

**ANNUAL COMPLIANCE REPORT
2001**

**ULTRAMAR CORPORATION
PLANT #12758
MARTINEZ, CALIFORNIA**



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

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ULTRAMAR CORPORATION ANNUAL REPORT, PLANT #12758

December 31, 2001

INTRODUCTION

The Bay Area Air Quality Management District (BAAQMD) Compliance and Enforcement Division is committed to making an annual report to the community to review and discuss the compliance status of major petrochemical facilities within the District. The following report is a summary of District enforcement activities at the Ultramar Corporation – Golden Eagle Refinery, in Martinez, during the period of January 1, 2001 through December 31, 2001.

FACILITY SUMMARY

The Ultramar Corporation operates a petroleum refinery in Martinez. This refinery processes up to 170,000 barrels of crude oil per day. This facility is permitted by the Bay Area Air Quality Management District (BAAQMD) for the operation of 503 sources. These sources include a variety of petroleum processing units, tankage, wastewater treating facilities, distribution facilities, pumps, compressors and associated combustion sources (heaters, furnaces, and boilers). The major process units include two crude distillation units, fluid catalytic cracking unit (FCCU), fluid coker unit, hydrocracker unit, hydrodesulfurization (HDS) units, hydrogen plant, catalytic reformer, alkylation unit, hydrodenitrification (HDN) unit, hydrodearomatization (HDA) unit, a sulfur recovery unit, and sulfuric acid plant. Tankage is used for storage of organic liquids (unrefined, intermediate, and finished), and for waste oils and water. The wastewater treatment system includes the foul water strippers, American Petroleum Institute (API) oil water separator, dissolved nitrogen flotation unit (DNF), wastewater treatment ponds and final treatments before discharge to the Bay. The distribution facilities include a gasoline truck loading terminal, marine vessel terminal, railcar loading racks, and pipeline distribution.

The District enforces regulations stipulated in the Code of Federal Regulations, the California Health and Safety Code and the District's regulations and rules. In addition to regulatory enforcement, the District works with facilities to achieve federal, state and local standards by conducting workshops, office conferences, public meetings and complaint investigations. This report serves as a summary of activities including Notices of Violation (NOV) issued, complaints, episodes, inspections, office conferences and variances.

COMPLIANCE STATUS

During the reporting period, Ultramar was visited by District inspectors an average of 3 to 4 hours per day, two to five days per week. These visits included inspections of sources, episode investigations, records and charts review, complaint follow-up and the issuance of NOVs. The Compliance and Enforcement Division's field engineers have worked closely with field inspectors, assisting with episode investigations. The Technical Services Division routinely conducts stack source tests, and audits on all CEM's and GLM's.

NOTICES OF VIOLATION

When a violation of a regulation is documented, a Notice-of-Violation (NOV) is issued and a penalty is assessed. Sixteen NOV's were issued between January 1, 2001 and December 31, 2001, which represented 17 violations of District Regulations. There were five violations of Regulation 9, Rule 1 (excessive emission of SO₂ from sulfur recovery units); four violations of Regulation 6 (excessive visible emissions); three violations of Regulation 8, Rule 5 (excessive emissions from storage tanks); one violation of Regulation 9, Rule 2 (excessive level of H₂S on GLM); one violation of Regulation 9, Rule 8 (excessive emission of NO_x from I.C. engines); one violation of Regulation 5 (prohibited open burning); and two violations of Regulation 1 (administrative standards for CEMs).

SEE THE ATTACHED CHRONOLOGICAL SUMMARY OF VIOLATION ACTIVITY.

DISCUSSION OF SIGNIFICANT VIOLATIONS – {Public Nuisances}

There were no public nuisances at Ultramar occurring between January 1, 2001 and December 31, 2001.

