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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Acknowledgements

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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

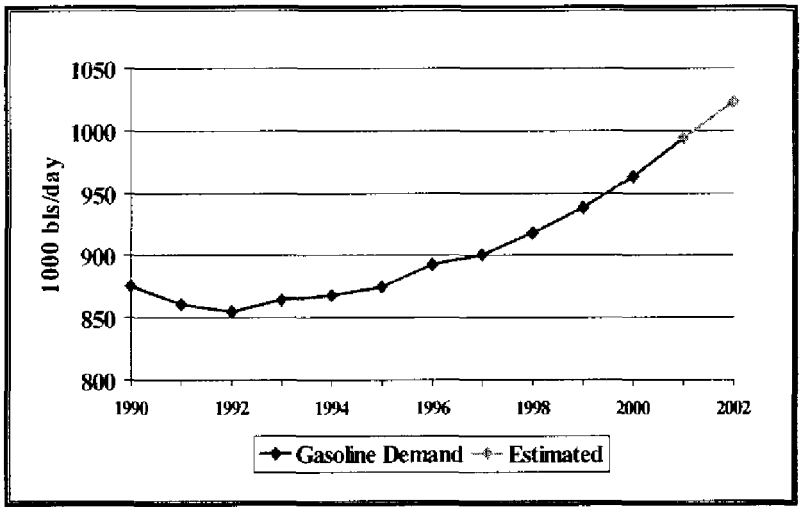
Source: California Energy Commission 2002

B. California Gasoline Demand and Production

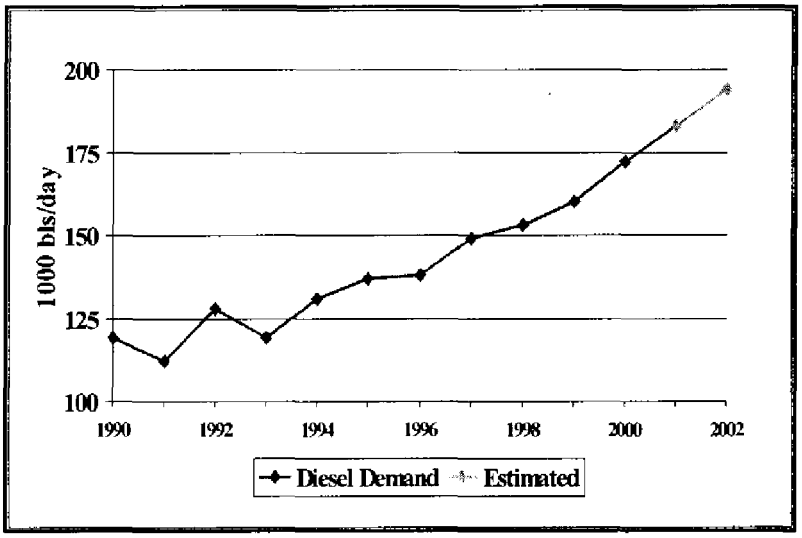
As the number of vehicles and the miles driven annually in the state has increased, so has the demand for motor vehicle gasoline. In 1996, gasoline consumption averaged approximately 890,000 barrels per day (over 37 million gallons per day). In 1998, this consumption had increased to about 920,000 barrels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



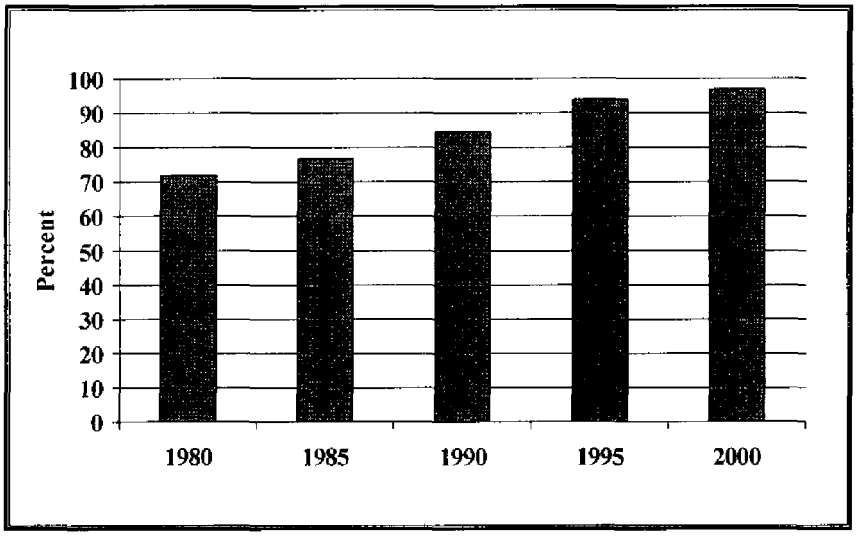
Diesel Demand* Since 1990
Figure III-2



* 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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APPENDIX A

STANDARDIZED INDUSTRIAL CLASSIFICATION (SIC) SOURCES 2001

Appendix A:

Standardized Industrial Classification (SIC) Sources 2001

Sorted by Pollutant (TPD)

SOUTH COAST AIR BASIN

TABLE 1A: Sorted By Leading ROG Source

SIC #	SIC SOURCE DESCRIPTION	ROG	NOx	PM10
2911	**Petroleum Refining**: Production of gasoline kerosene, distillate fuel oils, lubricants, etc.	12.1	23.1	4.3
4581	**Airports & Terminal Services**: Operation and maintenance of airports, flying fields; including aircraft storage.	7.7	16.4	0.6
1311	**Crude Petroleum & Natural Gas**: Operation of oil and gas field properties; including exploration, drilling, etc.	5.0	3.4	0.2
2511	**Wood Household Furniture**: Manufacture of wood household furniture; beds, chairs, tables, etc.	3.2	0.0	0.0
2752	**Commercial Printing/ Lithograph**: Printing of calendars, maps, posters, etc. through use of the lithographic process.	2.8	0.1	0.0

TABLE 1B: Sorted By Leading NOx Source

SIC #	SIC SOURCE DESCRIPTION	ROG	NOx	PM10
2911	**Petroleum Refining**: Production of gasoline kerosene, distillate fuel oils, lubricants, etc.	12.1	23.1	4.3
4581	**Airports & Terminal Services**: Operation and maintenance of airports, flying fields; including aircraft storage.	7.7	16.4	0.6
4911	**Electric Services**: Generation, transmission, and/ or distribution of electric energy.	1.1	13.4	0.7
3241	**Cement, Hydraulic**: Manufacture of hydraulic cement, including portland, natural, masonry & pozzolana cements.	0.0	5.4	0.5
1311	**Crude Petroleum & Natural Gas**: Operation of oil and gas field properties; including exploration, drilling, etc.	5.0	3.4	0.2

TABLE 1C: Sorted By Leading PM Source

SIC #	SIC SOURCE DESCRIPTION	ROG	NOx	PM10
2911	**Petroleum Refining**: Production of gasoline kerosene, distillate fuel oils, lubricants, etc.	12.1	23.1	4.3
4911	**Electric Services**: Generation, transmission, and/ or distribution of electric energy.	1.1	13.4	0.7
4581	**Airports & Terminal Services**: Operation and maintenance of airports, flying fields; including aircraft storage.	7.7	16.4	0.6
3241	**Cement, Hydraulic**: Manufacture of hydraulic cement, including portland, natural, masonry & pozzolana cements.	0.0	5.4	0.5
4953	**Refuse Systems**: Collection & disposal of refuse through use of incinerators, waste treatement plants, landfills, etc.	0.4	1.4	0.4

Standardized Industrial Classification (SIC) Sources 2001

Sorted by Pollutant (tpy)

SAN FRANCISCO AIR BASIN

TABLE 1A: Sorted By Leading ROG Source

SIC #	SIC SOURCE DESCRIPTION	ROG	NOx	PM10
2911	**Petroleum Refining**: Production of gasoline kerosene, distillate fuel oils, lubricants, etc.	19.0	35.5	2.6
4953	**Refuse Systems**: Collection & disposal of refuse through use of incinerators, waste treatement plants, landfills, etc.	4.1	1.1	2.4
7532	**Body Repair/Paint Shops**: Automotive body & interior repair including painting and refinishing for cars, trucks, vans.	2.3	0.0	0.0
3411	**Metal Cans**: Manufacture of metal cans including aluminum cans, metal beer cans, food containers, etc.	2.2	0.1	0.0
2752	**Commercial Printing/ Lithograph**: Printing of calendars, maps, posters, etc. through use of the lithographic process.	1.8	0.0	0.0

TABLE 1B: Sorted By Leading NOx Source

SIC #	SIC SOURCE DESCRIPTION	ROG	NOx	PM10
2911	**Petroleum Refining**: Production of gasoline kerosene, distillate fuel oils, lubricants, etc.	19.0	35.5	2.6
4931	**Electric & Other Services**: Providing electric services in combination with other services, though > 95% of total.	0.2	10.7	0.5
3241	**Cement, Hydraulic**: Manufacture of hydraulic cement, including portland, natural, masonry & pozzolana cements.	0.1	3.8	0.3
3221	**Glass Containers**: Manufacture of glass containers for commercial packing and bottling.	0.0	2.8	0.4
4952	**Sewerage Systems**: Collection & disposal of wastes conducted through a sewer system.	1.1	2.5	0.1

TABLE 1C: Sorted By Leading PM Source

SIC #	SIC SOURCE DESCRIPTION	ROG	NOx	PM10
2911	**Petroleum Refining**: Production of gasoline kerosene, distillate fuel oils, lubricants, etc.	19.0	35.5	2.6
4953	**Refuse Systems**: Collection & disposal of refuse through use of incinerators, waste treatement plants, landfills, etc.	4.1	1.1	2.4
2951	**Asphalt Paving Mixtures & Blocks**: Manufacture of asphalt and tar paving mixtures.	0.1	0.3	0.7
4931	**Electric & Other Services**: Providing electric services in combination with other services, though > 95% of total.	0.2	10.7	0.5
3221	**Glass Containers**: Manufacture of glass containers for commercial packing and bottling.	0.0	2.8	0.4

Standardized Industrial Classification (SIC) Sources 2001

Sorted by Pollutant (tpy)

SAN JOAQUIN VALLEY AIR BASIN

TABLE 1A: Sorted By Leading ROG Source

SIC #	SIC SOURCE DESCRIPTION	ROG	NOx	PM10
1321	**Natural Gas Liquids**: Production of liquid hydrocarbons from oil and gas field gases including natural propane & butane.	4.3	2.0	0.0
1311	**Crude Petroleum & Natural Gas**: Operation of oil and gas field properties; including exploration, drilling, etc.	2.5	18.8	2.0
2911	**Petroleum Refining**: Production of gasoline kerosene, distillate fuel oils, lubricants, etc.	1.4	1.6	0.9
3411	**Metal Cans**: Manufacture of metal cans including aluminum cans, metal beer cans, food containers, etc.	1.0	0.0	0.0
4612	**Crude Petroleum Pipelines**: Transportation of crude petroleum through established pipelines.	0.6	0.5	0.0

TABLE 1B: Sorted By Leading NOx Source

SIC #	SIC SOURCE DESCRIPTION	ROG	NOx	PM10
1311	**Crude Petroleum & Natural Gas**: Operation of oil and gas field properties; including exploration, drilling, etc.	2.5	18.8	2.0
3211	**Flat Glass**: Manufacture of flat glass; including building glass, window glass, optical glass, cathedral glass, etc.	0.0	8.5	0.2
4931	**Electric & Other Services**: Providing electric services in combination with other services, though > 95% of total.	0.1	4.8	0.2
3221	**Glass Containers**: Manufacture of glass containers for commercial packing and bottling.	0.1	3.8	0.4
4911	**Electric Services**: Generation, transmission, and/ or distribution of electric energy.	0.1	2.1	0.2

TABLE 1C: Sorted By Leading PM Source

SIC #	SIC SOURCE DESCRIPTION	ROG	NOx	PM10
1311	**Crude Petroleum & Natural Gas**: Operation of oil and gas field properties; including exploration, drilling, etc.	2.5	18.8	2.0
724	**Cotton Ginning**: Establishments engaged in ginning cotton; including cotton picking.	0.0	0.1	2.0
2911	**Petroleum Refining**: Production of gasoline kerosene, distillate fuel oils, lubricants, etc.	1.4	1.6	0.9
1442	**Construction Sand & Gravel**: Operation of sand and gravel pits & dredges in preparation for construction uses.	0.0	0.1	0.9
2048	**Prepared Feeds**: Manufacture of prepared feeds & feed ingredients for animals & fowls, except dogs & cats.	0.0	0.1	0.6

APPENDIX B

REFINERY FACILITY EMISSION RANKINGS WITHIN RESPECTIVE AIR DISTRICTS

Appendix B:

Refinery Facility Emission Rankings Within Respective Air Districts

As shown in Table B-1 below, many of California's refineries are the largest single sources of ozone precursors (i.e., ROG and NO_x) in their respective air districts. For example, in the South Coast Air Quality Management District (SCAQMD) all six of the CaRFG2 producing refineries are included in the top ten stationary sources of ROG; and four of the six CaRFG2 producing refineries are included in the top ten stationary sources of NO_x emissions. In the Bay Area Air Quality Management District (BAAQMD), the five CaRFG2 producing refineries are included in the top six for both ROG and NO_x stationary source emissions. In the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD), both of the CaRFG2 producing refineries are included in the top five for ROG stationary source emissions.

Table B-1:
Refinery Facility Emission Rankings Within Respective Districts

South Coast Air Quality Management District				
Refinery	**Location**	**ROG** (out of 10)	**NOx** (out of 10)	**PM10** (out of 10)
British Petroleum (BP)	Carson	1	3	2
ChevronTexaco	El Segundo	2	1	1
Shell	Wilmington	4	5	3
ExxonMobil	Torrance	7	4	8
Phillips Petroleum	Wilmington/Carson	5	-	7
Valero	Wilmington	10	-	4
Bay Area Air Quality Management District				
Refinery	**Location**	**ROG** (out of 10)	**NOx** (out of 10)	**PM10** (out of 10)
ChevronTexaco	Richmond	1	2	4
Shell	Martinez	2	1	2
Phillips	Rodeo	4	6	-
Tesoro	Avon (Martinez)	3	4	6
Valero	Benicia	6	5	3
San Joaquin Valley Unified Air Pollution Control District				
Refinery	**Location**	**ROG** (out of 10)	**NOx** (out of 10)	**PM10** (out of 10)
Shell	Bakersfield	5	-	3
Kern Oil	Bakersfield	3	-	1

Source: ARB Almanac 2001 - Chapter 5

APPENDIX C

TITLE 40 OF THE CODE OF FEDERAL REGULATIONS PART 68

SUBPART F – REGULATED SUBSTANCES FOR
ACCIDENTAL RELEASE PREVENTION

§68.130

(c) The emergency response plan developed under paragraph (a)(1) of this section shall be coordinated with the community emergency response plan developed under 42 U.S.C. 11003. Upon request of the local emergency planning committee or emergency response officials, the owner or operator shall promptly provide to the local emergency response officials information necessary for developing and implementing the community emergency response plan.

Subpart F—Regulated Substances for Accidental Release Prevention

SOURCE: 59 FR 4493, Jan. 31, 1994, unless otherwise noted. Redesignated at 61 FR 31717, June 20, 1996.

EFFECTIVE DATE NOTE: At 61 FR 31717, June 20, 1996, subpart C was redesignated as subpart F, effective Aug. 19, 1996.

§ 68.100 Purpose.

This subpart designates substances to be listed under section 112(r)(3), (4), and (5) of the Clean Air Act, as amended, identifies their threshold quantities, and establishes the requirements for petitioning to add or delete substances from the list.

§ 68.115 Threshold determination.

(a) A threshold quantity of a regulated substance listed in § 68.130 is present at a stationary source if the total quantity of the regulated substance contained in a process exceeds the threshold.

(b) For the purposes of determining whether more than a threshold quantity of a regulated substance is present at the stationary source, the following exemptions apply:

(1) *Concentrations of a regulated toxic substance in a mixture.* If a regulated substance is present in a mixture and the concentration of the substance is below one percent by weight of the mixture, the amount of the substance in the mixture need not be considered when determining whether more than a threshold quantity is present at the stationary source. Except for oleum, toluene 2,4-diisocyanate, toluene 2,6-diisocyanate, and toluene diisocyanate (unspecified isomer), if the concentration of the regulated substance in the mixture is one percent or greater by weight, but the owner or operator can demonstrate that the partial pressure of the regulated substance in the mixture (solution) under handling or storage conditions in any portion of the process is less than 10 millimeters of mercury (mm Hg), the amount of the substance in the mixture in that portion of the process need not be considered when determining whether more than a threshold quantity is present at the stationary source. The owner or operator shall document this partial pressure measurement or estimate.

(2) *Concentrations of a regulated flammable substance in a mixture.* If a regulated substance is present in a mixture and the concentration of the substance is below one percent by weight of the mixture, the mixture need not be considered when determining whether more than a threshold quantity of the regulated substance is present at the stationary source. If the concentration of the regulated substance in the mixture is one percent or greater by weight, then, for purposes of determining whether more than a threshold quantity is present at the stationary source, the entire weight of the mixture shall be treated as the regulated substance unless the owner or operator can demonstrate that the mixture itself does not meet the criteria for flammability of flash point below 73°F (22.8°C) and boiling point below 100°F (37.8°C). The owner or operator shall document these flash point and boiling point measurements or estimates.

(3) *Concentrations of a regulated explosive substance in a mixture.* Mixtures of Division 1.1 explosives listed in 49 CFR 172.101 (Hazardous Materials Table) and other explosives need not be included when determining whether a threshold quantity is present in a process when the mixture is intended to be used on-site in a non-accidental release in a manner consistent with applicable BATF regulations. Other mixtures of Division 1.1 explosives listed in 49 CFR 172.101 and other explosives shall be included in determining whether more than a threshold quantity is present in a process if such mixtures would be treated as Division 1.1 explosives under 49 CFR parts 172 and 173.

(4) *Articles.* Regulated substances contained in articles need not be considered when determining whether more than a threshold quantity is present at the stationary source.

(5) *Uses.* Regulated substances, when in use for the following purposes, need not be included in determining whether more than a threshold quantity is present at the stationary source:

(i) Use as a structural component of the stationary source;

(ii) Use of products for routine janitorial maintenance;

(iii) Use by employees of foods, drugs, cosmetics, or other personal items containing the regulated substance; and

(iv) Use of regulated substances present in process water or non-contact cooling water as drawn from the environment or municipal sources, or use of regulated substances present in air used either as compressed air or as part of combustion.

(6) *Activities in laboratories.* If a regulated substance is manufactured, processed, or used in a laboratory at a stationary source under the supervision of a technically qualified individual as defined in §720.3(ee) of this chapter, the quantity of the substance need not be considered in determining whether a threshold quantity is present. This exemption does not apply to:

(i) Specialty chemical production;

(ii) Manufacture, processing, or use of substances in pilot plant scale operations; and

(iii) Activities conducted outside the laboratory.

§ 68.120 Petition process.

(a) Any person may petition the Administrator to modify, by addition or deletion, the list of regulated substances identified in §68.130. Based on the information presented by the petitioner, the Administrator may grant or deny a petition.

(b) A substance may be added to the list if, in the case of an accidental release, it is known to cause or may be reasonably anticipated to cause death, injury, or serious adverse effects to human health or the environment.

(c) A substance may be deleted from the list if adequate data on the health and environmental effects of the substance are available to determine that the substance, in the case of an accidental release, is not known to cause and may not be reasonably anticipated to cause death, injury, or serious adverse effects to human health or the environment.

(d) No substance for which a national primary ambient air quality standard has been established shall be added to the list. No substance regulated under title VI of the Clean Air Act, as amended, shall be added to the list.

(e) The burden of proof is on the petitioner to demonstrate that the criteria for addition and deletion are met. A petition will be denied if this demonstration is not made.

(f) The Administrator will not accept additional petitions on the same substance following publication of a final notice of the decision to grant or deny a petition, unless new data becomes available that could significantly affect the basis for the decision.

(g) Petitions to modify the list of regulated substances must contain the following:

(1) Name and address of the petitioner and a brief description of the organization(s) that the petitioner represents, if applicable;

(2) Name, address, and telephone number of a contact person for the petition;

(3) Common chemical name(s), common synonym(s), Chemical Abstracts Service number, and chemical formula and structure;

(4) Action requested (add or delete a substance);

(5) Rationale supporting the petitioner's position; that is, how the substance meets the criteria for addition and deletion. A short summary of the rationale must be submitted along with a more detailed narrative; and

(6) Supporting data; that is, the petition must include sufficient information to scientifically support the request to modify the list. Such information shall include:

(i) A list of all support documents;

(ii) Documentation of literature searches conducted, including, but not limited to, identification of the database(s) searched, the search strategy, dates covered, and printed results;

(iii) Effects data (animal, human, and environmental test data) indicating

the potential for death, injury, or serious adverse human and environmental impacts from acute exposure following an accidental release; printed copies of the data sources, in English, should be provided; and

(iv) Exposure data or previous accident history data, indicating the potential for serious adverse human health or environmental effects from an accidental release. These data may include, but are not limited to, physical and chemical properties of the substance, such as vapor pressure; modeling results, including data and assumptions used and model documentation; and historical accident data, citing data sources.

