state ozone standard of 0.09 ppm. The maximum eight-hour concentration was 175 percent of the eight-hour state ozone standard of 0.070 ppm.

In 2012, the former federal one-hour ozone standard of 0.124ppm was exceeded on 12 days. The current federal eight-hour standard for ozone of 0.075ppm was exceeded 111 days in 2012. The areas where the federal standards were exceeded the most frequently are in San Bernardino County and Metropolitan Riverside County. The maximum one-hour and eight-hour average ozone concentrations were recorded in the East San Gabriel Valley (0.147ppm(one-hour)) and Santa Clarita Valley and San Bernardino Mountain (0.112ppm(eight-hour)). These maximum concentrations for ozone represent 118 and 149 percent of the former federal one-hour standard and current eight-hour federal standard respectively. The current state one-hour (0.09ppm) and eight-hour (0.07ppm) were exceeded on 98 and 138 days respectively.

Ozone Health Effects: While ozone is beneficial in the stratosphere because it filters out skin-cancer-causing ultraviolet radiation, it is a highly reactive oxidant. It is this reactivity which accounts for its damaging effects on materials, plants, and human health at the earth's surface.

The propensity of ozone for reacting with organic materials causes it to be damaging to living cells and ambient ozone concentrations in the Basin are frequently sufficient to cause health effects. Ozone enters the human body primarily through the respiratory tract and causes respiratory irritation and discomfort, makes breathing more difficult during exercise, and reduces the respiratory system's ability to remove inhaled particles and fight infection.

Individuals exercising outdoors, children and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible subgroups for ozone effects. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high ozone communities. Elevated ozone levels are also associated with increased school absences.

Ozone exposure under exercising conditions is known to increase the severity of the abovementioned observed responses. Animal studies suggest that exposures to a combination of pollutants which include ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

3.2.2.4.3 Nitrogen Dioxide

NO_2 is a reddish-brown gas with a bleach-like odor. Nitric oxide (NO) is a colorless gas, formed from the nitrogen (N_2) and oxygen (O_2) in air under conditions of high temperature and pressure which are generally present during combustion of fuels; NO reacts rapidly with the oxygen in air to form NO_2. NO_2 is responsible for the brownish tinge of polluted air. The two gases, NO and NO_2, are referred to collectively as NOx. In the presence of sunlight, NO_2 reacts to form nitric oxide and an oxygen atom. The oxygen atom can react further to form ozone, via a complex series of chemical reactions involving hydrocarbons. Nitrogen dioxide may also react to form nitric acid (HNO_3) which reacts further to form nitrates, components of PM2.5 and PM10.

The Basin has not exceeded the federal standard for nitrogen dioxide (0.0534 ppm) since 1991, when the Los Angeles County portion of the Basin recorded the last exceedance of the standard in any county within the United States.

In 2010, nitrogen dioxide concentrations were monitored at 24 locations. No area of the Basin or SSAB exceeded the federal or state standards for nitrogen dioxide. In 2010, the maximum annual average concentration was 26.2 ppb recorded in the Pomona/Walnut Valley area. Effective March 20, 2008, CARB revised the nitrogen dioxide one-hour standard from 0.25 ppm to 0.18 ppm and established a new annual standard of 0.30 ppm. In addition, U.S. EPA has established a new federal one-hour NO_2 standard of 100 ppb (98th percentile concentration), effective April 7, 2010. The highest one-hour average concentration recorded (97.0 ppb in Pomona/Walnut Valley) was 53 percent of the state one-hour standard and the highest annual average concentration recorded (26.2 ppb in Pomona/Walnut Valley) was 87 percent of the state annual average standard. NOx emission reductions continue to be necessary because it is a precursor to both ozone and PM (PM2.5 and PM10) concentrations.

Most recently, the maximum one-hour average NO_2 concentration in 2011 (110 ppb, measured in Central Los Angeles), in 2012 (98ppb, measured in South Coastal Los Angeles County) was 109 and 98 percent of the federal standard respectively, exceeding the concentration level, but not the 98th percentile form of the NAAQS.

NO_2 Health Effects: Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2

in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma and/or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. More recent studies have found associations between NO_2 exposures and cardiopulmonary mortality, decreased lung function, respiratory symptoms and emergency room asthma visits.

In animals, exposure to levels of NO_2 considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO_2.

3.2.2.4.4 Sulfur Dioxide

Sulfur dioxide (SO_2) is a colorless gas with a sharp odor. It reacts in the air to form sulfuric acid ($H2SO_4$), which contributes to acid precipitation, and sulfates, which are components of PM10 and PM2.5. Most of the SO_2 emitted into the atmosphere is produced by burning sulfur-containing fuels.

No exceedances of federal or state standards for sulfur dioxide occurred in 2005 at any of the seven SCAQMD locations monitored. Though sulfur dioxide concentrations remain well below the standards, sulfur dioxide is a precursor to sulfate, which is a component of fine particulate matter, PM10, and PM2.5. The maximum concentration of federal 24-hour sulfur dioxide standard in 2005 occurred in Los Angeles County 1 area and was 0.012 ppm, which is nine percent of the standard. Sulfur dioxide was not measured at SSAB sites in 2005. Historical measurements showed concentrations to be well below standards and monitoring has been discontinued.

No exceedances of federal or state standards for sulfur dioxide occurred in 2010 at any of the seven district locations monitored. The maximum one-hour sulfur dioxide concentration was 40.0 ppb, as recorded in the South Coastal Los Angeles County 1 area. The maximum 24-hour sulfur dioxide concentration was 6.0 ppb, as recorded in South Coastal Los Angeles County 1 area. The U.S. EPA revised the federal sulfur dioxide standard by establishing a new one-hour standard of 0.075 ppm and revoking the existing annual arithmetic mean (0.03 ppm) and the 24-hour average (0.14 ppm), effective August 2, 2010. The state standards are 0.25 ppm for the one-hour average and 0.04 ppm for the 24-hour average.

No exceedances of federal or state standards for sulfur dioxide occurred in 2011 or 2012 at any of the eight district locations monitored. The maximum one-hour sulfur dioxide concentration was 51.3 in 2011, and 22.7 in 2012, as recorded in the Metropolitan Riverside County 1 and South Coastal LA County 3 area respectively. Though sulfur dioxide concentrations remain well below the standards, sulfur dioxide is a precursor to sulfate, which is a component of fine particulate matter, PM10, and PM2.5. Historical

measurements showed concentrations to be well below standards and monitoring has been discontinued.

SO_2 Health Effects: Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics. All asthmatics are sensitive to the effects of SO_2. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, is observed after acute higher exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2.

Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

3.2.2.4.5 Particulate Matter (PM10 and PM2.5)

PM emissions, either PM10 or PM2.5, are formed by reaction of gaseous precursors, such as SO_2, sulfates, and ammonia in the atmosphere. NOx and VOCs also react to form nitrates and solid organic compounds, which are a significant fraction of PM10. PM emissions may also be directly emitted from fugitive dust sources such as re-entrained road dust, construction activities, farming operations and wind-blown dust (SCAQMD, 2003).

The federal annual PM10 standard was exceeded at only one location in the SCAQMD in 2005, Metropolitan Riverside County. The maximum PM10 concentration was 52 $\mu g/m^3$, which was 103 percent of the federal annual PM10 standard. In general, the highest PM10 concentrations were recorded in Riverside and San Bernardino counties in and around the Metropolitan Riverside County area and further inland in San Bernardino Valley areas. The federal 24-hour standard was not exceeded at any of the locations monitored in 2005. The much more stringent state standards were exceeded in most areas.

The SCAQMD began regular monitoring of PM2.5 in 1999 following the U.S. EPA's adoption of the national PM2.5 standards in 1997. In 2005, PM2.5 concentrations were monitored at 19 locations throughout the district. Maximum 24-hour average and annual average PM2.5 concentrations (132.7 µg/m3 recorded in East San Gabriel Valley area and 21.0 µg/m3 recorded in Metropolitan Riverside County area) were 203 and 139 percent of the federal 24-hour and annual average standards, respectively (SCAQMD, 2007).

The SCAQMD monitored PM10 concentrations at 21 locations in 2010. The federal 24-hour PM10 standard (150 µg/m3) was not exceeded at any of the locations monitored in 2010. The maximum 24-hour PM10 concentration of 107 µg/m3 was recorded in the Coachella Valley No. 2 area and was 71 percent of the federal standard and 214 percent of the much more stringent state 24-hour PM10 standard (50 µg/m3). The state 24-hour PM10 standard was exceeded at 12 of the 21 monitoring stations. The maximum annual average PM10 concentration of 42.3 µg/m3 was recorded in Mira Loma. The maximum annual average PM10 concentration in Mira Loma was 211 percent of the state standard. The federal annual PM10 standard has been revoked. The Basin has technically met the PM10 NAAQS and was redesignation for attainment for the federal PM10 standard in June 2013.

U.S. EPA revised the federal 24-hour PM2.5 standard from 65 µg/m3 to 35 µg/m3, effective December 17, 2006. In 2010, the maximum PM2.5 concentrations in the Basin exceeded the new federal 24-hour PM2.5 standard in all but six locations. The maximum 24-hour PM2.5 concentration of 54.2 µg/m3 was recorded in the Mira Loma area, which represents 154 percent of the federal standard of 35 µg/m3. The maximum annual average concentration of 15.2 µg/m3 was recorded in Mira Loma, which represents 101 percent of the federal standard of 15 µg/m3 and 126 percent of the state standard of 12 µg/m3.

In 2012, only one station in the Basin (Riverside County at Mira Loma) exceeded both the annual PM2.5 and the 98th percentile form of the 24-hour PM2.5 NAAQS. The maximum 24-hour average PM2.5 concentration (58.7 µg/m^3, measured in Central LA) and annual average concentration (15.06 µg/m^3, measured in Riverside Countyat Mira Loma) were 168 and 125 percent of the federal 24-hour and annual average standard concentrations, respectively. Basin-wide, the federal PM2.5 24-hour standard level was exceeded on 15 sampling days in 2012.

PM Health Effects: Of great concern to public health are the particles small enough to be inhaled into the deepest parts of the lung. Respirable particles (particulate matter less than about 10 micrometers in diameter) can accumulate in the respiratory system and aggravate health problems such as asthma, bronchitis and other lung diseases. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of PM10 and PM2.5.

A consistent correlation between elevated ambient fine particulate matter (PM10 and PM2.5) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. Studies have reported an association between long-term exposure to air pollution dominated by fine particles (PM2.5) and increased mortality, reduction in life-span, and an increased mortality from lung cancer.

Daily fluctuations in fine particulate matter concentration levels have also been related to hospital admissions for acute respiratory conditions, to school and kindergarten absences,

to a decrease in respiratory function in normal children and to increased medication use in children and adults with asthma. Studies have also shown lung function growth in children is reduced with long-term exposure to particulate matter. In addition to children, the elderly, and people with pre-existing respiratory and/or cardiovascular disease appear to be more susceptible to the effects of PM10 and PM2.5.

3.2.2.4.6 Lead

Lead in the atmosphere is present as a mixture of a number of lead compounds. Leaded gasoline and lead smelters have been the main sources of lead emitted into the air. Due to requirements to phase out leaded gasoline, there was a dramatic reduction in atmospheric lead in the Basin over the past three decades.

The federal and state standards for lead were not exceeded in any area of the district in 2005. There have been no violations of the lead standards at the SCAQMD's regular air monitoring stations since 1982, primarily the result of removing lead from gasoline. The maximum quarterly average lead concentration (0.03 $\mu g/m^3$) was two percent of the federal standard. Additionally, special monitoring stations immediately adjacent to stationary sources of lead (e.g., lead smelting facilities) have not recorded exceedances of the standards in localized areas of the Basin since 1991 and 1994 for the federal and state standards, respectively. The maximum monthly and quarterly average lead concentration (0.44 $\mu g/m^3$ and 0.34 $\mu g/m^3$ in Central Los Angeles), measured at special monitoring sites immediately adjacent to stationary sources of lead were 29 and 23 percent of the state and federal standards, respectively. No lead data were obtained at SSAB and Orange County stations in 2005 and, because historical lead data showed concentrations in SSAB and Orange County areas to be well below the standard, measurements have been discontinued.

The old federal and current state standards for lead were not exceeded in any area of the district in 2010. The maximum quarterly average lead concentration (0.01 µg/m3 at monitoring stations in South San Gabriel Valley, South Central Los Angeles County, and Central San Bernardino Valley No. 2) was 0.7 percent of the old federal quarterly average lead standard (1.5 µg/m3). The maximum monthly average lead concentration (0.01 µg/m3 in South San Gabriel Valley and South Central Los Angeles County), measured at special monitoring sites immediately adjacent to stationary sources of lead was 0.7 percent of the state monthly average lead standard. No lead data were obtained at SSAB and Orange County stations in 2010. Because historical lead data showed concentrations in SSAB and Orange County areas to be well below the standard, measurements have been discontinued.

On November 12, 2008, U.S. EPA published new national ambient air quality standards for lead, which became effective January 12, 2010. The existing national lead standard, 1.5 µg/m3, was reduced to 0.15 µg/m3, averaged over a rolling three-month period. This designation was based on two source-specific monitors in Vernon and in the City of Industry exceeding the new standard in the 2007-2009 timeframe. As a result, U.S. EPA designated the Los Angeles County portion of the Basin (excluding the high desert areas,

San Clemente and Santa Catalina Islands) as non-attainment for the new lead standard, effective December 31, 2010, primarily based on emissions from two battery recycling facilities. For the 2009-2012 timeframe, only one of these stations exceeded the standard (Vernon). The remainder of the Basin remained in attainment of the lead standard.

Lead Health Effects: Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure.

Lead poisoning can cause anemia, lethargy, seizures, and death. It appears that there are no direct effects of lead on the respiratory system. Lead can be stored in the bone from early-age environmental exposure, and elevated blood lead levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland), and osteoporosis (breakdown of bone tissue). Fetuses and breast-fed babies can be exposed to higher levels of lead because of previous environmental lead exposure of their mothers.

3.2.2.4.7 Sulfates

Sulfates are chemical compounds which contain the sulfate ion and are part of the mixture of solid materials which make up PM10. Most of the sulfates in the atmosphere are produced by oxidation of SO2. Oxidation of sulfur dioxide yields sulfur trioxide (SO_3) which reacts with water to form sulfuric acid, which contributes to acid deposition. The reaction of sulfuric acid with basic substances such as ammonia yields sulfates, a component of PM10 and PM2.5.

In 2005, the state sulfate standard was not exceeded anywhere in the Basin. The maximum 24-hour sulfate concentration occurred in South Central Los Angeles County and was 17.3 $\mu g/m^3$, which is 69 percent of the standard. No sulfate data were obtained at SSAB and Orange County stations in 2005. Historical sulfate data showed concentrations in the SSAB and Orange County areas to be well below the standard, and measurements have been discontinued.

In 2010, the state 24-hour sulfate standard (25 µg/m3) was not exceeded in any of the monitoring locations in the district. No sulfate data were obtained at SSAB and Orange County stations in 2010. Historical sulfate data showed sulfate concentrations in the SSAB and Orange County areas to be well below the standard; thus, measurements in these areas have been discontinued. There are no federal sulfate standards.

Sulfates Health Effects: Most of the health effects associated with fine particles and SO2 at ambient levels are also associated with SOx. Thus, both mortality and morbidity effects have been observed with an increase in ambient SOx concentrations. However, efforts to separate the effects of SOx from the effects of other pollutants have generally not been successful.

Clinical studies of asthmatics exposed to sulfuric acid suggest that adolescent asthmatics are possibly a subgroup susceptible to acid aerosol exposure. Animal studies suggest that acidic particles such as sulfuric acid aerosol and ammonium bisulfate are more toxic than non-acidic particles like ammonium sulfate. Whether the effects are attributable to acidity or to particles remains unresolved.

3.2.2.4.8 Vinyl Chloride

Vinyl chloride is a colorless, flammable gas at ambient temperature and pressure. At room temperature, vinyl chloride is a gas with a sickly sweet odor that is easily condensed. However, it is stored as a liquid. Due to the hazardous nature of vinyl chloride to human health there are no end products that use vinyl chloride in its monomer form. Vinyl chloride is a chemical intermediate, not a final product. It is an important industrial chemical chiefly used to produce polymer polyvinyl chloride (PVC). The process involves vinyl chloride liquid fed to polymerization reactors where it is converted from a monomer to a polymer PVC. The final product of the polymerization process is PVC in either a flake or pellet form. Billions of pounds of PVC are sold on the global market each year. From its flake or pellet form, PVC is sold to companies that heat and mold the PVC into end products such as PVC pipe and bottles.

In the past, vinyl chloride emissions have been associated primarily with sources such as landfills. Risks from exposure to vinyl chloride are considered to be a localized impacts rather than regional impacts. Because landfills in the district are subject to SCAQMD 1150.1, which contains stringent requirements for landfill gas collection and control, potential vinyl chloride emissions are below the level of detection. Therefore, the SCAQMD does not monitor for vinyl chloride at its monitoring stations.

Vinyl Chloride Health Effects: Vinyl chloride is highly toxic and is classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as A1 (confirmed carcinogen in humans) and by the International Agency for Research on Cancer (IARC) as 1 (known to be a human carcinogen) (Air Gas, 2010).

3.2.2.4.9 Volatile Organic Compounds

It should be noted that there are no state or national ambient air quality standards for VOCs because they are not classified as criteria pollutants. VOCs are regulated, however, because limiting VOC emissions reduces the rate of photochemical reactions that contribute to the formation of ozone. VOCs are also transformed into organic aerosols in the atmosphere, contributing to higher PM10 and lower visibility levels.

