California Environmental Protection Agency
Air Resources Board

California Refineries' Outreach Programs and Emergency Response Plans

Release Date: January 2003

State of California
California Environmental Protection Agency

AIR RESOURCES BOARD
Stationary Source Division

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I. SUMMARY

The Staff of the Air Resources Board (ARB) has completed a compilation of information on both emergency response and outreach programs for California refineries located in the South Coast Air Quality Management District, Bay Area Air Quality Management District, and the San Joaquin Valley Unified Air Pollution Control District. The information presented in this report is intended to be informational in scope and is limited to the twelve major refineries and one small refinery that currently produce California Phase 2 Reformulated Gasoline.

A. Overview of Refineries in California

Many of the refineries in existence today in California were constructed within the first 20 years of the 20th century to respond to the growing demand for kerosene, waxes, and lubricants. California refineries were built primarily in two locations, the East San Francisco Bay region in northern California, and the Los Angeles coastal region in southern California. In the early 1930's, a refinery was built near Bakersfield and was later expanded during World War II to produce additional quantities of military fuels. The locations for California refineries were selected due to their proximity to marine facilities and crude oil production areas. Today, California has 13 refineries that produce California Phase 2 Reformulated Gasoline (CaRFG2) with six major refineries located in the Los Angeles area, five major refineries primarily located in Contra Costa County in the San Francisco area, and one major and one small refinery located in the Bakersfield area.

1. California Refinery Emissions

In California, refineries emit approximately 5 percent of California's stationary source emissions of reactive organic gases (ROG), nitrogen oxides (NO_x), and particulate matter (PM_{10}). In addition, refineries contribute approximately 9 percent of total statewide stationary source carbon monoxide (CO) emissions and represent nearly half (46 percent) of total statewide stationary source oxides of sulfur (SO_x) emissions.

In general, California's refineries are the largest single sources of ozone precursors (i.e., ROG and NO_x) within their respective air districts. For example, in the South Coast Air Quality Management District (SCAQMD) and the Bay Area Air Quality Management District (BAAQMD), petroleum refining as an industry ranks as the leading source of ROG, NO_x, and PM_{10} emissions. In the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD), the petroleum refining industry ranks in the top 5 in emissions of ROG and PM_{10} and in the top 10 in emissions for NO_x.

2. California Refinery Economic Impacts

In evaluating the role of refineries in local communities, and the impacts of these facilities on surrounding communities, it is important to recognize the economic contributions refineries provide to local and state governments. Along with the creation of jobs, the oil industry also provides an economic contribution to the local communities. Based on industry estimates, California refineries contribute $2.2 billion into local economies annually for goods and services. Refineries statewide have made over $6 billion dollars in local capital investments over the last ten years and in the most recent year, paid over $218 million in local fees and taxes. Based on data collected by the U.S. EPA, the number of full-time positions for direct refinery operations in California are approximately 4,300 for the Los Angeles area refineries; 3,800 for the San Francisco Bay Area refineries; and 500 for San Joaquin Valley refineries. This amounts to approximately 8,600 full-time refinery jobs statewide.

3. California Refinery Production and Refined Products

As the number of vehicles and the miles driven annually in the state has increased, so has the demand for motor vehicle gasoline. In 1996, gasoline consumption averaged approximately 890,000 barrels per day (over 37 million gallons per day). In 1998, this consumption had increased to about 920,000 barrels per day (about 38.5 million gallons per day), and is projected to increase to over 1.25 million barrels per day (about 52 million gallons per day) by 2003. Demand for gasoline has increased by 20% and demand for diesel fuel has increased by 50% since 1990.

Since the early 1990's, California refineries have typically operated near maximum production capacity. Currently, California refiners are producing an average of about 975,000 barrels per day of gasoline. The maximum production capability of California's refiners on a short-term basis is approximately 1,000,000 barrels of gasoline per day. Gasoline production currently accounts for approximately 60% of the total product yield from crude oil processing.

B. California Refineries Emergency Response Programs

Based on the information compiled in this report, California refineries are required to comply with multiple levels of federal, state, and local regulations related to emergency response programs. In some instances, local regulatory requirements place additional requirements on the refineries above those of the state and federal level. Due to varying local requirements and other regional issues, California refineries have structured their emergency response programs according to these requirements.

The Federal Clean Air Act Amendments (CAAA) require the U.S. EPA to establish a federal risk management program. The main objectives of the risk management

program are to prevent serious chemical accidents from occurring and to protect the environment and public health. One aspect that the federal risk management program uses to achieve these objectives is the requirement and implementation of a Risk Management Plan (RMP) for chemicals that pose the greatest risk to the public and the environment. The RMP is a comprehensive presentation designed to identify, prevent, and also mitigate chemical accidents through the use of an Emergency Response Plan. All refineries in California use chemicals requiring the development and implementation of an RMP and thus an Emergency Response Plan.

The Governor's Office of Emergency Services developed the California Accidental Release Prevention Program (CalARP) in 1997. The CalARP Program was created to merge the many layers of the federal and state accidental release prevention programs into a centralized program. CalARP is part of a larger program called the Unified Program administered and coordinated by the Secretary of the California Environmental Protection Agency. On a regional level, Certified Unified Program Agencies (CUPAs) are responsible for management of the CalARP program and the emergency response programs. The emergency response programs are structured such that local community members and organizations also work with the refineries and regulatory agencies to contribute to the development and implementation of the individual emergency response programs.

C. California Refineries Community Outreach Programs

California refineries have developed a number of community outreach programs. These include 24-hour telephone hotlines and guided refinery tours. Local schools, businesses, and community members can use the 24-hour telephone hotlines to report emergency incidents and other potentially dangerous situations, such as the detection of odors, which can occur around a refinery. Guided refinery tours that are given to members of the public, such as local schools, media, community representatives and local government officials, provide participants with an opportunity to ask questions and gather information about the refineries and the refining process.

Additionally, California refineries have also supported local community organizations such as the Boy's and Girl's Clubs, the YMCA, Habitat for Humanities, as well as other local community and civic groups. Refineries' contributions to these organizations have come either through direct monetary gifts or through the donation of employee time and assistance for the organization's causes.

II. INTRODUCTION

This chapter discusses why this compilation of information was prepared, the emissions from refineries, and the information considered for this report.

A. Why Did Staff Compile This Information?

Refineries are one of the largest single stationary sources of air pollution in the state. Although there have been many technological advancements and significant emission reductions associated with refining since the use of simple distillation towers to process crude oil, the petroleum refining process on a whole still produces a variety of multi-media pollutants. The high temperatures and high pressures required for some of the processes of refining crude oil have the potential to produce air pollutants and airborne toxic compounds. In addition, other by-products can include wastewater and hazardous solid waste which may contain carcinogenic compounds. While the use of advanced technologies to comply with federal, state, and local regulations have helped to reduce the impact of refineries on a statewide and regional basis, staff believed it important to compile information related to refinery local impact issues (including emergency response programs and community outreach efforts).

The information presented in this report is limited to the 12 large refineries and one small refinery in California that currently produce California Phase 2 Reformulated Gasoline (CaRFG2). Six of these refineries are located in the western portion of Los Angeles county, five of the refineries are located in the eastern portion of the San Francisco Bay Area and one large and one small refinery are located near the city of Bakersfield in Kern County. These refineries are listed in Table II-1.

Table II-1:
California Refineries that Currently Produce CaRFG2

South Coast Air Quality Management District		
Refinery	Location	History of Ownership
BP	Carson, CA	Arco
ChevronTexaco	El Segundo	No recent changes
Shell	Wilmington, CA	Equilon / Texaco
ExxonMobil	Torrance, CA	Mobil
Phillips Petroleum	Wilmington and Carson, CA	Tosco/ Unocal
Valero	Wilmington, CA	Ultramar Diamond Shamrock
Bay Area Air Quality Management District		
Refinery	Location	History of Ownership
ChevronTexaco	Richmond	No recent changes
Shell	Martinez	Equilon
Phillips	Rodeo	Tosco/ Unocal
Tesoro	Avon (Martinez)	Ultramar D.S./ Tosco
Valero	Benicia	Exxon
San Joaquin Valley Unified Air Pollution Control District		
Refinery	Location	History of Ownership
Shell	Bakersfield	Equilon / Texaco
Kern Oil	Bakersfield	No recent changes

B. What are the Emissions from California Refineries?

In California, refineries emit approximately 5 percent of California's stationary source emissions of reactive organic gases (ROG), nitrogen oxides (NO_x), and particulate matter (PM_{10}). In addition, refineries contribute approximately 9 percent of total statewide stationary source carbon monoxide (CO) emissions and represent nearly half (46 percent) of total statewide stationary source oxides of sulfur (SO_x) emissions.