(h) Within 18 months of receipt of a petition, the Administrator shall publish in the FEDERAL REGISTER a notice either denying the petition or granting the petition and proposing a listing.

§ 68.125 Exemptions.

Agricultural nutrients. Ammonia used as an agricultural nutrient, when held by farmers, is exempt from all provisions of this part.

§ 68.130 List of substances.

(a) Explosives listed by DOT as Division 1.1 in 49 CFR 172.101 are covered under section 112(r) of the Clean Air Act. The threshold quantity for explosives is 5,000 pounds.

(b) Regulated toxic and flammable substances under section 112(r) of the Clean Air Act are the substances listed in Tables 1, 2, 3, and 4. Threshold quantities for listed toxic and flammable substances are specified in the tables.

(c) The basis for placing toxic and flammable substances on the list of regulated substances are explained in the notes to the list.

TABLE 1 TO § 68.130.—LIST OF REGULATED TOXIC SUBSTANCES AND THRESHOLD QUANTITIES FOR ACCIDENTAL RELEASE PREVENTION

[Alphabetical Order—77 Substances]

Chemical name	CAS No	Threshold quantity (lbs)	Basis for listing
Acrolein [2-Propenal].	107-02-8	5,000	b
Acrylonitrile [2-Propenenitrile]	107-13-1	20,000	b

TABLE 1 TO § 68.130.—LIST OF REGULATED TOXIC SUBSTANCES AND THRESHOLD QUANTITIES FOR ACCIDENTAL RELEASE PREVENTION—Continued

[Alphabetical Order—77 Substances]

Chemical name	CAS No.	Threshold quantity (lbs)	Basis for listing
Acrylyl chloride [2-Propenoyl chloride].	814-68-6	5,000	b
Allyl alcohol [2-Propen-1-ol].	107-18-61	15,000	b
Allylamine [2-Propen-1-amine].	107-11-9	10,000	b
Ammonia (anhydrous).	7664-41-7	10,000	a, b
Ammonia (conc 20% or greater).	7664-41-7	20,000	a, b
Arsenous trichloride.	7784-34-1	15,000	b
Arsine	7784-42-1	1,000	b
Boron trichloride [Borane, trichloro-].	10294-34-5	5,000	b
Boron trifluoride [Borane, trifluoro-].	7637-07-2	5,000	b
Boron trifluoride compound with methyl ether (1:1) [Boron, trifluoro [oxybis [metane]]-, T-4-	353-42-4	15,000	b
Bromine	7726-95-6	10,000	a, b
Carbon disulfide	75-15-0	20,000	b
Chlorine	7782-50-5	2,500	a, b
Chlorine dioxide [Chlorine oxide (ClO2)].	10049-04-4	1,000	c
Chloroform [Methane, trichloro-].	67-66-3	20,000	b
Chloromethyl ether [Methane, oxybis[chloro-].	542-88-1	1,000	b
Chloromethyl methyl ether [Methane, chloromethoxy-].	107-30-2	5,000	b
Crotonaldehyde [2-Butenal].	4170-30-3	20,000	b
Crotonaldehyde, (E)- [2-Butenal, (E)-].	123-73-9	20,000	b
Cyanogen chloride.	506-77-4	10,000	c
Cyclohexylamine [Cyclohexanamine].	108-91-8	15,000	b
Diborane	19287-45-7	2,500	b
Dimethyldichlorosilane [Silane, dichlorodimethyl-].	75-78-5	5,000	b
1,1-Dimethylhydrazine [Hydrazine, 1,1-dimethyl-].	57-14-7	15,000	b
Epichlorohydrin [Oxirane, (chloromethyl)-].	106-89-8	20,000	b

TABLE 1 TO § 68.130.—LIST OF REGULATED TOXIC SUBSTANCES AND THRESHOLD QUANTITIES FOR ACCIDENTAL RELEASE PREVENTION—Continued

[Alphabetical Order—77 Substances]

Chemical name	CAS No.	Threshold quantity (lbs)	Basis for listing
Ethylenediamine [1,2-Ethanediamine].	107–15–3	20,000	b
Ethyleneimine [Aziridine].	151–56–4	10,000	b
Ethylene oxide [Oxirane].	75–21–8	10,000	a, b
Fluorine	7782–41–4	1,000	b
Formaldehyde (solution).	50–00–0	15,000	b
Furan	110–00–9	5,000	b
Hydrazine	302–01–2	15,000	b
Hydrochloric acid (conc 30% or greater).	7647–01–0	15,000	d
Hydrocyanic acid	74–90–8	2,500	a, b
Hydrogen chloride (anhydrous) [Hydrochloric acid].	7647–01–0	5,000	a
Hydrogen fluoride/ Hydrofluoric acid (conc 50% or greater) [Hydrofluoric acid].	7664–39–3	1,000	a, b
Hydrogen selenide.	7783–07–5	500	b
Hydrogen sulfide	7783–06–4	10,000	a, b
Iron, pentacarbonyl- [Iron carbonyl (Fe(CO)5), (TB-5-11)-].	13463–40–6	2,500	b
Isobutyronitrile [Propanenitrile, 2-methyl-].	78–82–0	20,000	b
Isopropyl chloroformate [Carbonochloridic acid, 1-methylethyl ester].	108–23–6	15,000	b
Methacrylonitrile [2-Propenenitrile, 2-methyl-].	126–98–7	10,000	b
Methyl chloride [Methane, chloro-].	74–87–3	10,000	a
Methyl chloroformate [Carbonochloridic acid, methylester].	79–22–1	5,000	b
Methyl hydrazine [Hydrazine, methyl-].	60–34–4	15,000	b
Methyl isocyanate [Methane, isocyanato-].	624–83–9	10,000	a, b
Methyl mercaptan [Methanethiol]	74–93–1	10,000	b
Methyl thiocyanate [Thiocyanic acid, methyl ester].	556–64–9	20,000	b
Methyltrichlorosilane [Silane, trichloromethyl-].	75–79–6	5,000	b
Nickel carbonyl	13463–39–3	1,000	b
Nitric acid (conc 80% or greater).	7697–37–2	15,000	b
Nitric oxide [Nitrogen oxide (NO)].	10102–43–9	10,000	b
Oleum (Fuming Sulfuric acid) [Sulfuric acid, mixture with sulfur trioxide] [1]	8014–95–7	10,000	e
Peracetic acid [Ethaneperoxoic acid].	79–21–0	10,000	b
Perchloromethyl mercaptan [Methanesulfenyl chloride, trichloro-].	594–42–3	10,000	b
Phosgene [Carbonic dichloride].	75–44–5	500	a, b
Phosphine	7803–51–2	5,000	b
Phosphorus oxychloride [Phosphoryl chloride].	10025–87–3	5,000	b
Phosphorus trichloride [Phosphorous trichloride].	7719–12–2	15,000	b
Piperidine	110–89–4	15,000	b
Propionitrile [Propanenitrile].	107–12–0	10,000	b
Propyl chloroformate [Carbonochloridic acid, propylester].	109–61–5	15,000	b
Propyleneimine [Aziridine, 2-methyl-].	75–55–8	10,000	b
Propylene oxide [Oxirane, methyl-].	75–56–9	10,000	b
Sulfur dioxide (anhydrous).	7446–09–5	5,000	a, b
Sulfur tetrafluoride [Sulfur fluoride (SF4), (T-4)-].	7783–60–0	2,500	b
Sulfur trioxide	7446–11–9	10,000	a, b
Tetramethyllead [Plumbane, tetramethyl-].	75–74–1	10,000	b
Tetranitromethane [Methane, tetranitro-]	509–14–8	10,000	b

TABLE 1 TO § 68.130.—LIST OF REGULATED TOXIC SUBSTANCES AND THRESHOLD QUANTITIES FOR ACCIDENTAL RELEASE PREVENTION—Continued

[Alphabetical Order—77 Substances]

Chemical name	CAS No.	Threshold quantity (lbs)	Basis for listing
Methyl thiocyanate [Thiocyanic acid, methyl ester].	556–64–9	20,000	b
Methyltrichlorosilane [Silane, trichloromethyl-].	75–79–6	5,000	b
Nickel carbonyl	13463–39–3	1,000	b
Nitric acid (conc 80% or greater).	7697–37–2	15,000	b
Nitric oxide [Nitrogen oxide (NO)].	10102–43–9	10,000	b
Oleum (Fuming Sulfuric acid) [Sulfuric acid, mixture with sulfur trioxide] [1]	8014–95–7	10,000	e
Peracetic acid [Ethaneperoxoic acid].	79–21–0	10,000	b
Perchloromethyl mercaptan [Methanesulfenyl chloride, trichloro-].	594–42–3	10,000	b
Phosgene [Carbonic dichloride].	75–44–5	500	a, b
Phosphine	7803–51–2	5,000	b
Phosphorus oxychloride [Phosphoryl chloride].	10025–87–3	5,000	b
Phosphorus trichloride [Phosphorous trichloride].	7719–12–2	15,000	b
Piperidine	110–89–4	15,000	b
Propionitrile [Propanenitrile].	107–12–0	10,000	b
Propyl chloroformate [Carbonochloridic acid, propylester].	109–61–5	15,000	b
Propyleneimine [Aziridine, 2-methyl-].	75–55–8	10,000	b
Propylene oxide [Oxirane, methyl-].	75–56–9	10,000	b
Sulfur dioxide (anhydrous).	7446–09–5	5,000	a, b
Sulfur tetrafluoride [Sulfur fluoride (SF4), (T-4)-].	7783–60–0	2,500	b
Sulfur trioxide	7446–11–9	10,000	a, b
Tetramethyllead [Plumbane, tetramethyl-].	75–74–1	10,000	b
Tetranitromethane [Methane, tetranitro-]	509–14–8	10,000	b

TABLE 1 TO § 68.130.—LIST OF REGULATED TOXIC SUBSTANCES AND THRESHOLD QUANTITIES FOR ACCIDENTAL RELEASE PREVENTION—Continued

[Alphabetical Order—77 Substances]

Chemical name	CAS No.	Threshold quantity (lbs)	Basis for listing
Titanium tetrachloride [Titanium chloride (TiCl4) (T-4)-].	7550-45-0	2,500	b
Toluene 2,4-diisocyanate [Benzene, 2,4-diisocyanato-1-methyl-] [1].	584-84-9	10,000	a
Toluene 2,6-diisocyanate [Benzene, 1,3-diisocyanato-2-methyl-] [1].	91-08-7	10,000	a
Toluene diisocyanate (unspecified isomer) [Benzene, 1,3-diisocyanatomethyl-] [1].	26471-62-5	10,000	a
Trimethylchlorosilane [Silane, chlorotrimethyl-].	75-77-4	10,000	b
Vinyl acetate monomer [Acetic acid ethenyl ester].	108-05-4	15,000	b

[1] The mixture exemption in § 68.115(b)(1) does not apply to the substance.

NOTE: Basis for listing:

a Mandated for listing by Congress.

b On EHS list, vapor pressure 10 mmHg or greater.

c Toxic gas.

d Toxicity of hydrogen chloride, potential to release hydrogen chloride, and history of accidents.

e Toxicity of sulfur trioxide and sulfuric acid, potential to release sulfur trioxide, and history of accidents.

TABLE 2 TO § 68.130.—LIST OF REGULATED TOXIC SUBSTANCES AND THRESHOLD QUANTITIES FOR ACCIDENTAL RELEASE PREVENTION

[CAS Number Order—77 Substances]

CAS No.	Chemical name	Threshold quantity (lbs)	Basis for listing
50-00-0	Formaldehyde (solution)	15,000	b
57-14-7	1,1-Dimethylhydrazine [Hydrazine, 1,1-dimethyl-]	15,000	b
60-34-4	Methyl hydrazine [Hydrazine, methyl-]	15,000	b
67-66-3	Chloroform [Methane, trichloro-]	20,000	b
74-87-3	Methyl chloride [Methane, chloro-]	10,000	a
74-90-8	Hydrocyanic acid	2,500	a, b
74-93-1	Methyl mercaptan [Methanethiol]	10,000	b
75-15-0	Carbon disulfide	20,000	b
75-21-8	Ethylene oxide [Oxirane]	10,000	a, b
75-44-5	Phosgene [Carbonic dichloride]	500	a, b
75-55-8	Propyleneimine [Aziridine, 2-methyl-]	10,000	b
75-56-9	Propylene oxide [Oxirane, methyl-]	10,000	b
75-74-1	Tetramethyllead [Plumbane, tetramethyl-]	10,000	b
75-77-4	Trimethylchlorosilane [Silane, chlorotrimethyl-]	10,000	b
75-78-5	Dimethyldichlorosilane [Silane, dichlorodimethyl-]	5,000	b
75-79-6	Methyltrichlorosilane [Silane, trichloromethyl-]	5,000	b
78-82-0	Isobutyronitrile [Propanenitrile, 2-methyl-]	20,000	b
79-21-0	Peracetic acid [Ethaneperoxoic acid]	10,000	b
79-22-1	Methyl chloroformate [Carbonochloridic acid, methylester]	5,000	b
91-08-7	Toluene 2,6-diisocyanate [Benzene, 1,3-diisocyanato-2-methyl-]*	10,000	a
106-89-8	Epichlorohydrin [Oxirane, (chloromethyl)-]	20,000	b
107-02-8	Acrolein [2-Propenal]	5,000	b
107-11-9	Allylamine [2-Propen-1-amine]	10,000	b
107-12-0	Propionitrile [Propanenitrile]	10,000	b
107-13-1	Acrylonitrile [2-Propenenitrile]	20,000	b
107-15-3	Ethylenediamine [1,2-Ethanediamine]	20,000	b
107-18-6	Allyl alcohol [2-Propen-1-ol]	15,000	b
107-30-2	Chloromethyl methyl ether [Methane, chloromethoxy-]	5,000	b
108-05-4	Vinyl acetate monomer [Acetic acid ethenyl ester]	15,000	b
108-23-6	Isopropyl chloroformate [Carbonochloridic acid, 1-methylethyl ester]	15,000	b
108-91-8	Cyclohexylamine [Cyclohexanamine]	15,000	b
109-61-5	Propyl chloroformate [Carbonochloridic acid, propylester]	15,000	b
110-00-9	Furan	5,000	b
110-89-4	Piperidine	15,000	b
123-73-9	Crotonaldehyde, (E)- [2-Butenal, (E)-]	20,000	b

TABLE 2 TO § 68.130.—LIST OF REGULATED TOXIC SUBSTANCES AND THRESHOLD QUANTITIES FOR ACCIDENTAL RELEASE PREVENTION—Continued

[CAS Number Order—77 Substances]

CAS No.	Chemical name	Threshold quantity (lbs)	Basis for listing
126–98–7	Methacrylonitrile [2-Propenenitrile, 2-methyl-]	10,000	b
151–56–4	Ethyleneimine [Aziridine]	10,000	b
302–01–2	Hydrazine	15,000	b
353–42–4	Boron trifluoride compound with methyl ether (1:1) [Boron, trifluoro[oxybis[methane]]-, T-4-.	15,000	b
506–77–4	Cyanogen chloride	10,000	c
509–14–8	Tetranitromethane [Methane, tetranitro-]	10,000	b
542–88–1	Chloromethyl ether [Methane, oxybis[chloro-]	1,000	b
556–64–9	Methyl thiocyanate [Thiocyanic acid, methyl ester]	20,000	b
584–84–9	Toluene 2,4-diisocyanate [Benzene, 2,4-diisocyanato-1-methyl-][1]	10,000	a
594–42–3	Perchloromethylmercaptan [Methanesulfenyl chloride, trichloro-]	10,000	b
624–83–9	Methyl isocyanate [Methane, isocyanato-]	10,000	a, b
814–68–6	Acrylyl chloride [2-Propenoyl chloride]	5,000	b
4170–30–3	Crotonaldehyde [2-Butenal]	20,000	b
7446–09–5	Sulfur dioxide (anhydrous)	5,000	a, b
7446–11–9	Sulfur trioxide	10,000	a, b
7550–45–0	Titanium tetrachloride [Titanium chloride (TiCl4) (T-4)-]	2,500	b
7637–07–2	Boron trifluoride [Borane, trifluoro-]	5,000	b
7647–01–0	Hydrochloric acid (conc 30% or greater)	15,000	d
7647–01–0	Hydrogen chloride (anhydrous) [Hydrochloric acid]	5,000	a
7664–39–3	Hydrogen fluoride/Hydrofluoric acid (conc 50% or greater) [Hydrofluoric acid]	1,000	a, b
7664–41–7	Ammonia (anhydrous)	10,000	a, b
7664–41–7	Ammonia (conc 20% or greater)	20,000	a, b
7697–37–2	Nitric acid (conc 80% or greater)	15,000	b
7719–12–2	Phosphorus trichloride [Phosphorous trichloride]	15,000	b
7726–95–6	Bromine	10,000	a, b
7782–41–4	Fluorine	1,000	b
7782–50–5	Chlorine	2,500	a, b
7783–06–4	Hydrogen sulfide	10,000	a, b
7783–07–5	Hydrogen selenide	500	b
7783–60–0	Sulfur tetrafluoride [Sulfur fluoride (SF_4), (T-4)-]	2,500	b
7784–34–1	Arsenous trichloride	15,000	b
7784–42–1	Arsine	1,000	b
7803–51–2	Phosphine	5,000	b
8014–95–7	Oleum (Fuming Sulfuric acid) [Sulfuric acid, mixture with sulfur trioxide][1]	10,000	e
10025–87–3	Phosphorus oxychloride [Phosphoryl chloride]	5,000	b
10049–04–4	Chlorine dioxide [Chlorine oxide (ClO_2)]	1,000	c
10102–43–9	Nitric oxide [Nitrogen oxide (NO)]	10,000	b
10294–34–5	Boron trichloride [Borane, trichloro-]	5,000	b
13463–39–3	Nickel carbonyl	1,000	b
13463–40–6	Iron, pentacarbonyl- [Iron carbonyl ($Fe(CO)_5$), (TB-5-11)-]	2,500	b
19287–45–7	Diborane	2,500	b
26471–62–5	Toluene diisocyanate (unspecified isomer) [Benzene, 1,3-diisocyanatomethyl-1][1]	10,000	a

[1] The mixture exemption in § 68.115(b)(1) does not apply to the substance.

NOTE: Basis for Listing.

a Mandated for listing by Congress.
b On EHS list, vapor pressure 10 mmHg or greater.
c Toxic gas.
e Toxicity of sulfur trioxide and sulfuric acid, potential to release sulfur trioxide, and history of accidents.