Total organic gases (TOG) incorporates all gaseous compounds containing the element carbon with the exception of the inorganic compounds, CO, carbon dioxide (CO_2), carbonic acid, carbonates, and metallic carbides. VOC is a subset of TOG and does not include acetone, ethane, methane, methylene chloride, methyl chloroform, perchloroethylene, methyl acetate, p-chlorobenzotrifluoride, and a number of Freon-type gases, because these substances do not generally contribute to ozone formation. In the

2003 AQMP, the amount of VOC in TOG was calculated for each process primarily using species and size fraction profiles provided by CARB. Besides average annual day emissions that are reported for all criteria pollutants, summer planning inventories (VOC and NOx) were reported for ozone purposes.

VOC Health Effects: Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations of VOCs because of interference with oxygen uptake. In general, ambient VOC concentrations in the atmosphere are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis, even at low concentrations. Some hydrocarbon components classified as VOC emissions are thought or known to be hazardous. Benzene, for example, one hydrocarbon component of VOC emissions, is known to be a human carcinogen.

3.2.2.4.10 Visibility

In 2005, annual average visibility at Rudiboux (Riverside), the worst case, was just over 10 miles (SCAQMD, 2012b). With the exception of Lake County, which is designated in attainment, all of the air districts in California are currently designated as unclassified with respect to the CAAQS for visibility reducing particles.

In Class-I wilderness areas, which typically have visual range measured in tens of miles the deciview metric is used to estimate an individual's perception of visibility. The deciview index works inversely to visual range which is measured in miles or kilometers whereby a lower deciview is optimal. In the South Coast Air Basin, the Class-I areas are typically restricted to higher elevations (greater than 6,000 feet above sea level) or far downwind of the metropolitan emission source areas. Visibility in these areas is typically unrestricted due to regional haze despite being in close proximity to the urban setting. All of the Class-I wilderness areas reside in areas having average deciview values less than 20 with many portions of those areas having average deciview values less than 10. By contrast, Rubidoux, in the Basin has a deciview value exceeding 30. The closest Class-I area is the San Gabriel Wilderness area, located over 35 miles north of the Phillips 66 Wilmington Refinery.

3.2.2.5 Existing Refinery Criteria Pollutant Emissions

Operation of the existing Phillips 66 Los Angeles Refinery results in the emissions of criteria pollutants. The reported emissions of criteria air pollutants from the Refinery for the last 13 years are shown in Table 3.1-3. The emissions in Table 3.1-3 are based on actual operations as reported on annual emission reports to the SCAQMD (and not the maximum potential to emit allowed in permits).

TABLE 3.1-3

Phillips 66 Refinery
Reported Criteria Pollutant Emissions (tons/year)[1]

Reporting Period	CO	NOx	VOC	SOx	PM10
2000	716.5	744.7	219.6	728.9	199.7
2001	861.6	592.5	259.4	735.8	202.6
2002	921.8	651.4	238.3	638.7	201.8
2003	652.8	719.9	198.1	627.6	168.6
2004	674.9	638.0	187.1	486.0	170.1
2005	749.3	624.1	261.8	434.7	284.3
2006	790.8	616.8	297.0	410.1	271.8
2007	325.8	323.0	136.3	242.5	135.8
2008	596.3	702.3	266.1	271.0	241.0
2009	461.2	630.5	264.2	104.7	167.6
2010	431.7	554.4	244.5	101.6	155.6
2011	400.2	582.5	241.5	115.3	115.8
2012	344.2	498.5	242.3	128.2	126.2
2013	302.1	762.4	253.7	125.1	172.4

(1) The reported emissions include emission estimates of RECLAIM pollutants calculated pursuant to the missing data provisions included in SCAQMD Regulation XX.

3.2.2.6 Toxic Air Contaminants (TACs)

TACs are air pollutants which may cause or contribute to an increase in mortality or severe illness, or which may pose a potential hazard to human health. The California Health and Safety Code (§39655) defines a toxic air contaminant as an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. Under California's TAC program (Assembly Bill 1807, Health and Safety Code §39650 et seq.), CARB, with the participation of the local air pollution control districts, evaluates and develops any needed control measures for air toxics. The general goal of regulatory agencies is to limit exposure to TACs to the maximum extent feasible.

Monitoring for TACs is limited compared to monitoring for criteria pollutants because toxic pollutant impacts are typically more localized than criteria pollutant impacts. CARB conducts air monitoring for a number of TACs every 12 days at approximately 20 sites throughout California. The ULSD Project is located closest to the North Long Beach station. A summary of the averaged monitoring data from the Long Beach station for various TACs is considered to be an appropriate estimate of the TAC concentration in the vicinity of the ULSD Project. Table 3.1-4 provides the TAC monitoring data from the Long Beach station for 2003 to show pre-project conditions. Table 3.1-5 provides the TAC monitoring data from the Long Beach station for 2011 to show post-project

conditions. Comparison of the tables show a general increase in toxic monitored at the North Long Beach station over time.

TABLE 3.1-4

Ambient Air Quality Toxic Air Contaminants
North Long Beach Peak 24-Hour Concentration 2003

Pollutant	Annual Average	Pollutant	Annual Average
VOC's	ppb/v[a]		ppb/v
Acetaldehyde	1.06	Methyl Ethyl Ketone	0.13
Benzene	0.705	Methyl Tertiary Butyl Ether	0.45
1,3-Butadiene	0.142	Methylene Chloride	0.31
Carbon Tetrachloride	0.092	Perchloroethylene	0.076
Chloroform	0.05	Styrene	0.24
o-Dichlorobenzene	0.15	Toluene	2.1
p-Dichlorobenzene	0.2	Trichloroethylene	0.023
Ethyl Benzene	0.24	meta-Xylene	0.0
Formaldehyde	2.79	ortho-xylene	0.34
Methyl Chloroform	0.055		
PAH's	nanograms/m[b]		nanograms/m[c]
Benzo(a)pyrene	0.07	Benzo(k)fluoranthene	0.038
Benzo(b)fluoranthene	0.086	Dibenz(a,h)anthracene	0.026
Benzo(g,h,i)perylene	0.283	Indeno(1,2,3-cd)pyrene	0.121
Inorganic Compounds[c]	nanograms/m[b]		nanograms/m[c]
Aluminum	1,140.0	Nickel	7.4
Antimony	3.8	Phosphorus	40.8
Arsenic	0.0	Potassium	433.0
Barium	48.4	Rubidium	2.2
Bromine	9.1	Selenium	1.1
Calcium	912.0	Silicon	2,950.0
Chlorine	1,550.0	Strontium	11.5
Chromium	5.9	Sulfur	1,430.0
Cobalt	8.0	Tin	5.0
Copper	34.5	Titanium	98.3
Hexavalent Chromium	0.076[d]	Uranium	1.1
Iron	1,060.0	Vanadium	21.8
Lead	11.2	Yttrium	1.1
Manganese	19.6	Zinc	73.3
Mercury	1.7	Zirconium	5.1
Molybdenum	2.8		

Source: California ARB website: Annual Toxics Summaries by Monitoring Sites, http://www.arb.ca.gov/adam/toxics/sitesubstance.html

a) ppb/v = parts per billion by volume.
b) nanograms/m^3 = nanograms per cubic meter.
c) Data for Inorganic Compounds is from the year 2001-the most recent year with 12 consecutive months of monitoring data.
d) Data is from year 2002- the most recent year with 12 consecutive months of monitoring data.

TABLE 3.1-5
Ambient Air Quality Toxic Air Contaminants
North Long Beach Peak 24-Hour Concentration 2011

Pollutant	Peak 24-hour Concentration	Pollutant	Peak 24-hour Concentration
VOCs	**Ppbv**		**ppbv**
Acetaldehyde [b]	1.9	Ethyl Benzene	0.5
Acetone	11	Formaldehyde [b]	4.7
Acetonitrile	11	Methyl Bromide	0.06
Acrolein	1.0	Methyl Chloroform	0.02
Benzene	1.1	Methyl Ethyl Ketone [b]	0.7
1,3-Butadiene	0.33	Methyl Tertiary-Butyl Ether [f]	2.0
Carbon Disulfide [d]	1.1	Methylene Chloride	1.1
Carbon Tetrachloride	0.10	Perchloroethylene	0.09
Chloroform	0.09	Styrene	0.3
ortho-Dichlorobenzene[c]	0.15	Toluene	2.9
para-Dichlorobenzene[c]	0.15	Trichloroethylene	0.067
cis-1,3-Dichloropropene	0.05	ortho-Xylene	0.6
trans-1,3-Dichloropropene	0.05		
PAHs[e]	**nanograms/m[c]**		**nanograms/m[c]**
Benzo(a)pyrene	0.61	Benzo(k)fluoranthene	0.19
Benzo(b)fluoranthene	0.51	Dibenz(a,h)anthracene	0.18
Benzo(g,h,i)perylene	1.7	Indeno(1,2,3-cd)pyrene	0.64
Inorganic compounds	**nanograms/m[c]**		**nanograms/m[c]**
Aluminum [g]	2,100	Nickel [a]	4.5
Antimony [a]	9	Phosphorous [g]	61
Arsenic [a]	0.75	Platinum [a]	0.15
Barium [g]	91	Potassium6[g]	860
Bromine [g]	15	Rubidium[g]	4
Cadmium [a]	2.0	Selenium [a]	2.1
Calcium [g]	2,300	Silicon[g]	5,600
Chlorine [g]	6,900	Strontium [a]	25
Chromium [a]	7	Sulfur [a]	3,500
Cobalt [a]	0.75	Tin [a]	3.5
Copper [a]	68	Titanium [a]	85
Hexavalent Chromium [b]	0.11	Uranium[g]	2.0
Iron [a]	1,200	Vanadium [a]	10
Lead [a]	190	Yttrium[g]	3
Manganese [a]	46	Zinc [a]	250
Mercury [g]	4.0	Zirconium [a]	2.8
Molybdenum [a]	2.6		

Source: CARB, 2010. Annual Ambient Toxic Monitoring Sites, North Long Beach,
Notes: ppbv = parts per billion by volume; nanograms/m^3 = nanograms per cubic meter
(a) The most recent complete year data is from 2010
(b) The most recent complete year data is from 2009
(c) The most recent complete year data is from 2006
(d) The most recent complete year data is from 2005
(e) The most recent complete year data for PAHs is from 2004.
(f) The most recent complete year data is from 2003
(g) The most recent complete year data is from 2002

The SCAQMD measured TAC concentrations as part of its Multiple Air Toxic Exposure Study (MATES). The purpose of the study was to provide an estimate of exposure to TACs to individuals within the Basin. In a second study, MATES-II, the SCAQMD conducted air sampling at about 24 different sites for over 30 different TACs between April 1998 and March 1999. The SCAQMD recently concluded a third study, referred to as MATES-III, that includes monitoring for 21 TACs at ten fixed, and five temporary, sites within the Basin in neighborhoods near toxic emission sources or in areas where community members are concerned about health risks from air pollution. The scope of the monitoring was from April 2004 through March 2006. The MATES-III found about 94 percent of the cancer risk is attributed to emissions associated with mobile sources and about six percent of the cancer risk is attributed to toxics emitted from stationary sources (e.g., industrial sources). The results indicate that diesel exhaust is the major contributor to cancer risk, accounting for about 84 percent of the total. Compared to previous studies of air toxics in the Basin, the MATES-III study found a decreasing cancer risk for air toxics exposure, with the population-weighted risk down by eight percent from the analysis in MATES-II, which was based on monitoring in 1998 and 1999. The highest risks are found near the Port area, an area near central Los Angeles and near transportation corridors. The average carcinogenic risk in the Basin is about 1,200 per million people. This means that 1,200 people out of a million are susceptible to contracting cancer from exposure to the known TACs over a 70-year period of time (SCAQMD, 2008). Of the monitoring sites in the MATES-III study, the West Long Beach study site is the closest to the Refinery. The estimated cancer risk at the West Long Beach station was about 1,650 per million (SCAQMD, 2008). Areas near the ports had the highest cancer risk in the Basin, ranging from 1,100 to 3,700 per million. An area of elevated risk was also found near Central Los Angeles with risks ranging from 1,400 to 1,900 per million. The areas projected to have higher risk followed transportation corridors, including freeways and railways (SCAQMD, 2008).

CARB completed air monitoring between May 2001 and July 2002, at Wilmington Park Elementary school because of the location of the school in proximity to refineries and the ports (CARB, 2003). Monitoring was completed for over 50 air pollutants. The key findings of the study were the following: (1) the air quality around the Wilmington Park Elementary school is similar to other parts of the Los Angeles urban area; (2) the estimated cancer risk in Wilmington was 278 per million as compared to Long Beach with a cancer risk of 279 per million and downtown Los Angeles at 341 per million; (3) local meteorology patterns in Wilmington appear to favor dispersion of local air pollution; and (4) PM10 levels measured in Wilmington were noticeably higher than in nearby Long Beach (CARB, 2003).

3.2.3 REGULATORY BACKGROUND

Ambient air quality standards in California are the responsibility of, and have been established by, both the U.S. EPA and CARB. These standards have been set at concentrations which provide margins of safety for the protection of public health and welfare. Federal and state air quality standards are presented in Table 3.3-1. The SCAQMD has established levels of episodic criteria and has indicated measures that must

Item 9

New Business

CITY OF CARSON

STAFF COMMUNICATION TO
THE ENVIRONMENTAL COMMISSION

NEW BUSINESS November 5, 2014

SUBJECT: **Notice of Completion of Draft Environmental Impact Report, Phillips 66 Los Angeles Refinery Ultra Low Sulfur Diesel Project, AQMD**

REQUEST: **Review, discuss, and provide feedback on the Draft Environmental Impact Report, Phillips 66 Los Angeles Refinery Ultra Low Sulfur Diesel Project**

I. Introduction

AQMD has released the Phillips 66 Los Angeles Refinery Ultra Low Sulfur Diesel DEIR for public review. Comments on the DEIR are due November 13, 2014. The project site is located at 1660 Anaheim Street in Wilmington south of Machado Lake outside the City limits. Exhibit 1 provides a brief description of the project.

II. Background and Recommendation

In Los Angeles, heavy-duty trucks and buses contributed more than a quarter of the nitrogen oxide (NOx) emissions and 14 percent of the particulate matter less than 2.5 microns in diameter (PM2.5) emissions from all mobile sources in 2004.

The emission control devices to reduce emissions from these heavy duty engines are sensitive to sulfur, thus regulatory requirements mandate that the amount of sulfur in the diesel fuel is reduced to increase performance of the control devices.

The project has a long history of legal challenges dating back to 2004.

Finally, it should be noted that neither the Court of Appeal decision nor the Supreme Court decision invalidated any aspect of the prior CEQA documents except for the baseline used in the analysis of air quality impacts from Project operation. Other aspects of the prior CEQA documents that were challenged in the litigation, were rejected by the trial court, and the trial court's rulings were upheld on appeal. Thus, this EIR will focus only in the Air Quality analysis with regard to potential NOx emissions from the operation of the ULSD Project.

No court decision invalidated any aspect of the prior CEQA documents except for the baseline used in the air quality impacts analysis for Project operations.

Therefore, the Draft EIR for the Phillips 66 ULSD Project focuses on the issues directed by the court and is therefore limited to air quality setting and impacts from Project operations.

III. Recommendation

Review, discuss, and provide feedback on the Draft Environmental Impact Report, Phillips 66 Los Angeles Refinery Ultra Low Sulfur Diesel Project

IV. Exhibits

1. Notice of Preparation
2. Location Map

Prepared by: _____

Saied Naaseh, Associate Planner

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

SUBJECT: **NOTICE OF COMPLETION OF A DRAFT ENVIRONMENTAL IMPACT REPORT**

PROJECT TITLE: **PHILLIPS 66 LOS ANGELES REFINERY ULTRA LOW SULFUR DIESEL PROJECT**

In accordance with the California Environmental Quality Act (CEQA), the South Coast Air Quality Management District (SCAQMD) is the Lead Agency and has prepared a Draft Environmental Impact Report (EIR) for the project identified above. The Draft EIR includes a project description and analysis of potential adverse environmental impacts that could be generated from the proposed project. The purpose of this letter, the attached Notice of Completion (NOC) and Draft EIR is to allow public agencies and the public the opportunity to obtain, review and comment on the environmental analysis contained in the Draft EIR.

This letter and the attached NOC are not SCAQMD applications or forms requiring a response from you. Their purpose is simply to provide information to you on the above project. If the project has no bearing on you or your organization, no action on your part is necessary. The project's description, location, and potential adverse environmental impacts are summarized in the NOC.

Copies of the Draft EIR and other relevant documents may be obtained at the SCAQMD's Public Information Center located at SCAQMD Headquarters: 21865 Copley Drive, Diamond Bar, CA 91765. Copies of these documents can also be obtained by calling (909) 396-2039 or accessing the SCAQMD's CEQA website at http://www.aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2014. Comments focusing on your area of expertise, your agency's area of jurisdiction, or issues relative to the environmental analysis should be addressed to Jeff Inabinet at the address shown above, or sent by FAX to (909) 396-3324 or by email to jinabinet@aqmd.gov. Comments must be received no later than 5:00 p.m. on November 13, 2014. In any written correspondence, please include the name, email address, and phone number of the contact person for your organization.

Project Applicant: Phillips 66

Date: September 26, 2014

Signature: Michael Krause

Michael Krause
Program Supervisor, CEQA Section
Planning, Rules, and Area Sources
(909) 396-2706

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765-4182
NOTICE OF COMPLETION OF DRAFT ENVIRONMENTAL IMPACT REPORT (EIR)

Project Title:
Phillips 66 Los Angeles Refinery Ultra Low Sulfur Diesel Project

Project Location:
Phillips 66 Wilmington Refinery is located at 1660 West Anaheim Street, Wilmington, California, 90744

Description of Nature, Purpose, and Beneficiaries of Project:
The project includes the following activities: 1) modifications to Hydrotreater Unit 90; 2) replacement of an existing charge heater with a functionally identical replacement heater; 3) installation of a Selective Catalytic Reduction Unit to control NOx emissions from the replacement heater, with aqueous ammonia supplied from an existing aqueous ammonia storage tank; 4) demolition of an existing cooling tower and replacement with a new cooling tower of the same capacity; 5) minor modifications to the mid barrel handling and shipping system; 6) minor modifications to the hydrogen distribution system including new hydrogen distribution piping; and 7) modifications to one storage tank to allow a change of service (i.e., contents). In response to the court's decision on the 2004 Final Negative Declaration and Addendum, an EIR is required for the ConocoPhillips ULSD Project to address the air quality setting and operational air quality impacts from the proposed project.