COMPLAINT SUMMARY

The District maintains a toll-free number to allege complaints of odors, smoke, dust, fall-out, fires, and other related air pollutants. Complaints can also be referred from the Environmental Protection Agency (EPA), and California Air Resources Board (CARB). Between January 1, 2001 and December 31, 2001 a total of 41 complaints were alleged against Ultramar. Three complaints were confirmed and 38 complaints were unconfirmed. These complaints can be categorized as follows:

Category:	<u>ODOR</u>	<u>SMOKE</u>	<u>OTHER</u>	<u>TOTAL</u>
Confirmed:	3	0	0	3
<u>Unconfirmed:</u>	<u>34</u>	<u>1</u>	<u>2</u>	<u>37</u>
Total	37	1	2	40

EPISODES

The District requires Ultramar to maintain and operate ground level monitors (GLM), continuous emission monitors (CEM), and parametric monitors. Ultramar currently has 4 GLM stations, three of which monitor for both H₂S and SO₂, and one monitoring only H₂S. Ultramar currently has 15 CEMs, which record pollutants from the sulfur recovery unit, sulfuric acid plant, fuel-gas treating, and six combustion sources (boilers and furnaces). Ultramar currently has 4 parametric monitors that are required by permit conditions.

The District assigns episode numbers to reported equipment breakdowns, monitored emission excesses, inoperative monitors, and for pressure relief valve (PRV) ventings. These episodes are investigated by District inspectors for compliance with applicable regulations. The District's Technical Services Division evaluates the emission monitor excesses, to determine if a violation has occurred. Between January 1, 2001 and December 31, 2001 there were; 7 breakdowns, 35 CEM excesses, 7 GLM excesses, one reported pressure relief valve venting, and 26 inoperative monitor reports. There were 8 NOVs issued for monitor excesses as previously discussed, and another twelve excesses are pending review by the Technical Services Division.

INSPECTIONS

The District has established a compliance verification inspection frequency for all sources. This varies from 6 months for loading racks, 12 months for process units and tankage, 18 months for combustion sources, and 24 months for exempt sources. One District inspector is assigned to Ultramar for conducting compliance inspections, episode investigations, and responding to citizen complaints. The inspector conducts daily odor patrols around Ultramar and reviews all monitor charts monthly. Ultramar conducts daily odor patrols, daily inspections for fugitive emissions and daily calibrations on all emission monitors.

OFFICE CONFERENCES

The District conducts office conferences when three NOVs are issued to the same source within a 12-month period or when a significant episode occurs. The purpose is to discuss the severity of the violations, to develop a plan for corrective action, and to prevent future

violations. Variations from this policy are at the discretion of District management. There were no office conferences held with Ultramar during this reporting period.

VARIANCES

A facility may request variance relief for a violation of any regulation if legal requirements are met. The variance cases are presented before the District's Hearing Board. There were four requests for variance relief made by Ultramar between January 1, 2001 and December 31, 2001.

Docket # 3354 was filed on July 6, 2001 seeking relief from Regulation 8, Rule 5 (Storage of Organic Liquids). During a routine quarterly inspection, Ultramar discovered a premature seal failure on Tank # 312. This tank was storing a gasoline blending component, and had a new secondary seal installed in February of 2001. Both the primary and secondary seals were damaged on this tank, and it needed to be emptied and degassed. This variance was to cover the period from the date of discovery (07/06/01) until it could be degassed. Ultramar completed the degassing on 07/13/01, and was in violation for 8 days. A hearing was held on 08/02/01, and a variance was granted to this tank for the period of violation.

Docket # 3367 was filed on November 27, 2001 seeking relief from Regulation 8, Rule 5 (Storage of Organic Liquids). Tank # 312 (see above) had been put back into service with brand new primary and secondary seals on 11/09/01. On 11/27/01 Ultramar inspected the tank and discovered that the secondary seal had been damaged again. During the previous two months prior to being put back into service, this tank had been subjected to extensive testing and inspections. The District reviewed this data which showed significant "out-of-roundness" of the tank shell, which had required modifications for the replaced seals. However, it was determined that the replacement was not sufficiently customized to reflect the specific geometry of the tank. Ultramar agreed that the installation of these seals was not beyond their reasonable control, and they withdrew this request for variance relief on 01/14/02. The District issued Notice-of-Violation # 12242 for this violation.