A broader perspective of the local emissions from petroleum refining in comparison with other industries in the state can be accomplished by categorizing stationary source emissions by pollutant and industry. Stationary source emissions are emissions that are neither from motor vehicle or areawide sources (such as consumer products or architectural coatings). Table II-2 provides a comparison of different industries, based on the Standardized Industrial Code (SIC), with the ranking of emissions of ROG, NOx, and PM10 within the three air basins where CaRFG2 producing refineries are located.

As can be seen in Table II-2, in general California's refineries are the largest single sources of ozone precursors (i.e., ROG and NO_x) within their respective air districts. For example, in the South Coast Air Quality Management District (SCAQMD) and the Bay Area Air Quality Management District (BAAQMD), petroleum refining as an industry ranks as the leading source of ROG, NO_x, and PM_{10} emissions. In the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD), the petroleum refining industry

ranks in the top 5 in emissions of ROG and PM_{10} and in the top 10 in emissions for NO_x. Appendix A provides additional information on the SIC Source Emissions rankings of the emissions by pollutant. Appendix B provides a ranking of each refinery in its respective district as compared to all stationary sources in that district.

Table II-2:
SIC Source Emissions Ranking Within Respective Districts

South Coast Air Quality Management District							
SIC #	**SIC Source Description**	**ROG (Rank/tpd)**		**NOx (Rank/tpd)**		**PM10 (Rank/tpd)**	
2911	Petroleum Refining	1	12.1	1	23.1	1	4.3
4581	Airports & Terminal Services	2	7.7	2	16.4	3	0.6
4911	Electric Services	*	1.1	3	13.4	2	0.7
1311	Crude Petroleum & Natural Gas	3	5.0	5	3.4	8	0.2
3241	Cement, Hydraulic	*	0.0	4	5.4	4	0.5
Bay Area Air Quality Management District							
SIC #	**SIC Source Description**	**ROG (Rank/tpd)**		**NOx (Rank/tpd)**		**PM10 (Rank/tpd)**	
2911	Petroleum Refining	1	19.0	1	35.5	1	2.6
4953	Refuse Systems	2	4.1	9	1.1	2	2.4
4931	Electric & Other Services	*	0.2	2	10.7	4	0.5
3221	Glass Containers	*	0.0	4	2.8	5	0.4
4952	Sewerage Systems	7	1.1	5	2.5	*	0.1
San Joaquin Valley Unified Air Pollution Control District							
SIC #	**SIC Source Description**	**ROG (Rank/tpd)**		**NOx (Rank/tpd)**		**PM10 (Rank/tpd)**	
1311	Crude Petroleum & Natural Gas	2	2.5	1	18.8	1	2.0
1321	Natural Gas Liquids	1	4.3	6	2.0	*	0.0
2911	Petroleum Refining	3	1.4	7	1.6	3	0.9
3211	Flat Glass	*	0.0	2	8.5	*	0.2
4931	Electric & Other Services	*	0.1	3	4.8	10	0.2

* SIC Not in Top 10 Ranking for that pollutant.
Source: ARB Emissions Inventory 2001

C. How was the Information Gathered for this Report?

A number of steps were taken to collect and assemble the information for this report. Initially, staff prepared a short questionnaire in March 2001 which was distributed to the refineries which currently produce CaRFG2 in California (12 major refineries and one small refinery). Typically, individual refinery environmental, safety, and public information staff developed and provided information in the questionnaire responses.

III. BACKGROUND

In this chapter, a background and history of the refining industry in California is provided. A discussion of California gasoline demand and production, and information on the economic impacts of California refineries is also provided.

A. California's Refinery and Production History

Many of the refineries in existence today in California were constructed within the first 20 years of the 20th century to respond to growing demand for kerosene, waxes, and lubricants. California refineries were built primarily in two locations, the East San Francisco Bay region in northern California, and the Los Angeles coastal region in southern California. In the early 1930's a refinery was built near Bakersfield and was later expanded during World War II to produce additional quantities of military fuels. The locations for California refineries were selected due to their proximity to marine facilities and crude oil production areas.

Today, in almost every way, petroleum products (such as gasoline, diesel, and jet fuel) drive commerce and transportation in California. Demand for these products has steadily risen as the number of automobiles, trucks and airplanes has increased in the United States. This increase in the number of vehicles was especially significant after World War II and in the late 1950's with the passage of the Federal Highway Act and the subsequent construction of thousands of miles of freeways across the country.

In the early 20th century, crude oil throughput for a typical refinery was in the range of 15,000 - 20,000 barrels per day. However, due to expansions, increased efficiencies, and technological advances, crude oil throughputs at today's California refineries are significantly higher. Table III-1 shows the current crude oil throughputs of California refineries. These refining improvements have enabled refineries to process crude oil with substantial gains in product yields while reducing emissions. Refining technology has also broadened the range of useful products from crude oil processing, which now includes: automotive gasoline, diesel fuel, jet fuel, liquefied petroleum gas, asphalt, agricultural chemicals, industrial fuel oils, paints, plastics, sulfur and lubricants among them.

Table III-1:
California Refinery Crude Oil Throughput Capacity

South Coast Refiners		
Company Name	Location in CA	Capacity (bpd)
British Petroleum (BP)	Carson	255,000
ChevronTexaco	El Segundo	260,000
ExxonMobil	Torrance	160,000
Shell	Wilmington	90,600
Valero	Wilmington	68,000
Phillips	Carson/ Wilmington	125,000
Bay Area Refiners		
Company Name	Location in CA	Capacity (bpd)
ChevronTexaco	Richmond	225,000
Shell	Martinez	154,800
Tesoro	Avon	156,000
Phillips	Rodeo	73,200
Valero	Benicia	129,500
San Joaquin Valley Refiners		
Company Name	Location in CA	Capacity (bpd)
Shell	Bakersfield	63,000
Kern Oil	Bakersfield	24,700

Source: California Energy Commission 1998

Table III-2 summarizes the production of key petroleum products produced from crude oil processing from California refineries in 2000. Gasoline production accounts for approximately 60% of the total product yield from crude oil processing.

Table III-2:
Product Output of California Refineries in 2000

Major Products	Thousands of Barrels
Gasolines	381,000
Diesel Fuels	101,200
Jet Fuel	89,000

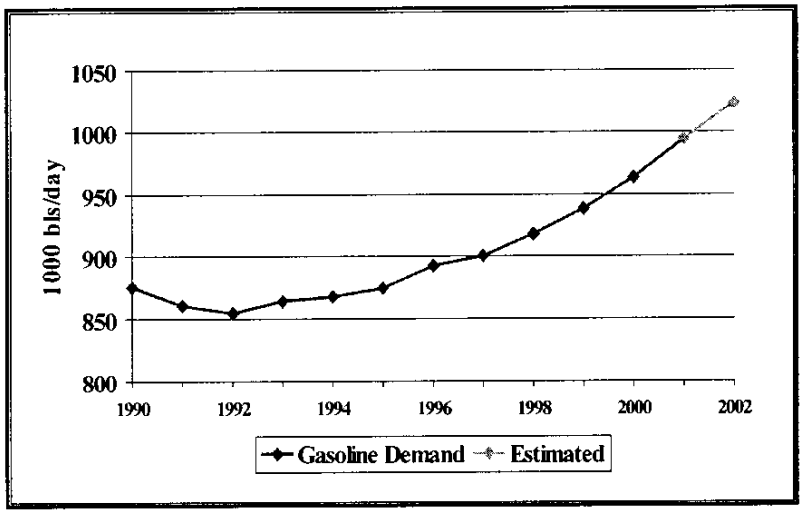
Source: California Energy Commission 2002