Lead Agency:	**Division:**
South Coast Air Quality Management District	Planning, Rules, and Area Sources

Draft EIR and all supporting documentation are available at:
SCAQMD Headquarters
21865 Copley Drive
Diamond Bar, CA 91765

or by calling
(909) 396-2039

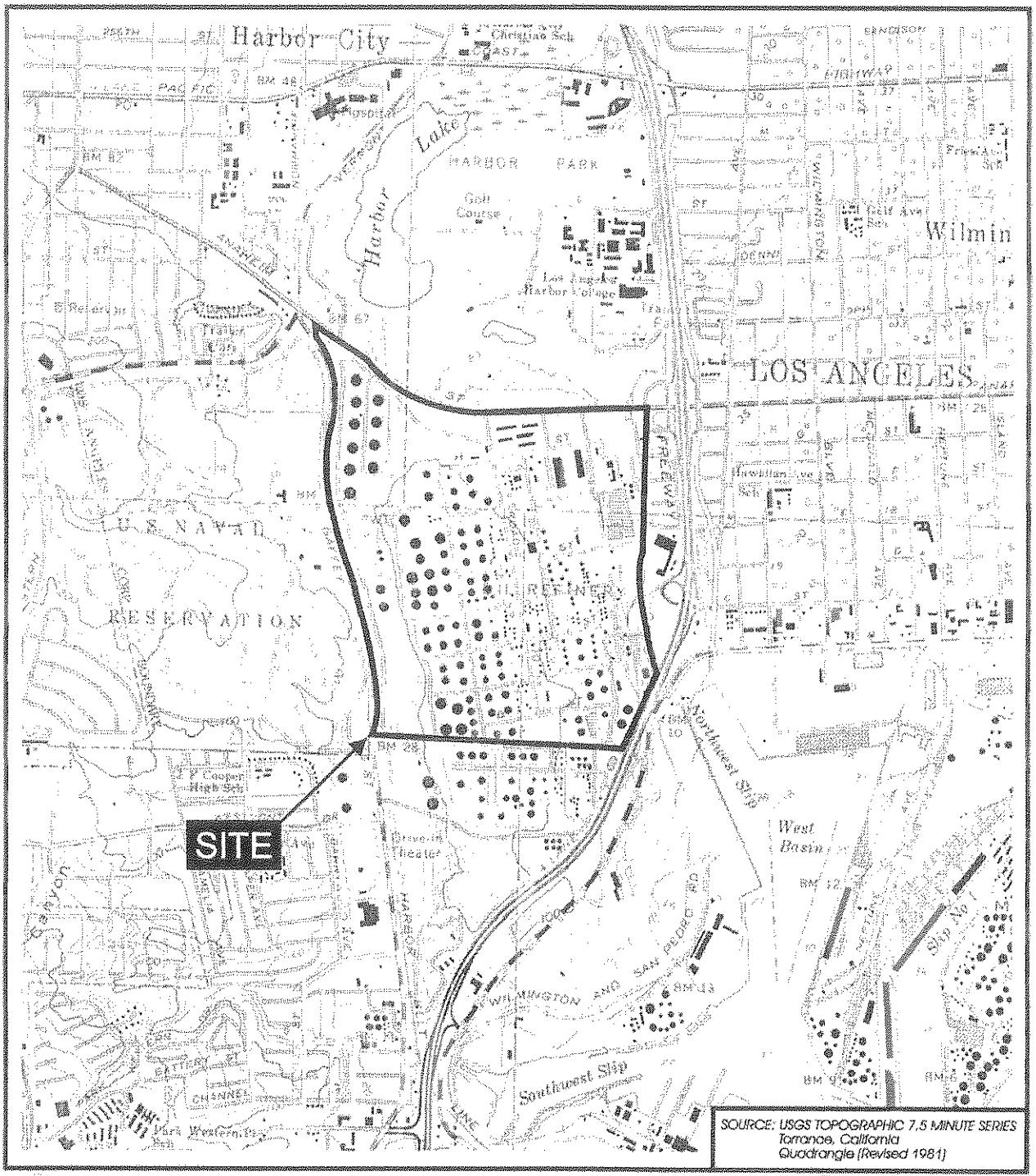
Draft EIR is available by accessing the SCAQMD's website at:
http://www.aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2014

The Public Notice of Completion is provided through the following:

☑ Los Angeles Times and The Daily Breeze (September 30, 2014) ☑ SCAQMD Website
☑ SCAQMD Public Information Center ☑ Interested Parties ☑ SCAQMD Mailing List

Draft EIR 45-Day Review Period:
September 30, 2014 through November 13, 2014

Send CEQA Comments to:	**Phone:**	**Email:**	**Fax:**
Mr. Jeff Inabinet	(909) 396-2453	jinabinet@aqmd.gov	(909) 396-3324



Environmental Audit, Inc.

FIGURE 2-2
SITE LOCATION MAP
Phillips 66 Los Angeles Refinery
Wilmington Plant

Project No. 2696

N:\2696\Site Location Map (rev 2).cdr

CITY OF CARSON

STAFF COMMUNICATION TO
THE ENVIRONMENTAL COMMISSION

NEW BUSINESS **November 5, 2014**

SUBJECT: **Cleanup Plan of Dense Non-Aqueous Phase Liquid at Montrose Superfund Site, United States Environmental Protection Agency**

REQUEST: **Review, discuss, and provide feedback on the Cleanup Plan of Dense Non-Aqueous Phase Liquid (DNAPL) at Montrose Superfund Site, United States Environmental Protection Agency**

I. **Introduction**

United States Environmental Protection Agency (EPA) is requesting public comments on the Cleanup Plan of Dense Non-Aqueous Phase Liquid (DNAPL) at Montrose Superfund Site located at 20201 Normandie Avenue in Los Angeles, Exhibit 1. The comment period has been extended from November 21, 2014 to February 13, 2015. The site is located outside of City limits approximately 4,000 feet east of I-110.

II. **Background and Recommendation**

Montrose Chemical Corporation manufactured DDT at the site from 1947 to 1982. The operation released hazardous substances to the surrounding environment including surface soil, ground water, stormwater drainage ditches, sanitary sewers, and ultimately the Pacific Ocean. In addition to DDT, Chlorobenzene was one of the most widely encountered contaminants. Located to the east of the site, the Del Amo Superfund site used to be a 280-acre rubber manufacturing plant.

According to the information provided by EPA, the DNAPL does not pose an exposure risk to human or ecological receptors. However, DNAPL continuous to dissolve into the ground water and soil. The EPA, through Preferred Alternative 6A, is proposing to contain the release and migration of DNAPL and other substances into the environment. This alternative is on page 14 of Exhibit 1.

III. **Recommendation**

Review, discuss, and provide feedback on the Cleanup Plan of Dense Non-Aqueous Phase Liquid (DNAPL) at Montrose Superfund Site, United States Environmental Protection Agency

IV. **Exhibits**

1. EPA Montrose Superfund Site

Prepared by: _____

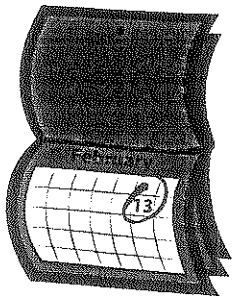
Saied Naaseh, Associate Planner

ITEM NO. 9b

Sitio Superfund

Montrose

Superfund Site



Public Comment Period on Proposed Cleanup Extended Until

February 13th, 2015

Periodo de Comentario Público Sobre Limpieza Propuesta Extendido Hasta el

13 de febrero 2015

Proposed Plan available at / el Plan Propuesto está disponible en:

www.epa.gov/region09/montrose
& Carson and Torrance Libraries

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EPA

Montrose Superfund Site
Los Angeles, California

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • September 2014

EPA Requests Comments on Proposed DNAPL Cleanup Plan

The United States Environmental Protection Agency (EPA) is seeking public comments on this Proposed Plan for cleanup of dense non-aqueous phase liquid (DNAPL) at the Montrose Superfund Site. The DNAPL operable unit (OU) is one of seven OUs at the Montrose Superfund Site. This Proposed Plan presents the remedial actions designed to address DNAPL residing in soil and groundwater beneath the Montrose Superfund Site. These remedial actions will complement the groundwater cleanup action that was selected in 1999, because DNAPL acts as a source to groundwater contamination, and cleanup of this source will help ensure the groundwater remedy is successful.

What is DNAPL?

Dense Non-Aqueous Phase liquid is a technical way of describing pockets of pure contaminants within soil and groundwater.

EPA, as the lead agency for this cleanup, has prepared this Proposed Plan in consultation with the support agency, California Department of Toxic Substances Control (DTSC), and other stakeholders.

This Proposed Plan summarizes key information and results from EPA's Remedial Investigation and Feasibility Study reports. The EPA's preferred method for addressing the contaminants and an analysis of all cleanup alternatives are described in this Plan. Although EPA has identified a preferred alternative, EPA will not make a final decision until all the comments are considered. The public is encouraged to provide comments on any or all of the alternatives. For more detailed information, please see the Feasibility Study report, and other reports and documents within the administrative record, available at the locations specified on the back page.

EPA's primary objective for this Plan is to protect human health and the environment from contaminants found in DNAPL beneath the Montrose Superfund Site[1].

74 Day Public Comment Period

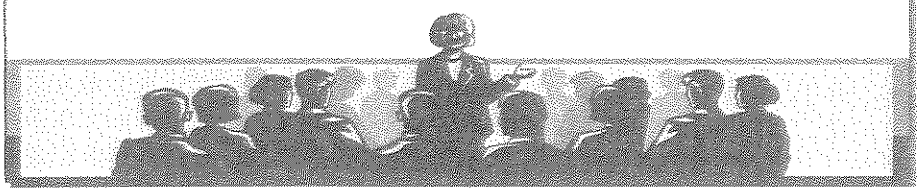
September 8th – November 21st, 2014

The EPA is interested in hearing from the public, and will accept public comments from early September to late November. EPA invites you to a Community Meeting where you can hear a presentation discussing the Proposed Plan and offer your oral and written comments. EPA will consider these comments and respond to them when selecting a remedy. EPA will document the comments and responses in a section of the final decision document, called the Record of Decision (ROD). There are several ways for the public to provide comments (written, oral, email or faxed comments). This information is listed on page 15.

Public Comment Meeting

Saturday, November 8, 2014
10 a.m. to 12:30 p.m.

Holiday Inn Torrance, 19800 Vermont Ave, Torrance, California



[1] *This Proposed Plan is being issued pursuant to CERCLA §117(a), 42 U.S.C. §9617(a), and the National Contingency Plan §300.430(f)(3), 40 C.F.R. §300.430(f)(3).*

Site Background

Montrose Chemical Corporation of California (Montrose) manufactured the technical grade of the pesticide dichlorodiphenyltrichloroethane (DDT) from 1947 until 1982 at a 13-acre plant located at 20201 Normandie Avenue, in Los Angeles, near the City of Torrance, California (see Figure 1).

The plant was dismantled and demolished by 1983, and the plant property was graded and covered with an asphalt cap. In its 35 years of operation, the Montrose plant released hazardous substances into the surrounding environment, including surface soil, groundwater, stormwater drainage ditches, sanitary sewers, and ultimately the Pacific Ocean.

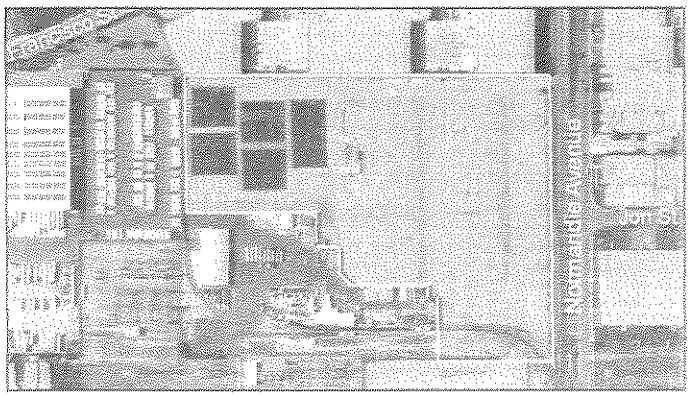


Figure 1. Former Montrose Plant Property

Contaminants used at the plant entered the ground within the former Montrose plant property ("Montrose Property") through leaks from valves and clogged lines, and other elements of the DDT manufacturing process. Chlorobenzene, which is a colorless, flammable liquid and a common solvent, was one of the most widely encountered contaminants resulting from the plant operation.

Soil beneath the Montrose Property is also contaminated with DDT, which is a crystalline solid and not soluble in water. DDT sticks to soil particles and does not mix and/or travel with groundwater. Therefore, DDT by itself does not cause contamination of groundwater. However, DDT is soluble in chlorobenzene. At this site DDT dissolved in chlorobenzene, and formed a liquid mixture consisting of about 50 percent DDT and 50 percent chlorobenzene. This mixture is referred to as "Dense Non-Aqueous Phase Liquid," or "DNAPL." DNAPL contamination occurs in soil and groundwater beneath the Montrose Property. When DNAPL comes into contact with groundwater, chlorobenzene dissolves from the DNAPL. At the Montrose Superfund Site, the chlorobenzene has formed a groundwater plume that extends more than 1.5 miles downstream of the Montrose Property.

Montrose Superfund Site Operable Units

On- and Near-Property Soils OU: includes contamination in shallow soils and soil vapors that are present on and near the Montrose Property as a result of past activities there. For this OU, a human health risk assessment and feasibility study are currently being prepared.

Current Stormwater Pathway OU – Torrance Lateral to Consolidated Strip: includes locations where rainfall runoff may have carried contaminants from the Montrose Property.

Dual Site Groundwater OU: addresses groundwater contamination from both the Montrose and Del Amo Superfund Sites. The selected remedy for this OU includes extraction and treatment of contaminated groundwater, and reinjection of treated water back into groundwater aquifers. Construction activities for the treatment system started in March 2013, and are expected to be completed by the end of 2014. Once operational, the system will extract up to 700 gallons of water per minute, and inject cleaned treated water back into the ground. Because the DNAPL at the Montrose property is a source of groundwater contamination, the groundwater ROD requires removal of the DNAPL source to the extent practicable.

DNAPL OU: addresses the DNAPL source at the Montrose Property and is the subject of this Proposed Plan.

Historic Stormwater Pathway – Neighborhood OU: includes the Kenwood Avenue neighborhood, where EPA completed removal actions in 2002 and 2008 to address Montrose-related contamination.

Palos Verdes Shelf OU: includes contamination on the ocean floor off the Palos Verdes Peninsula.

Historic Stormwater Pathway – Royal Boulevard OU: includes portions of eight industrial and residential properties along Torrance Boulevard and Royal Boulevard, where runoff from the Montrose Property transported contaminants into the storm drainage channel.

Jones Chemicals OU: addresses contamination at the JCI Jones Chemicals, Inc. (Jones) property, which is immediately adjacent to the Montrose Property. Jones manufactures, stores, repackages, and distributes water treatment chemicals and other chemicals used by municipalities, the public, and industry. A variety of chlorinated solvents have been identified in the subsurface at the Jones property. A remedial investigation is currently underway.

The Del Amo Superfund Site, which includes the former site of a 280-acre synthetic rubber manufacturing plant, is located east of the Montrose Superfund Site (see Figure 2). During operations, chemicals such as benzene were released into soil and groundwater beneath the plant. The chlorobenzene plume from the Montrose Superfund Site is mixed with the benzene plume originating at the Del Amo Superfund Site.

EPA listed the Montrose Site on the Superfund National Priorities List (NPL) in 1989. In order to organize the investigation and cleanup activities, EPA divided the Montrose Superfund Site into several parts, which are called "Operable Units" (OUs). The OU that addresses the DNAPL source, as well as adjacent OUs for soil and groundwater at the Montrose Superfund Site, are briefly described on the opposite page.

Figure 2 shows the main areas of the Montrose and Del Amo Superfund Sites. As mentioned above, the DNAPL remedy will complement the Groundwater remedy from both Sites by removing DNAPL that serves as a source of groundwater contamination.