Docket # 3369 was filed on December 20, 2001 seeking relief from Regulation 9, Rule 10 (Facility-wide NOx Interim Limits). The variance was requested so that Ultramar could bypass the Selective Catalytic Reduction (SCR) control device on the # 6 Boiler. This was necessary in order to perform maintenance on the air preheater, which had become plugged and fouled during the double outage at the refinery on 12/10/01 through 12/13/01. During a bypass of the SCR, Ultramar would be in violation of their overall NOx limit for the refinery. This maintenance operation was a 1-day operation, and Ultramar conducted this maintenance on 12/28/01. A hearing was held on 01/24/02, and a variance was granted to Ultramar for this operation on 12/28/01.

Docket # 3371 was filed on December 24, 2001 seeking relief from Regulation 8, Rule 5 (Storage of Organic Liquids). During routine water draining operation, Ultramar

discovered that there was oil on top of the floating roof of Tank # 135. This oil on the roof caused the roof to tilt to one side, and exceeded the allowed gap requirements of the secondary seal. This tank normally contains slop oil from the refinery, and can vary in vapor pressures. Ultramar took immediate steps to pump the oil off of the floating roof, and emptied the tank. However, the oil that was sampled from the tank, and analyzed by the District, was proven to be less than 0.5 psia. Therefore, this tank was actually in exempt service at the time of the alleged violation. Since no violation had occurred, Ultramar did not proceed with this variance.

COMPARISON TO PREVIOUS YEARS

<u>Notices of Violation</u>	<u>2001</u>	<u>2000</u>	<u>1999</u>
Storage tanks	3	0	2
Valve & connectors	0	0	1
Visible emissions	4	1	4
H ₂ S in fuel gas	0	0	2
Oil/Water Separator	0	1	3
Administrative	2	0	2
Public nuisance	0	0	0
Permit Conditions	0	0	1
Open Burning	1	0	2
Misc. Hydrocarbon	0	0	1
Gasoline Dispensing	0	0	1
I.C. Engines (NOx)	1	0	0
GLM excess (H ₂ S)	1	1	1
CEM excess (NOx)	0	0	3
CEM excess (SO ₂)	5	3	5
Total	17	6	28

<u>Episodes</u>	<u>2001</u>	<u>2000</u>	<u>1999</u>
Breakdowns	7	8	3
GLM	7	8	0
CEM	35	36	16
Out-of-service	26	14	10
PRV	1	0	0
Total	76	66	29

<u>Complaints</u>	<u>2001</u>	<u>2000</u>	<u>1999</u>
Confirmed	3	3	2
Unconfirmed	37	38	73
Total	40	41	75

SIGNIFICANT PERMIT ACTIVITY

On July 24, 1996, Tosco Corporation submitted application # 16484 for their Title-V permit. This application is still under review and pending approval by the District. On September 1, 2000 Ultramar Corporation took over ownership of this refinery, and continues to work with District staff on this application.

COMPLIANCE SUMMARY

In summary, Ultramar's compliance has been good for this annual period. Complaints and Episodes remained about the same as in previous reporting periods, with the exception of the number of monitors reported as out-of-service. Over the last three reporting periods the number of In-Operative Monitor reports continues to increase. This problem has been addressed by the replacement of several monitors during 2001. The District shall be addressing this issue further in 2002. The number of NOVs have gone up significantly when compared to previous reporting periods. This may be due in part to the end-of-run for several of the major processing units at the facility, which were due for turn-around maintenance from November 2001 through January 2002.