TABLE 3 TO § 68.130.—LIST OF REGULATED FLAMMABLE SUBSTANCES AND THRESHOLD QUANTITIES FOR ACCIDENTAL RELEASE PREVENTION

[Alphabetical Order—63 Substances]

Chemical name	CAS No.	Threshold quantity (lbs)	Basis for listing
Acetaldehyde	75–07–0	10,000	g
Acetylene [Ethyne]	74–86–2	10,000	f
Bromotrifluoroethylene [Ethene, bromotrifluoro-]	598–73–2	10,000	f
1,3-Butadiene	106–99–0	10,000	f
Butane	106–97–8	10,000	f
1-Butene	106–98–9	10,000	f
2-Butene	107–01–7	10,000	f
Butene	25167–67–3	10,000	f

TABLE 3 TO § 68.130.—LIST OF REGULATED FLAMMABLE SUBSTANCES AND THRESHOLD QUANTITIES FOR ACCIDENTAL RELEASE PREVENTION—*Continued*

[Alphabetical Order—63 Substances]

Chemical name	CAS No	Threshold quantity (lbs)	Basis for listing
2-Butene-cis	590-18-1	10,000	f
2-Butene-trans [2-Butene, (E)]	624-64-6	10,000	f
Carbon oxysulfide [Carbon oxide sulfide (COS)]	463-58-1	10,000	f
Chlorine monoxide [Chlorine oxide]	7791-21-1	10,000	f
2-Chloropropylene [1-Propene, 2-chloro-]	557-98-2	10,000	g
1-Chloropropylene [1-Propene, 1-chloro-]	590-21-6	10,000	g
Cyanogen [Ethanedinitrile]	460-19-5	10,000	f
Cyclopropane	75-19-4	10,000	f
Dichlorosilane [Silane, dichloro-]	4109-96-0	10,000	f
Difluoroethane [Ethane, 1,1-difluoro-]	75-37-6	10,000	f
Dimethylamine [Methanamine, N-methyl-]	124-40-3	10,000	f
2,2-Dimethylpropane [Propane, 2,2-dimethyl-]	463-82-1	10,000	f
Ethane	74-84-0	10,000	f
Ethyl acetylene [1-Butyne]	107-00-6	10,000	f
Ethylamine [Ethanamine]	75-04-7	10,000	f
Ethyl chloride [Ethane, chloro-]	75-00-3	10,000	f
Ethylene [Ethene]	74-85-1	10,000	f
Ethyl ether [Ethane, 1,1'-oxybis-]	60-29-7	10,000	g
Ethyl mercaptan [Ethanethiol]	75-08-1	10,000	g
Ethyl nitrite [Nitrous acid, ethyl ester]	109-95-5	10,000	f
Hydrogen	1333-74-0	10,000	f
Isobutane [Propane, 2-methyl]	75-28-5	10,000	f
Isopentane [Butane, 2-methyl-]	78-78-4	10,000	g
Isoprene [1,3-Butadiene, 2-methyl-]	78-79-5	10,000	g
Isopropylamine [2-Propanamine]	75-31-0	10,000	g
Isopropyl chloride [Propane, 2-chloro-]	75-29-6	10,000	g
Methane	74-82-8	10,000	f
Methylamine [Methanamine]	74-89-5	10,000	f
3-Methyl-1-butene	563-45-1	10,000	f
2-Methyl-1-butene	563-46-2	10,000	g
Methyl ether [Methane, oxybis-]	115-10-6	10,000	f
Methyl formate [Formic acid, methyl ester]	107-31-3	10,000	g
2-Methylpropene [1-Propene, 2-methyl-]	115-11-7	10,000	f
1,3-Pentadiene	504-60-9	10,000	f
Pentane	109-66-0	10,000	g
1-Pentene	109-67-1	10,000	g
2-Pentene, (E)-	646-04-8	10,000	g
2-Pentene, (Z)-	627-20-3	10,000	g
Propadiene [1,2-Propadiene]	463-49-0	10,000	f
Propane	74-98-6	10,000	f
Propylene [1-Propene]	115-07-1	10,000	f
Propyne [1-Propyne]	74-99-7	10,000	f
Silane	7803-62-5	10,000	f
Tetrafluoroethylene [Ethene, tetrafluoro-]	116-14-3	10,000	f
Tetramethylsilane [Silane, tetramethyl-]	75-76-3	10,000	g
Trichlorosilane [Silane, trichloro-]	10025-78-2	10,000	g
Trifluorochloroethylene [Ethene, chlorotrifluoro-]	79-38-9	10,000	f
Trimethylamine [Methanamine, N,N-dimethyl-]	75-50-3	10,000	f
Vinyl acetylene [1-Buten-3-yne]	689-97-4	10,000	f
Vinyl chloride [Ethene, chloro-]	75-01-4	10,000	a, f
Vinyl ethyl ether [Ethene, ethoxy-]	109-92-2	10,000	g
Vinyl fluoride [Ethene, fluoro-]	75-02-5	10,000	f
Vinylidene chloride [Ethene, 1,1-dichloro-]	75-35-4	10,000	g
Vinylidene fluoride [Ethene, 1,1-difluoro-]	75-38-7	10,000	f
Vinyl methyl ether [Ethene, methoxy-]	107-25-5	10,000	f

NOTE: Basis for Listing:
a Mandated for listing by Congress.
f Flammable gas.
g Volatile flammable liquid

TABLE 4 TO § 68.130.—LIST OF REGULATED FLAMMABLE SUBSTANCES AND THRESHOLD QUANTITIES FOR ACCIDENTAL RELEASE PREVENTION

[CAS Number Order—63 Substances]

CAS No.	Chemical name	CAS No.	Threshold quantity (lbs)	Basis for listing
60–29–7	Ethyl ether [Ethane, 1,1'-oxybis-]	60–29–7	10,000	g
74–82–8	Methane	74–82–8	10,000	f
74–84–0	Ethane	74–84–0	10,000	f
74–85–1	Ethylene [Ethene]	74–85–1	10,000	f
74–86–2	Acetylene [Ethyne]	74–86–2	10,000	f
74–89–5	Methylamine [Methanamine]	74–89–5	10,000	f
74–98–6	Propane	74–98–6	10,000	f
74–99–7	Propyne [1-Propyne]	74–99–7	10,000	f
75–00–3	Ethyl chloride [Ethane, chloro-]	75–00–3	10,000	f
75–01–4	Vinyl chloride [Ethene, chloro-]	75–01–4	10,000	a, f
75–02–5	Vinyl fluoride [Ethene, fluoro-]	75–02–5	10,000	f
75–04–7	Ethylamine [Ethanamine]	75–04–7	10,000	f
75–07–0	Acetaldehyde	75–07–0	10,000	g
75–08–1	Ethyl mercaptan [Ethanethiol]	75–08–1	10,000	g
75–19–4	Cyclopropane	75–19–4	10,000	f
75–28–5	Isobutane [Propane, 2-methyl]	75–28–5	10,000	f
75–29–6	Isopropyl chloride [Propane, 2-chloro-]	75–29–6	10,000	g
75–31–0	Isopropylamine [2-Propanamine]	75–31–0	10,000	g
75–35–4	Vinylidene chloride [Ethene, 1,1-dichloro-]	75–35–4	10,000	g
75–37–6	Difluoroethane [Ethane, 1,1-difluoro-]	75–37–6	10,000	f
75–38–7	Vinylidene fluoride [Ethene, 1,1-difluoro-]	75–38–7	10,000	f
75–50–3	Trimethylamine [Methanamine, N, N-dimethyl-]	75–50–3	10,000	f
75–76–3	Tetramethylsilane [Silane, tetramethyl-]	75–76–3	10,000	g
78–78–4	Isopentane [Butane, 2-methyl-]	78–78–4	10,000	g
78–79–5	Isoprene [1,3,-Butadiene, 2-methyl-]	78–79–5	10,000	g
79–38–9	Trifluorochloroethylene [Ethene, chlorotrifluoro-]	79–38–9	10,000	f
106–97–8	Butane	106–97–8	10,000	f
106–98–9	1-Butene	106–98–9	10,000	f
106–99–0	1,3-Butadiene	106–99–0	10,000	f
107–00–6	Ethyl acetylene [1-Butyne]	107–00–6	10,000	f
107–01–7	2-Butene	107–01–7	10,000	f
107–25–5	Vinyl methyl ether [Ethene, methoxy-]	107–25–5	10,000	f
107–31–3	Methyl formate [Formic acid, methyl ester]	107–31–3	10,000	g
109–66–0	Pentane	109–66–0	10,000	g
109–67–1	1-Pentene	109–67–1	10,000	g
109–92–2	Vinyl ethyl ether [Ethene, ethoxy-]	109–92–2	10,000	g
109–95–5	Ethyl nitrite [Nitrous acid, ethyl ester]	109–95–5	10,000	f
115–07–1	Propylene [1-Propene]	115–07–1	10,000	f
115–10–6	Methyl ether [Methane, oxybis-]	115–10–6	10,000	f
115–11–7	2-Methylpropene [1-Propene, 2-methyl-]	115–11–7	10,000	f
116–14–3	Tetrafluoroethylene [Ethene, tetrafluoro-]	116–14–3	10,000	f
124–40–3	Dimethylamine [Methanamine, N-methyl-]	124–40–3	10,000	f
460–19–5	Cyanogen [Ethanedinitrile]	460–19–5	10,000	f
463–49–0	Propadiene [1,2-Propadiene]	463–49–0	10,000	f
463–58–1	Carbon oxysulfide [Carbon oxide sulfide (COS)]	463–58–1	10,000	f
463–82–1	2,2-Dimethylpropane [Propane, 2,2-dimethyl-]	463–82–1	10,000	f
504–60–9	1,3-Pentadiene	504–60–9	10,000	f
557–98–2	2-Chloropropylene [1-Propene, 2-chloro-]	557–98–2	10,000	g
563–45–1	3-Methyl-1-butene	563–45–1	10,000	f
563–46–2	2-Methyl-1-butene	563–46–2	10,000	g
590–18–1	2-Butene-cis	590–18–1	10,000	f
590–21–6	1-Chloropropylene [1-Propene, 1-chloro-]	590–21–6	10,000	g
598–73–2	Bromotrifluorethylene [Ethene, bromotrifluoro-]	598–73–2	10,000	f
624–64–6	2-Butene-trans [2-Butene, (E)]	624–64–6	10,000	f
627–20–3	2-Pentene, (Z)-	627–20–3	10,000	g
646–04–8	2-Pentene, (E)-	646–04–8	10,000	g
689–97–4	Vinyl acetylene [1-Buten-3-yne]	689–97–4	10,000	f
1333–74–0	Hydrogen	1333–74–0	10,000	f
4109–96–0	Dichlorosilane [Silane, dichloro-]	4109–96–0	10,000	f
7791–21–1	Chlorine monoxide [Chlorine oxide]	7791–21–1	10,000	f
7803–62–5	Silane	7803–62–5	10,000	f
10025–78–2	Trichlorosilane [Silane trichloro-]	10025–78–2	10,000	g
25167–67–3	Butene	25167–67–3	10,000	f

Note: Basis for Listing: a Mandated for listing by Congress. f Flammable gas g Volatile flammable liquid.

APPENDIX D

STATE OF CALIFORNIA LIST OF REGULATED SUBSTANCES AND THRESHOLD QUANTITIES FOR ACCIDENTAL RELEASE PREVENTION

Table 3. State Regulated Substances List and Threshold Quantities for Accidental Release Prevention

Chemical Name	Also on Table 1[1]	CAS Number	State Threshold Quantity (lbs)
Acetone Cyanohydrin [2]	no	75-86-5	1,000
Acetone Thiosemicarbazide	no	1752-30-3	1,000/10,000 [3]
Acrolein	yes	107-02-8	500
Acrylamide	no	79-06-1	1,000/10,000 [3]
Acrylonitrile	yes	107-13-1	10,000
Acrylyl Chloride	yes	814-68-6	100
Aldicarb	no	116-06-3	100/10,000 [3]
Aldrin	no	309-00-2	500/10,000 [3]
Allyl Alcohol	yes	107-18-6	1,000
Allylamine	yes	107-11-9	500
Aluminum Phosphide [4]	no	20859-73-8	500
Aminopterin	no	54-62-6	500/10,000 [3]
Amiton Oxalate	no	3734-97-2	100/10,000 [3]
Ammonia [5]	yes	7664-41-7	500
Aniline [2]	no	62-53-3	1,000
Antimycin A	no	1397-94-0	1,000/10,000 [3]
ANTU	no	86-88-4	500/10,000 [3]
Arsenic Pentoxide	no	1303-28-2	100/10,000 [3]
Arsenous Oxide	no	1327-53-3	100/10,000 [3]
Arsenous Trichloride	yes	7784-34-1	500
Arsine	yes	7784-42-1	100
Azinphos-Ethyl	no	2642-71-9	100/10,000 [3]
Azinphos-Methyl	no	86-50-0	10/10,000 [3]
Benzene, 1-(Chloromethyl)-4-Nitro-	no	100-14-1	500/10,000 [3]
Benzenearsonic Acid	no	98-05-5	10/10,000 [3]
Benzimidazole, 4,5-Dichloro-2-(Trifluoromethyl)-	no	3615-21-2	500/10,000 [3]
Benzotrichloride [2]	no	98-07-7	100
Bicyclo[2.2.1] Heptane-2-Carbonitrile, 5-Chloro- 6-((((Methylamino) Carbonyl)Oxy)Imino)-, (1s-(1-alpha, 2-beta, 4-alpha, 5-alpha, 6E))-	no	15271-41-7	500/10,000 [3]
Bis(Chloromethyl) Ketone	no	534-07-6	10/10,000 [3]
Bitoscanate	no	4044-65-9	500/10,000 [3]
Boron Trichloride	yes	10294-34-5	500
Boron Trifluoride	yes	7637-07-2	500
Boron Trifluoride Compound w/ Methyl Ether (1:1)	yes	353-42-4	1,000
Bromadiolone	no	28772-56-7	100/10,000 [3]
Bromine	yes	7726-95-6	500
Cadmium Oxide	no	1306-19-0	100/10,000 [3]
Cadmium Stearate	no	2223-93-0	1,000/10,000 [3]
Calcium Arsenate	no	7778-44-1	500/10,000 [3]
Camphechlor	no	8001-35-2	500/10,000 [3]
Cantharidin	no	56-25-7	100/10,000 [3]

Table 3. State Regulated Substances List and Threshold Quantities for Accidental Release Prevention
(Continued)

Chemical Name	Also on Table 1[1]	CAS Number	State Threshold Quantity (lbs)
Carbachol Chloride	no	51-83-2	500/10,000[3]
Carbamic Acid, Methyl-,o-(((2,4-Dimethyl-1, 3-Dithiolan-2-yl)Methylene) Amino)-.	no	26419-73-8	100/10,000[3]
Carbofuran	no	1563-66-2	10/10,000[3]
Carbon Disulfide	yes	75-15-0	10,000
Chlorine	yes	7782-50-5	100
Chlormequat Chloride	no	999-81-5	100/10,000[3]
Chloroacetic Acid	no	79-11-8	100/10,000[3]
Chloroform	yes	67-66-3	10,000
Chloromethyl Ether	yes	542-88-1	100
Chloromethyl Methyl Ether	yes	107-30-2	100
Chlorophacinone	no	3691-35-8	100/10,000[3]
Chloroxuron	no	1982-47-4	500/10,000[3]
Chromic Chloride	no	10025-73-7	1/10,000[3]
Cobalt Carbonyl	no	10210-68-1	10/10,000[3]
Cobalt, ((2,2'-(1,2-Ethanediylbis (Nitrilomethylidyne)) Bis(6-Fluorophenolato))(2-)-N,N',O,O')-.	no	62207-76-5	100/10,000[3]
Colchicine	no	64-86-8	10/10,000[3]
Coumaphos	no	56-72-4	100/10,000[3]
Coumatetralyl	no	5836-29-3	500/10,000[3]
Cresol, o-	no	95-48-7	1,000/10,000[3]
Crimidine	no	535-89-7	100/10,000[3]
Crotonaldehyde	yes	4170-30-3	1,000
Crotonaldehyde, (E)-	yes	123-73-9	1,000
Cyanogen Bromide	no	506-68-3	500/10,000[3]
Cyanogen Iodide	no	506-78-5	1,000/10,000[3]
Cyanuric Fluoride	no	675-14-9	100
Cycloheximide	no	66-81-9	100/10,000[3]
Cyclohexylamine	yes	108-91-8	10,000
Decaborane(14)	no	17702-41-9	500/10,000[3]
Dialifor	no	10311-84-9	100/10,000[3]
Diborane	yes	19287-45-7	100
Diepoxybutane[2]	no	1464-53-5	500
Digitoxin	no	71-63-6	100/10,000[3]
Digoxin	no	20830-75-5	10/10,000[3]
Dimethoate	no	60-51-5	500/10,000[3]
Dimethyldichlorosilane	yes	75-78-5	500
Dimethylhydrazine	yes	57-14-7	1,000
Dimethyl-p-Phenylenediamine	no	99-98-9	10/10,000[3]
Dimethyl Sulfate[2]	no	77-78-1	500
Dimetilan	no	644-64-4	500/10,000[3]

Table 3. State Regulated Substances List and Threshold Quantities for Accidental Release Prevention
(Continued)

Chemical Name	Also on Table 1[1]	CAS Number	State Threshold Quantity (lbs)
Dinitrocresol	no	534-52-1	10/10,000[3]
Dinoseb	no	88-85-7	100/10,000[3]
Dinoterb	no	1420-07-1	500/10,000[3]
Diphacinone	no	82-66-6	10/10,000[3]
Disulfoton[2]	no	298-04-4	500
Dithiazanine Iodide	no	514-73-8	500/10,000[3]
Dithiobiuret	no	541-53-7	100/10,000[3]
Emetine, Dihydrochloride	no	316-42-7	1/10,000[3]
Endosulfan	no	115-29-7	10/10,000[3]
Endothion	no	2778-04-3	500/10,000[3]
Endrin	no	72-20-8	500/10,000[3]
Epichlorohydrin	yes	106-89-8	1,000
EPN	no	2104-64-5	100/10,000[3]
Ergocalciferol	no	50-14-6	1,000/10,000[3]
Ergotamine Tartrate	no	379-79-3	500/10,000[3]
Ethylenediamine	yes	107-15-3	10,000
Ethylene Fluorohydrin	no	371-62-0	10
Ethyleneimine	yes	151-56-4	500
Ethylene Oxide	yes	75-21-8	1,000
Fenamiphos	no	22224-92-6	10/10,000[3]
Fluenetil	no	4301-50-2	100/10,000[3]
Fluorine	yes	7782-41-4	500
Fluoroacetamide	no	640-19-7	100/10,000[3]
Fluoroacetic Acid	no	144-49-0	10/10,000[3]
Fluoroacetyl Chloride	no	359-06-8	10
Fluorouracil	no	51-21-8	500/10,000[3]
Formaldehyde[5]	yes	50-00-0	500
Formetanate Hydrochloride	no	23422-53-9	500/10,000[3]
Formparanate	no	17702-57-7	100/10,000[3]
Fuberidazole	no	3878-19-1	100/10,000[3]
Furan	yes	110-00-9	500
Gallium Trichloride	no	13450-90-3	500/10,000[3]
Hydrazine	yes	302-01-2	1,000
Hydrocyanic Acid	yes	74-90-8	100
Hydrogen Chloride (gas only)	yes	7647-01-0	500
Hydrogen Fluoride	yes	7664-39-3	100
Hydrogen Selenide	yes	7783-07-5	10
Hydrogen Sulfide	yes	7783-06-4	500
Hydroquinone[6]	no	123-31-9	500/10,000[3]
Iron, Pentacarbonyl-	yes	13463-40-6	100
Isobenzan	no	297-78-9	100/10,000[3]
Isobutyronitrile	yes	78-82-0	1,000

Table 3. State Regulated Substances List and Threshold Quantities for Accidental Release Prevention
(Continued)

Chemical Name	Also on Table 1[1]	CAS Number	State Threshold Quantity (lbs)
Isocyanic Acid, 3,4-Dichlorophenyl Ester	no	102-36-3	500/10,000 [3]
Isodrin	no	465-73-6	100/10,000 [3]
Isophorone Diisocyanate	no	4098-71-9	100
Isopropyl Chloroformate	yes	108-23-6	1,000
Leptophos	no	21609-90-5	500/10,000 [3]
Lewisite [2]	no	541-25-3	10
Lindane	no	58-89-9	1,000/10,000 [3]
Lithium Hydride [4]	no	7580-67-8	100
Malononitrile	no	109-77-3	500/10,000 [3]
Manganese, Tricarbonyl Methylcyclopentadienyl [2]	no	12108-13-3	100
Mechlorethamine [2]	no	51-75-2	10
Mercuric Acetate	no	1600-27-7	500/10,000 [3]
Mercuric Chloride	no	7487-94-7	500/10,000 [3]
Mercuric Oxide	no	21908-53-2	500/10,000 [3]
Methacrylonitrile	yes	126-98-7	500
Methacryloyl Chloride	no	920-46-7	100
Methacryloyloxyethyl Isocyanate	no	30674-80-7	100
Methamidophos	no	10265-92-6	100/10,000 [3]
Methanesulfonyl Fluoride	no	558-25-8	1,000
Methidathion	no	950-37-8	500/10,000 [3]
Methiocarb	no	2032-65-7	500/10,000 [3]
Methomyl	no	16752-77-5	500/10,000 [3]
Methoxyethylmercuric Acetate	no	151-38-2	500/10,000 [3]
Methyl Bromide	no	74-83-9	1,000
Methyl 2-Chloroacrylate	no	80-63-7	500
Methyl Chloroformate	yes	79-22-1	500
Methyl Hydrazine	yes	60-34-4	500
Methyl Isocyanate	yes	624-83-9	500
Methyl Isothiocyanate [4]	no	556-61-6	500
Methyl Mercaptan	yes	74-93-1	500
Methylmercuric Dicyanamide	no	502-39-6	500/10,000 [3]
Methyl Phosphonic Dichloride [4]	no	676-97-1	100
Methyl Thiocyanate	yes	556-64-9	10,000
Methyltrichlorosilane	yes	75-79-6	500
Methyl Vinyl Ketone	no	78-94-4	10
Metolcarb	no	1129-41-5	100/10,000 [3]
Mexacarbate	no	315-18-4	500/10,000 [3]
Mitomycin C	no	50-07-7	500/10,000 [3]
Monocrotophos	no	6923-22-4	10/10,000 [3]
Muscimol	no	2763-96-4	500/10,000 [3]
Mustard Gas [2]	no	505-60-2	500
Nickel Carbonyl	yes	13463-39-3	1

Table 3. State Regulated Substances List and Threshold Quantities for Accidental Release Prevention
(Continued)