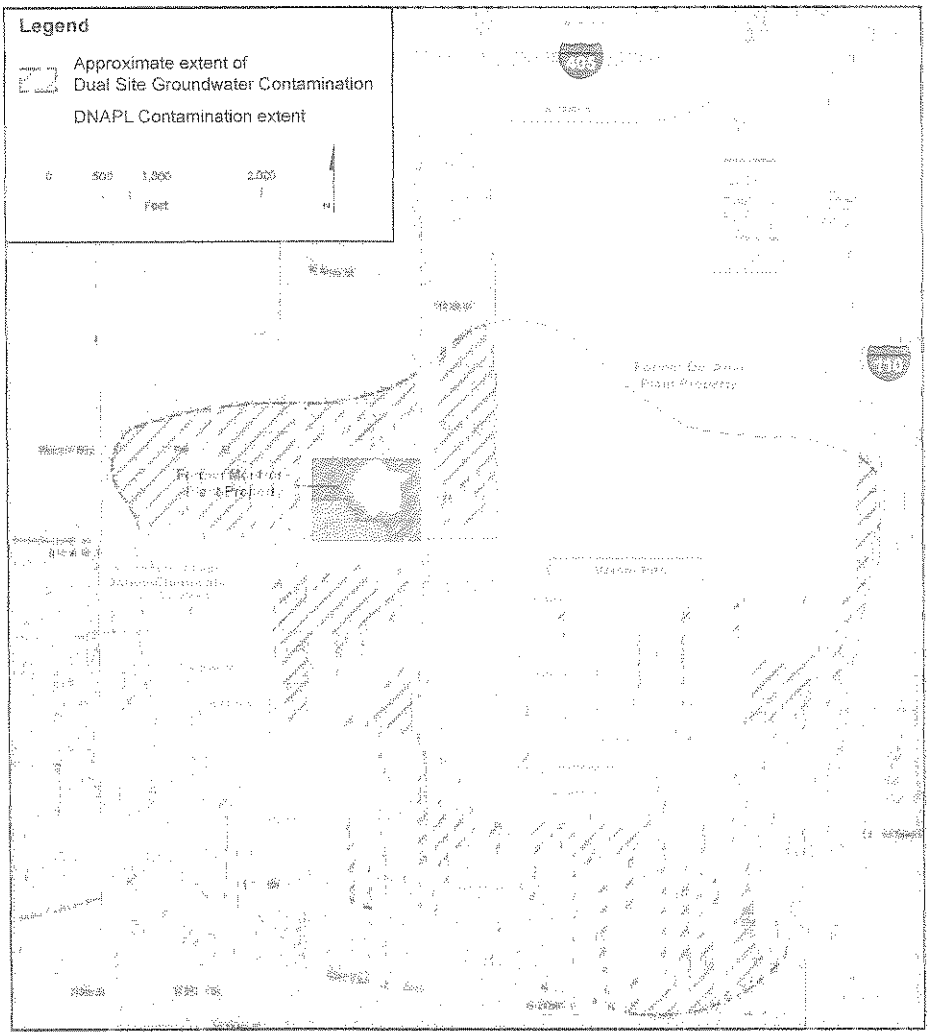


Figure 2. Main Areas of the Dual Site Groundwater Contamination

Site Characteristics

Current Land Use

The Montrose Property was regraded and capped with asphalt by Montrose in 1985. Within the property boundary, two large raised building pads and a total of six temporary soil and debris containment cells were constructed by EPA to temporarily store contaminated soils excavated from Kenwood Avenue (the Historic Stormwater Pathway-Neighborhood OU). In addition, Montrose is currently constructing the groundwater treatment facility for the Groundwater OU for both Sites at the Montrose Property. Extensive dust monitoring is being performed during construction activities to ensure public health and construction worker safety.

A 2004 study conducted by EPA concluded that the most likely reuse scenario for the Montrose Property would be industrial land use. The adjacent properties are also zoned industrial and commercial. Land use south and southeast of the Montrose Property is mixed manufacturing, commercial, and residential.

Although the State of California designates all of the water-bearing units beneath the Montrose property as having potential potable beneficial use, there are currently no known municipal or private potable production wells in use within the area of DNAPL distribution and/or dissolved groundwater contamination at the Montrose Superfund Site. The nearest municipal supply wells are located more than 2 miles from the Montrose Property, and about 0.5 to 1 mile southeast from the furthest extent of groundwater contamination related to the Montrose and Del Amo Superfund Sites.

Site Contamination

The remedial actions described in this Proposed Plan are focused on the DNAPL source. DNAPL has a density higher than water, so it sinks when put into water. As mentioned above, DNAPL at the Site consists of about 50 percent DDT and 50 percent chlorobenzene. Chlorobenzene is a volatile organic compound (VOC) that can volatilize (that is, can be emitted as gas) from solids or liquids into the atmosphere and cause vapor intrusion (VI). It is also soluble in water. In contact with groundwater, chlorobenzene dissolves from DNAPL and forms a plume of contaminated groundwater referred to as the "chlorobenzene plume." This dissolved clorobenzene plume is being addressed by the Dual Site Groundwater remedy. The potential VI from the DNAPL source and dissolved chlorobenzene plume is being currently evaluated by EPA.

DDT is not volatile and not soluble in water. Because it is not volatile, DDT does not pose a risk of VI. Also, as mentioned above, DDT sticks to soil particles and does not mix and/or travel with groundwater; therefore, the chlorobenzene plume includes little to no DDT.

Beneath the Montrose Property, DNAPL is found at depths ranging from 7 to 101.5 feet below ground surface (bgs). Depth to groundwater in this area is about 40 to 60 feet bgs. DNAPL, therefore, occurs in both the unsaturated zone (soils above groundwater) and the saturated zone (soils at the groundwater level). Site soils, in both the unsaturated and saturated zones, are composed of discontinuous layers of silt, sand, and clays.

Pools of DNAPL are perched on top of less-penetrable soils such as silt, and clay. Figure 3 is a diagram of typical vertical DNAPL distribution at a site like Montrose.

The full extent of DNAPL at the Site occurs beneath (and within the horizontal boundaries of) the Montrose Property, and well within the TI Waiver Zone established by EPA (see box above).

The estimated lateral extent of DNAPL, known as the "entire treatment area," is about 160,000 square feet (ft^2) (see Figure 5).

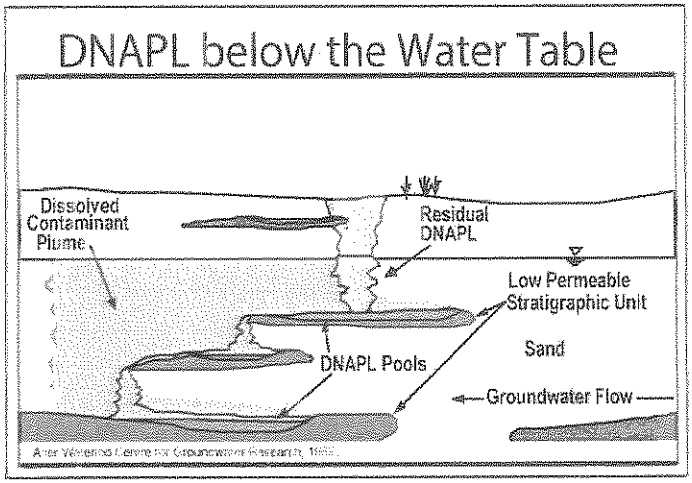


Figure 3. Sample Diagram of Vertical DNAPL Distribution

What is a TI Waiver Zone?

The groundwater remedy includes long-term hydraulic containment of the DNAPL-contaminated area and a buffer around this area referred to as the "Technical Impracticability (TI) Waiver Zone." The TI Waiver Zone was established because, as documented in the groundwater ROD, EPA determined that removal of all DNAPL was not practicable, given current technologies. This area will be evaluated for protection again in 2015.

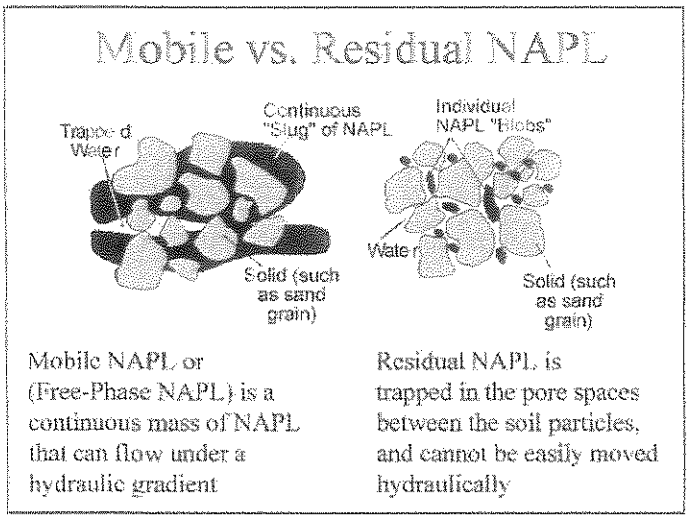


Figure 4. Mobile vs. Residual DNAPL

Mobile Vs. Residual DNAPL

DNAPL at the Montrose Property occurs in both "mobile" and "residual" forms. Mobile DNAPL is a continuous mass of DNAPL that can flow with groundwater and/or sink under gravitational forces.

Residual DNAPL is trapped in the pore spaces of soil particles and cannot move laterally and/or vertically under natural conditions (see Figure 4).

Mobile DNAPL is present beneath the Montrose Property within a much smaller area of approximately 26,000 ft^2. This area is known as the "focused treatment area" and was estimated based on the known occurrence of mobile DNAPL in wells in the source area and measured DNAPL concentrations above 53,000 milligrams per kilogram (mg/kg), which was determined to be a threshold, above which DNAPL was considered to be mobile. The area of mobile DNAPL is shown in Figure 5.

The extent of mobile DNAPL may be further refined, if needed, during the remedial design and remedial action phases of work, with input from the State.

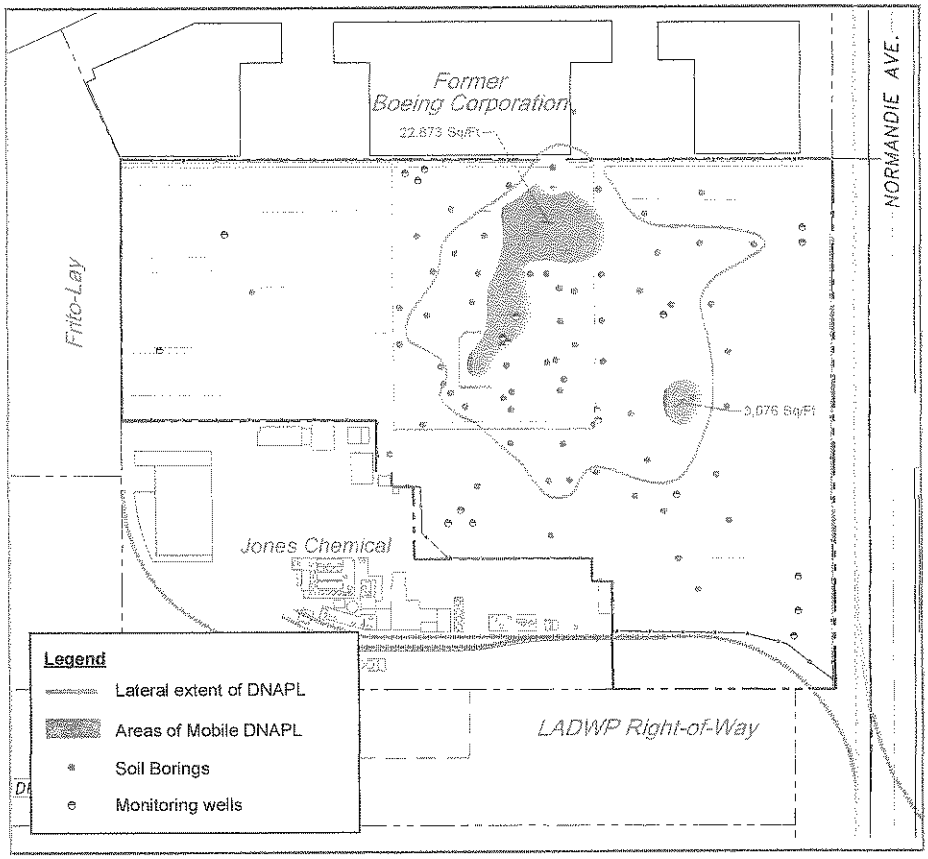


Figure 5. Estimated Extent of Mobile DNAPL

Summary of Risk and Basis for Action

Based on the land and groundwater uses described above, the DNAPL at the Montrose Superfund Site does not currently pose an exposure risk to human or ecological receptors. However, DNAPL is the principal threat at the Montrose Superfund Site, because it continues to dissolve into the groundwater, and serves as a long-term source of chlorobenzene and, to a lesser degree, other contaminants to groundwater and soil vapor.

The Groundwater remedy for both Sites is designed to hydraulically contain and remediate the dissolved plume coming from the DNAPL source, and also hydraulically contain the TI Waiver Zone that surrounds DNAPL. Residual DNAPL is trapped in pore spaces between soil particles within the TI Waiver Zone and cannot migrate in the subsurface outside this zone under natural conditions. However, mobile DNAPL that is present at the former Montrose Plant Property remains a threat to groundwater and soil vapor, because it is capable of continued vertical and/or lateral migration outside the TI Waiver Zone. This potential migration of mobile DNAPL may result in failure of the Groundwater remedy. Removing mobile DNAPL, therefore, is a critical component in preserving the groundwater resource and ensuring protection of human health and the environment.

It is EPA's current judgment that the Preferred Alternative identified in this Proposed Plan, or one of the other active measures considered in the Proposed Plan, is necessary to protect public health or the welfare of the environment from actual or threatened releases of hazardous substances into the environment. The Preferred Alternative is focused on preventing uncontrolled migration and the spread of mobile DNAPL to ensure (1) protection of human health and the environment, and (2) the success of the groundwater remedy at the Montrose Superfund Site.

The objectives, methods, and technologies that are planned to accomplish these goals are discussed next.

Remediation Objectives

The remediation objectives for the DNAPL remedy are as follows:

- Prevent human exposure to DNAPL (via ingestion, inhalation, or dermal contact) that would pose an unacceptable health risk to on or off property receptors under industrial land uses of the Montrose Property and adjacent properties.
- To the extent practicable, limit uncontrolled lateral and vertical migration of mobile DNAPL under industrial land use and hydraulic conditions in groundwater.
- Increase the probability of achieving and maintaining containment of dissolved-phase contamination to the extent practicable, as required by the existing groundwater ROD, for the time period that such containment remains necessary.
- Reduce mobile DNAPL mass to the extent practicable.
- To the extent practicable, reduce the potential for recontamination of aquifers that have been restored by the groundwater remedial actions, as required by the groundwater ROD, in the event containment should fail.
- To the extent practicable, reduce the dissolved-phase concentrations within the containment zone over time.

Remediation Alternatives

Table 1 lists the alternatives and shows the technologies that were used to assemble each alternative.

The primary technologies used to assemble active remediation alternatives are:

- Institutional Controls
- Soil Vapor Extraction (SVE)
- Hydraulic Displacement
- In-Situ Soil Heating, including:
  - Steam Injection
  - Electrical Resistance Heating (ERH)

An overview of these technologies is provided after Table 1, followed by detailed descriptions of the nine remediation alternatives (Alternatives 1 through 6B).

Table 1. Remediation Alternatives

Remediation Alternative	Technology				
	Institutional Controls	Soil Vapor Extraction Unsaturated Zone	Hydraulic Displacement	Steam Injection	Electrical Resistance Heating
1. No Action					
2. Institutional Controls[a]	X				
3. Institutional Controls and Soil Vapor Extraction (Unsaturated Zone)	X	X			
4A. Hydraulic Displacement with Untreated Water Injection	X	X	X		
4B. Hydraulic Displacement with Treated Water Injection	X	X	X		
5A. Steam Injection, Focused Treatment Area	X	X		X	
5B. Steam Injection, Entire Treatment Area	X	X		X	
6A. Electrical Resistance Heating, Focused Treatment Area*	X	X			X
6B. Electrical Resistance Heating, Entire Treatment Area	X	X			X

EPA's preferred alternative

ALTERNATIVE 1: No Action

Superfund regulations require that the "no action" alternative be evaluated in order to establish a baseline for comparison. Under this alternative, EPA would take no action to reduce DNAPL mass or mobility or to comply with the remediation objectives, other than those actions required by the groundwater and soil remedies.

ALTERNATIVE 2: Institutional Controls

Includes the following:

- A land use covenant would be established to prevent access to DNAPL-impacted soils and groundwater and to restrict future activities at the Montrose property for industrial use only. These land use and access restrictions would continue and be monitored as part of a formal site inspection and maintenance program. Institutional controls for DNAPL would be limited to DNAPL-impacted areas including the Montrose Property and potentially a small portion of the former aircraft manufacturing facility property to the north.

Cost ***$0.2 million (Net Present Value [NPV])***

ALTERNATIVE 3: Soil Vapor Extraction

Includes the following:

- **Institutional Controls** (see Alternative 2).
- **Soil Vapor Extraction** (SVE) would be implemented to remove and treat VOCs at the site. SVE is a remedial technology for removing VOCs, such as chlorobenzene, from permeable unsaturated soils (zone above groundwater). VOCs occurring in the unsaturated zone, stuck to soil grains or as a component of DNAPL, will vaporize into soil gas (air-filled pore spaces) and can be extracted using SVE. This remedy will not address the contamination in the saturated soils. For this alternative, 23 vapor extraction wells would be installed throughout the DNAPL-impacted unsaturated zone, and a vacuum would be applied to wells to induce soil vapor flow through permeable soil layers into these wells. The soil vapors would be extracted from the wells using a vacuum blower and treated prior to atmospheric discharge, using one of the following technologies:
  - Disposable granular activated carbon (GAC)/resin (similar to a home water purifying pitcher)
  - Steam-regenerable GAC/resin
  - Thermal oxidation with acid-gas scrubbing

Duration *7 years*
Cost ***$4.4 to $4.8 million NPV***
Capital Costs – $1.6 million
O&M Costs – $2.8- $3.2 million (depending on discount rates of 7% and 4%, respectively).

A Description of Potential Technologies

What are Institutional Controls?

Legal and administrative controls applied to properties to minimize the potential for human exposure to contamination left on a property or to protect the remedy in place.

Land Use Covenant

Will prevent access to DNAPL-impacted soils and groundwater, and restrict future activities at the Montrose property for industrial use only. The effectiveness of the institutional controls will be monitored.

What is Soil Vapor Extraction (SVE)?

Removes chemicals in the form of vapors by vacuuming vapors out of soil, and treating them by an air treatment technology onsite. Final air emissions meet air pollution regulations.