B. California Gasoline Demand and Production

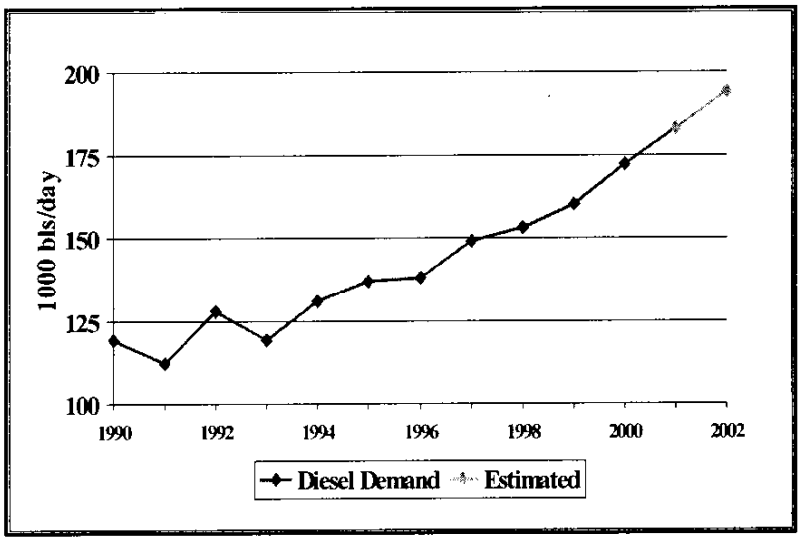
As the number of vehicles and the miles driven annually in the state has increased, so has the demand for motor vehicle gasoline. In 1996, gasoline consumption averaged approximately 890,000 barrels per day (over 37 million gallons per day). In 1998, this consumption had increased to about 920,000 barrels per day (about 38.5 million gallons

per day), and is projected to increase to over 1.25 million barrels per day (about 52 million gallons per day) by 2003. As can be seen in Figures III-1 and III-2, respectively, demand for gasoline has increased by 20% and demand for diesel fuel has increased by 50% since 1990.

Gasoline Demand Since 1990
Figure III-1



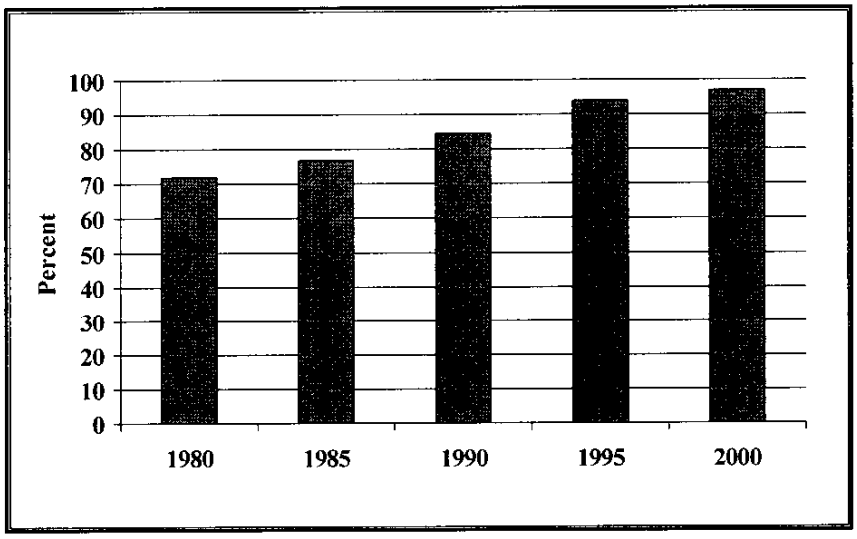
Diesel Demand* Since 1990
Figure III-2



* Based on California Taxable Sales

Since the early 1990's, California refineries have typically operated near maximum production capacity (Figure III-3). Currently, California refiners are producing an average of about 975,000 barrels per day of gasoline. The maximum production capability of California's refiners on a short-term basis is approximately 1,000,000 barrels of gasoline per day.

California Refinery Utilization Rate
Figure III-3



C. Economic Impacts of California's Refineries

In evaluating the role of refineries in local communities, and the impacts of these facilities on surrounding communities, it is important to recognize the economic contributions refineries provide in employment as a source of tax revenue to local and state governments.

In addition, based on industry estimates, California refineries contribute $2.2 billion into local economies annually for goods and services. Refineries statewide have made over $6 billion dollars in local capital investments over the last ten years and in the most recent year, paid over $218 million in local fees and taxes. The local annual payroll in California from the petroleum industry is approximately $1.7 billion, with an average annual salary of approximately $58,700 per employee.

IV. GOVERNMENT ROLES REGARDING EMERGENCY RESPONSE PLANS AND WARNING SYSTEMS

This chapter provides background information of the requirements for refinery emergency response plans at the federal, state, and regional levels. Subsequent chapters will discuss the refineries emergency response plans in California's local air districts based on the federal, state, and regional requirements.

A. Federal Requirements

Under the federal Clean Air Act Amendments (CAAA) of 1990 – Section 112r, the U.S. EPA established a federal risk management program (Title 40 of the Code of Federal Regulations, Part 68) in June 1996. With these requirements, affected industries have the obligation to prevent accidents, operate safely, and manage hazardous chemicals in a safe and responsible way.

The objective of the federal risk management program is to prevent serious chemical accidents that have the potential to affect public health and the environment and to mitigate the consequences of such accidents by focusing prevention measures on chemicals posing the greatest risk to the public and the environment. In addition, it is also the role of the state and local governing agencies, the public, and other organizations to work collaboratively with the affected industries, which includes refineries, to ensure the success of the program.

One aspect of the risk management program requires facilities possessing or storing regulated substances higher than specified threshold amounts to develop and implement a Risk Management Plan (RMP). All refineries in California have regulated substances exceeding federal limits and are required to develop an RMP. The ensuing discussion of RMPs will pertain to the RMPs likely developed by petroleum refineries.

1. Risk Management Plans

An RMP is a plan that provides governmental entities and the local public with information on the hazards found at sources and the source's plans for addressing the hazards. Facilities that possess or store regulated substances exceeding the threshold limits of the risk management program are required to develop and submit RMP's to the U.S. EPA. While the U.S. EPA reviews the RMPs for completeness, they are developed through a collaborative process that includes local industry, government, and community groups.

a. What is contained in a RMP?

An RMP is a three-pronged program designed to reduce the likelihood of hazardous material accidents and to reduce the risk to the public. In developing an RMP, a facility must include:

- an assessment and identification of the hazards;
- a comprehensive incident prevention program, and;
- a coordinated and well-planned emergency response plan.

The specifics of the 3 components are discussed below. An RMP includes safety information, hazard review, operating training and maintenance procedures, compliance audits, and incident investigation.

b. What is an RMP Hazard Assessment?

An RMP Hazard Assessment is a proactive identification and assessment of the hazardous material hazards present at a facility. This portion of the RMP addresses worst case accidental release scenarios, alternate release scenarios (a more likely occurrence), and an accident history of the facility. A hazard assessment is an analysis of the current potential, and past dangers, posed by a location that processes, uses, stores, or handles toxic and flammable chemicals. The stationary source owner prepares the hazard assessment when they have up to or more than the threshold quantity of a regulated substance in a process.

There are two main analyses that comprise a hazard assessment. The first is an Off-Site Consequence Analysis that is a study of potential dangers involved in an accidental release of covered chemicals. The purpose of this analysis is to inform the community of a possible danger so that they may be prepared in the event of an accidental release. The other analysis is a Process Hazards Analysis which attempts to identify the hazards associated with each of the processes that occur at the facility. The Five-Year Accidental Release History is a part of the Process Hazards Analysis. This is a study of accidental releases that have taken place in the five years prior to the submission of an RMP. An owner/operator must report all releases that caused deaths, injuries, evacuations, shelter-in-place, property damage, or environmental damage.

c. What is an RMP Prevention Program?

An RMP Prevention Program is a proactive program to address and mitigate any potential hazards identified in the RMP Hazard Assessment. The goal of the RMP Prevention Program is to avoid accidental releases. The Prevention Program addresses 12 safety elements targeted at the prevention of hazardous material accidents. The 12 elements are:

- process safety information
- process hazard analysis
- operating procedures
- training
- mechanical integrity
- management of change
- pre-start up safety reviews
- compliance audits
- incident investigation
- employee participation
- hot work permits
- contractor safety

d. Are the RMP Documents Accessible to the Public?