Chemical Name	Also on Table 1[1]	CAS Number	State Threshold Quantity (lbs)
Nicotine Sulfate	no	65-30-5	100/10,000[3]
Nitric Acid	yes	7697-37-2	1,000
Nitric Oxide	yes	10102-43-9	100
Nitrobenzene[2]	no	98-95-3	10,000
Nitrogen Dioxide	no	10102-44-0	100
Norbormide	no	991-42-4	100/10,000[3]
Organorhodium Complex (PMN-82-147)	no	MIXTURE	10/10,000[3]
Ouabain	no	630-60-4	100/10,000[3]
Oxamyl	no	23135-22-0	100/10,000[3]
Ozone	no	10028-15-6	100
Paraquat Dichloride	no	1910-42-5	10/10,000[3]
Paraquat Methosulfate	no	2074-50-2	10/10,000[3]
Parathion-Methyl	no	298-00-0	100/10,000[3]
Paris Green	no	12002-03-8	500/10,000[3]
Pentaborane	no	19624-22-7	500
Pentadecylamine	no	2570-26-5	100/10,000[3]
Peracetic Acid	yes	79-21-0	500
Perchloromethylmercaptan	yes	594-42-3	500
Phenol	no	108-95-2	500/10,000[3]
Phenol, 2,2'-Thiobis(4-Chloro-6-Methyl)-	no	4418-66-0	100/10,000[3]
Phenol, 3-(1-Methylethyl)-, Methylcarbamate	no	64-00-6	500/10,000[3]
Phenoxarsine, 10, 10' - Oxydi-	no	58-36-6	500/10,000[3]
Phenyl Dichloroarsine[2]	no	696-28-6	500
Phenylhydrazine Hydrochloride	no	59-88-1	1,000/10,000[3]
Phenylmercury Acetate	no	62-38-4	500/10,000[3]
Phenylsilatrane	no	2097-19-0	100/10,000[3]
Phenylthiourea	no	103-85-5	100/10,000[3]
Phorate[2]	no	298-02-2	10
Phosacetim	no	4104-14-7	100/10,000[3]
Phosfolan	no	947-02-4	100/10,000[3]
Phosgene	yes	75-44-5	10
Phosmet	no	732-11-6	10/10,000[3]
Phosphine	yes	7803-51-2	500
Phosphonothioic Acid, Methyl-, S-(2-(Bis(1-Methylethyl)Amino)Ethyl) O-Ethyl Ester.[2]	no	50782-69-9	100
Phosphorus[4]	no	7723-14-0	100
Phosphorus Oxychloride	yes	10025-87-3	500
Phosphorus Pentachloride[4]	no	10026-13-8	500
Phosphorus Trichloride	yes	7719-12-2	1,000
Physostigmine	no	57-47-6	100/10,000[3]
Physostigmine, Salicylate (1:1)	no	57-64-7	100/10,000[3]

Table 3. State Regulated Substances List and Threshold Quantities for Accidental Release Prevention
(Continued)

Chemical Name	Also on Table 1[1]	CAS Number	State Threshold Quantity (lbs)
Picrotoxin	no	124-87-8	500/10,000[3]
Piperidine	yes	110-89-4	1,000
Potassium Arsenite	no	10124-50-2	500/10,000[3]
Potassium Cyanide[4]	no	151-50-8	100
Potassium Silver Cyanide[4]	no	506-61-6	500
Promecarb	no	2631-37-0	500/10,000[3]
Propargyl Bromide	no	106-96-7	10
Propiolactone, Beta-[2]	no	57-57-8	500
Propionitrile	yes	107-12-0	500
Propiophenone, 4-Amino-	no	70-69-9	100/10,000[3]
Propyl Chloroformate	yes	109-61-5	500
Propylene Oxide	yes	75-56-9	10,000
Propyleneimine	yes	75-55-8	10,000
Prothoate	no	2275-18-5	100/10,000[3]
Pyrene	no	129-00-0	1,000/10,000[3]
Pyridine, 4-Amino-	no	504-24-5	500/10,000[3]
Pyridine, 4-Nitro-, 1-Oxide	no	1124-33-0	500/10,000[3]
Pyriminil	no	53558-25-1	100/10,000[3]
Salcomine	no	14167-18-1	500/10,000[3]
Sarin[2]	no	107-44-8	10
Selenious Acid	no	7783-00-8	1,000/10,000[3]
Semicarbazide Hydrochloride	no	563-41-7	1,000/10,000[3]
Sodium Arsenate	no	7631-89-2	1,000/10,000[3]
Sodium Arsenite	no	7784-46-5	500/10,000[3]
Sodium Azide (Na (N3))[4]	no	26628-22-8	500
Sodium Cacodylate	no	124-65-2	100/10,000[3]
Sodium Cyanide (Na (CN))[4]	no	143-33-9	100
Sodium Fluoroacetate	no	62-74-8	10/10,000[3]
Sodium Selenate	no	13410-01-0	100/10,000[3]
Sodium Selenite	no	10102-18-8	100/10,000[3]
Sodium Tellurite	no	10102-20-2	500/10,000[3]
Stannane, Acetoxytriphenyl-	no	900-95-8	500/10,000[3]
Strychnine	no	57-24-9	100/10,000[3]
Strychnine Sulfate	no	60-41-3	100/10,000[3]
Sulfur Dioxide	yes	7446-09-5	500
Sulfuric Acid[7]	no	7664-93-9	1,000
Sulfur Tetrafluoride	yes	7783-60-0	100
Sulfur Trioxide[4]	yes	7446-11-9	100
Tabun[2]	no	77-81-6	10
Tellurium Hexafluoride	no	7783-80-4	100

Table 3. State Regulated Substances List and Threshold Quantities for Accidental Release Prevention
(Continued)

Chemical Name	Also on Table 1[1]	CAS Number	State Threshold Quantity (lbs)
Tetramethyllead	yes	75-74-1	100
Tetranitromethane	yes	509-14-8	500
Thallium Sulfate	no	10031-59-1	100/10,000[3]
Thallous Carbonate	no	6533-73-9	100/10,000[3]
Thallous Chloride	no	7791-12-0	100/10,000[3]
Thallous Malonate	no	2757-18-8	100/10,000[3]
Thallous Sulfate	no	7446-18-6	100/10,000[3]
Thiocarbazide	no	2231-57-4	1,000/10,000[3]
Thiofanox	no	39196-18-4	100/10,000[3]
Thiosemicarbazide	no	79-19-6	100/10,000[3]
Thiourea, (2-Chlorophenyl)-	no	5344-82-1	100/10,000[3]
Thiourea, (2-Methylphenyl)-	no	614-78-8	500/10,000[3]
Titanium Tetrachloride	yes	7550-45-0	100
Toluene-2,4-Diisocyanate[8]	yes	584-84-9	500
Toluene-2,6-Diisocyanate[8]	yes	91-08-7	100
Triamiphos	no	1031-47-6	500/10,000[3]
Trichloro(Chloromethyl)Silane	no	1558-25-4	100
Trichloro(Dichlorophenyl)Silane	no	27137-85-5	500
Triethoxysilane	no	998-30-1	500
Trimethylchlorosilane	yes	75-77-4	1,000
Trimethylolpropane Phosphite	no	824-11-3	100/10,000[3]
Trimethyltin Chloride	no	1066-45-1	500/10,000[3]
Triphenyltin Chloride	no	639-58-7	500/10,000[3]
Tris(2-Chloroethyl)Amine[2]	no	555-77-1	100
Valinomycin	no	2001-95-8	1,000/10,000[3]
Vanadium Pentoxide	no	1314-62-1	100/10,000[3]
Vinyl Acetate Monomer	yes	108-05-4	1,000
Warfarin	no	81-81-2	500/10,000[3]
Warfarin Sodium	no	129-06-6	100/10,000[3]
Xylylene Dichloride	no	28347-13-9	100/10,000[3]
Zinc, Dichloro(4,4-Dimethyl-5((((Methylamino) Carbonyl)Oxy)Imino) Pentanenitrile)-, (T-4)-	no	58270-08-9	100/10,000[3]
Zinc Phosphide[4]	no	1314-84-7	500

1 This column identifies substances which may appear on Table 1. Table 1 may have concentration limitations.

2 Substances that failed the evaluation pursuant to Section 25532(g)(2) of the HSC but remain listed pursuant to potential health impacts. The exemption in Section 2770.2(b)(1)(B) regarding portions of a process where these regulated substances are handled at partial pressures below 10 mm Hg does not apply to these substances.

3 These extremely hazardous substances are solids. The lesser quantity listed applies only if in powdered form and with a particle size of less than 100 microns; or if handled in solution or in molten form; or the substance has an NFPA rating for reactivity of 2, 3, or 4. Otherwise, a 10,000 pound threshold applies. The exemption in Section 2770.2(b)(1)(B) regarding portions of a process where these regulated substances are handled at partial pressures below 10 mm Hg does not apply to

these substances.

Table 3. State Regulated Substances List and Threshold Quantities for Accidental Release Prevention
(Continued)

4 These extremely hazardous substances are reactive solids. The exemption in Section 2770.2(b)(1)(B) regarding portions of a process where these regulated substances are handled at partial pressures below 10 mm Hg does not apply to these substances.

5 Appropriate synonyms or mixtures of extremely hazardous substances with the same CAS number are also regulated, e.g., formalin. The listing of ammonia includes anhydrous and aqueous forms of ammonia pursuant to Section 25532(g)(2).

6 Hydroquinone is exempt in crystalline form.

7 Sulfuric acid fails the evaluation pursuant to Section 25532(g)(2) of the HSC but remains listed as a Regulated Substance only under the following conditions:

a. If concentrated with greater than 100 pounds of sulfur trioxide or the acid meets the definition of oleum. (The Table 3 threshold for sulfur trioxide is 100 pounds.) (The Table 1 threshold for oleum is 10,000 pounds.)
b. If in a container with flammable hydrocarbons (flash point < 73° F).

8 The exemption in Section 2770.2(b)(1)(B) regarding portions of a process where these regulated substances are handled at partial pressures below 10 mm Hg does not apply to these substances.

APPENDIX E

CONTRA COSTA COUNTY

INDUSTRIAL SAFETY ORDINANCE

ORDINANCE NO. 98-48
AND AMENDMENTS FROM 2000-20

INDUSTRIAL SAFETY ORDINANCE

The Contra Costa County Board of Supervisors ordains as follows (omitting the parenthetical footnotes from the official text of the enacted or amended provisions of the County Ordinance Code):

SECTION I. SUMMARY. This Ordinance adds Chapter 450-8 to the County Ordinance Code. Chapter 450-8 imposes regulations which supplement the requirements of California Health and Safety Code Article 2 (commencing with section 25531) of Chapter 6.95 concerning hazardous materials management by enacting measures to prevent and reduce the probability of accidental releases of regulated substances that have the potential to cause significant harm to the public health and increase participation by industry and the public to improve accident prevention. These measures include submission of a Safety Plan to the County, stringent requirements for the contents of a Safety Plan and 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 regulated substances beyond those covered by the Federal and State Risk Management Program regulations, and authorization for the County to expand audits and inspections to all units within the Stationary Source. Root Cause Analysis is required for all Major Chemical Accidents or Releases. A public outreach and information program is established.

This ordinance substantially readopts Chapter 84-63, originally added by Ordinance No. 96-20 and repealed by Ordinance No. 96-50, and repeals Chapter 84-63, added by Ordinance No. 96-50. Articles 84-63.2, 84-63.4, 84-63.6, 84-63.8, 84-63.10 and 84-63.12 of Chapter 84-63, as added by this ordinance, set forth criteria for land use permits for development projects involving hazardous waste or hazardous material which encourage business and other entities, in planning such projects, to give greater emphasis to factors which involve potential health and safety risks to the surrounding community. Article 84-62.14 is readopted in its entirety.

SECTION II. Chapter 450-8 is added to the County Ordinance Code, to read:

CHAPTER 450-8
RISK MANAGEMENT

450-8.002 BACKGROUND and FINDINGS. The Board of Supervisors of Contra Costa County finds as follows:

(A) Recent incidents in Contra Costa County at industrial chemical, petrochemical, and oil industry facilities have prompted the consideration of reviews, inspections, and audits that supplement existing federal and state safety programs and the imposition of additional safety measures to protect public health and safety from accidental releases.

(B) Section 112(r)(7) of the Clean Air Act (42 U.S.C.A. § 7412(4)) required the Federal Environmental Protection Agency ("EPA") to promulgate the rule known as the "Risk Management Program", which is intended to prevent accidental releases of regulated substances, as defined in the Federal program, and reduce the severity of those releases that do occur. All facilities subject to this federal regulation must prepare a Risk Management Plan (RMP) based on a Risk Management Program established at the facility, that includes a hazard assessment of the facility, an accidental release prevention program, and an emergency response program (40 CFR § 68). The facility must submit the Federal RMP to the EPA by June 21, 1999 (40 CFR § 68.150-68.185). The Federal RMP will be available to state and local government and the public.

(C) The California Health and Safety Code article 2 (§ 25531 et seq.) of Chapter 6.95 was amended effective January 1, 1997 to implement the Federal EPA's Risk Management Program rule with certain State-specific amendments. The State's Risk Management Program is known as the California Accidental Release Prevention (CalARP) Program.

(D) The County recognizes that regulatory requirements alone will not guarantee public health and safety, and that the public is a key stakeholder in chemical accident prevention, preparedness, and response at the local level. Preventing accidental releases of regulated substances is the shared responsibility of industry, government, and the public. The first steps toward accident prevention are identifying the hazards and assessing the risks. Once information about chemical hazards in the community is openly shared, industry, government, and the community can work together towards reducing the risk to public health and safety.

(E) The success of a Safety Program is dependent upon the cooperation of industrial chemical and oil refining facilities within Contra Costa County. The public must be assured that measures necessary to prevent incidents are being implemented, including changes or actions required by the Department or the Stationary Source that are necessary to comply with this chapter. (Ord. 98-_, § 2.)

450-8.004 PURPOSE and GOALS. (A) The purpose of this ordinance is to impose regulations which improve industrial safety by the following:

(1) requiring the conduct of process hazard analyses for Covered Processes handling hazardous materials not covered by the Federal or State Risk Management Programs;

(2) requiring the review of action items resulting from process hazard analyses and requiring completion of those action items selected by the Stationary Source for implementation within a reasonable time frame;

(3) requiring the review of accidental release prevention efforts of Stationary Sources and providing for the conduct of investigations and analyses for the determination of the Root Cause for certain incidents;

(4) providing review, inspection, auditing and safety requirements that are more stringent than those required in existing law and regulations;

(5) providing for public input into the Safety Plan and Safety Program and public review of any inspection and audit results;

(6) facilitating cooperation between industry, the County, and the public in the prevention and reduction of incidents at Stationary Sources;
(7) expanding the application of certain provisions of the Federal and State Risk Management Programs to processes not covered by the Federal or State Risk Management Programs;
(8) requiring the development and implementation of a written human factors program; and
(9) preventing and reducing the number, frequency, and severity of accidental releases in the County.

(Ord. 98-__, § 2.)

450-8.006 AUTHORITY. This ordinance is adopted by the County pursuant to its police power for the purposes of protecting public health and safety by prevention of accidental releases of hazardous materials and to assure protection of the environment.
(Ord. 98-__, § 2.)

450-8.008 ADMINISTRATION. The Department is charged with the responsibility of administering and enforcing this chapter.
(Ord. 98-__, § 2.)

450-8.010 APPLICABILITY. (A) This ordinance shall apply to Stationary Sources; and

(B) The following are exempt from the provisions of this chapter except Sections 450-8.016 (C) and (E), and 8.018 (F) and (G):

(1) storage tanks containing a non-regulated substance, except for storage tanks that contain a material that meets the combustible liquid definition of 49 CFR 173.120(b);

(2) drum storage of a non-regulated substance; less than 10,000 pounds of a Hazard Category B material located such that the drums could reasonably be expected to be involved in a single release; and for a Hazard Category A material, located such that the drums could reasonably be expected to be involved in a single release, at less than the quantity specified as the Threshold Planning Quantity on the Extremely Hazardous Substances list (Appendix A to 40 CFR Chapter I, Subchapter J, Part 355, as amended from time to time) or 500 pounds, whichever is less;

(3) activities in process plant laboratories or laboratories that are under the supervision of a technically qualified individual as defined in Section 720.3 (ee) of 40 CFR. This exemption does not apply to specialty chemical production; manufacture, processing or use of substances in pilot plant scale operations; and activities conducted outside the laboratory;

(4) utilities, except for fuel gas and natural gas systems to the battery limits of a process unit; and

(5) any waste tanks, containers or other devices subject to the Federal and State hazardous waste laws, including the Resource Conservation and Recovery Act (RCRA), 40 CFR Chapter I, Subchapter I, commencing with Part 260, the California Hazardous Waste Control Law, California Health and Safety Code, commencing with Section 25100 and the California Code of Regulations, Title 22 Division 4.5 Environmental Health Standards for the Management of Hazardous Waste.

(Ord. 98-__, § 2.)

450-8.012 INSPECTION. The Department shall be allowed reasonable access to any part of the Stationary Source subject to the requirements of this Chapter, Sections 450-8.016 and 450-8.018 and to supporting documentation retained by the Source for the purpose of determining compliance with this Chapter.
(Ord. 98-__, § 2.)

450-8.014 DEFINITIONS. For purposes of this chapter the definitions set forth in this section shall apply. Words used in this chapter not defined in this section shall have the meanings ascribed to them in the Clean Air Act Regulations (40 CFR § 68.3) and in California Health and Safety Code article 2 (§ 25531 et seq.) of Chapter 6.95, unless the context indicates otherwise.

(a) "Covered Process" means any process at a Stationary Source.

(b) "Department" means the Contra Costa County Health Services Director and any Director authorized deputies.

(c) "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

(d) "Hazard Category A Materials" are substances which meet the Hazard Category A Material definition as set forth in Section 84-63.1016.

(e) "Hazard Category B Materials" are substances which meet the Hazard Category B Material definition as set forth in Section 84-63.1016.

(f) "Industry Codes, Standards, and Guidelines" means the edition of the codes, standards, and guidelines in effect at the time of original design or construction for the design, construction, alteration, maintenance or repair of process units, industrial equipment, or other industrial facilities, structures or buildings published by the American Petroleum Institute (API), the Chemical Manufacturers Association (CMA), the American Society of Mechanical Engineers (ASME) or the American National Standards Institute (ANSI).

(g) "Inherently Safer Systems" means Inherently Safer Design Strategies as discussed in the 1996 Center for Chemical Process Safety Publication "Inherently Safer Chemical Processes" and means Feasible alternative equipment, processes, materials, lay-outs, and procedures meant to eliminate, minimize, or reduce the risk of a Major Chemical Accident or Release by modifying a process rather than adding external layers of protection. Examples include, but are not limited to, substitution of materials with lower vapor pressure, lower flammability, or lower toxicity; isolation of hazardous processes; and use of processes which operate at lower temperatures and/or pressures.

(h) "Major Chemical Accident or Release" means an incident that meets the definition of a Level 3 or Level 2 Incident in the Community Warning System incident level classification system defined in the September 27, 1997 Contra Costa County guideline for the Community Warning System as determined by the Department; or results in the release including, but not limited to, air, water, or soil of a Regulated Substance and meets one or more of the following criteria:

(1) results in one or more fatalities;
(2) results in greater than 24 hours of hospital treatment of three or more persons;
(3) causes on and/or off-site property damage (including clean-up and restoration activities) initially estimated at $500,000 or more. On-site estimates shall be performed by the Stationary Source. Off-site estimates shall be performed by appropriate agencies and compiled by the Department.;
(4) results in a flammable vapor cloud of more than 5000 pounds.

(i) "Regulated Substance" means (1) any chemical substance which satisfies the provisions of California Health and Safety Code section 25532 (g), as amended from time to time, or (2) a substance which satisfies the provisions of Hazard Categories A or B in section 84-63.1016. Mixtures containing less than 1% of a Regulated Substance shall not be considered in the determination of the presence of a regulated material.

(j) "Risk Management Program" means the documentation, development, implementation, and integration of management systems by the facility to comply with the regulations set forth in 40 CFR, Part 68 and the California Health and Safety Code, Article 2, commencing with Section 25531.

(k) "RMP" means the Risk Management Plan required to be submitted pursuant to the requirements of the 40 CFR § 68.150-68.185 and the California Health and Safety Code article 2 (Section 25531 et seq.) of Chapter 6.95.

(l) "Root Cause" means prime reasons, such as failures of some management systems, that allow faulty design, inadequate training, or improper changes, which lead to an unsafe act or condition, and result in an incident. If root causes were removed, the particular incident would not have occurred.

(m) "Safety Plan" means the Safety Plan required to be submitted to the Department pursuant to the requirements of Section 450-8.016 of the chapter.