Vapor Treatment Options (Typical, not all options apply to this Plan)

Adsorption

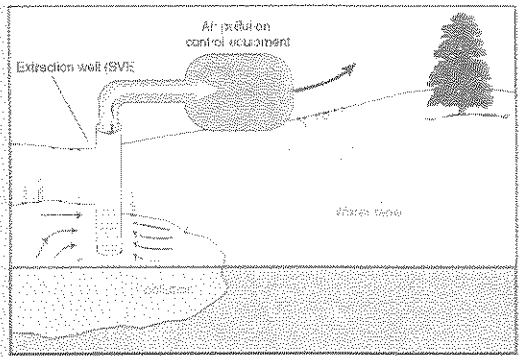
Adsorbent material like carbon and polymer resin adsorbs contaminants.

Condensation

Vapors are cooled until contaminants become liquid and are removed.

Thermal Oxidation

High heat (1400-1800°F) is used to destroy vapor contaminants.



At a Glance:

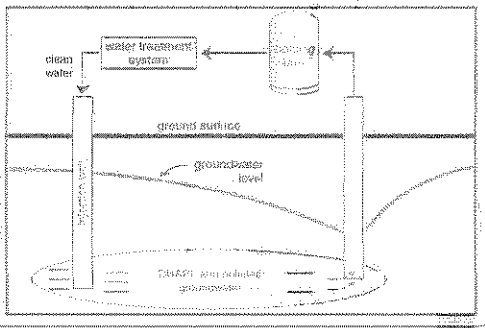
- Used since the 1970's
- Best uses for removing chemicals that evaporate easily (VOC's)
- Cost effective

What is Hydraulic Displacement?

Simultaneous extraction and injection of groundwater to mobilize DNAPL toward extraction wells. Extracted groundwater is separated from DNAPL and treated before reinjection (treatment is not included for Alternative 4a).

At a Glance:

- Removes moderate amount of contamination
- Moderately intrusive



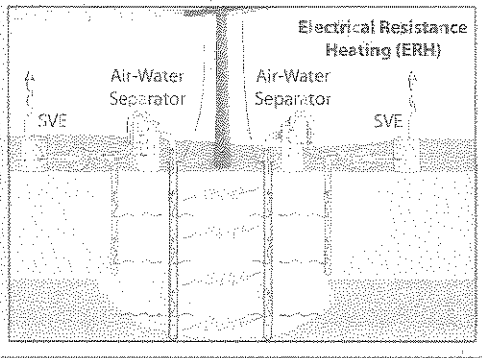
What is In-Situ Soil Heating?

Heating the soil in order to volatilize (vaporize) the contamination, then capturing and treating the vapors in a soil vapor extraction system.

Vapors will be treated using vapor treatment options described in the SVE section.

At a Glance:

- Removes large amount of contamination
- Requires large use of electricity
- Handles contaminated vapors above ground
- Intrusive



ALTERNATIVE 4A: Hydraulic Displacement with Untreated Water Injection

Includes the following:

- **Institutional Controls** (see Alternative 2).
- **SVE** (see Alternative 3).
- **Hydraulic Displacement (HD) with untreated water injection** would be implemented over a focused treatment area to remove mobile DNAPL. The HD system includes extraction and injection of groundwater at the same time to help control water flow and move DNAPL pools toward extraction wells. The HD system requires installation of extraction wells throughout the DNAPL-impacted zone and simultaneous pumping of groundwater and DNAPL. The extracted DNAPL/groundwater would be separated. DNAPL would be disposed off-site and groundwater would be reinjected. The HD system would include 23 extraction wells and 46 injection wells positioned in a five-spot type pattern using 50-foot well spacing, with four extraction wells surrounding one injection well. Injection wells would additionally be positioned around the perimeter of the treatment area to move mobile DNAPL inward, toward the recovery wells. Five additional containment wells will be located on the downgradient side of the DNAPL extent to hydraulically contain displaced groundwater. Dissolved-phase contaminants present in extracted groundwater would not be removed prior to reinjection. A combined groundwater extraction and reinjection rate of approximately 150 gallons per minute (gpm) is expected to be achieved under this alternative. DNAPL accumulated in the extraction wells will be removed using low-flow pneumatic bladder pumps and combined with DNAPL recovered in groundwater from the gravity separator. Separated DNAPL would be transferred to the collection tank for offsite disposal; separated groundwater would be transferred for subsequent filtration and reinjection.

Duration *8 years*
Cost ***$11.0 to $12.2 million NPV***
Capital Costs – $5.2-$5.5 million,
O&M Costs – $5.8- $6.7 million (depending on discount rates of 7% and 4%, respectively).

ALTERNATIVE 4B: Hydraulic Displacement with Treated Water Injection

Includes the following:

- **Institutional Controls** (see Alternative 2).
- **SVE** (see Alternative 3).
- **HD with treated water injection** would be carried out over a focused treatment area similar to Alternative 4A, with the exception that groundwater would be treated before reinjection. After DNAPL separation, the extracted groundwater would be filtered and treated onsite using a combination of liquid-phase GAC to remove chlorobenzene and other VOCs by adsorption, and HiPOx advanced oxidation technology to destroy pCBSA (parachlorobenzene sulfonic acid) through oxidation processes. The effectiveness of these two technologies in treating the primary dissolved contaminants has been demonstrated by pilot testing.

Duration *8 years*
Cost ***$18.0 to $20.1 million NPV***
Capital Costs – $6.0 -$6.4 million,
O&M Costs – $12.0 - $13.7 million (depending on discount rates of 7% and 4%, respectively)

ALTERNATIVE 5A: Steam Injection, Focused Treatment Area

Includes the following:

- **Institutional Controls** (see Alternative 2).
- **SVE** (see Alternative 3).
- **Steam injection over a focused treatment area** would be carried out to remove mobile DNAPL. Under this alternative, pressurized steam is injected below the surface using a gas-fired steam generator to vaporize contaminants from DNAPL. The vacuum blowers will then be used to collect the vapors from the subsurface into SVE recovery wells. The steam can additionally displace or flush DNAPL toward recovery wells. The increased heat will also cause a decrease in the DNAPL viscosity and interfacial tension (that is, make it more liquid), thereby increasing the mobility of DNAPL. Steam injection and multiphase extraction wells (groundwater, DNAPL, and soil vapors) would be installed throughout the focused treatment area in either a five-spot or seven-spot pattern. Wells would be spaced approximately 42 feet apart in a five-spot pattern, with a total of 14 steam injection wells and 27 multiphase extraction wells.

To address the potential risk of downward DNAPL movement posed by a steam injection, a technology referred to as "hot floor" would be used. The hot floor technology involves heating the layer beneath the known depth of DNAPL occurrence. This creates a heat barrier at the base of the DNAPL treatment zone, which helps prevent vertical movement of DNAPL. Steam and heated soil vapors would be pulled from below the surface and treated onsite using steam-regenerable carbon/resin. Extracted groundwater would be treated by a combination of GAC to remove chlorobenzene and other VOCs, and HiPOx to destroy pCBSA through a chemical oxidation process. Treated groundwater will be piped to the treatment system for Dual Site Groundwater for subsequent reinjection.

Duration *4 to 7 years*
Cost ***$ 22.3 million to $ 32.4 million NPV***
Capital Costs – $12.0 - $12.7 million,
O&M Costs – $10.3 - $19.7 million (depending on discount rates of 4% and 7% and assumptions related to the energy demand).

ALTERNATIVE 5B: Steam Injection, Entire Treatment Area

Includes the following:

- **Institutional Controls** (see Alternative 2).
- SVE (see Alternative 3).
- **Steam injection over the entire treatment area** (160,000 ft²) would be implemented in the same manner as described for the focused treatment area (Alternative 5A), except that the target treatment volume would be considerably larger. This alternative would treat areas containing both mobile and residual DNAPL. Because the proposed steam treatment area is large and the volume of contamination is significantly greater than for Alternative 5A, a pilot test would be run in advance of full-scale steam injection to confirm design details required to install and operate a full-scale system. Steam injection and multiphase (groundwater and soil vapors) extraction wells would be installed throughout the entire DNAPL-impacted area using the same well pattern and spacing indicated for the focused treatment area. Assuming a five-spot pattern with 42-foot well spacing, a total of 61 steam injection and 53 multiphase extraction wells would be required. A "hot floor" also would be implemented for this alternative.

Duration *7 to 9 years*
Cost ***$ 50.8 million to $ 84.0 million NPV***
Capital Costs – $23.5 - $26.1 million,
O&M Costs – $27.3 - $57.9 million (depending on discount rates of 4% and 7% and assumptions related to the energy demand).

ALTERNATIVE 6A: Electrical Resistance Heating, Focused Treatment Area

Includes the following:

- **Institutional Controls** (see Alternative 2).
- SVE (see Alternative 3).
- **Electrical Resistance Heating (ERH) over a focused treatment area** would be implemented for vaporizing DNAPL. This would be done by installing electrodes throughout the treatment zone and transmitting an electric current between them to heat the soil by electrical resistance. The ERH process would remove chlorobenzene from the DNAPL by vaporizing it. The vapors generated by this process would then be recovered by SVE wells for above-ground vapor treatment. The DDT component of DNAPL will then precipitate out of DNAPL and will remain immobile and adsorbed to soil particles at depths exceeding 40 to 60 feet bgs. As discussed above, DDT is not soluble in water and will "stick" to soils deep below the surface and will therefore be immobilized. Therefore, DDT does not pose a risk to groundwater resources and/or human health and the environment. A total of 102 ERH electrodes for heating the subsurface and 66 multiphase extraction wells for removing DNAPL vapors and contaminated groundwater would be required for this alternative. Each location will include multiple electrode segments stacked in a common hole to allow heating at the bottom of the treatment zone, and then gradually heating upper intervals. This "bottom up" heating approach is similar to conditions in the "hot floor" methodology integrated into the steam injection alternatives; creating a heated soil barrier at the bottom of the DNAPL treatment zone to prevent DNAPL from moving into deeper zones. Heated soil vapors would be extracted from the multiphase extraction wells for onsite treatment using a regenerable carbon/resin system. Groundwater extracted from the multiphase extraction wells would be treated by a combination of GAC to remove chlorobenzene and other VOCs, and HiPOx to destroy pCBSA by oxidation. Treated groundwater would be transferred to the treatment system for the Dual Site Groundwater for reinjection. A sample diagram of the ERH system is provided in Figure 7 on page 16).

Duration *4 to 7 years*
Cost ***$ 18.6 million to $ 25.0 million NPV***
Capital Costs – $10.2 - $10.8 million,
O&M Costs – $8.4 - $14.2 million (depending on discount rates of 4% and 7% and assumptions related to the energy demand).

ALTERNATIVE 6B: Electrical Resistance Heating, Entire Treatment Area

Includes the following:

- **Institutional Controls** (see Alternative 2).
- **SVE** (see Alternative 3).
- **ERH over the entire treatment area** of 160,000 ft² would be implemented to vaporize DNAPL in the same manner as described for the focused treatment area (Alternative 6A), except that the target treatment volume would be considerably larger. This alternative would treat areas containing both mobile and residual DNAPL. Because the proposed thermal treatment area and volume are significant, a pilot test would be implemented in advance of full-scale ERH to confirm design parameters and assumptions. A total of 456 ERH electrodes and 203 multiphase extraction wells would be installed for thermal treatment of the entire DNAPL-impacted area.

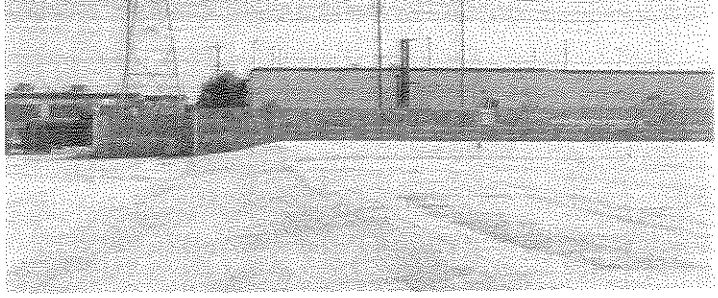
Duration	*7 to 9 years*
Cost	***$46.2 million to $69.5 million NPV***
	Capital Costs – $24.7 - $27.3 million.
	O&M Costs – $21.5 - $42.2 million (depending on discount rates of 4% and 7% and assumptions related to the energy demand).

Nine Criteria Evaluation

The nine criteria used in EPA's evaluation process are presented in Figure 6. A comparison of the active remediation alternatives (4A, 4B, 5A, 5B, 6A, and 6B) is provided in Table 2. All active remedial alternatives are also compared to Alternative 1 (No Action) as required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) law. Alternatives 2 and 3 are not included in this evaluation because they do not include reduction of mobile DNAPL in the saturated zone and, therefore, do not meet the required threshold criteria for protection of human health and the environment.

Overall Protection of Human Health and the Environment

Alternative 1 (No Action) is not protective of human health and the environment. All six active alternatives listed in Table 2 (4A through 6B) will be protective of human health and the environment.



DNAPL area on the Former Montrose Property

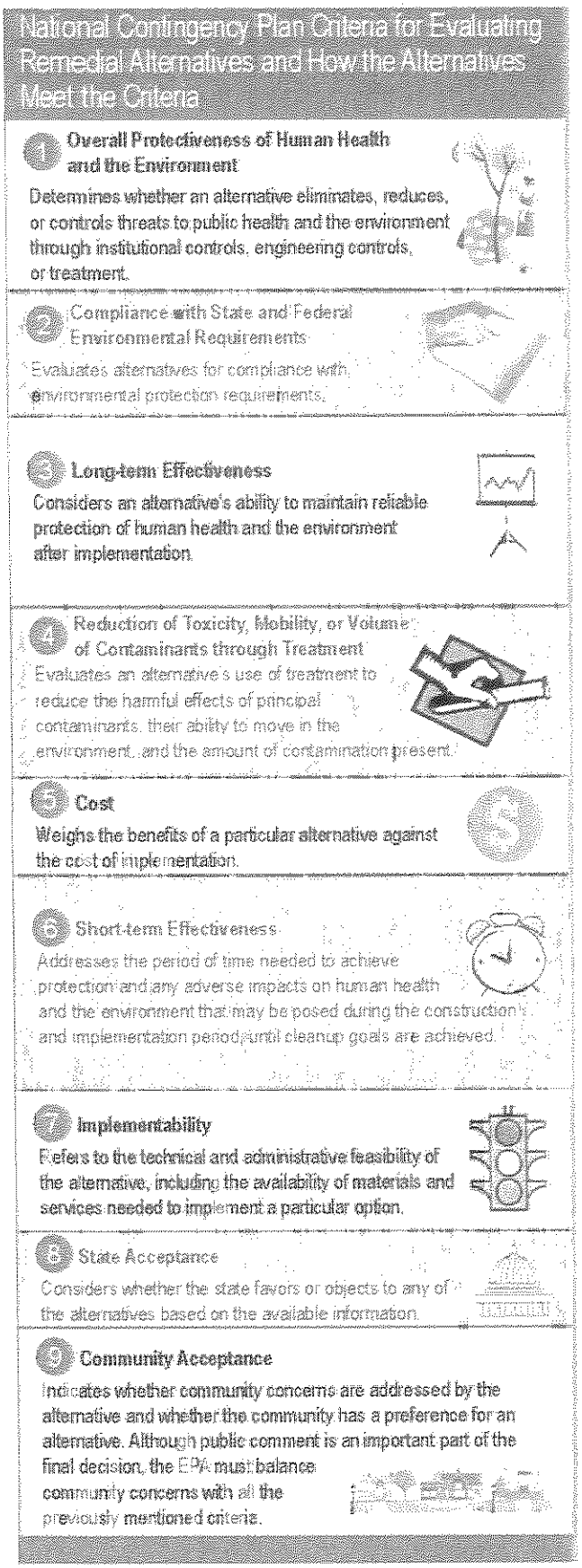


Figure 6. EPA's Nine Criteria Evaluation Process

Alternatives 4A and 4B protect the environment by removing mobile DNAPL mass from the saturated zone by HD, thereby reducing the risk of mobile DNAPL migration either laterally or downward. Although Alternatives 4A and 4B will not likely be able to remove all mobile DNAPL, the mobility of the remaining DNAPL will be reduced and less likely to pose a significant threat to the environment or a risk of uncontrolled migration under normal hydrologic conditions.

Alternatives 5A and 6A protect the environment by removing most or all mobile DNAPL and some residual DNAPL mass from the saturated zone by thermal treatment. Alternatives 5B and 6B will remove all mobile and most residual DNAPL. Thermal alternatives (5A through 6B) are more protective of human health and the environment because they would remove all mobile DNAPL, and some or most of the residual DNAPL from the subsurface. However, each of the candidate alternatives can potentially cause adverse migration of DNAPL during the remedy implementation. The risk of adverse migration is slightly higher under thermal alternatives than under HD alternatives, but the risks for adverse DNAPL migration could be managed and effectively mitigated by using a "hot floor" approach for steam injection alternatives, and "bottom up" heating for the ERH alternatives.

Based on the above, all six alternatives were ranked to be equally protective of human health and the environment (see Table 2).

Compliance with ARARs

Alternative 1 (No Action) does not comply with ARARs. All six active alternatives listed in Table 2 (4A through 6B) include SVE with ex-situ vapor treatment, which will comply with air emission ARARs including the Clean Air Act and South Coast Air Quality Management District (SCAQMD) Regulations IV, X, XI, XIII, and XIV.

These alternatives will also comply with wastewater discharge ARARs under Code of Federal Regulations Title 40 Section 122 (40 CFR 122) and California Code of Regulations (CCR) Title 23 Chapter 9, which regulate discharge of treated groundwater to the storm water system under a Waste Discharge Requirements/NPDES permit. Construction activities would also meet the substantive storm water protection requirements of State Water Resources Control Board General Order 2009-009-DWQ.