RMP documents are available to the public for viewing. However, due to security concerns, RMP documents are no longer accessible through the U.S. EPA web-site. These documents are accessible either through a U.S. EPA operated federal reading room or by written request to the U.S. EPA. In some areas, the Department of Justice may also have a federal reading room and will schedule appointments to access the RMPs. RMP documents can not be photocopied or mechanically reproduced. Additional protocol and reading room location information can be accessed at www.epa.gov/ceppo/readingroom.htm In California, a federal reading room is located in San Francisco. The Department of Justice also has a reading room in Sacramento.

e. What is an RMP Emergency Response Plan?

An RMP Emergency Response Plan is a pre-planned coordinated effort to protect the public in the event of a hazardous material accident. It includes the coordination of facility emergency responders with the local emergency response organizations. The purpose of this program is to reduce the severity of any releases that do occur by identifying the actions that would be taken to respond to the accident. The RMP development sets forth several questions that the plan must answer.

f. Who is Required to Prepare and Submit an RMP under the Federal Risk Management Program?

Any business or facility in the country that possesses or stores minimum amounts of regulated substances must comply with the Federal Risk Management Program. Under section 112(r), EPA promulgated a list of regulated substances with threshold quantities. This list captures the stationary sources that are subject to the federal risk management program. The chemicals that trigger compliance requirements include 77 toxic chemicals and 63 flammables with a National Fire Protection Association (NFPA) level 4 rating. Chemicals at refineries that may trigger compliance requirements include hydrogen sulfide, hydrogen fluoride, aqueous and anhydrous ammonia, and highly flammable propane and butane. The chemicals and threshold amounts that trigger federal compliance requirements are listed in Appendix B.

g. What RMP Information is Submitted to U.S. EPA?

The RMP information submitted to the U.S. EPA contains an executive summary and up to nine sections that provide information from the facility that can be used to judge the risk that a facility poses to the surrounding community. It also provides information that shows the steps taken by that facility to manage its risk.
The executive summary includes:

- the accident history;
- a summary of the prevention and response policies;
- a summary of the off-site consequence analysis including the worst-case and alternative release scenarios and their potential consequences, and;
- a summary of the facility's emergency response plan.

2. Federal OSHA Process Safety Management Standard

The federal Occupational Safety and Health Administration (OSHA) Process Safety Management (PSM) standard is a comprehensive management program that takes a holistic approach to integrating management practices, procedures, and technologies. The PSM standard contains fourteen elements designed to prevent and minimize the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals. The fourteen elements include:

- Employee Participation
- Process Safety Information
- Process Hazards Analysis
- Operating Procedures
- Training
- Contractor Oversight
- Pre-Startup Safety Review
- Mechanical Integrity
- Hot Work Permit
- Management of Change
- Incident Investigation
- Emergency Planning & Response
- Compliance Audits
- Employee Access to Trade Secrets

The standard applies to processes which involve chemicals at or above threshold quantities. Some of these chemicals include hydrogen fluoride, hydrogen sulfide, and anhydrous and aqueous ammonia. The standard is also triggered by processes that involve flammable liquids or gases on-site, in one location, in quantities of 10,000 pounds or more. The standard does not apply to retail facilities, oil or gas well drilling or servicing operations, or normally unoccupied remote facilities.

a. What are the Differences Between the RMP and OSHA's PSM Standard?

While the OSHA PSM standard protects workers at chemical facilities with toxic substances, the RMP extends beyond a facility's boundaries. By law, the RMP focuses on prevention and response to chemical accidents that could affect the public and the environment off-site. Because of this focus, additional provisions in RMPs beyond those contained in the OSHA PSM Standard include:

- The facility's five year accident history;
- Its off-site consequence analysis, an analytical estimate of the potential consequences of hypothetical worst-case scenario and alternative accidental release scenario, and;
- An executive summary report called the Risk Management Plan.

Similar to the RMP, the OSHA PSM standard does not require reporting to the federal government, unless the facility has processes which uses chemicals at levels that trigger the standard. In the event that the OSHA PSM standard is triggered (all California refineries producing CaRFG2 have triggered this standard), the PSM is contained in the RMP. As discussed previously, the RMPs, and their incorporated PSM standards, can be viewed at federal reading rooms or through written request to the U.S. EPA.

B. California Requirements

In 1986, the California Risk Management and Prevention Program (RMPP) was established as a program to prevent the accidental release of hazardous substances. Upon the establishment of Section 112r, the California legislature approved Senate Bill 1889, which required California to implement a new federally mandated chemical Accidental Release Prevention Program (ARP), thus repealing the RMPP program effective January 1997. The new California Accidental Release Prevention Program (CalARP) was developed by the Governor's Office of Emergency Services, and replaced the RMPP program effective January 1997. The final regulations and rulemaking file for the CalARP program were approved in November 1998. Overall, the CalARP list of chemicals is more inclusive and stringent than the federal list.

1. Unified Program

Overall, the CalARP program is part of a larger Program known as the Unified Program. The Unified Program (UP) was created by Senate Bill 1082 (1993) to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for several environmental and emergency management

programs including CalARP. The other programs that are also part of the Unified Program but not discussed in this report include the:

- Hazardous Materials Release Response Plans and Inventories (Business Plans);
- Underground Storage Tank Program;
- Aboveground Petroleum Storage Act Requirements for Spill Prevention, Control and Countermeasure (SPCC) Plans;
- Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered permitting) Programs, and;
- California Uniform Fire Code: Hazardous Material Management Plans and Hazardous Material Inventory Statements.

The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by Certified Unified Program Agencies (CUPAs). Most CUPAs have been established as a function of a local fire department. However, in some instances the local environmental health department serves as the CUPA. Some CUPAs have contractual agreements with another local agency, a Participating Agency (PA), that implements one or more program elements in coordination with the CUPA.

The Secretary of the California Environmental Protection Agency is directly responsible for coordinating the administration of the Unified Program. The Secretary certifies the Unified Program Agencies. The Secretary has certified 72 CUPA's to date. More detail regarding the CUPAs with jurisdiction over the California refineries is provided in Chapter IV and Chapter V of this report.

2. California Accidental Release Prevention Program

The CalARP Program is a merging of the federal and state programs for the prevention of accidental release of regulated toxic and flammable substances. The CalARP program is administered by the Governor's Office of Emergency Services (OES). CalARP has been designed to eliminate the need for the separate and distinct chemical risk management programs at both the federal and state level.

a. Who must submit an RMP under CalARP?

While businesses that handle threshold quantities of regulated substances under the federal Risk Management Program must submit RMPs to the U.S. EPA, businesses that handle more than a threshold quantity of a state regulated substance that is not also over the federal threshold must prepare an RMP upon request of the local government implementing agency. The local government implementing agency may require an RMP under CalARP after determining that a substantial risk of an accidental release

exists at that business. However, when a regulated substance triggers the necessary RMP under CalARP, an additional RMP is not required to be submitted to the U.S. EPA unless the federal limit is also triggered.

Typically, local governments will have the lead role in working directly with businesses and facilities that handle regulated substances in this program. Local government implementing agencies are represented by the CUPAs, PAs, or another local governing body.

b. Are the CalARP RMP Documents Accessible to the Public?

The CalARP RMP documents are available to the public. However, in general, these documents can only be accessed at the offices of the local CUPA agencies. In addition, the local CUPA agencies also provide access to the federal RMPs. In Contra Costa County, the CUPA also distributes portions of RMP documents to public libraries as well as having them available at their offices. However, the Off-site Consequence Analysis is not available at the public libraries and is only available for viewing at the local CUPA offices. For security reasons, these portions of the RMP will not be disseminated to the public. Additionally, the unauthorized release of these documents is punishable by law.

c. What are the differences between the Federal RMP and CalARP?

One of the main differences between the Federal RMP requirements and the CalARP program requirements is the addition of a third table of regulated substances besides the federal tables for flammable and toxic regulated substances and threshold quantities. In general, the state list encompasses a larger number of regulated substances with generally more stringent threshold levels (see Appendix C). OES, in consultation with the Office of Environmental Health Hazard Assessment (OEHHA) develops the list of state-regulated substances and their threshold quantities.