ULTRAMAR CORPORATION ANNUAL REPORT – NOV SUMMARY

<u>NOV #</u>	<u>OCCURRENCE DATE</u>	<u>REGULATION(S)</u>	<u>PROBLEM (Reason)</u>	<u>CORRECTIVE ACTION (Remedy)</u>
10145	02/10-11/01	6-302	Excess of opacity at the #5 Boiler, during a plant power failure	Plant upset was stabilized and the boiler operations returned to normal.
10146	02/11/01	9-1-307	Excess of SO ₂ at the SRU, during a plant failure	Plant upset was stabilized and the SRU operations returned to normal.
10140	02/27-28/01	8-5-311.3	Vapor leaks > 10,000 ppm on fixed-roof tank (Tank-324)	Holes in roof were patched and repaired. Leaks stopped.
10143	04/05/01	1-522.6	Failure to maintain monitor accuracy on CEM at the #5 Boiler	CEM was re-calibrated and source tested for accuracy.
12226	04/11/01	9-1-307	Excess of SO ₂ at the SRU, due to upset at SCOT Stripper	The SRU was stabilized and the SCOT Stripper level repaired.
10142	04/25/01	5-301	Grass fire started around the North Coker Flare	Fire was extinguished and proper weed abatement was performed.
10150	05/17/01	9-2-301	Excess of H ₂ S on GLM, from process upset at #1 Feed Prep Unit	The #1 Feed Prep Unit was stabilized and returned to normal operation.
10149	05/30/01	9-8-301.2	Excess of NO _x on IC Engine at the #1 Gas Plant during source test	The IC engine was shutdown until maintenance could be performed.
12227	07/01/01	9-1-307 1-522.7	Excess of SO ₂ at the SRU, due to upset at DEA Storage Tank. The excess was also reported late	The SRU was stabilized and operations returned to normal.
12228	07/19/01	9-1-307	Excess of SO ₂ at the SRU, due to a sudden shutdown.	The SRU was shutdown and re-started normally.
12231	09/15/01	6-302	Excess of opacity at the #7 Boiler, during an exchanger head fire.	The fire was extinguished, and the boiler shutdown briefly.
12232	09/18-19/01	9-1-307	Excess of SO ₂ at the SRU, due to plugging at SCOT Contactor tower	The SRU was stabilized and the SCOT Contactor was repaired.
12233	12/10-11/01	8-5-311.3	Vacuum relief valve leaking vapors > 10,000 ppm on Sphere (Tank-516)	The leaking Vacuum valve was replaced and repaired.
12234	12/11/01	6-301	Excessive visible emission at the #5 Boiler, due to transformer problems	The electrostatic precipitator transformers were repaired.
12235	12/19/01	6-301	Excessive visible emission on Coke Silo Precipitator, due to operational problem	The operational problems with the water spray system was corrected.
12242	11/27/01-12/03/01	8-5-322	Secondary Seal damaged on Tank-312.	Tank was taken out-of-service and degassed.