Temporary on-Site accumulation of DNAPL would be required for alternatives 4A through 6B. The DNAPL is expected to be a hazardous waste and would be managed according to the substantive requirements of 22 CCR 66262-268 for hazardous waste management and disposal. The aboveground collection tank for DNAPL will comply with the hazardous waste storage regulations under 22 CCR 66262-66265, including the tank design requirements.

Alternatives 4B through 6B include treatment of the dissolved-phase concentrations in groundwater prior to re-injection and would also comply with the 1999 Groundwater ROD in-situ groundwater standards. However, Alternative 4A entails the reinjection of untreated groundwater, and will not meet State and Federal maximum contaminant levels for water, which are the ARARs for reinjection, as described in the 1999 ROD requirement. The other five alternatives (4B, 5A, 5B, 6A, and 6B) comply with all ARARs.

Long-Term Effectiveness and Permanence

The long-term effectiveness of the candidate alternatives is determined by their ability to reduce mobile DNAPL mass, ensure that mobile DNAPL does not migrate laterally and vertically outside the TI Waiver Zone, and increase the certainty of the success of the groundwater remedy. Alternative 1 (No Action) is not an effective remedy, in the short term or the long term, and therefore does not comply with this criterion. The long-term effectiveness of thermal alternatives (5A, 5B, 6A, and 6B) is greater than that for the HD alternatives (4A and 4B), because the thermal alternatives are more effective in removing mobile DNAPL.

Thermal treatment is the most appropriate and aggressive approach for DNAPL removal beneath the Montrose Property, because the effectiveness of thermal treatment does not depend on soil characteristics and/or distribution of DNAPL below the surface. Thermal treatment can reach DNAPL that occurs in coarse-grained soils such as sand, as well as in fine-grained soils such as silts and clays. In comparison, the effectiveness of HD is severely impacted by the low-permeability layers of silt and clay beneath the Montrose property. HD can only reach DNAPL in the most permeable sandy layers, but will likely fail to reach it in less-permeable silts and clays.

Therefore, HD is far less effective in conditions like those beneath the Montrose property, where DNAPL lies in various/diverse soil types, including fine-grained silts and clays, and so are ranked "partially effective" (see Table 2).

While more aggressive thermal Alternatives 5B and 6B would remove the greatest mobile and residual DNAPL mass, even these alternatives cannot remove all DNAPL and/or sufficient DNAPL mass to meaningfully reduce the time required for long-term hydraulic containment that will be performed as part of the OU-3 Groundwater remedy. Therefore, treatment of the entire area by thermal alternatives (5B and 6B) offers little advantage over the focused treatment area alternatives (5A and 6A) in terms of the long-term effectiveness and permanence. Because mobile DNAPL occurs within the focused treatment area, Alternatives 5B and 6B are similar to focused treatment area alternatives 5A and 6A with regard to their ability to reduce the mobile DNAPL mass, limit uncontrolled migration of DNAPL, and reduce the possibility of recontamination of the groundwater areas outside the TI Waiver Zone.

Therefore, all four thermal alternatives (5A, 5B, 6A, and 6B) are ranked "effective" (see Table 2).

Reduction of Toxicity, Mobility, and/or Volume of Hazardous Constituents through Treatment

Alternative 1 (No Action) does not comply with this criterion, because it does not reduce the toxicity, volume, and mobility of the DNAPL. All active alternatives reduce the toxicity, volume, and mobility of the DNAPL through treatment (see Table 2). However, HD alternatives (4A and 4B) would remove less chlorobenzene mass and would be less effective in reducing DNAPL volume in the saturated zone compared to the thermal alternatives. Alternatives 5A and 6A are expected to remove mobile and some residual DNAPL, so that only immobile DNAPL present below residual saturations (i.e., DNAPL that is trapped in pore spaces between soil particles as shown in Figure 4) remains below the surface. Since Alternatives 5B and 6B treat larger volumes, these alternatives would remove the greatest volume of mobile and residual DNAPL from below the surface, and achieve the greatest volume reduction.

However, although the potential reduction in DNAPL volume from these entire-treatment-area thermal alternatives is the largest, it is not significantly greater than the potential volume reduction of mobile DNAPL under the focused-treatment-area alternatives (5A and 6A).). This is because most of the DNAPL (including all known mobile DNAPL) occurs within the focused treatment area. As a result, the entire-treatment-area alternatives would likely remove only a slightly greater volume of residual DNAPL from the area outside the focused treatment area. Additionally, the entire-treatment-area alternatives do not eliminate more mobile DNAPL, when compared to Alternatives 5A and 6A, because all known mobile DNAPL is within the focused treatment area. As a result, all thermal treatment alternatives (5A, 5B, 6A, and 6B) are ranked similarly "effective" (see Table 2).

Short-Term Effectiveness

As noted above, Alternative 1 (No Action) is not effective and therefore does not comply with this criterion. All active alternatives (4A, 4B, 5A, 5B, 6A, and 6B) would be "effective" in protecting human health and the environment in the short-term (Table 2). As discussed above, each of these alternatives can potentially cause some unfavorable migration of DNAPL during implementation. The risk of unfavorable migration is slightly higher under thermal alternatives than HD alternatives, although these risks could be managed and effectively mitigated using a "hot floor" approach for steam injection alternatives, and "bottom up" heating for the ERH alternatives.

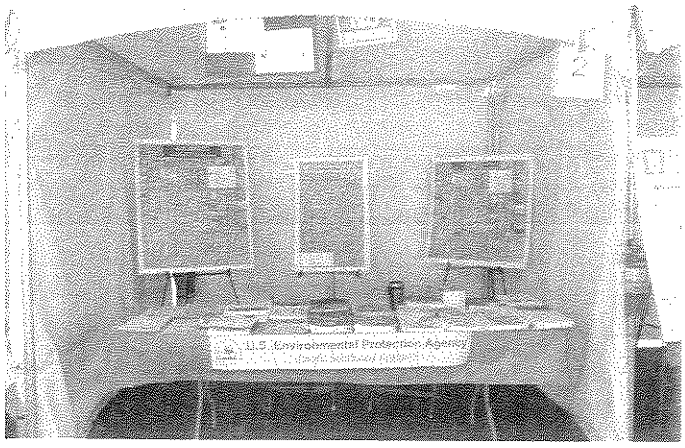
Thermal alternatives for the entire treatment area (Alternatives 5B and 6B) would also require a large amount of infrastructure for subsurface heating, contaminant recovery, and treatment of extracted fluids, which increases the potential for upset conditions or fugitive emissions to occur in the short-term. While fugitive emissions will be mitigated and likely contained by the SVE, this would pose increased short-term risks to adjacent property owners, including commercial buildings north of the Montrose Property, and a chlorine gas plant at Jones. In addition, Alternatives 5B and 6B have the largest carbon footprints of the remedial alternatives and would consume a significant amount of electricity and natural gas. Based on the above, Alternatives 5B and 6B were ranked lower for short-term effectiveness.

Implementability

Alternative 1 (No Action) is not implementable because it does not meet ARARs and other criteria and therefore does not comply with this criterion. In light of the ARAR waiver required for Alternative 4A, there is also a significant uncertainty regarding both acceptance and implementation of this alternative based on the administrative challenges, which must be mutually resolved among project stakeholders. Based on preliminary feedback from the California Regional Water Quality Control Board (RWQCB), which indicated that injection of untreated water is not acceptable, Alternative 4A is ranked as "not implementable" (see Table 2).

Alternative 4B is ranked "implementable." The implementability of HD has already been demonstrated through field pilot testing, and the technologies proposed for treating extracted groundwater under Alternative 4B have a proven record of success. Furthermore, the efficacy of water treatment operations proposed for Alternative 4B has been demonstrated specifically for groundwater extracted from wells at the Montrose Superfund Site.

Alternative 5A is ranked lower under this criterion than Alternative 6A, because effective capture of DNAPL vapors during steam injection is more difficult to implement than for ERH. This is because contaminated steam can escape to surface through previously drilled borings or wells. The ability to effectively capture DNAPL vapors is especially important given the proximity of commercial warehouse buildings located north of the Montrose property, and an active chlorine gas plant located at Jones. Because of this factor and the small number (2) of available commercial providers capable of providing steam injection services, it is considered "moderately implementable."



2011 EPA booth at the Del Amo Street Fair

Table 2. Comparative Analysis of Active Remediation Alternatives

National Contingency Plan (NCP) Criterion	1 No Action	4A Hydraulic Displacement with Untreated Water Injection	4B Hydraulic Displacement with Treated Water Injection	5A Steam Injection, Focused Treatment Area	5B Steam Injection, Entire Treatment Area	6A ERH, Focused Treatment Area (Preferred Alternative)	6B ERH, Entire Treatment Area
Protective of Human Health and the Environment		Protective	Protective	Protective	Protective	Protective	Protective
Compliance with ARARs		Injection of untreated water does not meet ARARs	Meets ARARs	Meets ARARs	Meets ARARs	Meets ARARs	Meets ARARs
Long-Term Effectiveness		Partially effective in removing mobile DNAPL	Partially effective in removing mobile DNAPL	Effective	Effective	Effective	Effective
Reduction of Toxicity, Mobility, and Volume		Removes less chlorobenzene mass and would be less effective in reducing DNAPL volume	Removes less chlorobenzene mass and would be less effective in reducing DNAPL volume	Effective	Effective	Effective	Effective
Short-Term Effectiveness		Effective	Effective	Effective – has slightly higher risk of unfavorable DNAPL migration, but it could be managed using a "hot floor"	Partially Effective – has higher risk of unfavorable DNAPL migration, and large carbon footprint	Effective – has slightly higher risk of unfavorable DNAPL migration, but it could be managed using "bottom up" heating	Partially Effective – has higher risk of unfavorable DNAPL migration, and large carbon footprint
Implementability		Not implementable Injection of untreated water does not meet ARARs	Implementable	Moderately implementable – requires complex infrastructure and specialized technology vendors	Moderately implementable – large scale, requires complex infrastructure and specialized technology vendors	Implementable	Moderately implementable – large scale, requires complex infrastructure and specialized technology vendors
Cost ($ million NPV)	$0	$11.0-$12.2	$18.0-$20.1	$22.3-$32.4	$50.8-$84.0	$18.6 - $25.0	$46.2-$69.5
Capital Cost	$0	$5.2-$5.5	$6.0-$6.4	$12.0-$12.7	$23.5-$26.1	$10.2-$10.8	$24.7-$27.3
O&M Cost	$0	$5.8-$6.7	$12.0-$13.7	$10.3-$19.7	$27.3-$57.9	$8.4-$14.2	$21.5-$42.2
State Acceptance	DTSC concurs with EPA's preferred alternative						
Public Acceptance	Community acceptance of the preferred alternative will be evaluated after the public comment period						
Relative Ranking	= Meets Criterion		=Partially meets criterion		= Does not meet criterion		

Alternative 6A proposes the use of ERH, which is more frequently used than steam injection; thus, a broader range of experience and knowledge exists with this heating method. In addition, the risks of fugitive emissions are lower under this alternative. ERH is also easier to implement because a source of electrical power (two substations) is located adjacent to the Montrose Property, and steam boilers are not required for this technology. Therefore, this alternative is ranked "implementable."

Alternatives 5B and 6B, if implemented, would be some of the largest and most complex thermal remedies ever conducted. A significant amount of infrastructure would be required for these entire-treatment-area thermal alternatives, increasing the difficulty of implementing the project. In addition, these alternatives pose higher risks of uncontrolled DNAPL migration and fugitive emissions, which need to be controlled due to the proximity of commercial buildings. Because of the installation challenges associated with the increased scale and size of the remedy, Alternatives 5B and 6B are ranked to be "moderately implementable."

Cost

There is no cost associated with Alternative 1 (No Action). Of the active alternatives considered, Alternative 4A has the lowest cost ($11.0 to $12.2 million NPV). Alternatives 4B, 5A, and 6A all have similar costs to remove DNAPL mass over the focused treatment area. Alternative 4B includes treatment of groundwater prior to reinjection, which increases the cost of this remedy ($18.0 to $20.1 million NPV) relative to that of 4A, but does not offer the additional mass removal advantages of the thermal alternatives. Alternative 6A, ERH over a focused treatment area ($18.6 to $25.0 million NPV), is less costly than the equivalent steam injection Alternative 5A ($22.3 to $32.4 million NPV). However, both alternatives offer generally similar performance with regard ro removal of mobile and some residual DNAPL.

Alternatives 5B and 6B are the highest cost remediation alternatives, with costs ranging from $46.2 to $84.0 million NPV. However, as discussed above, treating a significantly larger area as proposed by these alternatives will not likely remove more mobile DNAPL compared to Alternatives 5A and 6A, because all known mobile DNAPL occurs within the focused treatment area.

State Acceptance

DTSC has indicated that it is in general agreement with the proposed remedy.

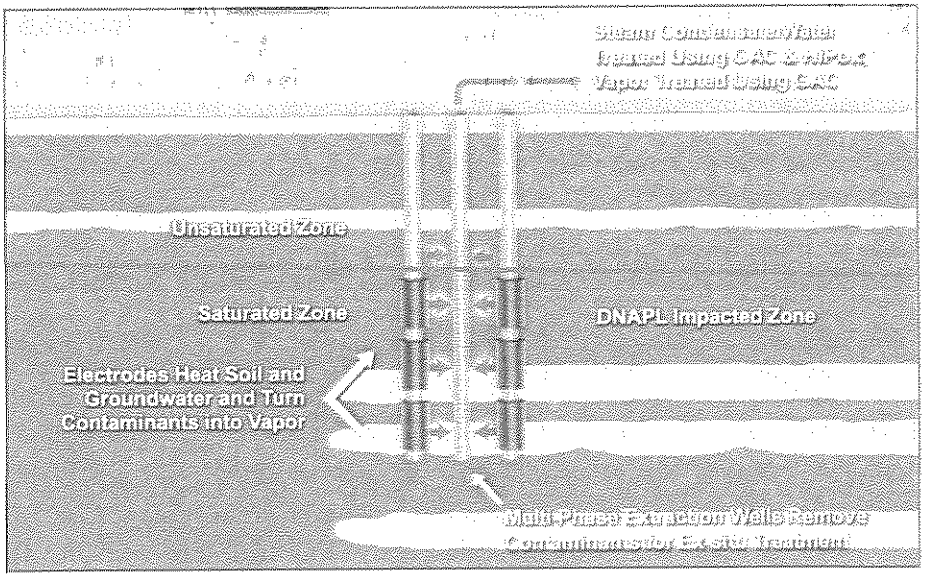


Figure 7. Diagram of the Conceptual ERH Remedial System

Community Acceptance

Community acceptance of the preferred alternative will be evaluated after the public comment period.

Preferred Alternative – 6A

EPA's Preferred Alternative to address DNAPL at the Montrose Superfund Site is **Alternative 6A–ERH, Focused Treatment Area.** EPA believes that this alternative presents the most reasonable and cost-effective approach for removal of mobile DNAPL at the Montrose Superfund site. This alternative includes:

- A land use covenant.
- SVE in the DNAPL-impacted unsaturated zone.
- ERH in the focused treatment area of approximately 26,000 ft^2 in the saturated zone.

The proposed diagrams of this alternative are shown in Figures 7 and 8.

Duration. The projected duration of the preferred remediation alternative is expected to be **4 years.**

Cost. The estimated cost of the preferred alternative ranges from **$18.6 – $25.0 million.** Based on the comparative analysis of the remediation alternatives, this cost is considered moderate, and is comparable to the cost of Alternatives 4B and 5A.

Effectiveness. ERH is the most appropriate and aggressive approach for DNAPL removal beneath the Montrose property, because thermal heating can reach DNAPL trapped in coarse-grained (sand) as well as finegrained (silt or clay) subsurface soils. Regardless of the types of soils where DNAPL occurs and/or levels of saturation, ERH will effectively treat the mobile DNAPL within its zone of heating.

Based on the evaluation of cleanup alternatives, Alternative 6A meets all threshold and balancing criteria. This alternative appears to be more cost-effective and easier to implement than steam injection thermal alternatives. In addition, the risks of uncontrolled DNAPL migration and fugitive

emissions are lower for ERH than steam injection alternatives. This issue is especially important as EPA is seeking to minimize the potential for contaminants moving off-site, toward commercial warehouse buildings north of the Montrose property (at the former Boeing Realty Corporation property), and an active chlorine gas plant along the southern property boundary at Jones.

Alternative 6B, ERH treatment of the entire treatment area, was ranked lower because it is more difficult to implement due to the larger treatment volume, and because of the considerably higher cost of this alternative compared to Alternative 6A. Furthermore, the effectiveness of Alternatives 5B and 6B, which propose thermal treatment of the entire treatment area, is expected to be similar to that of Alternative 6A with regard to removal of mobile DNAPL. Based on the above, Alternative 6A best meets the criteria set forth in the Superfund regulations, which can be found in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) at 40 CFR §300.430(f)(2).

As the lead agency, EPA requests public comments on its Proposed Plan to address DNAPL at the Montrose Superfund Site. All public comments will be considered, and may modify or change EPA's decision. The 74-day comment period is from September 8th, 2014, through November 21st, 2014. There are several ways to provide comments:

Postmarked Mail Received no later than Nov. 21, 2014

U.S. Environmental Protection Agency
ATTN: Yarissa Martinez
600 Wilshire Blvd., Suite 1460
Los Angeles, CA 90017

Fax

Fax: (213) 244-1850
ATTN: Yarissa Martinez

E-mail

Martinez.Yarissa@epa.gov

In Person at the EPA Public Meeting

Conclusion

Based on the information available at this time, EPA believes the Preferred Alternative (Alternative 6A) for the DNAPL OU meets the threshold criteria and provides the best balance of tradeoffs among the other alternatives with respect to the balancing and modifying criteria. EPA expects that, in accordance with CERCLA §121(b), the Preferred Alternative would satisfy the following requirements: protect human health and the environment, comply with ARARs, be cost-effective, and utilize the most appropriate, aggressive, and superior treatment technologies to the maximum extent practicable. Because it would treat the source materials constituting principal threats, the remedy also would meet the statutory preference for the selection of a remedy that involves treatment as a principal element. A comprehensive performance monitoring plan for the DNAPL remedy will ensure that the remedy meets the performance goals and objectives.