In general, there are few differences between the Federal RMP requirements and the CalARP program and its requirements. However, there are additional requirements within the CalARP program. The CalARP program also requires the RMP to consider the facilities' proximity to sensitive populations located in schools, residential areas, general and acute care hospitals, long-term health care facilities, and child day care facilities. The RMP must also consider external events such as seismic activity.

C. Local Governments

Beyond the federal and state level, there may be other local requirements for risk management. In Contra Costa County, the Industrial Safety Ordinance (ISO) supplements the requirements the CalARP program.

The objective of the ISO is to improve hazardous materials management by enacting measures to prevent and reduce the probability of accidental releases of toxic chemicals that have the potential to cause significant harm to public health, and increase participation by industry and the public to improve accident prevention. The ordinance includes:

- The submission of a Safety Plan to the County;
- Stringent requirements for the contents of a Safety Plan and a Safety Program;
- Public review of the Safety Plan;
- Authorization for the County to require changes in the Safety Plan or Safety Program;
- An expansion of the list of the number of processes (i.e. the whole refinery is reviewed) beyond those covered by the Federal RMP and State CalARP Program regulations;
- Authorization for the County to expand audits and inspection to all units within the stationary source;
- Human Factors to be considered;
- Inherently Safer Systems are to be considered, and;
- Root cause analysis for all major chemical accidents or releases.

Since the ISO does not contain an off-site consequence analysis section, it is made available to the public at either the Contra Costa Health Services Offices or at public libraries located near refineries in the county. A copy of the ISO can be found in Appendix D.

V. EMERGENCY RESPONSE PLANS AND WARNING SYSTEMS FOR REFINERIES IN THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

In this chapter, the local CUPAs that administer the CalARP program for the refineries in the SCAQMD will be discussed. Also, staff will provide a discussion of the refinery emergency response plans and community warning systems in the SCAQMD as well as the cooperative roles of local government, industry, and the public in ensuring the success of these emergency response programs.

A. Refineries in the SCAQMD

In the SCAQMD, there are currently six refineries that produce CARFG2. For these six refineries, there are 3 CUPAs and 1 PA which oversee their RMPs. These six refineries are listed in Table V-1, along with their location, the date their RMP was completed, and the CUPA responsible for each facility.

Table V-1:
South Coast Refineries

Facility	Location	Date of RMP	CUPA
British Petroleum (BP)	Carson	12/28/99	Los Angeles County
ChevronTexaco	El Segundo	6/21/99	City of El Segundo
Shell	Wilmington	7/28/99	Los Angeles City
ExxonMobil	Torrance	7/26/99	LA County (CUPA); City of Torrance (PA)
Phillips Petroleum*	Carson & Wilmington	6/21/99	Los Angeles City (Wilmington Plant); LA County (Carson Plant)
Valero	Wilmington	7/2/99	Los Angeles City

* Refinery has plants in both Carson and Wilmington
Source: U.S. EPA – CEPPO – website with Risk Management Plans for each California refinery.

B. CUPA for Refiners in the SCAQMD

1. Los Angeles County Fire Department

The Los Angeles County Fire Department's Health Hazardous Materials Division (HHMD) was approved as a CUPA effective July 1997. The HHMD oversees the refining facilities for BP and Phillips' Carson facility, both in the city of Carson.

The goal of the HHMD is to protect public health and the environment throughout Los Angeles County from accidental releases and improper handling, storage, transportation, and disposal of hazardous materials and wastes. There are four sections within HHMD, with the Special Operations Section handling the CalARP program. RMP staff of this section review and approve all applicable components of the RMPs.

a. City of Torrance, Participating Agency

The City of Torrance Fire Department acts as a PA for the Los Angeles County CUPA. The City of Torrance Fire Department became the PA the same date that the Los Angeles County Fire Department was certified as the CUPA, July 1997. The Hazardous Materials Administrative Division oversees the refining facilities for ExxonMobil in Torrance.

The City of Torrance, as a PA, administers four of the six programs that are part of the Unified Program. The programs that this PA does not administer are the Hazardous Waste Generator and Onsite Hazardous Waste Treatment Program and the above ground storage tank report. These programs are administered by the Los Angeles County CUPA. The City of Torrance and ExxonMobil (then Mobil) entered a consent decree in 1991 that mandated an extensive review of refinery operations beyond the purview of the CalARP and programs of the Unified Program.

2. City of Los Angeles Fire Department

The City of Los Angeles Fire Department is the CUPA for the Shell, Phillips' Wilmington facility and Valero refinery facilities, all located in the City of Los Angeles, in the community of Wilmington. The Fire Department was designated as the CUPA July 1997.

The City of Los Angeles Fire Department CUPA handles Hazardous Materials occupancy inspections and RMPs in a similar manner as does the county CUPA. The County is the City's PA for hazardous waste issues and performs both inspection and investigation in this area. The City uses Uniform Fire Code (UFC) permitting levels to identify hazardous materials, rather than the California Health and Safety Code (CHSC) Section 25503.5 quantities. This modification has resulted in stricter threshold levels to trigger hazardous materials reporting requirements. The Department believes that CHSC threshold levels are not reflective of actual fire hazards, but more focused on environmental hazards.

3. City of El Segundo

The City of El Segundo Fire Department, Environmental Safety Division (ESD), oversees the refining facilities of ChevronTexaco located in El Segundo. The El Segundo Fire Department was designated as the CUPA in July 1997.

The primary objective of the ESD is to continually meet or exceed the City's and public's expectations for environmental safety by promoting industry involvement, developing community awareness programs and controlling hazardous conditions through education, engineering and enforcement of Federal and State requirements.

The ESD includes the Environmental Safety Manager, a Principal Fire Prevention Specialist, and an Administrative Specialist. Areas of jurisdiction include chemical disclosure programs, RMP review and inspections, hazardous waste control, underground and aboveground tank regulation, industrial wastewater pretreatment, and routine fire code inspections. As such, it should be noted that the role of the El Segundo CUPA is subject to compliance relative to spills on the ground and not air emissions.

C. Community Awareness and Emergency Response Organizations and Emergency Notification Systems in the South Coast Air Quality Management District

The Community Awareness and Emergency Response (CAER) organizations in the SCAQMD are the result of the cooperative efforts by industry, government and public to take active roles in ensuring environmental and public safety. There are two divisions under this organization in the SCAQMD: the Beach Cities CAER and the South Bay CAER. In addition, the City of Torrance has been proactive in establishing its own emergency notification systems to supplement those as established by the local CAER.

1. Beach Cities CAER and Emergency Notification Systems

ChevronTexaco (El Segundo) is a founding member of the Beach Cities CAER with ExxonMobil (Torrance) also a participating member. The Beach Cities CAER initiatives focus on encouraging industry and community relationships, providing facility information to local emergency planners, and improving local emergency response coordination. Some of the Beach Cities CAER products include videos, brochures, hazard communication fact sheets, Shelter-In-Place flyers, a Glossary/Acronym List, a RMP Executive Summary template, and a Question and Answer Guidance. Key elements of the Beach Cities CAER program is a subscription to a telephone alert system known as the Community Alert Network (CAN). The City of Torrance and ExxonMobil maintain additional community notification tools as part of the Torrance Community Warning System (TCWS): The Radio Alert Network (RAN), which consists

of tone activated radios, and the Community Alert Sirens (CAS). An extensive public awareness campaign regarding TCWS was conducted in 1999; annual refresher materials are provided to the community through the schools and the ExxonMobil refinery's quarterly newsletter.

a. When and How are the Systems Activated?

In the event of an emergency, a refinery's first contact is made to one or more agencies (including dialing 911), which is dictated by the emergency situation, applicable regulations and response protocol. The agencies that may be contacted by phone or fax include:

- Local and state environmental health and safety agencies,
- Local fire agencies,
- Local police agencies, and;
- Other mutual aid agencies.