(n) "Safety Program" means the documentation, development, implementation, and integration of management systems by the Stationary Source to comply with the safety requirements set forth in Section 450-8.016 of this chapter.

(o) "Stationary Source" or "Source" means a facility which includes at least one process as defined in 40 CFR 68.10 that is subject to Federal Risk Management Program Level 3 requirements and whose primary North American Industry Classification System code (NAICS) is 324 (Petroleum and Coal Products Manufacturing) or 325 (Chemical Manufacturing).
(Ord. 98-__, § 2.)

450-8.016 STATIONARY SOURCE SAFETY REQUIREMENTS. The Stationary Source shall submit a Safety Plan to the Department within one year of the effective date of this ordinance or within three years of the date a facility becomes a Stationary Source, that complies with the provisions of this section and that includes the safety elements listed in subsection (A) below. In addition, the Stationary Source shall comply with the safety requirements set forth in subsections (A) through (E) of this section and shall include a description of the manner of compliance with these subsections in the Safety Plan. A new Covered Process at an existing Stationary Source shall comply with subsections (A) through (E) prior to initial startup.

(A) **Risk Management Program Elements.** Those Covered Processes not included in the Federal program level 3 Risk Management Program shall be subject to the Risk Management Program elements listed below. The Safety Plan shall include a description of the manner in which these Risk Management Program elements listed below shall be applied to the Covered Process. These Risk Management Program elements shall be implemented in conformance with the Federal and State Risk Management Programs and the Safety Plan shall follow Chapters 6 and 7 dated July 1, 1998, and Chapter 9 dated November 2, 1998 of the Contra Costa County Health Services Department RMP guidance document, June, 1998:

(1) Process Safety Information: (a) The Stationary Source shall complete a compilation of written process safety information before conducting any process hazard analysis as required by this chapter. The compilation of written process safety information is to enable the Stationary Source and the employees involved in operating the Covered Process to identify and understand the hazards posed by the Covered Process. This process safety information shall include information pertaining to the hazards of the regulated substances used or produced by the process, information pertaining to the technology of the process, and information pertaining to the equipment in the process. Information pertaining to the hazards of the Regulated Substances in the process.

(i) This information shall consist of at least the following: toxicity information; permissible exposure limits; physical data; reactivity data: corrosivity data; thermal and chemical stability data; and hazardous effects of inadvertent mixing of different materials that could foreseeably occur.

(ii) Material Safety Data Sheets meeting the requirements of Section 5189, Title 8 of California Code of Regulations may be used to comply with this requirement to the extent they contain the information required by this subsection.

(iii) Information pertaining to the technology of the process shall include at least the following: a block flow diagram or simplified process flow diagram; process chemistry;

maximum intended inventory; safe upper and lower limits for such items as temperatures, pressures, flows or compositions; and, an evaluation of the consequences of deviations. Where the original technical information no longer exists, such information may be developed in conjunction with the process hazard analysis in sufficient detail to support the analysis.

(iv) Information pertaining to the equipment in the process shall include: materials of construction; piping and instrument diagrams (P&ID's); electrical classification; relief system design and design basis; ventilation system design; design codes and standards employed; material and energy balances for processes built after the compliance date of this Chapter; and safety systems (e.g. interlocks, detection or suppression systems).

(b) The Stationary Source shall document that equipment complies with recognized and generally accepted good engineering practices.

(c) For existing equipment designed and constructed in accordance with codes, standards, or practices that are no longer in general use, the Stationary Source shall determine and document that the equipment is designed, maintained, inspected, tested, and operating in a safe manner.

(2) Operating Procedures: (a) The Stationary Source shall develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each Covered Process consistent with the process safety information and shall address at least the following elements: (i) Steps for each operating phase, initial startup; normal operations; temporary operations; emergency shutdown, including the conditions under which emergency shutdown is required, and the assignment of shutdown responsibility to qualified operators to ensure that emergency shutdown is executed in a safe and timely manner; emergency operations; normal shutdown; and, startup following a turnaround, or after an emergency shutdown. (ii) Operating limits: consequences of deviation; and steps required to correct or avoid deviation.

(b) Safety and health considerations: properties of, and hazards presented by, the chemicals used in the process; precautions necessary to prevent exposure, including engineering controls, administrative controls, and personal protective equipment; control measures to be taken if physical contact or airborne exposure occurs; quality control for raw materials and control of hazardous chemical inventory levels; and, any special or unique hazards.

(c) Safety systems and their functions.

(d) Operating procedures shall be readily accessible to employees who work in or maintain a process.

(e) The operating procedures shall be reviewed as often as necessary to assure that they reflect current operating practice, including changes that result from changes in process chemicals, technology, and equipment, and changes to stationary sources. The Stationary Source shall certify annually that these operating procedures are current and accurate.

(f) The Stationary Source shall develop and implement safe work practices to provide for the control of hazards during operations such as lockout/ tagout; confined space entry; opening process equipment or piping; and control over entrance into a stationary source by maintenance, contractor, laboratory, or other support personnel. These safe work practices shall apply to employees and contractor employees.

(3) Employee Participation: (a) The Stationary Source shall develop a written plan of action regarding the implementation of the employee participation required by this chapter.

(b) The Stationary Source shall consult with employees and their representatives on the conduct and development of process hazards analyses and on the development of the other elements of the Safety Program in this chapter.

(c) The Stationary Source shall provide to employees and their representatives access to process hazard analyses and to all other information required to be developed under this chapter.

(4) Training: for each employee in such Covered Process: (a) Initial training. (i) Each employee presently involved in operating a Covered Process, and each employee before being involved in operating a newly assigned Covered Process, shall be trained in an overview of the process and in the operating procedures as specified in Section 450-8.016 (A)(2). The training shall include emphasis on the specific safety and health hazards, emergency operations including shutdown, and safe work practices applicable to the employee's job tasks. In lieu of initial training for those employees already involved in operating a process on an owner or operator may certify in writing that the employee has the required knowledge, skills, and abilities to safely carry out the duties and responsibilities as specified in the operating procedures.

(b) Refresher training. Refresher training shall be provided at least every three years, and more often if necessary, to each employee involved in operating a Covered Process to assure that the employee understands and adheres to the current operating procedures of the Covered Process. The Stationary Source, in consultation with the employees involved in operating the process, shall determine the appropriate frequency of refresher training.

(c) Training documentation. The Stationary Source shall ascertain that each employee involved in operating a process has received and understood the training required by this section. The Stationary Source shall prepare a record which contains the identity of the employee, the date of training, and the means used to verify that the employee understood the training.

(5) Mechanical Integrity: including the use of Industry Codes, Standards, and Guidelines: (a) Application. Paragraphs (b) through (f) of this section apply to the following process equipment: pressure vessels and storage tanks; piping systems (including piping components such as valves); relief and vent systems and devices; emergency shutdown systems; controls (including monitoring devices and sensors, alarms, and interlocks) and, pumps.

(b) Written procedures. The Stationary Source shall establish and implement written procedures to maintain the on-going integrity of process equipment.

(c) Training for process maintenance activities. The Stationary Source shall train each employee involved in maintaining the on-going integrity of process equipment in an overview of that process and its hazards and in the procedures applicable to the employee's job tasks to assure that the employee can perform the job tasks in a safe manner.

(d) Inspection and testing. (1) Inspections and tests shall be performed on process equipment. Inspection and testing procedures shall follow recognized and generally accepted good engineering practices. The frequency of inspections and tests of process equipment shall be consistent with applicable manufacturers' recommendations and good engineering practices, and more frequently if determined to be necessary by prior operating experience. The Stationary Source shall document each inspection and test that has been performed on process equipment. The documentation shall identify the date of the inspection or test, the name of the person who performed the inspection or test, the serial number or other identifier of the equipment on which the inspection or test was performed, a description of the inspection or test performed, and the results of the inspection or test.

(e) Equipment deficiencies. The Stationary Source shall correct deficiencies in equipment that are outside acceptable limits (defined by the process safety information in Section 450-8.106(A)(1)) before further use or in a safe and timely manner when necessary means are taken to assure safe operation.

(f) Quality assurance. In the construction of new plants and equipment, the Stationary Source shall assure that equipment as it is fabricated is suitable for the process application for which they will be used. Appropriate checks and inspections shall be performed to assure that equipment is installed properly and consistent with design specifications and the manufacturer's instructions. The Stationary Source shall assure that maintenance materials, spare parts and equipment are suitable for the process application for which they will be used.

(6) Management of Change: (a) The Stationary Source shall establish and implement written procedures to manage changes (except for "replacements in kind") to process chemicals, technology, equipment, and procedures; and, changes to stationary sources that affect a covered process.

(b) The procedures shall assure that the following considerations are addressed prior to any change: the technical basis for the proposed change; impact of change on safety and health; modifications to operating procedures; necessary time period for the change; and, authorization requirements for the proposed change.

(c) Employees involved in operating a process and maintenance and contract employees whose job tasks will be affected by a change in the process shall be informed of, and trained in, the change prior to start-up of the process or affected part of the process.

(d) If a change covered by this section results in a change in the process safety information required by Section 450-8.016(A)(1), such information shall be updated accordingly.

(e) If a change covered by this section results in a change in the operating procedures or practices required by Section 450-8.016(A)(2), such procedures or practices shall be updated accordingly.

(7) Pre Start-Up Reviews: (a) The Stationary Source shall perform a pre-startup safety review for new stationary sources and for modified stationary sources when the modification is significant enough to require a change in the process safety information.

(b) The pre-startup safety review shall confirm that prior to the introduction of regulated substances to a Covered Process: construction and equipment is in accordance with design specifications; safety, operating, maintenance, and emergency procedures are in place and are adequate; for new Covered Processes, a process hazard analysis has been performed and recommendations have been resolved or implemented before startup; and modified Covered Processes meet the requirements contained in management of change, Section 450-8.106(A)(6); and training of each employee involved in operating a process has been completed.

(8) Compliance Audits: (a) The Stationary Source shall certify that they have evaluated compliance with the provisions of this section at least every three years to verify that the procedures and practices developed under this Chapter are adequate and are being followed.

(b) The compliance audit shall be conducted by at least one person knowledgeable in the process.

(c) A report of the findings of the audit shall be developed.

(d) The Stationary Source shall promptly determine and document an appropriate response to each of the findings of the compliance audit, and document that deficiencies have been corrected.

(e) The Stationary Source shall retain the two most recent compliance audit reports.

(9) Incident Investigation: (a) The Stationary Source shall investigate each incident which resulted in, or could reasonably have resulted in a catastrophic release of a regulated substance.

(b) An incident investigation shall be initiated as promptly as possible, but not later than 48 hours following the incident.

(c) An incident investigation team shall be established and consist of at least one person knowledgeable in the Covered Process involved, including a contract employee if the incident involved work of the contractor, and other persons with appropriate knowledge and experience to thoroughly investigate and analyze the incident.

(d) A report shall be prepared at the conclusion of the investigation which includes at a minimum: date of incident; date investigation began; a description of the incident; the factors that contributed to the incident; and, recommendations resulting from the investigation. The written summary shall indicate whether the cause of the incident and/or recommendations resulting from the investigation are specific only to the process or equipment involved in the incident, or are applicable to other processes or equipment at the Stationary Source. The incident investigation report shall be made available to the Department upon request.

(e) The Stationary Source shall establish a system to promptly address and resolve the incident report findings and recommendations. Resolutions and corrective actions shall be documented.

(f) The report shall be reviewed with all affected personnel whose job tasks are relevant to the incident findings including contract employees where applicable.

(g) Incident investigation reports shall be retained for five years.

(10) Hot Work: (a) The Stationary Source shall issue a hot work permit for hot work operations conducted on or near a covered process.

(b) The permit shall document that the fire prevention and protection requirements in § 5189 of Title 8 of California Code Regulations have been implemented prior to beginning the hot work operations; it shall indicate the date(s) authorized for hot work; and identify the object on which hot work is to be performed. The permit shall be kept on file until completion of the hot work operations.

(11) Contractors: (a) Application. This section applies to contractors performing maintenance or repair, turnaround, major renovation, or specialty work on or adjacent to a covered process. It does not apply to contractors providing incidental services which do not influence process safety, such as janitorial work, food and drink services, laundry, delivery or other supply services.

(b) Stationary Source responsibilities. (i) The Stationary Source, when selecting a contractor, shall obtain and evaluate information regarding the contract owner or operator's safety performance and programs. (ii) The Stationary Source shall inform contract owner or operator of the known potential fire, explosion, or toxic release hazards related to the contractor's work and the process. (iii) The Stationary Source shall explain to the contract owner or operator

the applicable provisions of the emergency response program Section 450-8.016(A)(12). (iv) The Stationary Source shall develop and implement safe work practices consistent with Section 450-8.016(A)(2), to control the entrance, presence, and exit of the contract owner or operator and contract employees in Covered Process areas. (v) The Stationary Source shall periodically evaluate the performance of the contract owner or operator in fulfilling their obligations as specified in Section 450-8.016(A)(11)(c).

(c) Contract owner or operator responsibilities: (i) The contract owner or operator shall assure that each contract employee is trained in the work practices necessary to safely perform his/her job. (ii) The contract owner or operator shall assure that each contract employee is instructed in the known potential fire, explosion, or toxic release hazards related to his/her job and the process, and the applicable provisions of the emergency action plan. (iii) The contract owner or operator shall document that each contract employee has received and understood the training required by this section. The contract owner or operator shall prepare a record which contains the identity of the contract employee, the date of training, and the means used to verify that the employee understood the training. (iv) The contract owner or operator shall assure that each contract employee follows the safety rules of the Stationary Source including the safe work practices required by Section 450-8.016(A)(2). (v) The contract owner or operator shall advise the Stationary Source of any unique hazards presented by the contract owner or operator's work, or of any hazards found by the contract owner or operator's work.

(12) Emergency Response Program: (a) The Stationary Source shall develop and implement an emergency response program for the purpose of protecting public health and the environment. Such program shall include the following elements: (i) An emergency response plan, which shall be maintained at the stationary source and contain at least the following elements: procedures for informing the public and local emergency response agencies about accidental releases, emergency planning, and emergency response; documentation of proper first-aid and emergency medical treatment necessary to treat accidental human exposures; and procedures and measures for emergency response after an accidental release of a regulated substance; (ii) Procedures for the use of emergency response equipment and for its inspection, testing, and maintenance; (iii) Training for all employees in relevant procedures and the Incident Command System; and (iv) Procedures to review and update, as appropriate, the emergency response plan to reflect changes at the stationary source and ensure that employees are informed of changes.

(b) A written plan that complies with other Federal contingency plan regulations or is consistent with the approach in the National Response Team's Integrated Contingency Plan Guidance ("One Plan") and that, among other matters, includes the elements provided in Section 450-8.016(A)(12)(a), shall satisfy the requirements of this section if the Stationary Source also complies with Section 450-8.016(A)(12)(c).

(c) The emergency response plan developed under this section shall be coordinated with the community emergency response plan developed under 42 U.S.C. 11003. Upon request of the local emergency planning committee or emergency response officials, the Stationary Source shall promptly provide to the local emergency response officials information necessary for developing and implementing the community emergency response plan.

(d) The Stationary Source whose employees will not respond to accidental releases of Regulated Substances need not comply with A(12)(a) through A(12)(c) above provided that they meet the following (i) For Stationary Sources with any regulated toxic substance held in a

process above the threshold quantity, the Stationary Source is included in the community emergency response plan developed under Section 11003 of Title 42 of the United States Code (USC) (ii) For Stationary Sources with only regulated flammable substances held in a process above the threshold quantity the Stationary Source has coordinated response actions with the local fire department (iii) Appropriate mechanisms are in place to notify emergency responders when there is a need for a response.

(13) Safety Program Management. (a) The owner or operator of a Stationary Source subject to this Chapter shall develop a management system to oversee the implementation of the Safety Program elements. (b)The owner or operator shall assign a qualified person or position that has the overall responsibility for the development, implementation, and integration of the Safety Program elements. (c)When responsibility for implementing individual requirements of this chapter is assigned to persons other than the person identified under section A(13)(b), the names or positions of these people shall be documented and the lines of authority defined through an organization chart or similar document.

(B) **Human Factors Program.** (1) Stationary Sources shall develop a written human factors program that follows the human factors guidance document developed or adopted by the Department. The program shall be developed within one year following the issuance of the Contra Costa County guidance documents or the effective date of the ordinance, whichever is later. The Human Factors Program shall address:

(i) the inclusion of human factors in the Process Hazards Analysis process;

(ii) the consideration of human systems as causal factors in the incident investigation process for Major Chemical Accidents or Releases or for an incident that could reasonably have resulted in a Major Chemical Accident or Release;

(iii) the training of employees in the human factors program;

(iv) operating procedures; and

(v) the requirement to conduct a Management of Change prior to staffing changes for changes in permanent staffing levels/reorganization in operations or emergency response. Employees and their Representatives shall be consulted in the Management of Change.

(2) Employees and their Representatives shall participate in the development of the written human factors program.

(3) The program shall include, but not be limited to, issues such as staffing, shiftwork and overtime.

(4) A description of the human factors program (b)(1) through (b)(3) above shall be included in the Safety Plan prepared by the Stationary Source.

(C) **Root Cause Analysis and Incident Investigation.** (1) Stationary Sources shall conduct a Root Cause analysis for each Major Chemical Accident or Release which occurs after the effective date of this chapter. Stationary Sources shall periodically update the Department on facts related to the release or incident, and the status of a Root Cause Analysis conducted pursuant to this section, at meetings scheduled by the Department in cooperation with the Stationary Source. To the maximum extent feasible, the Department and the Stationary Source shall coordinate these meetings with other agencies with jurisdiction over the Stationary Source. Within 30 days of

completing a Root Cause Analysis performed pursuant to this section, the Stationary Source shall submit to the Department a final report containing that analysis, including recommendations to be implemented to mitigate against the release or incident re-occurring, if any, and a schedule for completion of resulting recommendations. The methodology of the Root Cause analysis shall be one of the recommended methodologies from the Center for Chemical Process Safety or shall be reviewed by the Department to determine substantial equivalency.

(2) The Department may elect to do its own independent Root Cause analysis or incident investigation for a Major Chemical Accident or Release. If the Department elects to conduct a Root Cause analysis or incident investigation the Stationary Source shall cooperate with the Department by providing the following access and information in a manner consistent with the safety of Department and Stationary Source personnel and without placing undue burdens on the operation of the Stationary Source: (i) allow the Department to investigate the accident site and directly related facilities such as control rooms, physical evidence and where practicable the external and internal inspection of equipment, (ii) provide the Department with pertinent documentation, (iii) and allow the Department to conduct independent interviews of Stationary Source employees, subject to all rights of the Stationary Source and employees to be represented by legal counsel and/or management and union representatives during such interviews. If in the course of the Department's Root Cause analysis or incident investigation access is required to areas of the Stationary Source which in the judgment of the Stationary Source require personnel entering the area to use protective equipment and/or have specialized training the Department shall provide its personnel with such equipment and training. To the maximum extent feasible the Department shall coordinate any Root Cause analysis or incident investigation it conducts with investigations conducted by other agencies with jurisdiction over the Stationary Source to minimize the adverse impacts on the Stationary Source and/or its employees.

(3) No part of the conclusions, findings or recommendations of the Root Cause analysis conducted by the Department or Stationary Source, or incident investigation conducted by the Department, relating to any Major Chemical Accident or Release or the investigation thereof shall be admitted as evidence or used in any action or suit for damages arising out of any matter mentioned in such report.

(D) **Process Hazard Analysis/Action Items.** (1) Process hazard analyses will be conducted for each of the Covered Processes not included in the Federal program level 3 Risk Management Program according to one of the following methods: What-If, Checklist, What-If/Checklist, Hazard and Operability Study (HAZOP), Failure Mode and Effects Analysis (FMEA), Fault Tree Analysis or an appropriate equivalent methodology approved by the Department prior to conducting the process hazard analysis. The process hazard analysis shall be appropriate to the complexity of the Covered Process and shall identify, evaluate, and control the hazards involved in the Covered Process. The process hazard analysis shall address: the hazards of the process; the identification of any previous incident which had a likely potential for catastrophic consequences; engineering and administrative controls applicable to the hazards and their interrelationships such as appropriate application of detection methodologies to provide early warning of releases. (Acceptable detection methods might include process monitoring and control instrumentation with alarms, and detection hardware such as hydrocarbon sensors.); consequences of failure of engineering and administrative controls; Covered Process and

Stationary Source siting; Human Factors; and a qualitative evaluation of a range of the possible safety and health effects of failure of controls. All process hazard analyses shall be performed by a team with expertise in engineering and process operations, and the team shall include at least one employee who has experience and knowledge specific to the process being evaluated. Also, one member of the team must be knowledgeable in the specific process hazard analysis methodology being used.