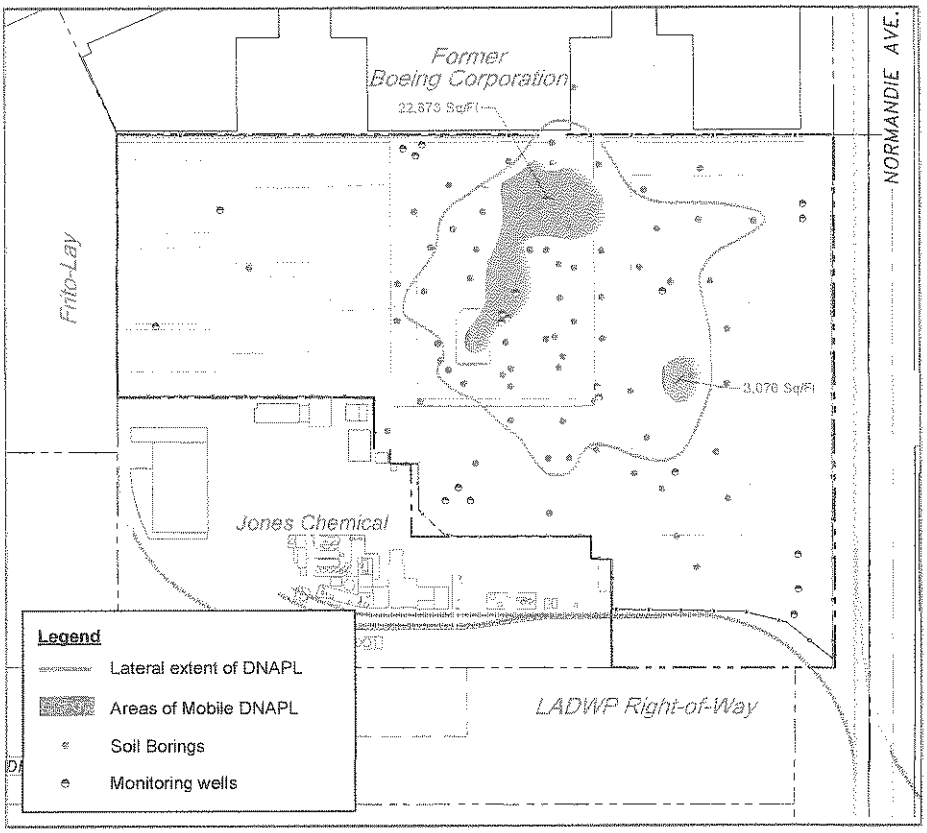


Figure 8. ERH in the Focused Treatment Area

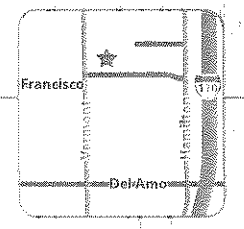
Community Participation

EPA is committed to involving the public in the decision making process for the cleanup activities. Its Community Involvement Program focuses on providing information to the community about site activities, answering the community's questions about the cleanup effort, and incorporating community issues and concerns into agency decisions, especially when a cleanup remedy is proposed.

To learn more about the Montrose Superfund Site, you will find an extensive amount of information at EPA's Information Repositories (see last page). One convenient place to find select site documents is to go to EPA's Web site at: **www.epa.gov/region9/montrose.**

Montrose Superfund Site
Los Angeles, California

EPA Requests Comments on Proposed DNAPL Cleanup Plan



Public Comment Meeting

Saturday, November 8, 2014, 10 a.m. to 12:30 p.m.

Holiday Inn Torrance, 19800 South Vermont Avenue, Torrance, California

Public Comment Period Sep 8, 2014 – Nov 21, 2014

EPA DNAPL Workshop

EPA will host a public workshop to discuss contaminants and potential health impacts, technologies and help understand DNAPL at the Site.

Monday, October 27, 2014, 6:30 p.m. to 8:30 p.m.

Holiday Inn Torrance, 19800 South Vermont Avenue, Torrance, California

Technical Assistance Services for Communities (TASC)

TASC is a national program that provides independent technical assistance to communities. A hydrogeologist has been hired to help community members express their technical concerns to EPA staff. Please contact Miranda Maupin *mmaupin@skeo.com* to learn more or attend the TASC sponsored workshop for this DNAPL Proposed Plan during the public comment period (meeting to be determined).

Information Repositories

Pertinent documents related to the Montrose Superfund Site can be found at the locations below.

Katy Geissert Civic Center Library
3301 Torrance Boulevard
Telephone: (310) 618-5959
CDs available for check-out.

Carson Public Library
151 East Carson Street
Telephone: (310) 830-0901
CDs available for check-out and key documents available in paper copy.

EPA Superfund Records Center
95 Hawthorne Street
San Francisco, CA 94105
Telephone: (415) 536-2000

CITY OF CARSON

STAFF COMMUNICATION TO
THE ENVIRONMENTAL COMMISSION

NEW BUSINESS November 5, 2014

SUBJECT: Draft Environmental Impact Report, Mitsubishi Cement Facility Modification Project, Port of Long Beach

REQUEST: Review, discuss, and provide feedback on the Environmental Impact Report for Mitsubishi Cement Facility Modification Project, Port of Long Beach

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I. Introduction

The Port of Long Beach has released the Mitsubishi Cement Facility Modification Project DEIR for public review. Comments on the DEIR are due November 18, 2014. The project site is located at 1150 Pier F Avenue in Long Beach. Exhibit 1 provides a brief description of the project.

II. Background and Recommendation

The site is located at the Port of Long Beach. Direct environmental impacts to the City are anticipated to be minimal.

III. Recommendation

Review, discuss, and provide feedback on the Environmental Impact Report for Mitsubishi Cement Facility Modification Project, Port of Long Beach

IV. Exhibits

1. Notice of Preparation

Prepared by: _____

Saied Naaseh, Associate Planner

NOTICE OF AVAILABILITY / PUBLIC HEARING NOTICE

PORT OF LONG BEACH
LONG BEACH, CALIFORNIA

Pursuant to the California Environmental Quality Act (CEQA), California Coastal Act of 1976, and the Port of Long Beach certified Master Plan (PMP), notice is hereby given to all interested persons and organizations that a Draft Environmental Impact Report/Application Summary Report (Draft EIR) SCH No. 2011081098 has been prepared for the:

Mitsubishi Cement
Facility Modification Project

Mitsubishi Cement is proposing modifications to its existing cement import facility located at 1150 Pier F Avenue, within the Port of Long Beach (Port). The proposed Project would include installation of a vessel at-berth emission control system (Dockside Catalytic Control System [DoCCS]), construction of additional cement storage and truck loading silos on an adjacent lot, and upgrades to ship unloading equipment and other landside structures. The potential environmental effects of the proposed Project are addressed in the Draft EIR. The following environmental impacts are anticipated to remain significant after mitigation: (1) construction air emissions on a cumulative impact level and operational air emissions, both on a project level and a cumulative impact level; (2) greenhouse gas emissions specific to the industrial projects threshold; and (3) disruption to local biological communities by project operations on a cumulative impact level. The City of Long Beach, acting by and through its Board of Harbor Commissioner, is the lead agency for CEQA compliance. The final EIR will be part of the record utilized for making decisions regarding the proposed Project.

The Port of Long Beach will hold a public hearing on the Mitsubishi Cement Facility Modification Project Draft EIR on October 22, 2014, in the City Council Chambers at Long Beach City Hall, 333 W. Ocean Boulevard, Long Beach, California. Doors open at 6:00 p.m. and the hearing begins at 6:30 p.m.

Public comments, questions, and suggestions regarding the Project and written documentation will be solicited at that time. Participants at the public hearing are encouraged to provide their testimony in written form, if possible, in order to ensure an accurate recording of statements, questions, and comments. The 45-day public review period for this project begins on October 3, 2014 and ends on November 18, 2014, at 4:30 pm. Please submit all written comments no later than 4:30 p.m. on November 18, 2014. Please address your comments to:

Heather A. Tomley
Director of Environmental Planning
Port of Long Beach
PO Box 570
Long Beach, CA 90801

Fax: (562) 283-7148
E-mail: Heather.Tomley@polb.com

Port of
LONG BEACH
The Green Port

DATE: October 2, 2014

TO: Agencies, Organizations, and Interested Parties

FROM: Heather A. Tomley, Director of Environmental Planning

SUBJECT: Notice of Availability and Comment Period and Notice of Public Hearing Mitsubishi Cement Facility Modification Project Draft Environmental Impact Report/Application Summary Report (EIR) SCH No. 2011081098

The City of Long Beach, acting by and through its Board of Harbor Commissioners, is the Lead Agency under the California Environmental Quality Act (CEQA) in the preparation of a Draft EIR for the Mitsubishi Cement Facility Modification Project. The Draft EIR is available for public review and comment. The Port is soliciting input from members of the public, organizations, and government agencies on the proposed project.

Project Description: Mitsubishi Cement Facility Modification Project

Mitsubishi Cement is proposing modifications to its existing cement import facility located at 1150 Pier F Avenue within the Port of Long Beach. The proposed Project would include installation of a vessel at-berth emission control system (Dockside Catalytic Control System [DoCCS]), construction of additional cement storage and truck loading silos on an adjacent lot, and upgrades to ship unloading equipment and other landside structures. The potential environmental effects of the proposed Project are addressed in the Draft EIR. The following environmental impacts are anticipated to remain significant after mitigation: (1) construction air emissions on a cumulative impact level, and operational air emissions both on a project level and a cumulative impact level; (2) greenhouse gas emissions specific to the industrial projects threshold; and (3) disruption to local biological communities by project operations on a cumulative impact level. The City of Long Beach, acting by and through its Board of Harbor Commissioners, is the lead agency for CEQA compliance. The final EIR will be part of the record utilized for making decisions regarding the proposed Project.

Document Availability: The Draft EIR is available for public review at the locations listed below:

- http://www.polb.com/ceqa
- Port Interim Administrative Offices (IAO), 4801 Airport Plaza Drive, Long Beach (this location also has the documents referenced in the Draft EIR)
- Long Beach City Clerk, 333 W. Ocean Boulevard, Long Beach
- Long Beach Main Library, 101 Pacific Avenue, Long Beach
- San Pedro Regional Branch Library, 931 S. Gaffey Street, San Pedro
- Wilmington Branch Library, 1300 N. Avalon Boulevard, Wilmington

If you would like to request a hard copy of the document or if you need additional information, please contact Janna Watanabe at (562) 283-7100 or janna.watanabe@polb.com.

Public Comment Period: The 45-day public review period for this project begins on October 3, 2014, and ends on November 18, 2014, at 4:30 p.m. Please address your comments to:

Heather Tomley
Director of Environmental Planning
Port of Long Beach
PO Box 570
Long Beach, CA 90801

Fax: (562) 283-7148
E-mail: Heather.Tomley@polb.com

Public Hearing: One public hearing will be held on the Draft EIR (Spanish and sign language translation services provided) during the comment period. The hearing will be held in the City Council Chamber, Long Beach City Hall, at 333 West Ocean Boulevard, Long Beach, California, on October 22, 2014. Doors open at 6:00 p.m. with the hearing beginning promptly at 6:30 p.m.

Heather A. Tomley
Director of Environmental Planning

JW:s

Attachment: Newspaper Notification

CITY OF CARSON

STAFF COMMUNICATION TO
THE ENVIRONMENTAL COMMISSION

NEW BUSINESS November 5, 2014

SUBJECT: **Notice of Intent to Adopt a Mitigated Negative Declaration, Toxic Air Contaminant Reduction for Compliance with SCAQMD Rules 1420.1 and 1402 at the Exide Technologies Facility in Vernon, California**

REQUEST: **Review, discuss, and provide feedback on the Mitigated Negative Declaration, Toxic Air Contaminant Reduction for Compliance with SCAQMD Rules 1420.1 and 1402 at the Exide Technologies Facility in Vernon, California**

I. Introduction

AQMD has released the Mitigated Negative Declaration Toxic Air Contaminant Reduction for Compliance with SCAQMD Rules 1420.1 and 1402 at the Exide Technologies Facility in Vernon, California. The site is located 2700 South Indiana Street, Vernon, CA 90058. The site is located approximately 11 miles from Carson. Exhibit 1 provides a project description.

II. Background and Recommendation

The site is not located in close proximity to Carson; therefore, the impacts on the city are minimal.

III. Recommendation

Review, discuss, and provide feedback on the Mitigated Negative Declaration, Toxic Air Contaminant Reduction for Compliance with SCAQMD Rules 1420.1 and 1402 at the Exide Technologies Facility in Vernon, California

IV. Exhibits

1. Notice of Preparation

Prepared by: _____

Saied Naaseh, Associate Planner

ITEM NO. 9d

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • http://www.aqmd.gov

SUBJECT: **NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION**

PROJECT TITLE: **TOXIC AIR CONTAMINANT REDUCTION FOR COMPLIANCE WITH SCAQMD RULES 1420.1 AND 1402 AT THE EXIDE TECHNOLOGIES FACILITY IN VERNON, CA**

The South Coast Air Quality Management District (SCAQMD) is the Lead Agency and has prepared a Draft Mitigated Negative Declaration (MND) for the proposed project identified above, in accordance with the California Environmental Quality Act (CEQA) per CEQA Guidelines §§ 15187 and 15189. Exide Technologies is proposing a project to reduce toxic emissions of arsenic, benzene and 1,3-butadiene to comply with the recent amendments made to SCAQMD Rule 1420.1 - Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities, as well as to assure compliance with requirements in SCAQMD Rule 1402 - Control of Toxic Air Contaminants from Existing Sources including the proposed Revised Final Risk Reduction Plan. The Draft MND relies on the Final Environmental Assessment (EA) for Rule 1420.1, which was certified by the SCAQMD Governing Board on January 10, 2014 (SCAQMD No. 131010JK, State Clearinghouse No. 2013101035). Based on the analysis of the proposed project in the Draft MND, there would be no significant adverse impacts to any environmental area after mitigation implementation. The purpose of this Notice of Intent (NOI) is to solicit comments on the environmental analysis contained in the Draft MND.

If the proposed project has no bearing on you or your organization, no action on your part is necessary. The Draft MND and other relevant documents may be obtained by calling the SCAQMD Public Information Center at (909) 396-2039 or accessing the SCAQMD's CEQA website at http://aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2014. Comments focusing on issues relative to the environmental analysis for the proposed project will be accepted during a 30-day public review and comment period beginning October 16, 2014, and ending 5:00 p.m. on November 14, 2014. Please send any comments to Ms. Cynthia Carter (c/o Office of Planning, Rule Development, and Area Sources) at the address shown above. Comments can also be sent via facsimile to (909) 396-3324 or e-mail at ccarter@aqmd.gov. Ms. Carter can be reached by calling (909) 396-2431. Please include the name and phone number of the contact person. In addition, the SCAQMD is proposing to revise Exide's Title V Permit to install new and modify existing air pollution control systems for this project. Notice of the proposed permit revision and other information related to providing separate comments on the proposed permit revision can be viewed at the following link and by typing in the facility ID # 124838 http://www3.aqmd.gov/webappl/publicnotices2/.

Date: October 15, 2014 **Signature:** Michael Krause

Michael Krause
Title: CEQA Program Supervisor
Telephone: (909) 396-2706

Reference: California Code of Regulations, Title 14, §§15072, 15073, 15105, 15187, 15189, and 15369.5

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765-4182

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Project Title:
Toxic Air Contaminant Reduction for Compliance with SCAQMD Rules 1420.1 and 1402 at the Exide Technologies Facility in Vernon, CA

Project Location:
Exide Technologies, 2700 South Indiana Street, Vernon, CA 90058

Description of Nature, Purpose, and Beneficiaries of Project:
Exide Technologies is proposing a project to reduce toxic emissions of arsenic, benzene and 1,3-butadiene to comply with the recent amendments made to SCAQMD Rule 1420.1 - Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities, as well to assure compliance with requirements in SCAQMD Rule 1402 - Control of Toxic Air Contaminants from Existing Sources including the proposed Revised Final Risk Reduction Plan. The Draft Mitigated Negative Declaration (MND) relies on the Final Environmental Assessment (EA) for Rule 1420.1 which was certified by the SCAQMD Governing Board on January 10, 2014 (SCAQMD No. 131010JK, State Clearinghouse No. 2013101035). Based on the analysis of the proposed project in the Draft MND, there would be no significant adverse impacts to any environmental area after mitigation implementation. The proposed project site is enumerated on the California Department of Toxic Control Hazardous Waste Facilities' List per Government Code §65962.5

(http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=80001733; accessed on September 16, 2014).

Lead Agency:	**Division:**
South Coast Air Quality Management District	Planning, Rule Development and Area Sources

The Draft MND and all supporting documentation are available at:	**or by calling:**	**The Draft MND and supporting documentation is available online by accessing the SCAQMD's website at:**
SCAQMD Headquarters 21865 Copley Drive Diamond Bar, CA 91765	(909) 396-2039	http://aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2014

The Public Notice of Intent is provided through the following:

☑ Los Angeles Times (October 16, 2014)
☑ La Opinión (October 17, 2014)
☑ SCAQMD Website
☑ SCAQMD Mailing List

Draft MND Review Period (30-day):
October 16, 2014 – November 14, 2014

The SCAQMD is proposing to revise Exide's Title V Permit to install new and modify existing air pollution control systems for this project. Notice of the proposed permit revision and other information related to providing separate comments on the proposed permit revision can be viewed at the following link and by typing in the facility ID # 124838 http://www3.aqmd.gov/webappl/publicnotices2/.