Refineries' procedures to respond to an event vary by location based on the preferences and requirements of individual local emergency agencies.

b. Community Alert Network – Automated Phone System

ChevronTexaco and ExxonMobil participate in the Beach Cities CAN. As part of the Beach Cities CAER, a CAN was established to provide a fast notification system during chemical incidents or emergencies. The system was introduced by Allied-Signal in 1992-93, and has been a shared resource between the cities of El Segundo, Hawthorne and Manhattan Beach. This automated phone system supplements fire and police notification tools to direct the community to either "Shelter in Place" or evacuate. The system is capable of notifying at least 12,000 people in a very short period of time. A separate CAN agreement for the City of Torrance is overseen by the Torrance Fire Department and funded by ExxonMobil.

In the event of an emergency situation, the refinery notifies the local Fire Department to activate the CAN. In the event the local Fire Department recognizes an emergency situation first, they activate the system. In either case a projected impact area is identified and those residents and businesses in the impact area are notified.

Ultimately, only the cities are authorized to activate the system, which is initiated at a private company through dialing a toll free phone number and password system. The annual $11,000.00 contract costs, not including any emergency incident costs, are shared through the CAER membership, of which $9,000.00 is paid by CAER and the remaining $2,000.00 is paid to CAER by the Cities of Manhattan Beach and El Segundo.

2. City of Torrance Emergency Notification Systems

In addition to participating in the Beach Cities CAER and the Beach Cities CAN, the City of Torrance also contracts and maintains a separate CAN system not affiliated or paid by CAER and has developed other emergency notification systems separate from CAER.

a. Community Alert Network Siren System

The City of Torrance maintains a CAN siren system, in collaboration with Exxon-Mobil, which is a system of sirens strategically located to alert the community of emergencies. Sirens sound within a 1.2 mile radius from the refinery. Sirens are tested the first Wednesday of each month at 11:30 am. Additional testing is done for repairs and maintenance as needed. The sirens are activated by the refinery at the direction of refinery or Torrance FD staff.

b. Radio Activated Network System

The City of Torrance also maintains a Radio Activated Network (RAN) which consists of tone activated radios that are placed in all Torrance public and private schools, as well as day-care and senior centers within a 1.2 mile radius of the refinery. In case of emergency, these radios are activated to provide shelter or evacuation directions.

c. Neighbor Courtesy Notification System

Exxon-Mobil, in cooperation with the City of Torrance, maintains a Neighbor Courtesy Notification (NNCN) system that uses a fast fax system for neighboring schools and businesses. In case of emergency, this system is activated to provide shelter or evacuation directions.

d. Cable TV and Radio Broadcasts

The City of Torrance and ExxonMobil also utilize Citicable (Cable Channel 3) television and Citisounds (1620 AM), which is a local traffic radio station. All Beach City CAER participants use public radio stations KNX 1070 AM and KFWB 980 AM as part of this system. In case of emergency, the stations are notified to provide shelter or evacuation directions.

3. South Bay CAER and Emergency Notification Systems

BP (Carson), Shell (Wilmington), Phillips (Wilmington/Carson), and Valero (Wilmington) are members and active participants in the South Bay CAER organization. The South Bay CAER offices are located at the City of Carson. The South Bay CAER provides a forum for industry and the local community to address emergency response issues.

a. Community Alert Network – Automated Phone System

BP, Shell, Phillips, and Valero are all participants and help fund and maintain the South Bay CAN. The South Bay CAN directs calls to neighborhood associations, businesses, and schools, and provides notifications to key local government officials. The South Bay CAN calls all targeted groups including emergency response teams, facility executives, public safety officials, state, county, and local public safety personnel, special facilities such as hospitals and schools, handicapped residents, and the news media.

The CAN computerized system can also call at least 12,000 residences and businesses within an hour with information on sheltering-in-place or evacuation, if necessary. This phone system supplements fire and police notification tools to direct the community to either "shelter-in-place" or evacuate.

VI. EMERGENCY RESPONSE PLANS AND WARNING SYSTEMS FOR REFINERIES IN THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT

In this chapter, the local CUPAs that administer the CalARP program for the refineries in the BAAQMD will be discussed. Also, staff will provide a discussion of the refinery emergency response plans and community warning systems in the BAAQMD as well as the cooperative roles of local government, industry, and the public in ensuring the success of these emergency response programs.

A. Refineries in the BAAQMD

In the BAAQMD, there are currently five refineries that produce CARFG2. For these five refineries, there are 2 CUPAs which oversee their RMPs. These five refineries are listed in Table VI-1, along with their location, the date their RMP was completed, and the CUPA responsible for each facility.

Table VI-1:
Bay Area Refineries

Facility	Location	Date of RMP	CUPA
ChevronTexaco	Richmond	7/16/99	Contra Costa Health Services
Shell	Martinez	7/7/99	Contra Costa Health Services
Phillips Petroleum	Rodeo	7/21/99	Contra Costa Health Services
Tesoro	Avon	11/7/00	Contra Costa Health Services
Valero	Benicia	6/15/00	Solano County

Source: U.S. EPA – CEPPO – website with Risk Management Plans for each California refinery.

B. CUPA for Refiners in the SCAQMD

1. Contra Costa Health Services

The Contra Costa Hazardous Materials Program, part of Contra Costa Health Services, is the CUPA for all of Contra Costa County. Contra Costa Health Services was certified as a CUPA in 1997. Contra Costa Health Services (CCHS) oversees the refining facilities for ChevronTexaco (Richmond), Shell (Martinez), Phillips (Rodeo), and UDS (Avon).

The Contra Costa County Hazardous Materials Program provides oversight, guidance, investigation and enforcement of the laws involving the handling, storage and processing of hazardous materials monitors facilities to ensure safe and legal handling, storage, and disposal of hazardous wastes. The Contra Costa County CUPA administers the state CalARP program, the Contra Costa County ISO, and other programs pertaining to the management of hazardous materials. To facilitate the management and response to an emergency event, the CCHS has established an emergency Classification System that industrial facilities use to initially classify the severity of an event and then notify local agencies of an industrial emergency event.

a. Emergency Classification System

This system is designed to allow quick identification of the extent of a potential emergency to the county, emergency response personnel, and the public. This classification system assigns levels of severity based on the possible extent of an event's impacts. These levels range from the most severe, Level 3, to least severe, Level 0. Table VI-2 shows the possible scenarios that trigger a notification, with the particular level assignment. In general, greater than 95 percent of the events that trigger an emergency notification to CCHS are Level 0, Level 1 or Level 2.

Table VI-2:
Notification Levels of Emergency Events

Level	Criteria	Possible Scenario
3	Off-site impact	• Off-site impact that is expected to cause eye, skin, nose, or respiratory irritation in community • Fire, explosion, heat, or smoke with off-site impact.
2	Minor off-site impact	• Off-site eye, skin, nose, respiratory irritation possible. • Explosion with wave impact off-site. • Fire/ smoke/ plume visible off-site.
1	On-site with possible off-site.	• Confirmed 3 or more odor complaints off-site. • Excess flaring. • Fire/ smoke on-site. • Spill or release limited on-site.
0	On-site only.	• Small vapor release or liquid spill. • Three or more odor complaints.

Initially, when an emergency event occurs, it is the responsibility of the industrial facility to classify the event and then notify the corresponding agencies according to the severity of the event. The CCHS is contacted in all instances and assign an appropriate

emergency level based on available information. This emergency level may be upgraded to a more severe level by either the facility or CCHS based on additional information or changes in the circumstances of the emergency. However, only CCHS is authorized to give an "all clear" at the conclusion of the emergency event.

In triggering notification to CCHS of a particular emergency event, the level of the event may also trigger additional notification to other agencies and emergency response personnel. Table VI-3 shows the agencies and departments that must be notified for each of the four levels of CCHS' emergency notification system.

Table VI-3:
Agencies Notified for Particular Levels of Emergency Events in Contra Costa County

Level	CCHS	State Office of Emergency Services	911	Local Fire Department	BAAQMD	Coast Guard	Media Notification Activation
3	X	X	X	X	X	X	X
2	X	X	X	X	X	X	X
1	X	X	X	X	X	X	
0	X						

2. Solano County

The Solano County Department of Environmental Management oversees the refining facilities of Valero (Benicia). The Solano County Department of Environmental Management is the Certified Unified Program Agency (CUPA) for all cities and unincorporated areas within the county.