(2) The process hazard analyses shall be conducted within 1 year of the effective date of this Chapter and no later than the submittal date of the Safety Plan. Previously completed process hazard analyses that comply with the California Code of Regulations, Title 8, Section 5189, and/or the California Code of Regulations, Title 19, Section 2760.2 are acceptable for the purposes of this Chapter. Process hazard analyses shall be updated and revalidated at least once every 5 years after completion of the initial process hazard analysis. Updated and revalidated process hazard analyses completed to comply with the California Code of Regulations, Title 8, Section 5189, and/or the California Code of Regulations, Title 19, Section 2760 are acceptable for meeting the update and revalidation requirement. External events, including seismic events, shall be considered for processes containing a substance defined in the California Code of Regulations, Title 19, Chapter 4.51, Section 2770.5, if the distance to the nearest public receptor for a worst case release scenario specified by the California Code of Regulations, Title 19, Chapter 4.51, Section 2750.3 is beyond the distance to a toxic or flammable endpoint as defined in California Code of Regulations, Title 19, Chapter 4.51, Section 2750.2(a).

(3) For all Covered Processes, the Stationary Source shall consider the use of Inherently Safer Systems in the development and analysis of mitigation items resulting from a process hazard analysis and in the design and review of new processes and facilities. The Stationary Source shall select and implement Inherently Safer Systems to the greatest extent Feasible. If a Stationary Source concludes that an Inherently Safer System is not Feasible, the basis for this conclusion shall be documented in meaningful detail. This documentation shall include (1) sufficient evidence to demonstrate to the County's satisfaction that implementing this inherently safer system is impractical, and (2) the reason for this conclusion. A claim of "financial infeasibility" shall not be based solely on evidence of reduced profits or increased cost, but rather shall include evidence that the financial impacts would be sufficiently severe to render the inherently safer system as impractical.

(4) For all Covered Processes, the Stationary Source shall document the decision made to implement or not implement all process hazard analysis recommended action items and the results of recommendations for additional study. The Stationary Source shall complete recommended actions identified by the process hazard analysis and selected for implementation by the Stationary Source as follows: all actions not requiring a process shutdown shall be completed within one year after submittal of the Safety Plan; all actions requiring a process shutdown shall be completed during the first regularly scheduled turnaround of the applicable process subsequent to one year after submittal of the Safety Plan unless the Stationary Source demonstrates to the satisfaction of the Department that such a schedule is infeasible. For recommended actions not selected for implementation, the Stationary Source shall include the justification for not implementing the recommended action. For all Covered Processes, the Stationary Source shall retain documentation of closure, and any associated justifications, of actions identified by the process hazard analysis.

The Stationary Source shall communicate the actions to operating, maintenance, and other employees whose work assignments are in the process and who may be affected by the recommendations or actions. Any documentation justifying a decision not to implement a process hazard analysis recommendation action shall include (1) sufficient evidence to demonstrate to the County's satisfaction that implementing this action is impractical, and (2) the reason for this conclusion. A claim of "financial infeasibility" shall not be based solely on evidence of reduced profits or increased cost, but rather shall include evidence that the financial impacts would be sufficiently severe to render the improvement as impractical.

(E) **Accident History.** (1) The Stationary Source shall include an accident history in the Safety Plan of all Major Chemical Accidents or Releases from June 1, 1992, through the date of Safety Plan submittal to the Department. For each Major Chemical Accident or Release the Stationary Source shall report the following information, to the extent known:

date, time and approximate duration of the release;
chemicals released;
estimated quantity released in pounds;
type of release event and its source;
weather conditions at the time of the release;
on-site impacts;
known off-site impacts;
initiating event and contributing factors;
Root Cause(s);
whether off-site responders were notified; and
operational or process changes that resulted from the investigation of the release.

(2) The Stationary Source shall annually submit a report of the accident history to the Department. The first report shall be due two years after the effective date of this ordinance, and subsequent reports shall be due on the anniversaries of the effective date of the ordinance.

(F) **Certification.** The owner or operator shall submit in the Safety Plan a single certification that, to the best of the signer's knowledge, information, and belief formed after reasonable inquiry, the information submitted is true, accurate, and complete.

450-8.018 REVIEW, AUDIT, AND INSPECTION. (A) Upon submission of a Safety Plan by the Stationary Source, the Department shall review the Safety Plan to determine if all the elements required by Section 450-8.016 are included and complete. The Department shall provide to the Stationary Source a written Notice of Deficiencies, if any. The Stationary Source shall have 60 calendar days from receipt of the Notice of Deficiencies to make any corrections. The Stationary Source may request, in writing, a one time 30 day calendar day extension to correct deficiencies. By the end of the 60 calendar days or any extension period, the Stationary Source shall resubmit the revised Safety Plan to the Department. After the Department determines that the Safety Plan is complete, the Department shall schedule a public meeting on the Stationary Source's Safety Plan to explain its contents to the public and take public comments. The Department shall make portions of the Safety Plan, which are not protected trade secret information, available to the public for the public meeting.

(B) (1) The Department shall, within one year of the submission of the Stationary Source's Safety Plan, conduct an initial audit and inspection of the Stationary Source's Safety Program to determine compliance with this Chapter. Based upon the Department's review of the Safety Plan and the audit and inspection of the Stationary Source, the Department may require modifications or additions to the Safety Plan submitted by the Stationary Source, or Safety Program to bring the Safety Plan or Safety Program into compliance with the requirements of this Chapter. Any determination that modifications or additions to the Safety Plan or Safety Program are required shall be in writing, collectively referred to as the "Preliminary Determination". The Preliminary Determination shall explain the basis for the modifications or additions required to bring the Safety Plan or Safety Program into compliance with the requirements of this Chapter. The Preliminary Determination shall be mailed to the Stationary Source.

(2) The Stationary Source shall respond in writing to the Preliminary Determination issued by the Department. The response shall state that the Stationary Source will incorporate into the Safety Plan or Safety Program the revisions contained in the preliminary determination or shall state that the Stationary Source rejects the revisions; in whole or in part. For each rejected revision, the Stationary Source shall explain the basis for rejecting such revision. Such explanation may include substitute revisions.

(3) The Stationary Source's written response to the Department's Preliminary Determination shall be received by the Department within 90 days of the issuance of the Preliminary Determination or such shorter time as the Department specifies in the Preliminary Determination as being necessary to protect public health and safety. Prior to the written response being due and upon written request from the Stationary Source, the Department may provide, in writing, additional time for the response to be received.

(4) After receiving the written response from the Stationary Source, the Department shall issue a public notice per the Department's Public Participation Policy and make portions of the Safety Plan, the Preliminary Determination and the Stationary Source's responses, which are not protected trade secret information, available for public review. Public comments on the Safety Plan shall be taken by the Department for a period of 45 days after the Safety Plan, the Preliminary Determination and the Stationary Sources responses are made available to the public. The Department shall schedule a public meeting on the Stationary Source's Safety Plan during the 45 day comment period. The public meetings shall be held in the affected community on evenings or weekends.

(C) Based upon the Department's Preliminary Determination, review of the Stationary Sources responses and review of public comments on the Safety Plan, the Preliminary Determination and the Stationary Source's responses, the Department may require modifications or additions to the Safety Plan submitted by the Stationary Source or Safety Program to bring the Safety Plan or Safety Program into compliance with the requirements of this Chapter. Any determination that modifications or additions to the Safety Plan or Safety Program are required, and any determination that no modifications or additions to the Safety Plan or Safety Program are required shall be in writing, (collectively referred to as "Final Determination") shall be mailed to

the Stationary Source and shall be made available to the public. The Department may not include in a Final Determination any requirements to a Safety Plan or Safety Program which would cause a violation of, or conflict with, any state or federal law or regulation or a violation of any permit or order issued by any state or federal agency.

(D) Within 30 days of the Department's Final Determination, the Stationary Source and/or any person may appeal the Final Determination to the Board of Supervisors pursuant to Chapter 14-4 by a verified written notice of appeal filed with the Clerk of the Board of Supervisors and payment of the applicable appeal fee. The appeal must be limited to issues raised during the public comment period. The notice shall state the grounds for any such appeal, including (i) the reasoning that the appeal is necessary because the Stationary Source is in compliance with this Chapter, or (ii) the reasoning that the appeal is necessary to bring the Stationary Source into compliance with this Chapter. In acting on the appeal, the Board shall have the same authority over the Final Determination as the Department. The Board may require modifications or additions to the Safety Plan or Safety Program to bring the Safety Plan or Safety Program into compliance with the requirements of this Chapter. The Board may not include in its decision on the Final Determination any requirements to a Safety Plan or Safety Program which would cause a violation of, or conflict with, any State or Federal law or regulation or a violation of any permit or order issued by any State or Federal agency. The decision of the Board of Supervisors shall be final with respect to the Final Determination .

(E) The Safety Plan shall be valid for a period of three years from the date of final action and shall be reviewed and updated by the Stationary Source every three years pursuant to the requirements of this ordinance. Any revisions to the Safety Plan as a result of the review and update shall be submitted to the Department and shall be subject to the provisions of this Section.

(F) The Department may, within 30 days of a Major Chemical Accident or Release, conduct a safety inspection to review and audit the Stationary Source's compliance with the provisions of Section 450-8.016. The Department shall review and audit the Stationary Source's compliance with the provisions of Section 450-8.016 at least once every three years. The Department may audit the Stationary Source based upon any of the following criteria: accident history of the Stationary Source, accident history of other Stationary Sources in the same industry, quantity of Regulated Substances present at the Stationary Source, location of the Stationary Source and its proximity to the public and environmental receptors, the presence of specific regulated substances, the hazards identified in the Safety Plan, a plan for providing neutral and random oversight, or a complaint from the Stationary Source's employee(s) or their representative. The Stationary Source shall allow the Department to conduct these inspections and audits. The Department, at its option, may select an outside consultant to assist in conducting said inspection.

(G) Within 30 days of a Major Chemical Accident or Release the Department may commence an incident safety inspection with respect to the process involved in the incident pursuant to the provisions of Section 450-8.016 (C).

(H) (1) Based upon the Department's audit, safety inspection or an incident inspection, the Department may require modifications or additions to the Safety Plan submitted by the Stationary

Source or Safety Program to bring the Safety Plan or Safety Program into compliance with the requirements of this chapter. Any determination by the Department shall be in writing and shall be mailed to the Stationary Source (referred to as the Notice of Findings). The Stationary Source shall have 60 calendar days from receipt of the Notice of Findings to make any corrections. The Stationary Source may request, in writing, a one time 30 day calendar day extension to make corrections. The Department may not include in its Notice of Findings requirements to a Safety Plan or Safety Program which would cause a violation of, or conflict with, any state or federal law or regulation or a violation of any permit or order issued by any state or federal agency. The Notice of Findings made by the Department will be available to the public.

(2) Within 30 days of the Department's Notice of Findings, the Stationary Source and/or any person may appeal the Notice of Findings to the Board of Supervisors pursuant to Chapter 14-4 by a verified written notice of appeal filed with the Clerk of the Board of Supervisors and payment of the applicable appeal fee. The appeal must state the grounds for any such appeal, including (i) the reasoning that the appeal is necessary because the Stationary Source is in compliance with this Chapter, or (ii) the reasoning that the appeal is necessary to bring the Stationary Source into compliance with this Chapter. In acting on the appeal, the Board shall have the same authority over the Notice of Findings as the Department. The Board may require modifications or additions to the Safety Plan or Safety Program to bring the Safety Plan or Safety Program into compliance with the requirements of this Chapter. The Board may not include in its decision on the Notice of Findings any requirements to a Safety Plan or Safety Program which would cause a violation of, or conflict with, any State or Federal law or regulation or a violation of any permit or order issued by any State or Federal agency. The decision of the Board of Supervisors shall be final with respect to the Notice of Findings.

(I) Nothing in this section shall preclude, limit, or interfere in any way with the authority of the County to exercise its enforcement, investigatory, and information gathering authorities under any other provision of law nor shall anything in the Chapter effect or diminish the rights of the Stationary Source to claim legal privileges such as attorney client privilege and/or work product with respect to information and/or documents required to be submitted to or reviewed by the Department.
(Ord. 98-_, § 2.)

450-8.020 TRADE SECRET. The disclosure of any trade secret information required by this chapter shall be governed by California Health and Safety Code Section 25538, as amended from time to time, or as otherwise protected or required by law.
(Ord. 98-_, § 2.)

450-8.022 HAZARDOUS MATERIALS OMBUDSPERSON. The Department shall continue to employ an ombudsperson for Hazardous Materials Programs. The ombudsperson will serve as a single point of contact for people who live or work in Contra Costa County regarding environmental health concerns, questions, and complaints about Hazardous Materials Programs. The ombudsperson will be empowered to identify and solve problems and make recommendations to the Department. The ombudsperson's role will be one of investigating

concerns and complaints, facilitating their resolution and assisting people in gathering information about programs, procedures, or issues. ~~The Ombudsperson may provide technical assistance to the public if it is requested.~~ The ombudsperson may retain appropriate technical experts in order to fulfill technical assistance requests from members of the public. The cost of experts may be funded through programs established by the U.S. EPA or other appropriate entities
(Ord. 98-__, § 2.)

450-8.024 PUBLIC INFORMATION BANK. The Department shall collect and provide ready access, including the use of electronic accessibility as reasonably available, to public documents which are relevant to the goals of this chapter, including at a minimum, business plan inventories and emergency response plans, Risk Management Plans, Safety Plans, and Department incident reports. This section shall not apply to trade secret information or other information protected from disclosure under federal or state law. The public information bank shall be completed by December 31, 2000.
(Ord. 98-__, § 2.)

450-8.026 FEES. The Department may, upon a majority vote of the Board of Supervisors, adopt a schedule of fees to be collected from each Stationary Source subject to the requirements of this chapter. Any review, inspection, audit fee schedule shall be set in an amount sufficient to pay only those costs reasonably necessary to carry out the requirements of this chapter, including costs of staff and/or consultant time or public hearings and administrative overhead. The fee schedule shall include the cost of the ombudsperson position.
(Ord. 98-__, § 2.)

450-8.028 PENALTIES. Regardless of the availability of other civil or administrative remedies and procedures for enforcing this chapter, every act or condition prohibited or declared unlawful by this chapter, and every knowing or willful failure or omission to act as required herein, is a violation of this code and shall be punishable and or subject to enforcement pursuant to the provisions of Chapter 14-6 of the County Ordinance Code specifically including but not limited to Article 14-6.4 (public nuisance), and Article 14-8 (criminal enforcement), as misdemeanors or infractions.
(Ord. 98-_, § 2.)

450-8.030 ANNUAL PERFORMANCE REVIEW AND EVALUATION.

(A) The Department shall annually: (1) Review its activities to implement this Chapter, and (2) Evaluate the effectiveness of this Chapter in achieving its purpose and goals pursuant to Section 450-8.004.

(B) An annual performance review and evaluation report shall be prepared by the Department based upon the previous fiscal year's activities and shall be submitted to the Board

of Supervisors on or before October 31, 2000 and each year thereafter. The report shall contain: (1) A brief description of how the Department is meeting the requirements of this Chapter as follows: (i) Effectiveness of the Department's program to ensure Stationary Source compliance with this Chapter. (ii) Effectiveness of the procedures for records management. (iii) Number and type of audits and inspections conducted by the Department pursuant to this Chapter (iv) Number of Root Cause Analyses and/or Incident Investigations conducted by the Department. (v)The Department's process for public participation. (vi) Effectiveness of the Public Information Bank, including status of electronic accessibility. (vii) Effectiveness of the Hazardous Materials Ombudsperson. (viii) Other required program elements necessary to implement and manage this Chapter.

(2) A listing of all Stationary Sources covered by the Chapter, including for each: (i) The status of the Stationary Sources' Safety Plan and Program. (ii) A summary of all Stationary Source Safety Plan updates and a listing of where the Safety Plans are publicly available. (iii)The annual accident history report submitted by the Stationary Source pursuant to Section 450-8.016(E)(2). (iv) A summary, including the status, of any Root Cause Analyses and Incident Investigations conducted or being conducted by the Stationary Source and required by this Chapter, including the status of implementation of recommendations. (v) A summary, including the status, of any audits, inspections, Root Cause Analyses and/or Incident Investigations conducted or being conducted by the Department pursuant to this Chapter, including the status of implementation of recommendations. (vi) Description of inherently safer systems implemented by the Stationary Source. (vii) Legal enforcement actions initiated by the Department, including administrative, civil, and criminal actions pursuant to this Chapter.

(3) Total penalties assessed as a result of enforcement of this Chapter.

(4) Total fees, service charges, and other assessments collected specifically for the support of this Chapter.

(5) Total personnel and personnel years utilized by the jurisdiction to directly implement or administer this Chapter.

(6) Comments from interested parties regarding the effectiveness of the local program that raise public safety issues.

(7) The impact of the Chapter in improving industrial safety.

(C) The Department shall provide a copy of the annual Performance Audit Submission required by Title 19 Chapter 4.5 Section 2780.5 of the California Code of Regulations to the Board of Supervisors on or before October 31 of each year.

450-8.032 CONSTRUCTION. Notwithstanding any other provision of this code and for the purposes of this chapter wherever it provides that the Department shall act, such direction in all instances shall be deemed and is directory, discretionary and permissive and not mandatory. (Ord. 98-__, §2.)

SECTION III. ORDINANCE NO. 96-50. County Ordinance Code Chapter 84-63, added by Ordinance No. 96-50 is hereby repealed.

SECTION IV. ORDINANCE NO. 96-20. County Ordinance Code Chapter 84-63, added by Ordinance No. 96-20 and repealed by Ordinance 96-50, is modified and added to the County Ordinance Code.

CHAPTER 84-63

LAND USE PERMITS FOR DEVELOPMENT PROJECTS INVOLVING HAZARDOUS WASTE OR HAZARDOUS MATERIAL

Article 84-63.2
General
Ordinance No. 98-___

(Land Use Permits for Development Projects Involving Hazardous Waste or Hazardous Material)

The Contra Costa County Board of Supervisors ordains as follows (omitting the parenthetical footnotes from the enacted or amended provisions of the County Ordinance Code):

SECTION I. SUMMARY. The County Ordinance Code requires land use permits for the specified development projects involving hazardous waste or hazardous material in the L-I light industrial, W-3 controlled heavy industrial, and H-I heavy industrial land use districts. County Ordinance Code Chapter 84-63, added by Ordinance No. 86-100, regulates land use permits for development projects involving hazardous waste or hazardous material. This ordinance repeals Chapter 84-63, and adds a new Chapter 84-63 in its place. Articles 84-63.2, 84-63.4, 84-63.6, 84-63.8, 84-63.10 and 84-63.12 of Chapter 84-63, as added by this ordinance, sets forth criteria for land use permits for development projects involving hazardous waste or hazardous material, which encourages business and other entities, in planning the project, to give greater emphasis to factors which involve potential health and safety risks to the surrounding community. Articles 84-63.2, 84-63.4, 84-63.6, 84-63.8, 84-63.10 and 84-63.12 of the new Chapter 84-63 continue to require land use permits for development projects which could significantly and adversely affect public health, safety and the environment. Article 84-63.12 of Chapter 84-63, added by Ordinance No. 90-73, is renumbered and readopted in its entirety as Article 84-63.14.

SECTION II. Chapter 84-63 of the County Ordinance Code, added by Ordinance No. 86-100 and amended by Ordinances Nos. 91-49, 90-92 and 90-73, is repealed in its entirety, and is replaced by new Chapter 84-63, added by Section III of this ordinance.

SECTION III. Chapter 84-63 is added to the County Ordinance Code, to read:

84-63.202 Purpose. The purpose of this chapter is to promote the health, safety and general welfare of residents and persons in the County by encouraging businesses and other entities, in planning and developing projects involving hazardous material or hazardous waste, to consider factors which involve potential health and safety risks to the surrounding community, and by requiring land use permits for development projects which could significantly and adversely affect public health, safety and the environment.
(Ords. 98-_ § 5, 96-50, 96-20, 90-92, 86- 100.)

84-63.204 Conflict. This chapter is not intended, and should not be deemed, to prevent or preempt compliance with federal or state laws, regulations, rules or orders, or to excuse compliance with any other County ordinance, including other requirements of this code.
(Ords. 98-_ §5, 96-50, 96-20, 86-100.)

Article 84-63.4
Definitions

84-63.402 General. As used in this chapter, the words and phrases defined in this article shall have the meanings given unless the context otherwise requires.
(Ords. 98-_ § 5, 96-50, 96-20.)

84-63.404 "Baseline Period." "Baseline period" means the consecutive twelve month period of time during which activity is measured for purposes of this chapter. The baseline period shall be any twelve consecutive month period within five years of the date of the submittal of the application that is reflective of a normal year of operation.
(Ords. 98-_ § 5, 96-50, 96-20.)

84-63.406 "Change-in-risk project." A "change-in-risk project" means a new use of an existing building, structure, or facility, not involving construction other than minor alterations, which use will involve a hazardous material or hazardous waste in a higher hazard category and which use will result in a hazard score higher than the hazard score of the previous use.
(Ords. 98-_ § 5, 96-50, 96-20.)