GLM NETWORK - FACILITIES REQUIRED BY REGULATION TO MAINTAIN GLM

<u>COMPANY, SITE</u>	<u>SITE LOCATION</u>	<u>POLLUTANT/S MONITORED</u>
<u>Chevron USA</u>		
Castro Street	Castro St. at Gate 115	SO ₂ , H ₂ S
Gertrude Avenue	W. Gertrude Ave.	SO ₂ , H ₂ S, Wind
Golden Gate Avenue	W. end of Golden Gate Ave.	SO ₂ , H ₂ S
<u>Valero –(formerly Exxon)</u>		
GLM #1 E. 2 nd St.	E. 2nd at I-680	SO ₂ , H ₂ S
GLM #2 Warehouse	Benicia Industrial Pk.	SO ₂ , H ₂ S
GLM #3 WWT	Mallard at Industrial Pk.	SO ₂ , H ₂ S
Office	Administration Building	Wind
Warehouse	Benicia Industrial Pk.	Wind
<u>Pacific Refining</u>		
2 nd & A St.	2 nd & A St.	H ₂ S
Rodeo Firehouse	(see Tosco-Rodeo)	
<u>Equilon - Martinez Refining Company</u>		
H ₂ S #1	Near 1622 Shell Ave.	H ₂ S
SO ₂ #2, H ₂ S #2	Pacheco Blvd. at Wygal Dr.	SO ₂ , H ₂ S
H ₂ S #4	Refinery wastewater plant	H ₂ S
H ₂ S #3	MRC/Mt. View STP boundary	H ₂ S
East (LDU)	Central refinery	Wind
West (10 m)	Helicopter Pad at WWTP	Wind
<u>Ultramar Corporation – (formerly Tosco – Avon)</u>		
Chenery	Old Filter Plt. - N. Mallard Res.	SO ₂ , H ₂ S
Martinez Gun Club	E. end Arthur Rd.	SO ₂ , H ₂ S
Pacheco Slough	Waterfront Rd. at Pacheco Slough	H ₂ S
Waterfront Rd.	Waterfront Rd. at Clean canal	SO ₂ , H ₂ S
Avon Coker	S. refinery near Solano Way	Wind
Office	Administration Building	Wind
<u>Phillips Corporation – Rodeo (formerly Unocal and Tosco)</u>		
Crockett	702 Bay St. at Edward St.	SO ₂ , H ₂ S
East Refinery	Cummings Skyway at I-80	SO ₂ , H ₂ S
Rodeo	Rodeo Firehouse - 326 Third St.	SO ₂ , H ₂ S
Met Station (10 m)	Wastewater Plant	Wind
Hillcrest Elementary	Rodeo	SO ₂ , H ₂ S

BAAQMD MAINTAINED MONITORING STATIONS

Company, Site	Site Location	Pollutant/s Monitored
Chevron USA		
Pt. Richmond	140 Washington St.	H ₂ S
Richmond - 7th St.	1065 - 7th St.	H ₂ S, SO ₂
Richmond - 13th St.	1144 - 13th St.	O ₃ , NO ₂ , CO, PM10
SO ₂ , lead, TSP,		
Valero Refining Co. {formerly Exxon}		
Benicia	200 E. L St.	SO ₂
Martinez Refining Co.		
Martinez	521 Jones St.	SO ₂
Ultramar Corp. – Avon {formerly Tosco}		
Pittsburg	583 W. 10th St.	O ₃ , NO ₂ , SO ₂ CO, lead, TSP
Phillips Corp.- Rodeo {formerly Unocal, and Tosco}		
Crockett	End of Kendall Ave.	SO ₂

Meteorology Locations - Wind Speed And Direction

Exxon	3400 E. Second St.
Martinez Refining Company	SE corner of refinery near Pacheco Blvd.
Ultramar Corp.- Avon	NW corner of refinery near Waterfront Rd. & Pacheco Crk.
Phillips Corp.- Rodeo	SW corner of refinery

Ultramar's Continuous Emission Monitors (CEM)

COMPANY NAME	SOURCE	NO_x	SO₂	CO	O₂	CO₂	H₂S	FLOW	LTA
Ultramar	FCCU	x	x					x	x
Ultramar	3 HDS	x			x			x	
Ultramar	Boiler #6	x	x					x	x
Ultramar	Coker	x	x					x	x
Ultramar	Fuel Gas H ₂ S						x		
Ultramar	H-57	x			x			x	
Ultramar	Furnace #8	x			x			x	
Ultramar	H ₂ Plant	x			x				
Ultramar	SRU		x		x			x	

Ultramar	Acid Plant		x		x			x	
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DISTRICT RULES THAT AFFECT REFINERIES

Regulation 1 provides for **General Provisions and Definitions** that are used in District regulations. Regulation 1 prohibits Public Nuisances, "emissions of air contaminants that cause injury, detriment nuisance or annoyance to a considerable number of people." Regulation 1 also provides requirements for siting, recording maintenance and reporting from continuous emission (in stack) monitors and area concentration (ground level) monitors.