The overall emergency response program for the Valero refinery is coordinated with the Solano County Local Emergency Planning Committee (LEPC). The Solano County LEPC is in charge of coordinating periodic meetings with the committee members which include local emergency response officials, local government officials, and industry representatives.

With input from the LEPC, it is the Valero Benicia refinery, however, that maintains the written emergency response program. The program consists of procedures for responding to a release of a regulated substance, including the possibility of a fire or explosion if a flammable substance is accidentally released. In the event of incident, Valero has around the clock communications capability to notify the appropriate LEPC officials, CUPA, and other emergency response organizations.

Furthermore, the role of the Solano County CUPA in an emergency response is to provide technical assistance to the incident commander at emergencies involving hazardous substances. The Solano County CUPA does not have a hazardous materials team, but when necessary calls upon the resources of the Napa CDF, and UC Davis or Sacramento City Fire Department for assistance. The Valero Benicia Refinery conducts periodic emergency drills with the City of Benicia Fire Department to maintain their responsiveness in event of an incident.

C. Community Awareness and Emergency Response Organizations in Contra Costa County

Formed in 1988, the Contra Costa County CAER organization is a non-profit entity composed of members of local businesses, industries, utilities, emergency service agencies, related government agencies, and community representatives.
The objectives of Contra Costa County CAER are to promote facility safety and provide a forum to educate the community on what to do in the event of an emergency. The Contra Costa County CAER is organized with a Board of Directors and several subcommittees and groups that focus on many topics including community outreach and communications, as well as petrochemical mutual aid. As a result of these activities, in 1998, the Contra Costa County CAER was awarded the Chemical Product Stewardship Award for novel work in developing the Community Warning System for Contra Costa County and a model education program for teaching citizens how to protect themselves in the event of an industrial incident or other threat (e.g., flood, fires, etc.).

Also, in Contra Costa County, preparation of federal and state refinery RMPs is accomplished through the CAER group. To facilitate the development and implementation of these RMPs, the Contra Costa CAER has established regular committees that meet regularly. The committees included are listed in Appendix E.

a. Community Warning System

The Contra Costa County Community Warning System (CWS) is a system that was originally established by the Contra Costa County CAER. The CWS is dedicated to alerting and notifying the public and local governmental agencies (e.g., Contra Costa Hazardous Materials Program and the BAAQMD) regarding emergencies and to coordinate with local fire and police departments.

CWS is an emergency warning system that consists of alert, notification, and education. The alert and notification features are linked by a radio frequency network, and are designed to function when telephone systems fail. Signals carried by radio frequency activate every part of the emergency system.

The system's design features multiple safe guards - such as a back-up power at each broadcast point, operation on multiple radio frequencies, and four broadcast towers within the county to receive and broadcast signals.

b. How Does CWS Work?

In the event of an emergency, an industrial facility has the ability to activate the CWS on-site. The CWS activates sirens alerting the local community to take shelter and remain sheltered. Meanwhile, an automated telephone "ringdown" of local businesses and residents is activated, also known as the Community Alert Network (CAN), which informs members of the most recent events. This network also links over 25 locations providing terminal-to-terminal communications among emergency responder agencies and industrial facilities.

Sirens have been placed in the industrial corridor of the county. They are intended to be used for chemical accidents and to notify the community to "Shelter, Shut, and Listen." There are 40 outdoor warning sirens in the Contra Costa County industrial corridor - 19 of those provide coverage throughout the City of Richmond. The system also has the ability to advise Bay Area broadcast media about any event and provide instructions for the public about protective measures and safety precautions.

The CWS transmits emergency messages to both the National Weather Service and to the Emergency Alert System (EAS) network serving the San Francisco Bay Area. The National Weather Service stations in Sacramento and Monterey rebroadcast Contra Costa County alerts over the National Weather Service radio system, which, in the near future, will use EAS specific area messaging codes. These codes will be put into use in Contra Costa County so that each alert message can identify the area of the county that may be impacted by the emergency. In this manner, if one owns or purchases a programmable National Oceanographic and Atmospheric Administration (NOAA) Weather Radio, they will receive only messages affecting their area or messages affecting the entire county. If the radio they own is not programmable, they will receive all emergency messages.

This opportunity to keep people informed easily about emergencies is especially important in Contra Costa County because the local siren system is useful only to those people who are outdoors when the sirens are sounded, although some people who live or work near the siren will hear it indoors. Any individual or business can purchase a NOAA Weather Radio alert receiver (available at their local electronics store) for this purpose.

c. CWS NOAA Weather Radios

NOAA Weather Radios have been placed in schools (public and private), hospitals, daycare centers, convalescent hospitals and other sensitive receptors in the industrial corridor of the county. The NOAA Weather Radios are designed to alert these facilities in the event of an emergency.

d. CWS Paging System

The paging system for emergency response personnel can be used for any emergency. The county can order a coordinate deployment of emergency responders via the CWS paging system to areas of need during a disaster.

e. Contra Costa County CAER's Speaker's Bureau

The Contra Costa County CAER sponsors a "Speakers Bureau," to discuss the warning system and Shelter-In-Place programs, among other safety-related topics. The education campaign, part of the Contra Costa County CAER, focuses on how to contact and inform citizens during an emergency. In addition, shelter-shut-listen exercises are practiced.

f. Other Contra Costa County Emergency Alert Systems

Phillips (Rodeo) also maintains an Automated Community Information System that will send a recorded message to local residents' home via phone, informing them of what is taking place at the refinery in the event of a significant incident. In addition, Phillips maintains an extensive list of schools, community leaders, elected officials, businesses, and other key organizations and daycare facilities.

g. CWS Ownership

Contra Costa County owns and maintains the CWS. Contra Costa Health Services is operating the system on an interim basis; the County Sheriff's department is expected be the final operator of the system.

h. CWS Funding

The CWS was initially established with funding from the industrial community of Contra Costa County at a total cost of $5 million. Its continued maintenance will continue to be funded by the industrial community.

VII. EMERGENCY RESPONSE PLANS AND WARNING SYSTEMS FOR REFINERIES IN THE SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

In this chapter, the local CUPAs that administer the CalARP program for the refineries in the San Joaquin Valley Air Pollution Control District (SJVUAPCD) and the unincorporated areas of Kern County will be discussed. Also, staff will provide a discussion of the refinery emergency response plans and community awareness programs in the SJVUAPCD as well as the cooperative roles of local government, industry, and the public in ensuring the success of these emergency response programs.

A. Refineries in the SJVUAPCD

In the SJVUAPCD there are currently two refineries that produce CARFG2. For these two refineries, there are two CUPAs that oversee their RMPs, the Bakersfield City Fire Department and the Kern County Environmental Health Services (EHS) Department. The two refineries are listed in Table VII-1, along with their location, the date their RMP was completed, and the CUPA responsible for each facility.

Table VII-1:
San Joaquin Valley Refineries

Facility	Location	Date of RMP	CUPA
Shell	Bakersfield	6/25/99	Kern County Environmental Health Services Department
Kern Oil	Bakersfield	6/24/99	Kern County Environmental Health Services Department

B. CUPA for Refiners in the SJVUAPCD

Both the Bakersfield City Fire Department and Kern County EHS Department became CUPA's on February 7, 1997. The two CUPAs entered into a Coordinating Agencies Agreement for consistent implementation of the CUPA program on February 19, 1997. Kern County is the designated CUPA for both Bakersfield refineries. However, because of residential and commercial encroachment upon the refineries, discussed in section E, the Bakersfield City Fire Department also works in a regulatory role along with the Kern County EHS.

1. Kern County Environmental Health Services Department

The Kern County EHS Department was certified as the CUPA on February 7, 1997. The EHS oversees the refining facilities for the Shell and Kern Oil facilities, both in the unincorporated metropolitan area of Bakersfield. The Kern County EHS is committed to improving the quality of life of it's community by safeguarding the environment through education, cooperation, and the fair application of health and safety standards. Beyond Kern County's role as CUPA, they also administer other programs including animal control, Food and Housing, Land Development, Solid and Liquid Waste, and Water programs.