84-63.408 "Commercial property." "Commercial property" means all properties with a commercial designation in the general plan including but not limited to the following: commercial, regional commercial, airport commercial, office, and business park.
(Ords. 98-_ § 5, 96-50, 96-20.)

84-63.410 "Development project." (a) A "development project" means a new permanent building, structure or facility to be constructed that will manage hazardous materials or hazardous waste, or a permanent change-in-risk project.

As used in this section, "permanent" when used to describe a building, structure, or facility, or the new use of an existing building, structure, or facility (change-in-risk project) means that the building, structure, facility or use is intended to be in operation for more than six months.

(b) A "development project" does not include:

(1) Pipelines and related equipment more than 300 feet from commercial or residential property. Related equipment includes, but is not limited to, items such as valves, fittings, pipe supports, insulation, instrumentation, corrosion protection systems, heat tracing systems, leak containment systems, and fire protection systems. Related equipment does not include storage tanks, storage vessels, process units or plants, mechanical rotating equipment (e.g., pumps, compressors, motors, turbines, internal combustion engines, etc.). However, the Zoning Administrator may determine, at the Zoning Administrator's sole discretion, that minor equipment defined above as not related is exempt from the ordinance.

(2) Any project consisting only of maintenance, repair, and replacement or minor modification of existing equipment provided the storage design capacity is not increased and the hazard category of hazardous material or hazardous waste handled is not increased.

(3) Any transportable treatment unit that has obtained all required permits and is used solely for site remediation or waste treatment purposes, provided the transportable treatment unit will be located on site for a maximum time limit of one year. The Director of Community Development will have the authority to grant a one year time extension if the applicant can demonstrate to the satisfaction of the Director that the unit is temporary. Otherwise, a land use permit will be required if the unit will remain on the site beyond the time limit specified above.

(4) Any project for which permit applications have been deemed complete on or before the effective date of this chapter by the Bay Area Air Quality Management District or other government agency with jurisdiction over the project provided the project application has been deemed complete within one calendar year and has completed CEQA documentation.

The proponent of a project described by subsection (4) of subdivision (b) of this section may elect to be subject to the requirements of this chapter in lieu of any requirements in effect prior to the effective date of this chapter.
(Ords. 98-_ § 5, 96-50, 96-20, 90-92, 86-100.)

84-63.412 "Dispose." "Dispose" means to discharge, deposit, inject, dump, or place any hazardous waste into or on any land or water so that such hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.
(Ords. 98-_ § 5, 96-50, 96-20, 86-100.)

84-63.414 "Equipment." "Equipment" means pipes, pumps, vessels and other similar types of apparatus.
(Ords. 98-_ § 5, 96-50, 96-20.)

84-63.416 "Facility." "Facility" means a group of buildings, structures, or units with the same purpose on contiguous parcels (including parcels separated by a right-of-way, as defined in section 1002-2.002 of this Code) under common ownership or control.
(Ords. 98-_ § 5, 96-50, 96-20.)

84-63.418 "Finished Product" means a material which can be sold to market as a commodity.

84-63.420 "Hazardous material." "Hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment, and includes any material that is listed in the Code of Federal Regulations, Title 49, Section 172. 101 (Hazardous Materials Table), as amended from time to time.
(Ords. 98-_ § 5, 96-50, 96-20, 86-100.)

84-63.422 "Hazardous waste." "Hazardous waste" means any substance which is regulated as a hazardous waste by the California Department of Health Services under 22 California Administrative Code, Division 4, Chapter 30, or defined as a hazardous waste under Health & Safety Code section 25117, generally as follows:

(a) "Hazardous waste" means either of the following:

(1) A waste, or combination of wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristic may either:

(A) Cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness.

(B) Pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

(2) A waste which meets any of the criteria for the identification of a hazardous waste adopted by the State Department of Toxic Substance Control pursuant to the Health & Safety Code section 2514 1.

(b) "Hazardous waste" includes, but is not limited to, federal Resource Conservation and Recover Act ("RCRA") hazardous waste, extremely hazardous waste and acutely hazardous waste.
(Ords. 98-_ § 5, 96-50, 96-20, 86- 100.)

84-63.424 "Intermediate Product" means a material which requires further process treatment on-site or off-site to produce a finished product which can be sold as a commodity.

84-63.426 "Manage." "Manage" means to generate, treat, store, transport, use or dispose of hazardous material or hazardous waste.

(Ords. 98-_ § 5, 96-50, 96-20, 86-100.)

84-63.428 "Process Unit" means a collection of interconnected vessels and equipment designed to separate, purify, react, combine or otherwise chemically or physically alter one or more feed materials, to produce one or more finished or intermediate products and associated wastes, defined by plot or boundary limits. For example, a catalytic cracking unit, a hydrocracking complex, etc. Pieces of a process unit such as pumps, compressors, towers, reactors, vessels, and other such equipment and appurtenances, do not constitute a process unit.

84-63.430 "Project Description." "Project description" means a written description and explanation of the construction and operation of a development project. A project description shall address all phases of and for the life of the project.

The project description shall include the following information as well as any other information deemed necessary by the Community Development Director for the purpose of determining the hazard score:

(a) A description of the facility location with respect to major freeways and immediate neighbors, and the size (in square footage or acreage) of the property on which the facility is located.

(b) An area map showing the facility in relationship to the surrounding community; and

(c) A description of all significant operations involving hazardous material and/or hazardous waste currently being managed, and/or proposed to be managed, including a brief general history of the facility.

(d) A summary of the baseline data for all five years and a justification for the selection of the representative baseline year of data used in the calculation of the hazard score.

The Community Development Director may waive the requirement of submitting any or all of the information required by paragraphs (a) through (d), above.
(Ords. 98-__ § 5, 96-50, 96-20.)

84-63.432 "Residential property". "Residential property" means all properties with a residential designation in the general plan, including but not limited to the following: single family residential, multiple family residential, and mobile homes.
(Ords. 98-_ § 5, 96-50, 96-20.)

84-63.434 "Sensitive receptor." The term "sensitive receptor" includes schools, general acute care hospitals, long-term health care facilities, licensed child day care facilities, and similarly less-mobile populations, and detention facilities including jails, youth camps and other locked facilities. These facilities have more than twelve people. For the purposes of this section, "general acute care hospital" has the meaning set forth in Health and Safety Code section 1250(a), "long term health care facility" has the meaning set forth in Health and Safety Code section 1418(a), and "child day care facility" has the meaning set forth in Health and Safety Code

section 1596.750. "School" means any school used for the purpose of the education of more than 12 children in kindergarten or any grades 1 to 12, inclusive.
(Ords. 98-_ § 5, 96-50, 96-20.)

84-63.436 "Store." "Store" means an act to contain hazardous waste or hazardous material for any period of time in such a manner as not to constitute disposal of such hazardous waste or hazardous material.
(Ords. 98-_ § 5, 96-50, 96-20, 91-49, 86-100.)

84-63.438 "Transport." "Transport" or "transportation" means an act to move hazardous waste or hazardous material by truck, rail, marine vessel or pipeline.
(Ords. 98-__ § 5, 96-50, 96-20, 86-100.)

Article 84-63.6
Applicability

84-63.602 Applicability. The provisions of this chapter shall be applicable in any non-agricultural zoning district. (Ords. 98-_ § 5, 96-50, 96-20, 86-100.)

84-63.604 Exemptions. The following projects and structures are exempt from the provisions of this chapter:

(a) Any project built solely to comply with federal, state, regional or local agency enforcement orders under a compliance time schedule that precludes timely review under this chapter. This section is primarily intended to allow exemptions for compliance with laws, regulations, rules, or administrative or judicial orders such as nuisance abatement orders or other short-term or immediately necessary actions. This section is not intended to allow automatic exemptions for projects being undertaken to comply with changed federal, state, regional or local laws. A facility claiming an exemption under this section, must file a copy of the enforcement order and proposed project description within thirty (30) days of receipt of the order.

(b) If any building, structure, or facility is destroyed or damaged by disasters such as earthquakes, floods, offsite fires, or an act of god or the public enemy, the facility may be rebuilt under the following conditions:

(1) The rebuilt project is used for the same purpose as the destroyed damaged project;

(2) The rebuilt project complies with all environmental regulations in effect at the time of rebuilding, including Best Available Control Technology (BACT) or at least the same level of control that previously existed, whichever provides the greater level of protection to the public;

(3) The rebuilt project does not have a higher hazard score than the destroyed or damaged project (both rebuilt and destroyed or damaged project to be scored as if they are new);

(4) The hazard category of chemicals used in the rebuilt project is not greater than used by the destroyed or damaged project;

(5) Construction is commenced within one year unless an extension is granted by the Community Development Director;

(6) The rebuilt project is at least 300 feet away from the nearest residential property or sensitive receptor and no closer to the nearest residential property or sensitive receptor than the destroyed or damaged project; and

(7) The rebuilt project will not manage Hazard Category A materials in quantities greater than the destroyed or damaged project, will not manage hazardous wastes in quantities greater than the destroyed or damaged project, will not manage Hazard Category B materials in quantities greater than 10% more than the amount managed by the destroyed or damaged project, and will not manage Hazard Category C materials in quantities greater than 10% more than the amount managed by the destroyed or damaged project.

(c) A development project in which both the size, as defined in section 84-63.1012 and the monthly transportation quantity are less than:

(1) for Hazard Category C materials - 4000 tons

(2) for Hazard Category B materials - 5 tons

(3) for Hazard Category A materials - the quantity specified as the Threshold Planning Quantity on the Extremely Hazardous Materials List (Appendix A to 40 C.F.R Chapter I, Subchapter J, Part 355, as amended from time to time), or 500 pounds, whichever is less.

(Ords. 98-_ § 5, 96-50, 96-20, 90-92, 86-100.)

Article 84-63.8
Standards and Procedures

84-63.802 Application for Applicability Determination; Exemption. Any person proposing a development project which may be used to manage hazardous waste or hazardous material shall apply to the Community Development Director for review and a determination whether a land use permit may be required under Article 84-63.10 or whether the project is exempt under section 84-63.604(a) or (b) or 84-63.606. Projects exempt under section 8463.604(c) are not required to submit an application pursuant to this section. If the hazard score of a project is 69 or less and the project does not increase the amount of hazardous waste or hazardous material managed as compared to the baseline of the last three years, a determination of non-coverage and an application therefor are not required.

The application shall include all information necessary to complete and verify the hazard score of the project, such as chemical identification, distances to nearest receptors, transportation routes, and a summary of the five year baseline data. The application shall be accompanied by all fees established by the Board of Supervisors.

(Ords. 98-__ § 5, 96-50, 96-20, 91-49, 90-92, 86-100.)

84-63.804 Application, Review, Determination. No later than ten calendar days after receipt of an application, or the submittal of additional information, the Community Development Director shall inform the applicant in writing that the application is complete or shall inform the applicant what additional information is required. Within twenty calendar days

of the application being deemed complete, the Community Development Director shall issue a written determination of non-coverage pursuant to section 84-63.806, an exemption pursuant to section 84-63.604 (a) or (b), or a determination that a land use permit is required pursuant to section 84-63.1002.
(Ords. 98-_ § 5, 96-50, 96-20, 90-92.)

84-63.806 Determination of non-coverage. Upon determining that a proposed project has a hazard score up to and including 79 or that the project is exempt pursuant to section 84-63.604, the Community Development Director shall issue a determination of non-coverage or exemption. A determination of non-coverage for projects with a hazard score between 70 and 79, inclusive, means that the project is not subject to the requirements of article 84-63.10, but is subject to sections 84-63.808 and 84-63.810. Projects with a hazard score below 69 and projects which are exempt pursuant to sections 84-63.604 are not subject to the requirements of sections 84-63.808 and 84-63.810.
(Ords. 98-_ § 5, 96-50, 96-20.)

84-63.808 Determinations - Public Notice. All determinations of non-coverage made pursuant to section 84-63.806 shall be summarized on an agenda of the County Zoning Administrator within ten calendar days of issuance of the determination.
(Ords. 98-_ § 5, 96-50, 96-20, 91-49, 90-92, 86100.)

84-63.810 Determinations - Further Public Notice. For projects with a point assignment between 70 and 79, inclusive, within five working days of issuing a determination of non-coverage, the Community Development Director shall mail notice on the date of the determination to all organizations and individuals who have previously submitted a written request for such notice. The Community Development Director shall publish a four-inch by six inch advertisement in a newspaper of general circulation within ten calendar days of issuing a determination of non-coverage. The notices required by this section shall state the name of the applicant, briefly describe the project, provide the names and phone numbers of a representative of the Community Development Department and a representative of the applicant who will be available to answer questions about the project, and shall state the date by which an appeal must be filed.
(Ords. 98-__ § 5, 96-50, 96-20, 91-49, 90-92.)

84-63.812 Appeals. Any appeal of a determination of non-coverage shall be filed within ten calendar days of the date the determination is listed on the Zoning Administrator's agenda or ten calendar days from the date of publication pursuant to section 84-63.810, whichever provides the longer period of appeal.

Appeals from a determination of non-coverage shall be heard by the Board of Supervisors.

Except as expressly provided in this section, appeals from all decisions and determinations made pursuant to this chapter shall be governed by the land use permit provisions of article 26-2.24 and are subject to the provisions of article 26-2.30.
(Ords. 98-_ § 5, 96-50, 96-20, 86-100.)

Article 84-63.10
Land Use Permits - When Required

84-63.1002 Hazard Score; Permit Required. Unless otherwise exempt from the requirements of this chapter, a land use permit shall be required for a development project proposed for the management of hazardous material and/or hazardous waste if any of the following apply:

(a) the development project obtains a hazard score of 80 or more pursuant to the formula set forth in section 8463.1004; or

(b) for hazard category A materials, the development project stores twice the quantity specified as the Threshold Planning Quantity on the Extremely Hazardous Materials List (Appendix A of 40 Code of Federal Regulations Chapter I, Subchapter J Part 355), as amended from time to time, or 2000 pounds, whichever is less; or

(c) for hazard category A or B materials, the development project will result in a new process unit(s) unless the process unit complies with Section 84-63.1004 (d) 1 through 6 - Credit for reductions or projects to be closed. Modifications to an existing process unit does not constitute a new process unit; or

(d) for hazard category B materials, any development project that has a fill to the maximum capacity of 40,000 tons or more unless the development project complies with Section 84-63.1004 (d) 1 through 6 - Credit for reductions or projects to be closed.

subject to the provisions of this article.
(Ords. 98-_ § 5, 96-50, 96-20.)

84-63.1004 Hazard Score. (a) Formula. The hazard score of a proposed development project shall be determined pursuant to the following formula:

$[(T + C + P) \times H] + D + A;$

where the following symbols have the following designations:

"T" refers to the point assignment for "Transportation Risk";

"D" refers to the point assignment for "Community Risk - Distance from Receptor";

"C" refers to the point assignment for "Community Risk - Type of Receptor";

"A" refers to the point assignment for "Facility Risk - Size of Project - Total Amount";

"P" refers to the point assignment for "Facility Risk - Size of Project - Percent Change"; and

"H" refers to the point assignment for "Hazard Category of Material or Waste."

(b) Project Hazard Score. If more than one category of hazardous material or hazardous waste is used, the formula set forth in this section will be used to calculate a separate score for each material category. The material hazard category which results in the highest hazard score - for the project will be used.

(c) Point Assignment. The factors set forth in subdivision (a), above, shall have the following point assignments:

TRANSPORTATION RISK (T)	POINTS
Truck - residential/commercial (>25% increase or new)	10
Truck - residential/commercial (>5 - 25 % increase)	9
Truck - Industrial (>25% increase or new)	8
Truck - Industrial (>5 - 25% increase)	7
Rail - (>25% increase or new)	6
Rail - (>5 - 25% increase)	5
Marine Vessel- (>5% increase)	3
Pipeline - (>5% increase)	1
0 - 5% increase	0

COMMUNITY RISK

Distance of project from receptor (D):

0-300 feet	30
>300 - 400 feet	29
>400 - 550 feet	28
>550 - 700 feet	27

>700 - 900 feet	26
>900 - 1200 feet	25
>1200 - 1500 feet	24
>1500 - 1800 feet	23
>1800 - 2100 feet	22
>2100 - 2500 feet	21
>2500 - 2800 feet	20
>2800 - 3200 feet	19
>3200 - 3500 feet	18
>3500 - 3800 feet	17
>3800 - 4000 feet	16
>4000 - 4200 feet	15
>4200 - 4500 feet	14
>4500 - 4800 feet	13
>4800 - 5400 feet	12
>5400 - 5700 feet	11
>5700 - 6000 feet	10
>6000 - 6500 feet	9
>6500 - 7300 feet	8
>7300 - 8000 feet	7
>8000 - 8600 feet	6
>8600 - 10,000 feet	5
>10,000 - 11,000 feet	4

>11,000 - 12,500 feet	3
>12,500 - 14,000 feet	2
>14,000 - 15,840 feet	1

Type of receptor (C):

Sensitive Receptor	7
Residential Property	5
Commercial Property	4

FACILITY RISK: SIZE OF PROJECT

Total Amount of Change, tons (Conversion to tons; 1 ton = 2000 pounds) (A):

>40,000	30
>32,000 - 40,000	29
> 18,000 - 32,000	28
>10,000 - 18,000	27
>6,000 - 10,000	26
>4,000 - 6,000	25
>2,100 - 4,000	24
>1,200 - 2,100	23
>750 - 1,200	22
>400 - 750	21
>200 - 400	20
>150 - 200	19

>90 -150	18
>50 - 90	17
>30 - 50	16
>20 - 30	15
>10 - 20	14
>6 - 10	13
>4 - 6	12
>2 - 4	11
>1 -2	10
>0.8 - 1	9
>0.5 - 0.8	8
>0.35 - 0.5	7
>0.25 - 0.35	6
>0.20 - 0.25	5
>0. 18 - 0.20	4
>0. 14 - 0.18	3
>0. 12 - 0.14	2
>0. 10 - 0. 12	1
no change (0. 10 or less)	0

Percent Change (P)

New	6
>200%	5

>100% - 200%	4
>50% - 100%	3
>10% - 50%	2
>1% - 10%	1
0%-1%	0

HAZARD CATEGORY OF MATERIAL (H)

Category A	5
Category B	3
Category C	1

(d) Credit for reductions or projects to be closed. A development project that would have a hazard score of 80 or more as determined by the formula in this section shall be entitled to a reduction credit for project closures and/or reductions in accordance with the criteria set forth in this subdivision. Reduction credit shall be given if the Community Development Director determines that the applicant will concurrently close another project or reduce its operations and finds that all of the following criteria are met:

(1) The project to be closed or reduced is in the same facility in which the development project is proposed.

(2) The project to be closed or reduced is currently in operation and has been in operation for at least three years prior to the date of application, during which period the production schedule has been reflective of a normal production schedule;

(3) The project to be closed or reduced is the direct result of the proposed development project;

(4) The project to be closed or reduced has a higher hazard score than the proposed development project;

(5) The hazard category of the material or waste in the development project will be no greater than the hazard category of the material or waste in the project to be closed or reduced; and

(6) The development project will be more than 300 feet from the property line of the nearest residential property or sensitive receptor.

The hazard score for the project to be closed shall also be determined by the formula set forth in subdivisions (a) and (b) of this section and pursuant to the provisions of this article. An

determining the hazard score for the project to be closed or reduced, said project shall be deemed a new project.

The hazard score of the development project shall be subtracted from the hazard score of the project to be closed or reduced. The resulting difference will then be subtracted from the hazard score of the development project to obtain a hazard score adjusted for the closure or reduction. The adjusted hazard score shall be the basis for determining whether a land use permit shall be required under this chapter.

A determination by the Community Development Director that a project is not subject to the land use permit requirement of this chapter as a result of credit afforded for a project closure or reduction shall be reported to the Zoning Administrator pursuant to section 84-63.808 and shall be subject to the public notification requirements set forth in section 84-63.810.

(e) **Closure, reduction required.** Projects proposed for closure or reduction for which closure or reduction credit was afforded under this section shall be closed or reduced as proposed within one year of completion of the development project. This subdivision (e) applies only in cases where a land use permit would have been required but for the closure or reduction credit afforded under this section.
(Ords. 98-_ § 5, 96-50, 96-20.)

84-63.1006 Determination of Transportation Risk. The transportation risk point assignment shall be calculated based upon planned total quantities of materials in a hazard category, measured in terms of tons per year for each hazard category proposed. The transportation risk point assignment shall be calculated for each mode of transportation proportionally within a single hazard category. That transportation point assignment shall be compared by hazard category with the total amount of material in the hazard category transported during the baseline period in order to obtain the percent change in section 8463.1004(b), Transportation Risk.