Regulation 6 limits **Visible Emissions** (smoke) and the emission of **Particulate Matter**. PM10 is particulate matter that is 10 microns or less in diameter, a particular health concern. Visible emissions are determined by a certified observer, as all District inspectors are required to be, or by an opacity measuring device in a stack.

Regulation 7 limits the concentrations of **Odorous Substances**. At facilities where this rule applies and upon receipt of a complaint, the District can take a sample of the odorous air and run a blind test by human observer to determine whether it is odorous. Refineries may be subject to this regulation regardless of pollutant specific regulations.

Regulation 8 limits the emissions of **Organic Compounds**. Organic compounds consist of compounds containing at least one atom of carbon and hydrogen. Organic compounds, when emitted to the atmosphere in gaseous form, react in the presence of sunlight with oxides of nitrogen to form photochemical smog or ozone. Organic compounds, by definition in Regulation 8, do not include methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates or ammonium carbonate. These compounds are not reactive.

Precursor organic compounds are those which contribute to photochemical reactivity in the atmosphere. EPA has determined some compounds not to be precursors (non-precursors). Those non-precursors include methylene chloride, 1,1,1 trichloroethane and other chlorinated, fluorinated compounds and chlorofluorocarbons (CFCs). CFCs are stratospheric ozone depleting compounds and methylene chloride is toxic.

Refineries are subject to the following rules in Regulation 8:

Rule 5: Storage of Organic Liquids

This rule sets standards for the storage of organic liquids with a vapor pressure of more than 25.8 mm Hg (0.5 psia) at storage temperature. This includes gasoline, but does not include kerosene, most jet fuels, diesel fuel, and asphalt oil.

Rule 8: Wastewater (Oil-Water) Separators

This rule controls critical precursor organic compounds in water separators used to separate oil or hydrocarbon compounds from wastewater before it can be discharged. Critical organic compounds include phenols and all precursor organic compounds with 14 carbon atoms or less.

Rule 9: Vacuum Producing Systems

This rule limits the emissions of precursor organic compounds from systems that operate under a vacuum in refineries.

Rule 10: Process Vessel Depressurization

This rule controls the emissions of precursor organic compounds from vessels or process units in refineries that operate under pressure, when those units are depressurized for service or turnaround.

Rule 18: Equipment Leaks at Petroleum Refinery Complexes, Chemical Plants, Bulk Plants and Bulk Terminals

This rule controls the fugitive emissions of total organic compounds from valves, connectors, pumps, compressors, and pressure relief valves. Total organic compounds include the non-precursors, and methane. Methane is a global warming gas.

Rule 28: Episodic Releases from Pressure Relief Valves at Petroleum Refineries and Chemical Plants

This rule controls the emissions from valves intended to vent to atmosphere when refinery process units exceed safe pressures and to prevent them from reoccurring.

Regulation 9 controls the emissions of **Inorganic Compounds**. Inorganic Compounds include compounds of sulfur and nitrogen. EPA has determined that sulfur dioxide is a criteria pollutant, one for which ambient air quality standards exist. Sulfur dioxide (SO₂) is an odorless gas that is produced from combustion of fossil fuels that contain sulfur, such as fuel oil and coal. Hydrogen sulfide, (H₂S), is formed by anaerobic decomposition and as a by-product of refining crude oil. Oxides of nitrogen, (NO_x), also formed from combustion sources, react with organic compounds to form photochemical smog. Carbon Monoxide, (CO), is a poisonous gas formed by incomplete combustion.

Refineries are subject to the following rules in Regulation 9:

Rule 1: Sulfur Dioxide

This rule controls the emissions of SO₂ from various processes and sets limits for concentrations measured at the property line of a facility.

Rule 2: Hydrogen Sulfide

This rule limits the concentration of H₂S at the property line of a facility.