2. City of Bakersfield Fire Department

The mission of the City of Bakersfield Fire Department is to implement the UP for Environmental Regulations within the City of Bakersfield, consistent with State and Local regulations in a manner that will assist the businesses in Bakersfield in meeting these Environmental regulations. The Bakersfield City Fire Department's services include Fire Suppression, Emergency Medical Services, Hazardous Materials Responses, Environmental Regulation, Disaster Preparedness, Fire Prevention, and Public Education. The CUPA program is administered through the Fire Department's Office of Environmental Services, which is part of the Fire Prevention Division.

C. Community Awareness Efforts and Emergency Notification Systems in the San Joaquin Valley Unified Air Pollution Control District

Shell is currently in the process of establishing a CAP. The CAP is intended to be a means to educate various community leaders on individual company plans and programs for addressing safety, health and environmental regulatory issues, as well as a means of keeping in contact with the community. Shell's goal is to have their first initial CAP Meeting in April 2002.

The City of Bakersfield Fire Department has received a state Hazardous Materials Emergency Planning grant for the purchase of an automated telephone notification system to be in place by June 2002. This system will be similar in function to the CANs in the BAAQMD and SCAQMD. It will reside at the combined Bakersfield City/Kern County emergency dispatch center for use by either jurisdiction. The automated telephone emergency notification system for the Bakersfield area will be fully operational by June 30, 2002.

D. Emergency Response Organizations in the San Joaquin Valley Unified Air Pollution Control District

There are three fully trained and equipped hazardous materials response teams in the greater Bakersfield area: the Kern County Environmental Health Services Department, the Kern County and Bakersfield City Fire Departments' Hazardous Material Teams. The two fire department Hazardous Material Teams are each located within one mile of the Shell refinery. In addition, Shell has an in-plant fire and emergency response brigade to respond to emergency incidents at the refinery. In addition, the Shell refinery in Bakersfield conducts annual full-scale exercises with local regulatory agencies as well as the Hazardous Materials Teams from both city and county fire departments.

E. Land Use Planning

Both the Shell and Kern Oil refineries were once situated well beyond the outskirts of the metropolitan area of the City of Bakersfield. However, the growth of the city within recent years has now encroached upon the property lines of both refineries. Because of the urban encroachment, the City of Bakersfield has formally used methodologies in the Off-Site Consequnce Analysis (OCA) of the RMP's for planning and zoning purposes around the Shell refinery. Areas within the OCA perimeter have been deemed unsuitable for residential development, but allowable for commercial or light industrial development.

The City of Bakersfield is demonstrating that a combination of prudent refinery operation, environmental regulation, and urban planning can result in "smart growth" when urbanization around local refineries must be considered.

VIII. COMMUNITY OUTREACH PROGRAMS

In this chapter, staff provides information on the California refineries' local community outreach programs.

A. Overview

There are a number of approaches that refineries use to communicate and inform their surrounding communities about refinery issues. Some of these approaches are common for all refineries, while others reflect the unique relationship between a refinery and its surrounding local communities. This relationship is dynamic, and subject to significant change based on on-going issues and events. Because of this, comparing one refinery's outreach programs against another refinery's outreach programs may not be particularly applicable or effective.

However, ARB staff believe it is important to identify the outreach programs used by refineries. In disseminating this information, refineries may find it useful to evaluate other possible outreach tools and to determine whether there may be a benefit to enhance or change their existing programs.

The information presented in this chapter is based on industry responses to a survey ARB staff submitted to refineries during spring 2001, as well as from additional information provided by the Western States Petroleum Association (WSPA).

B. Community Advisory Panels (CAP)

Many refineries maintain an ongoing dialogue with their local community through a standing Community Advisory Panel (CAP). Similar to the advisory committees convened by public agencies, refinery CAP's serve as a resource for facilities to advise the local community on a variety of important issues. CAP's act as a conduit of information between the community and the refinery, and provide an additional forum in which to discuss ideas to enhance community communication.

Each of the refineries in the Bay Area participates in a CAP. Each CAP usually meets monthly and focuses on issues pertinent to their affected local communities. Each CAP generally meets with local neighborhood councils, public safety officials, school representatives, homeowner's organizations, and local residents and business owners, to name a few. The meeting agendas range from simple question and answer sessions to focused presentations providing updates on existing and planned refinery projects. There are currently three CAPs in the South Coast, while other refineries are developing them. Some South Coast refineries host quarterly community leader forums with

government and public safety officials, school principals, etc. These forums are designed to keep interested parties informed about refinery operations and given a chance to raise questions and concerns.

C. Community Meetings and Forums

Refinery representatives meet directly with the public to provide specific updates and solicit input through one or more of the following events:

- Tours;
- Open houses;
- School presentations, and;
- Community meetings.

1. Tours and Open Houses

The refineries surveyed indicated that they conduct tours of their facilities either by request or as an ongoing community outreach tool. Based on survey responses, different refineries targeted different audiences for their tours. Many of the refineries indicated that they gave tours for local schools, while a few refineries targeted audiences such as the news media, local legislators, and other regional and statewide elected officials. Some of these tour programs are extensive, with as many as 3,000 guests invited annually to participate and visit the refineries' facilities. Refineries also interact with their communities through other events listed in Appendix F.

2. Community Meetings

Many of the California refineries meet with their local communities on an as needed basis to update the local community on important events. South Coast refineries have chosen to host local community meetings when there are important issues to discuss like refineries' proposed RMPs. One particular refinery conducted 14 RMP program community meetings within the last year and a half.

In 1999, Contra Costa County refineries presented their RMPs at public meetings. In addition to sharing these documents with the public, additional meetings were held in which demonstration stations were set up to outline each of the elements of the RMP plan. Refinery personnel were available to answer questions and written information was made available to the public. Although some refiners did not present their RMPs publicly, all refiner's in Contra Costa County were required to submit their respective RMP to Contra Costa Health Services with records and data concerning safety, environmental compliance and reliability records.

A. Use of Media

California's refineries provide the local community with general information regarding their facility and operation through one or more of the following media:

- Newsletters;
- Brochures, and;
- Fact sheets.

Refineries also provide the local community with specific information regarding their facility and its operations pursuant to a specific event (i.e., equipment turnaround), regulatory requirements, or incidents through one or more of the following media:

- Newspaper announcements;
- Special mailings;
- Public notifications, and;
- Public workshops or hearings.

1. Newsletters

California refineries have developed community outreach tools through the use of refinery newsletters, direct mailings, fliers, etc. Some of the Los Angeles refineries publish and mail semi-annual, bilingual newsletters to nearly 34,000 local residencies and businesses along with other bilingual brochures about the refineries and their company. Some of the refineries also mail out a quarterly community newsletter to the residents and business owners in areas surrounding refineries. Additional fliers are handed out as need arises, and on occasion special notifications are hung on the doorknobs of local residents regarding neighborhood specific information.

Similar quarterly newsletters and literature are also mailed to residences in the East Bay refinery communities. Past mailings have included information about Clean Fuels Project, oil spill response preparedness, RMP, and Y2K preparations. Of the 12 refineries responding to the survey, 6 indicated that they use the mail to distribute information to the community.

2. Fact Sheets and Brochures

Some South Coast refineries produce brochures and various forms of fact sheets that are available to the public. Often times the fact sheets coincide with changes in refinery operations (i.e. increased flaring activity resulting from a maintenance turnaround) that serve to both educate and update community members. Most of the refineries surveyed

indicated they have information available for the public in some form, including fact sheets or brochures.

E. Twenty Four Hour Telephone Lines

Refineries provide the local community with specific information regarding their facility and its operations pursuant to a specific event (i.e., turnaround) or incident through:

- 24 hour telephone numbers

One community outreach tool consistently used between both northern and southern California refineries is the 24-hour information telephone line. Eight of the 12 refineries surveyed indicated that they have a 24-hour telephone information line that allows residents to contact refinery personnel at any time.

The 24-hour telephone lines are an important mechanism for each refinery to respond to community questions, complaints, or comments about refinery operations. However, there are some differences between the individual refinery telephone systems. Some refineries have direct connections to refinery personnel 24 hours a day. Some provide an updated recording on current refinery activities or issues and refer callers to a separate phone number to talk directly to refinery personnel. Some have voice mail systems where callers can leave messages and refinery personnel call them back. Three of the facilities indicated that all calls received were investigated and a follow-up call was placed to the original caller.

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