For purposes of determining whether truck transportation is through residential/commercial or industrial areas, the shortest legal route from the closest two-lane (or larger) freeway shall be considered. If the route used in the County does not traverse a two-lane (or larger) freeway, the entire route shall be considered.
(Ords. 98-- § 5, 96-50, 96-20.)

84-63.1008 Determination of Community Risk - Distance to Receptor. "Distance to Receptor" shall be the shortest distance between an exterior wall or other part of the development project and the property line of the residential property, commercial property or the sensitive receptor used to determine the hazard score of a development project.
(Ords. 98-- § 5, 96-50, 96-20.)

84-63.1010 Determination of Community Risk - Type of Receptor. A hazard score shall be developed for each type of receptor (residential property, commercial property and sensitive receptor) within three miles of the development project based upon the distance of the parcel of each type of receptor that is closest to the development project. The receptor that

produces the highest hazard score shall be used to determine the hazard score of the development project. Receptors more than three miles from a development project shall not be considered. (Ords. 98-_ § 5, 96-50, 96-20.)

84-63.1012 Determination of Project Risk - Size. The size of a development project shall be measured in terms of tons of hazardous material and/or hazardous waste stored as a result of the development project, based upon the fill-to-the-maximum capacity of the development project, including amounts stored in tanks; reactors; columns; process lines; tank cars, tank trucks or rail cars when connected to process equipment; or any other receptacle used for the containment of hazardous materials and/or hazardous wastes. The amount of material in hazard categories A, B, or C to be added to the site as a result of the development project will be used to determine the total amount of change. If more than one category of hazardous material is used, the amounts of materials (A, B, or C) shall be used with the respective hazard category in the formula in section 84-63.1004.

The specific gravity of hazardous materials or hazardous wastes may be required to calculate the number of tons (or pounds) of hazardous materials and/or hazardous waste managed at the development project. The standard of 2000 pounds equaling one (1) ton shall be used.

The point assignment for storage of containerized material in buildings, such as labs or warehouses, shall be based upon the maximum anticipated amount of materials for each hazard category as a result of the development project.
(Ords. 98-_ § 5, 96-50, 96-20.)

84-63.1014 Determination of Project Risk - Percent Change. The percent change of a hazard category shall be determined by comparing the amounts of materials for the respective hazard categories A, B, or C to be added to the site as a result of the development project to the total amount of all materials for the respective hazard categories A, B, or C handled at the site from the baseline period.
(Ords. 98-__ § 5, 96-50, 96-20.)

84-63.1016 Determination of Hazard Category. (a) Method of Determination. The hazard category of a material or waste shall be determined pursuant to this section.

(1) The primary method of determining the material hazard category of a hazardous waste or material shall be by reference to the Winter 1994 version of the U.S. Department of Transportation ("D.O.T.") Code of Federal Regulations, Title 49 ("49 CFR"), Section 172. 101, Hazardous Materials Table." From columns (3) and (5), extract the "Hazard Class or Division" and "Packing Group" information, then proceed to 49 CFR 173.2 to determine the "Name of Class or Division." Proceed to subdivision (c) of this section to determine the material hazard category as either A, B or C. If a material is listed in 49 CFR 172. 101 more than once, the rating that results in the highest hazard category shall be used. The hazard category of a mixture is determined according to its common name as defined in Title 49.

(2) Where a hazardous material, waste, or mixture is not referenced in 49 CFR 172. 101, and the hazard category cannot be determined using the primary method, refer to the

manufacturer's MSDS for the D.O.T. "Hazard Class or Division," "Packing Group" and "Name of Class or Division." Proceed to subdivision (c) of this section to determine the material hazard category as either A, B or C.

(3) Where the preceding methods are not successful, the Contra Costa County Health Services Director or his designee shall be responsible for determining a material's hazard category.

(4) Regardless of the hazard category obtained using the methods set forth above, materials with the word "poison" in column (6) of 49 CFR 172. 101, Methyl chloride, and the metals Antimony, Mercury, Lead, Arsenic, Thallium and Cadmium and their compounds, shall be Hazard Category A materials, and denatured alcohol and methanol shall be Hazard Category B materials for purposes of this chapter.

(b) Exclusions. Regardless of the hazard category obtained using the methods set forth in subdivision (a), above, Hot Coke, Hot Coal Briquettes, and materials not regulated by D.O.T. or which have no D.O.T. Hazard Class or Division are not regulated by this chapter.

(c) Hazard Categories.

Hazard Category A Materials

I. **Forbidden Materials**

As referenced in 49 CFR 173.21 and 173.54.

II. **Explosives and Blasting Agents**

Class 1, as defined in 49 CFR 173.50(b)(1) through 173.50(b)(6).

III. **Reactive Materials**

A. Air Reactive Materials - Class 4, Division 4.2 as defined in 49 CFR 173.124(b)(1) and (2).

B. Water Reactive Materials - Class 4, Division 4.3 as defined in 49 CFR 173.124(c).

C. Organic Peroxides - Class 5, Division 5.2 as defined in 49 CFR 173.128.

IV. **Radioactive Materials**

Class 7 as defined in 49 CFR 173.403(y).

V. **Oxidizers D.O.T. Packing Group I**

Class 5, Division 5.1 as defined in 49 CFR 173.127(a) when Packing Group I is required per 49 CFR 173.127(b)(2)(I).

VI. **Poisons, D.O.T.**

A. Poisons, Class 6, Division 6.1 as defined in 49 CFR 173.133 (applies to all hazard zones).

B. Infectious Substances, Class 6, Division 6.2 as defined in 49 CFR 173.134.

VII. **Poison Gas**

Class 2, Division 2.3 as defined in 49 CFR 173.115(c).

Hazard Category B Materials

VIII. **Flammable Liquids**

Class 3 Packing Groups I and II as defined in 49 CFR 173.120(a).

IX **Flammable Solids**

Class 4, Division 4.1 as defined in 49 CFR 173.124(a).

X. **Oxidizers, D.O.T. Packing Group II**

Class 5, Division 5.1 as defined in 49 CFR 173.127(a) when Packing Group 11 is required per 49 CFR 173.127(b)(2)(ii).

XI. **Flammable Gases**

Class 2, Division 2.1 as defined in 49 CFR 173.115(a).

XII. **Corrosives, D.O.T. Packing Group I or II**

Class 8 Packing Groups I or II as defined in 49 CFR 173.136(a) and 173.137(a) and (b).

Hazard Category C Materials

XIII. **Non-flammable Compressed Gases**

Class 2, Division 2.2 as defined in 49 CFR 173.115(b).

XIV. **Combustible Liquids**

Class 3 Packing Group III as defined in 49 CFR 173.120(b).

XV. **Miscellaneous Hazardous Materials**

Class 9 as defined in 49 CFR 173.155.

XVI. **Oxidizers D.O.T. Packing Group III**

Class 5, Division 5.1 as defined in 49 CFR 173.127(a) when Packing Group III is required per 49 CFR 173.127(b)(2)(iii).

XVII. **Corrosives D.O.T. Packing Group III**

Class 8 Packing Group III as defined in CFR 49 173.136(a) and 173.137 (c).
(Ords. 98-__ §5, 96-50, 96-20.)

Article 84-63.12
Land Use and Variance Permits

84-63-1202 Granting. An applicant for a land use permit shall submit a project description. Land use permits required under this chapter may be granted in accordance with the provisions of chapters 26-2 and 82-6.
(Ords. 98-__ § 5, 96-50, 96-20, 86- 100.)

Article 84-63.14
Offsite Hazardous Waste Facility Compliance With County Hazardous Waste Management Plan

84-63.1402 Authority. This article is enacted pursuant to Health and Safety Code sections 25135.4 and 25135.7, concerning the siting of offsite hazardous waste facilities.
(Ords. 98-__ § 5, 96-50, 96-20, 90-73.)

84-63.1404 Definitions. (a) General. Unless otherwise specified in this section or indicated by the context, the terms used in this article have the meanings ascribed to them in Health and Safety Code Chapter 6.5 (§ 25100 et seq.).

(b) "County Hazardous Waste Management Plan" means the county hazardous waste management plan adopted by the Board of Supervisors on August 29, 1989 and amended by the Board of Supervisors on January 30, 1990, approved by a majority of the cities within the county which contain a majority of the population of the incorporated area, and approved by the State Department of Health Services on February 28, 1990, as said plan is amended from time to time.

(c) "Hazardous waste facility" means all contiguous land and structures, other appurtenances, and improvements on the land used for the treatment, transfer, storage, resource recovery, disposal, or recycling of hazardous waste. A hazardous waste facility may consist of

one or more treatment, transfer, storage, resource recovery, disposal, or recycling hazardous waste management units, or combinations of these units.

(d) "Offsite hazardous waste facility" means a hazardous waste facility at which either or both of the following occur:

(1) Hazardous waste that is produced offsite is treated, transferred, stored, disposed or recycled.

(2) Hazardous waste that is produced onsite is treated, transferred, stored, disposed or recycled and the hazardous waste facility is not owned by, leased to or under the control of the producer of the hazardous waste.

Ords. 98-_ § 5, 96-20, 96-50, 90-73.)

84-63.1406 County Hazardous Waste Management. All land use permit, variance or other land use entitlement granted for the operation or expansion of an offsite hazardous waste facility shall be consistent with the portions of the County Hazardous Waste Management Plan which identify siting criteria, siting principles or other policies applicable to hazardous waste facilities. Before granting the application, the division of the planning agency hearing the matter initially or on appeal shall find that the application complies with the applicable siting criteria, siting principles and other policies identified in the County Hazardous Waste Management Plan, and that the proposed offsite hazardous waste facility is consistent with the County Hazardous Waste Management Plan.

(Ords. 98-_ § 5, 96-50, 96-20, 90-73; Health & Safety Code, §§ 25135.4. 25135.7.)

84-63.1408 Exclusion. The requirements of this article do not apply to projects which are exempt projects under section 84-63.604.

(Ords. 98-_ § 5, 96-50, 96-20, 90-73.)

SECTION V. SEVERABILITY. This ordinance shall be construed to achieve its purpose and preserve its validity. If any provision or clause of this ordinance or application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of this ordinance which can be given effect without the invalid provision or application, and to this end the provisions of the ordinance are declared to be severable and are intended to have independent validity.

SECTION VI. PREEMPTION. Nothing in this ordinance is intended, and nor shall it be deemed, to excuse or prevent compliance with any state or federal law. If any provision of this ordinance, or the application thereof to any person or circumstance is found by a court of competent jurisdiction to be preempted by any applicable state or federal law, the Board of Supervisors declares that its intent (1) that such provision be severable from the remainder of the ordinance, and (2) that the remainder of the ordinance be given effect in accordance with the provisions of Section I of this ordinance. In the event of any conflict or inconsistency between this ordinance and applicable federal or state statutes or regulations, the federal or state requirements shall control.

SECTION VI. EFFECTIVE DATE. This ordinance becomes effective 30 days after passage, and within 15 days after passage shall be published once with the names of the Supervisors voting for and against it in the CONTRA COSTA TIMES, a newspaper published in this County.

PASSED on _____by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

ATTEST: Phil Batchelor, Clerk
of the Board of Supervisors and
County Administrator

By:_____ _____
Deputy Chair
[SEAL]

APPENDIX F

CONTRA COSTA COUNTY

COMMUNITY AWARENESS AND EMERGENCY REPSPONSE (CAER)

"SPONSOR AND WORKING GROUPS"

Appendix F:

Sponsors of the Contra Costa County CAER

Sponsor	Location	Sponsor	Location
Air Products, Martinez Hydrogen Plant	Martinez	Dow Chemical	Pittsburg
Air Products, Tosco Hydrogen Plant	Martinez	Equilon Refinery	Martinez
Allied Propane Services	Richmond	GWF Power Systems	Pittsburg
ARCO Products	Richmond	Great Western Chemical	Richmond
BAAQMD	San Francisco	HASA Chemical	Pittsburg
BOC Gases	Richmond	IMTT	Richmond
Bio-Rad Laboratories	Richmond	KemWater	Antioch
California Oils	Richmond	Kinder Morgan	Martinez
Calpine Corporation	Pittsburg	Martinez Water Treatment	Martinez
Chevron Products Co.	Richmond	Paktank	Richmond
City of Antioch Water Treatment Plant, OES, Police, Fire	Antioch	Radiant Color	Richmond
City of Richmond City Managers Office, OES, Police	Richmond	Rhodia Inc.	Martinez
Clean Bay	Concord	Richmond Fire Dept.	Richmond
CCC Fire District	Pleasant Hill	San Ramon Valley Fire Dept.	San Ramon
CCC Health Services	Martinez	Shell Martinez Catalyst Plant	Martinez
CCC Sheriff's Office	Martinez	Shore Terminals	Martinez
Criterion Catalyst	Pittsburg	Shore Terminals	Richmond
Danville Police	Danville	Shore Terminals	Shelby
Diablo Services	Pittsburg	UDS, Golden Eagle Refinery, Avon	Martinez
Diablo Water District	Oakley	Phillips Refinery	Rodeo

Contra Costa County CAER - Community Outreach Group

Plans for the Community Outreach Group include attendance at large events to meet face to face with community members to help educate them about CAER, shelter-in-place, and evacuation. This group also recruits volunteers for the revitalization of the school mentor program. In this program, volunteers work with schools to familiarize them with the protective action of shelter-in-place and help them determine how best to shelter-in-place during a chemical emergency.

The Community Outreach Group also is involved with the development of a post-incident survey. Once completed, the survey will be ready for immediate distribution following a chemical accident. Its intent is to get feedback on the effectiveness of outreach and education prior to an incident and the alert and notification during the incident. The goal would be to enable CAER to determine from the survey what has worked in the areas of education and alert and notification and what additional steps need to be taken to better reach the community.

The Contra Costa County CAER Outreach Group attends numerous community functions throughout the year to interact with local communities and stimulate communication. Below are some recent examples of outreach events in early 2001:

February 3, 2001	Antioch Crime Prevention/Emergency Preparedness Fair
April 28th, 2001	Richmond Earthquake/Safety Fair
April 29th, 2001	Earth Day 2001
May 22, 2001	Richmond Senior Information and Health Fair
June 1, 2001	Kids Day - Contra Costa County Fair - in Antioch

CAER also maintains a website with all of the information provided in this section of Appendix E at: http://www.ccccaer.org/index.html

The Community Outreach Group meets the 3rd Wednesday of every month from 9:00 am until 11:00 am, usually at the Muir Parkway Office Center Conference Rooms. Nancy Ross is the Chair of this group and she can be contacted at (925) 370-3626 for more information about the next meeting.

Contra Costa County CAER - Emergency Notification Group

This group meets monthly to discuss issues related to the Community Warning System operation and protocols and the County's policies on Hazardous Materials Incident Notifications. The group includes public emergency responders and agency representatives as well as facility emergency responders. Much of the work of this group in the past resulted in the Hazardous Materials Accidental Release Matrix.

The Emergency Notification Group meets the 1st Thursday of every month between 9:00 am - 11:00 am at the County Office of Emergency Services offices, 50 Glacier Drive, Martinez. Randy Sawyer is the Chair of this group and he can be contacted at (925) 646-2879 for more information about the next meeting.

Contra Costa County CAER - Emergency Preparedness Group

This group's mission is to improve the preparedness of industry, agencies, and the community in responding effectively to emergencies through drills and exercises. Their goals are to:

- To maximize efficiency of existing resources by coordinating drills and exercises between industry, agencies, and the community in Contra Costa County;
- To establish and maintain a list of stakeholders that can be used to in planning drills and exercises;
- To publish an emergency response resource guide specific to Contra Costa County which can be used to assist industry and communities in emergencies, and;
- Review incidents and share lessons learned.

Their current priorities are to regularly publish a schedule of Contra Costa County CAER member drills and exercises along with a list of stakeholders that can be used in

planning drills and exercises. They also plan to develop and distribute a Request for Proposals which will be sent out to local businesses and organizations in an effort to help small facilities conduct comprehensive drills or exercises. Based on the need and requirements, two facilities per year (at least in the first year) will be chosen for grants. These facilities will need to provide only modest resources to achieve and conduct the drill or exercise, as the CAER group will provide most of the funding and resources and personnel effort.

The Emergency Preparedness Group meets monthly on the 3rd Wednesday from 1:00 - 3:00 pm, usually at the Shell Martinez Refining Company Clubhouse in Martinez or at the Contra Costa County Fire Protection Training Facility on Treat Boulevard in Concord, California. Scott Etzel is the Chair of this group and can be contacted at (925) 432-5410 for more information about the next meeting.

Contra Costa County CAER - Industrial Hygiene Group

This group discusses regulatory compliance issues, community monitoring, emerging health issues (e.g., indoor air quality), and lessons learned through incident response.

The Industrial Hygiene group meets the 2nd Thursday of every month (on even months) from 11:00 am - 1:30 pm, at various locations. Pat Owens is the Chair of this group and he can be contacted at (925) 313-3768.

The Contra Costa County CAER Petrochemical Mutual Aid Organization (PMAO) Group

This group is responsible for sharing safety information, identifying and cataloging available equipment for emergency response, and keeping current protocols for call outs. This group is developing a single identification badge system for use by all public agencies and industry responders to hazardous material incidents.

The PMAO Group meets the 4th Wednesday of every month from 11:30 am - 1:30 pm at Amotos Restaurant in Martinez, California. Dennis Derewsky in the Chair of this group and he can be contacted at (510) 242-2302 for more information about this group.

The Contra Costa County CAER Incident Review and Regulatory Issues Group

This group is responsible for reviewing safety incidents/near misses and promoting discussion about new regulations and implementation standardization.
The Incident Review Group meets the 2nd Wednesday of the odd months between 10:00 am - 12:00 pm at various locations. Randy Sawyer is the Chair of this group and he can be contacted at (925) 646-2879 for more information about the next meeting.

APPENDIX G

REFINERY ACTIVITIES INVOLVING LOCAL COMMUNITIES

Appendix G:
Other Refinery Activities Involving Local Communities

A. Refinery Community Efforts

Refineries provide many types of support within the communities where they do business. In the Bay Area, refineries have contributed over $10 million to local community programs and public service projects since 1994. In addition, refineries' provide financial and in-kind resources to support a variety of community programs, including:

- Youth summer job programs;
- Internships;
- Health and science fairs;
- Community recycling programs;
- Education programs and free curriculum materials;
- Scholarships;
- Teacher training;
- Environmental conservation programs, and;
- Crime prevention and public safety programs.

Additional information regarding contributions of individual refineries can be found in company annual reports, and is often posted on their web sites.

1. Contributions

The list of recipients of contributions from California's refineries is extensive. Survey results indicate that the refineries that responded to the survey contribute to a large number of local charities, organizations, and associations. Many of the refineries focus on providing money to local schools, educational activities and organizations and programs that promote and provide civic and cultural services within the local community. Some of these organizations include the YMCA, local Boys and Girls Clubs, the United Way, local Little League programs, and community foundations for civic improvement.

Some examples of refinery contributions to local communities include support to organizations like the Richmond Police Activities League (PAL) and other nonprofit organizations in the amount of $1 million annually. Contributions are made annually to the United Way in the amount of $1 million. John Swett High School is the recipient of $100,000 annually and another $100,000 is contributed annually to the Rodeo Municipal Advisory committee and the Crockett Community Foundation. The Wilmington YMCA received $50,000 from refineries to assist in it's construction. These are just a few of

the examples of the responses from our survey. There are a number of other organizations that have received monies from refinery outreach efforts.

2. Scholarships and Internships

Refineries throughout the state have provided a number of scholarships that are made available to local high school students and adults continuing their education. Many refineries contribute to programs including "Adopt-a-School" in which money is allocated to a school for scholarships and other educational opportunities. Other programs recognize teachers and provide them with awards and money to supplement the needs of their students. These funds help the teachers to subsidize expenses for school related activities. California's refineries have also created programs providing recent college and high school graduates with the opportunity to work and learn a trade during the summer months.

B. Volunteerism

Many refinery employees take on a variety of community volunteer roles in schools, sports, church, and charitable organizations. Refinery staff are also involved in local government (councils and commissions) and chambers of commerce. In addition to volunteering at a variety of local community, government, and nonprofit organizations, refinery employees use their knowledge, training skills, and experiences to benefit local communities through some of the following activities:

- Safety and CPR training;
- Community awareness training;
- Educational programs, and;
- Organizing CAER meeting programs.

To perform these volunteer activities, refiner's and their employees have donated many hours of human resources. Refiner's have advocated for employees to volunteer their time and, in some cases, provided compensated employee work time to volunteer services to the local community. The employees at one particular refinery have donated over 10,000 hours of their work time and have completed over 70 volunteer projects in the past two years – including construction of two computer labs, a children's playground structure, a community sensory garden, and a batting cage at a local high school.

Other refinery employees have volunteered their time in after-school mentoring and tutoring programs for local school children, assisted the Habitat-for-Humanities organization in building homes, organized blood drives, toy drives, and other fundraisers benefiting local community groups.