Rule 9: Nitrogen Oxides from Stationary Gas Turbines

This rule limits the emissions of NO_x from stationary gas turbines.

Rule 10: Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries

This rule limits the emissions of NO_x and CO from combustion processes in refineries used to heat water, produce steam and heat process streams.

Regulation 10 provides for **New Source Performance Standards**. These are rules promulgated by EPA that limit emissions on large sources constructed after a certain date. The District adopts these rules by reference, in order to enforce the standards. Some of the rules provide stringent limitations for units in a refinery, in many cases, existing District rules are already more stringent than these standards.

Regulation 11 controls the emissions of **Hazardous Air Pollutants**. Hazardous Air Pollutants are identified by the EPA or the Air Resources Board. District regulations either adopt these rules by reference, to give the District enforcement authority, or go beyond the federal or state promulgations.

Rule 11: National Emission Standards for Benzene Emissions from Coke By-Product Recovery Plants and Benzene Storage Vessels

This rule consists of national standards, adopted by reference. Coke by-product recovery plants are common in refineries.

Rule 12: National Emission Standards for Benzene Emissions from Benzene Transfer Operations and Benzene Waste Operations

This rule consists of national standards, adopted by reference. Wastewater separators in refineries are affected.

ANNUAL REPORTS - GLOSSARY

Ground Level Monitor (GLM): An off-site monitor which measures the quality of the air we all breathe for a specific pollutant such as sulfur dioxide or hydrogen sulfide. May be installed and maintained by the facility as required by District regulation or by the District. Such monitors are often helpful in locating the source for an odor complaint.

Continuous Emission Monitor (CEM): Also known as an in-stack monitor, this instrument measures pollutants in the source's stack. Measurements are specific for several pollutants such as sulfur dioxide, hydrogen sulfide in fuel gas, and opacity (smoke or dust). The District requires CEMs for sources by regulations and others as a condition to their permit.

Barrel of oil is considered to be 42 gallons.

Refinery Flare(s): Large combustion sources, which serve the facility as a pressure safety relief for flammable gases from process vessels. The District requires that they burn without smoke and without nuisance to the community.

Exempt Source: Small sources of emissions which are exempted by District permit standards from the requirements for permit or specifically exempted from District emission standards. These are usually always exempted due to very low emissions.

Source: An individual emission producing piece of equipment; i.e., boiler, incinerator, paint spray booth, flare.

Facility: A company with a single or group of permitted sources.

CO Boiler: A steam boiler associated with the fluid catalytic cracking unit (FCCU). Carbon monoxide off-gases from the FCCU feed are used as partial fuel for this special boiler. The FCCU splits heavier hydrocarbons into lighter components.

HDS: Hydrogen desulfurization = Hydrotreating. Treatment of partially refined products with hydrogen to remove sulfur.

H2: Hydrogen. Used in a refinery to create more useful hydrocarbons.

Cogen: A steam turbine source added to a facility to provide steam and generate electricity.

De-NOx: Process equipment used in combination with combustion sources to reduce nitrogen oxide emissions.

SRU: Sulfur Recovery Unit. Removes sulfur impurities naturally occurring in crude oil.

Fuel Gas: Flammable gases such as butane and propane produced from the refinery distillation process. This gas can then be used for fuel for refinery heaters and boilers.

LIST OF ACRONYMS

A/C	Authority to Construct
BAAQMD	Bay Area Air Quality Management District
CARB	California Air Resources Board
CFR	Code of Federal Regulations
CHSC	California Health and Safety Code
CO	Carbon Monoxide
EPA	Environmental Protection Agency
FCCU	Fluid Catalytic Cracking Unit
H ₂ S	Hydrogen Sulfide
LPG	Liquefied Petroleum Gas
NOV	Notice of Violation
NO _x	Nitrogen Oxide
O ₂	Oxygen
P/O	Permit to Operate
SO ₂	Sulfur Dioxide
LTA	Light Transmission Attenuation (Opacity Meter)