Send CEQA Comments to:	**Phone:**	**Email:**	**Fax:**
Ms. Cynthia Carter	(909) 396-2431	ccarter@aqmd.gov	(909) 396-3324

Item 10

Written Communications

OPR Newsletter

October 2014

SB743 Preliminary Discussion Draft

The comment period on OPR's Preliminary Discussion Draft of changes to the CEQA Guidelines implementing SB 743 has been extended to November 21, 2014. Additional supplemental materials, including a recording of the September 25, 2014, webinar have also been posted here: http://opr.ca.gov/s_sb743.php

Solar Permitting Guidebook Update

The Governor recently signed into law Assembly Bill 2188 (Muratsuchi), which among other things requires local governments to adopt an expedited solar permitting process that substantially conforms with the process recommended in OPR's Solar Permitting Guidebook for certain solar installations. The full text of the bill can be found at http://leginfo.legislature.ca.gov.

Over the past months, OPR has been working with stakeholders to develop an update to the 2012 Solar Permitting Guidebook, which will be published later this year. This update will build on the original Guidebook to incorporate recent changes to Title 24 and other law, and will also expand its permitting toolkit to include recommendations for structural permitting, as well as solar thermal (solar hot water heating) systems.

For more information, please contact Jeff Mankey at jeffrey.mankey@opr.ca.gov.

Civic Spark

The Governor's Initiative Americorps program, CivicSpark, is looking for projects from local governments and public agencies for the 2014-15 Service year. If you need support for your work on climate change, adaptation planning, or environmental initiatives consider adding a CivicSpark member to your team. Our teams are active in 9 regions of the state, and supported by experienced professionals at the Local Government Commission, in partnership with the Governor's Office of Planning and Research. CivicSpark has a rolling application process, please feel free to contact us anytime to talk about your needs and how CivicSpark might support you. OPR CivicSpark Contact: Holly Roberson, holly.roberson@opr.ca.gov (916) 322-0476.

More information about CivicSpark is available here: http://civicspark.lgc.org/

Groundwater

In January, 2014 Governor Edmund G. Brown Jr. released the California Water Action Plan, a set of integrated actions planned over the next five years to put California on a path toward sustainable water management. On September 16, 2014 Governor Brown signed historic legislation to strengthen local management and monitoring of groundwater basins most critical to the state's water needs. The three bills, SB 1168 (Pavley) SB 1319 (Pavley) and AB 1739 (Dickinson) together makeup the Sustainable Groundwater Management Act. You can find more information about the Sustainable Groundwater Management Act at www.groundwater.ca.gov.

California Drought

California is experiencing one of the worst droughts in modern history. Dozens of water systems are vulnerable to acute water shortages. Domestic wells and water supplies are drying up leaving homes without water; more than 1,000 dry wells have been reported to the State and there is reason to believe that there are more that go unreported. Wildfire risk remains high. Agricultural lands have been fallowed. Forests, fish, birds, and other wildlife are under growing stress. We don't know how long the drought will last.

California is acting to respond to the drought, but we are relying on local governments and local water systems to understand the drought-related problems they are experiencing, to know the risks they face, and to have a plan to maintain basic public health and safety. State programs may be available to assist. Remember Governor Brown called on all Californians to reduce water use by 20%. You can find more information and links to available assistance at http://www.opr.ca.gov/s_droughtinfo.php.

Drought Toolkits

The Home Depot (THD) donated 30,000 water conservation toolkits to disadvantaged households experiencing or vulnerable to water shortages due to the drought. Each kit contains 1 low-flow showerhead, 2 bathroom faucet aerators, 1 kitchen faucet aerator, 1 auto-shut off hose nozzle, 1 packet of toilet leak detection dye tablets, 1 5-gallon bucket, and written materials in English and Spanish with information about how households can use the donated supplies to stretch their water supply as far as possible. THD donated the kits to the California Conservation Corps (CCC) Foundation, and OPR is collaborating with the CCC, the CCC Foundation, local and county governments, NGOs, tribes, and OES and other state agencies engaged in drought response to coordinate distribution of the donated toolkits to the areas of greatest need throughout the state. All 30,000 toolkits have been allocated and will be distributed by the beginning of November. Visit OPR's drought webpage for more information. http://www.opr.ca.gov/s_droughtinfo.php

AHSC Public Program Workshops

To sign up for one of the Strategic Growth Council's Affordable Housing and Sustainable Communities Program Public Workshop, please click here.

Follow OPR on:

@cal_opr

City of Carson
Report to Mayor and City Council

October 21, 2014
New Business Discussion

SUBJECT: CONSIDERATION OF THE CITY OF CARSON STRATEGIC GROWTH COUNCIL REPORT

Submitted by Nelson Hernandez
City Manager

Approved by Nelson Hernandez
City Manager

I. SUMMARY

The Strategic Growth Council has received $130 million in Cap-and-Trade program funds for the fiscal year 2014-2015. To distribute the funds to eligible cities, the Strategic Growth Council created the Affordable Housing and Sustainable Communities program and drafted a set of program guidelines it will use to administer the funds. Before the program guidelines are finalized, Strategic Growth Council has requested feedback from stakeholders and is accepting comments on the draft until October 31, 2014.

City staff has reviewed the draft guidelines and has chosen not to submit any comments by the deadline. Carson has been identified by the CalEnviroScreen tool as a disadvantaged community and as a disadvantaged community the guidelines give projects proposed by Carson priority. The program guidelines state that 50 percent or $65 million of the funds must go to benefit disadvantaged communities. As a disadvantaged community, Carson has high likelihood of submitting a successful application to the Affordable Housing and Sustainable Communities Program.

II. RECOMMENDATION

RECEIVE and FILE.

III. ALTERNATIVES

None.

IV. BACKGROUND

The California Air Resources Board's Cap-and-Trade program establishes a statutory "cap" on emissions by distributing a limited number of carbon credits to individual companies within the state. If a company does not meet its cap, it may "trade" or sell its credits to another company at a quarterly auction. The state also

sells additional carbon credits. The Cap-and-Trade program creates incentives to invest in cleaner technology because the less a company emits, the less it has to pay. The Cap-and-Trade program is one of the strategies used by California to reduce greenhouse gas emissions that cause climate change. Moreover, the auction proceeds collected from the Cap-and-Trade program are earmarked for projects that improve the climate and the environment. For fiscal year 2014-2015, the program raised $872 million.

The Greenhouse Gas Reduction Fund (GGRF) is the organization that receives the Cap-and-Trade auction proceeds and decides how the auction proceeds are administered. Under SB 535, GGRF is mandated to allocate 10 percent to projects located directly within disadvantaged communities and an additional 25 percent to projects that provide benefits to disadvantaged communities. For fiscal year 2014-2015, GGRF has chosen eleven departments to receive auction proceeds and Strategic Growth Council is one of those departments.

Strategic Growth Council has received $130 million from GGRF and it designed the Affordable Housing and Sustainable Communities (AHSC) Program to distribute the Cap-and-Trade auction proceeds to eligible cities. The program aims to reduce greenhouse gas emissions within the transportation sector, while significantly benefitting disadvantaged communities and providing affordable housing. On September 23, 2014, Strategic Growth Council released to stakeholders a set of draft guidelines for the AHSC program and requested that any comments to the guidelines be received by October 31, 2014.

After careful review of the AHSC guidelines, City staff has chosen not to submit any comments to Strategic Growth Council by the October 31st deadline. The program guidelines are favorable to disadvantaged communities like Carson and also outline an extensive list of possible future projects.

Disadvantaged communities are identified using the CalEnviroScreen tool. The CalEnviroScreen tool was developed by the Office of Environmental Health Hazard Assessment (OEHHA), to identify the areas of the state that are the most pollution burdened so that programs and funding can be targeted towards those areas. The CalEnviroScreen tool uses environmental pollution and population characteristics, including socioeconomic factors, to identify disadvantaged communities. Disadvantaged communities are usually poor neighborhoods that are surrounded by refineries and power plants whose greenhouse gas emissions are being capped. Seven businesses in Carson are subject to cap and trade. The CalEnviroScreen tool identified Carson as a disadvantaged community.

The spreadsheet for the CalEnviroScreen tool dated August 14, 2014 indicates that Carson has eighteen census tracts. Census tracts are small statistical subdivisions

of a county. Two of Carson's census tracts are not scored because they have populations of zero. The remaining sixteen census tracts received scores above the 50th percentile. Two of the sixteen census tracts received scores in the highest percentile.

Under the proposed AHSC guidelines, "at least fifty (50) percent of program expenditure for projects benefiting disadvantage communities." This means that projects from disadvantaged communities like Carson are given priority because the guidelines specify that $65 million of AHSC's funds must go to projects benefitting them. As a disadvantaged community, Carson has high likelihood of being a successful applicant. This likelihood of success is further enhanced by the four page list of eligible projects (Exhibit 1).

Due to the broad list of project options and the $65 million reserved for projects benefitting disadvantaged communities, the City will not submit any comments to the draft guidelines proposed by Strategic Growth Council.

V. FISCAL IMPACT

None.

VI. EXHIBITS

1. Table 5 from Strategic Growth Council's Affordable Housing and Sustainable Communities Program Draft Guidelines (pg. 5-8)

Prepared by: Melissa Marcial, National Urban Fellow

Document1

TO:Rev07-02-2014

Reviewed by:

City Clerk	City Treasurer
Administrative Services	Public Works
Community Development	Community Services

Action taken by City Council

Date_____ Action_____

_____

Table 5 Eligible Costs by Eligible Use Category								
* All applications must include at least one Primary Infrastructure Related Use	Primary Infrastructure-Related Uses				Secondary Uses			
	Affordable Housing	Housing-Related Infrastructure	Transportation or Transit Related Infrastructure	Green Infrastructure	Planning Implementation	Active Transportation	Transit Ridership	Criteria Pollutant Reduction
Eligible Use of Funds Include, but are not limited to the following:	CAPITAL USES				PROGRAM USES*			
Construction								
Construction, rehabilitation, demolition, relocation, preservation. acquisition or other physical improvement of affordable housing	X							
Site Acquisition related to a Capital Use, including easements and rights of way		X[1]	X	X				
Site Preparation, including required remediation, and demolition		X[1]	X					
Water, sewer, or other utility service improvements and relocation		X[1]	X	X				
Required environmental remediation necessary for the capital activity [2]	X	X[1]	X	X				
Engineering, construction management, architectural and/or design work related to a Capital Use	X	X[1]	X	X				
Drainage basins, storm water detention basins, culverts or similar drainage features. Includes bioswales, and capture/store/infiltration of stormwater		X[1]	X	X				
Parking spaces/structures [3]		X[1]	X					
Relocation costs	X	X[1]	X	X				
Updated infrastructure or project-specific financing analysis					X			
Analysis to update adopted General or Specific/Area Plan, zoning ordinances, etc. which are required to implement a capital project					X			
Implementation of anti-displacement strategies					X			
Complete Streets and Non-Motorized Transportation								
Development and/or improvement of walkways or bikeways that improve mobility, access or safety			X					

EXHIBIT NO 01

5

Table 5 Eligible Costs by Eligible Use Category									
* All applications must include at least one Primary Infrastructure Related Use	Primary Infrastructure-Related Uses				Secondary Uses				
	Affordable Housing	Housing-Related Infrastructure	Transportation or Transit Related Infrastructure	Green Infrastructure	Planning Implementation	Active Transportation	Transit Ridership	Criteria Pollutant Reduction	
Eligible Use of Funds Include, but are not limited to the following:	CAPITAL USES					PROGRAM USES*			
Development or improvement of frequent and safe crossing opportunities			X						
Sidewalk or streetscape improvements, including, but not limited to, the reconstruction or resurfacing of sidewalks and streets or the installation of lighting, signage, or other related amenities		X[1]	X						
Street crossing enhancements including installation of accessible pedestrian signals		X[1]	X						
Traffic calming projects including development of curb extensions, roundabouts, median islands, "road diets," lane narrowing projects			X						
Signage and way-finding markers			X						
Installation of traffic control devices to improve safety of pedestrians and bicyclists		X[1]							
Street furniture including benches, shade structures, etc.			X						
Bicycle repair kiosks			X						
Bicycle lanes and paths			X						
Secure bicycle storage or parking			X						
Bicycle carrying structures on public transit			X						
Transit and Station Areas									
Development of special or dedicated bus lanes			X						
Development and/or improvement of transit facilities or stations		X[1]	X						
Necessary relocation of transportation related infrastructure or utilities			X						
Capital purchases of transit related equipment which will increase transit service and/or reliability			X						
Transit Signal Priority technology systems			X						
Real-time arrival/departure information systems			X						

6

Table 5 Eligible Costs by Eligible Use Category									
* All applications must include at least one Primary Infrastructure Related Use	Primary Infrastructure-Related Uses				Secondary Uses				
	Affordable Housing	Housing-Related Infrastructure	Transportation or Transit Related Infrastructure	Green Infrastructure	Planning Implementation	Active Transportation	Transit Ridership	Criteria Pollutant Reduction	
Eligible Use of Funds Include, but are not limited to the following:	CAPITAL USES					PROGRAM USES*			
Installation of at-grade boarding infrastructure			X						
Development or improvement of bus and transit shelters or waiting areas		X[1]	X						
Add or improve lighting of station area and pedestrian walkways and bicycle access and storage areas			X						
Transit ticket machine purchase or improvements			X						
Transit passenger amenities - e.g. WiFi access			X						
Station area signage			X						
Noise mitigation projects		X[1]	X						
Removal of access barriers to transit stations			X						
Safety related intersection improvements		X[1]	X						
Required replacement of transit station parking spaces [2]			X						
Facilities that support pedestrian and bicycle transit		X[1]	X						
Urban Greening and Conservation									
Tree Canopy or shade trees along walkable and/or bikeable corridors		X[1]	X	X					
Heat island mitigation measures (e.g. vegetated roofs)	X		X	X					
Community demonstration or outdoor education gardens or orchards				X					
Creation, development or rehabilitation of parks and open space		X[1]		X					
Flow and filtration systems including rain gardens, vegetated swales, bioretention basins, infiltration trenches and integration with riparian buffers		X	X	X					
Rainwater recycling devices including rain barrels and cisterns		X	X	X					
Stormwater planters and filters		X	X	X					

Table 5 Eligible Costs by Eligible Use Category								
* All applications must include at least one Primary Infrastructure Related Use	Primary Infrastructure-Related Uses				Secondary Uses			
	Affordable Housing	Housing-Related Infrastructure	Transportation or Transit Related Infrastructure	Green Infrastructure	Planning Implementation	Active Transportation	Transit Ridership	Criteria Pollutant Reduction
Eligible Use of Funds Include, but are not limited to the following:	CAPITAL USES					PROGRAM USES*		
Site preparation strategies including soil amendments and permeable surfaces		X	X	X				
Programs								
Pedestrian and bicycle safety education programs						X		
Development and publishing of community walking and biking maps, include school route/travel plans						X		
Development and implementation of "walking School Bus" or "bike train" programs						X		
School crossing guard training programs						X		
Bicycle clinics						X		
Public outreach efforts to increase awareness and understand the needs of active transportation users						X		
Bike sharing programs						X		
Transit subsidy programs							X	
Education and marketing of transit subsidy programs							X	
Transportation Demand Management (TDM) programs							X	
Outreach and marketing of Consolidated Transportation Service Agency (CTSA) programs							X	
E-Mobility programs which include the expansion or development of internet based applications that allow customers, clients and/or the public to conduct transactions online, circumventing vehicle travel								X

[1] *Where the cost of the remediation does not exceed 50 percent of requested Program grant funds.*

[2] *Must be required by a local governmental entity, transit agency or special district as a condition to the approval of a development of an affordable housing development.*

[3] *Only the minimum residential per unit parking spaces in parking structures as required by local land-use approval, not to exceed one parking space per residential unit and not to exceed $40,000 per permitted space.*

OurWeekly™
Los Angeles

Carson takes historic step toward energy independence

OpTerra Energy Services will conduct city-wide assessment

OW Staff Writer | **10/2/2014, midnight**

In a unanimous decision, the Carson City Council set in motion the energy independence and environmental sustainability vision originally outlined by Mayor Pro Tem Elito Santarina and Council Member Albert Robles. Their vision was to transform the city into a nationally recognized municipal leader in implementing comprehensive programs that increase energy efficiency, generate clean renewable energy, and stimulate the local economy.

The council's decision last month confirms the engagement of OpTerra Energy Services to conduct a comprehensive, city-wide assessment of energy usage and opportunities for upgrading current infrastructure, improving energy efficiency, reducing water consumption, and adding renewable energy generation such as solar power.

OpTerra will work with city staff to determine a portfolio of potential projects and upgrades that will result in lower gas and electric bills, reduced energy usage and green house gas emissions, and potential ways to create new "green collar" jobs for Carson residents. Once completed, OpTerra will bring the assessment results back to the city council in the form of a complete implementation plan that outlines potential projects, projected savings, rebates and financing options, and opportunities for community partnerships.

"The city of Carson is a regional leader on many issues, and we should add comprehensive energy programs to our list. I look forward to OpTerra's evaluation and proposal for making Carson greener and more sustainable," said Mayor Jim Dear.

OpTerra is one of the nation's largest independent and privately held efficiency and renewable energy companies that, for more than 40 years, has partnered with numerous public and private-sector customers to improve the performance, reliability and energy efficiency of their facilities. Through its innovative approaches to engineering, project management and financing of energy projects, OpTerra has achieved close to $2 billion in savings-to date-for its customers while helping them to become better stewards of the environment and its natural resources. OpTerra also uses energy as a foundation for advancing community engagement, economic opportunity and education for the many communities throughout the country in which it conducts its work. For more information about OpTerra, visit www.opterraenergy.com.