Part 52, chapter I, title 40 of the Code of Federal Regulations is amended as follows:

PART 52 [AMENDED]

1. The authority citation for part 52 continues to read as follows:

AUTHORITY: 42 U.S.C. 7401-7671q.

Subpart F - California

2. Section 52.220 is amended by adding paragraphs (c)(201), (202)(i)(B), and (203) through (205) to read as follows:

Section 52.220 Identification of plan.

* * * * *

(c) * * *

(201) New and amended plans and regulations for the following AQMD were submitted on July 8, 1994, by the Governor's designee.

(i) Incorporation by reference.

(A) South Coast Air Quality Management District.

(1) Rule 1504, adopted on May 13, 1994.

(202) * * *

(i) * * *

(B) South Coast Air Quality Management District.

(1) Rule 1501, adopted on March 11, 1994.

(203) Program elements submitted on November 7, 1994 by the Governor's designee.

(i) Additional information.

(A) Opt-Out of Clean Fuel Fleet program resolution adopted on November 7, 1994.

(204) New and amended plans and regulations for the following agencies were submitted on November 15, 1994, by the Governor's designee.

(i) Incorporation by reference.

(A) California Air Resources Board.

(1) Title 17, California Code of Regulations, Subchapter 8.5, Consumer Products, Article 1, Antiperspirants and Deodorants, Sections 94500-94506.5 and Article 2, Consumer Products, Sections 94507-94517, adopted on December 27, 1990, August 14, 1991, and September 21, 1992.

(2) Title 13, California Code of Regulations, Diesel Fuel Regulations, Sections 2281-2282, adopted on August 22, 1989, June 21, 1990, April 15, 1991, October 15, 1993, and August 24, 1994.

(3) Title 13, California Code of Regulations, Reformulated Gasoline Regulations, Sections 2250, 2252, 2253.4, 2254, 2257, 2260, 2261, 2262.1, 2262.2, 2262.3, 2262.4, 2262.5, 2262.6, 2262.7, 2263, 2264, 2266-2272, and 2296, 2297, adopted on April 1, 1991, May 23, 1991, and September 18, 1992.

(4) Long Term Measures, Improved Control Technbology for Light-Duty Vehicles (Measure M2), Off-Road Industrial

Equipment (Diesel), Consumer Products Long-Term Program (Measures CP3, CP4, CP5), and Additional Measures (Possible Market-Incentive Measures and Possible Operational Measures Applicable to Heavy-Duty Vehicles), as contained in "The California State Implementation Plan for Ozone, Volume II: The Air Resources Board's Mobile Source and Consumer Products Elements," adopted on November 15, 1994.

(B) South Coast Air Quality Management District.

(1) Long Term Measures, Advance Technology for Coating Technologies (Measure ADV-CTS-01), Advance Technology for Fugitives (Measure ADV-FUG), Advance Technologies for Process Related Emissions (Measure ADV-PRC), Advance Technologies for Unspecified Stationary Sources (Measure ADV-UNSP), and Advance Technology for Coating Technologies (Measure ADV-CTS-02), as contained in the "1994 Air Quality Management Plan," adopted on September 9, 1994.

(205) New and amended plans for the following APCDs were submitted on December 28, 1994, by the Governor's designee.

(i) Incorporation by reference.

(A) South Coast Air Quality Management District

(1) Carbon Monoxide Attainment Plan (Revised), with respect to notice and adoption, baseline and projected emissions inventory, oxygenated fuels, clean-fuel

vehicle fleet program (opt-out), employee commute options program, and VMT forecasts, adopted on September 9, 1994.

* * * * *

3. Subpart F is being amended by adding §52.241 to read as follows:

Section 52.241 Nonattainment area plan disapproval.

(a) The following portions of the South Coast nonattainment plan for carbon monoxide (CO), submitted on December 29, 1994, are disapproved because they do not meet the requirements of Part D of the Clean Air Act.

(1) The CO attainment demonstration for the Los Angeles-South Coast Air Basin Area.

(2) The requirements for the Los Angeles-South Coast Air Basin Area for CO respecting reasonably available control measures, quantitative milestones and reasonable further progress, vehicle miles traveled contingency measure requirements, and transportation control measures to offset growth in vehicle miles traveled.

* * * * *

4. 40 CFR part 52 is amended by adding a new subpart GGG consisting of §§ 52.2950 through 52.3002, to read as follows:

SUBPART GGG -- California Federal Implementation Plans

Sec.

52.2950 General FIP provisions.

52.2951 New-technology measures applicable to VOC and NOx

(South Coast).

52.2952 [Reserved]

52.2953 [Reserved]

52.2954 Stationary and area source caps (South Coast).

52.2955 [Reserved]

611 52.2956 Stationary and area source NOx cap rules (South Coast).

52.2957 [Reserved]

632 52.2958 Aerosol coating products.

657 52.2959 Architectural coatings.

674 52.2960 Pesticides.

686 52.2961 Stationary and area source rules.

52.2962 Light-duty and medium-duty vehicle program.

52.2963 Enhanced inspection/maintenance program.

52.2964 Importation of light-duty and medium-duty vehicles into California.

52.2965 Engine recertification program.

52.2966 Heavy duty on-highway engine and vehicle program.

52.2967 Importation of heavy duty vehicles into California.

52.2968 - 52.2969 [Reserved]

52.2970 Civil aircraft operations.

52.2971 Locomotives.

52.2972 Exclusion and exemption of motor vehicles and and motor vehicle engines.

52.2973 Ships and ports.

52.2974 [Reserved]

52.2975 Standards for nonroad engines over 37 kW.

52.2976 - 52.3001 [Reserved]

52.3002 Incorporation by reference.

Subpart GGG -- California federal implementation plans.

§52.2950 General FIP provisions.

(a) Definitions. For the purposes of this section, the following definitions shall apply.

Administrator means the Administrator of EPA or his or her authorized representative.

Capture efficiency means the weight per unit time of VOC entering a capture system and delivered to a control device divided by the weight per unit time of total VOC generated by a source of VOC, expressed as a percentage.

Capture system means all equipment (including, but not limited to, hoods ducts, fans, booths, ovens, dryers, etc.) that contains, collects, and transports an air pollutant to a control device.

Clean Air Act means 42 U.S.C. 7401-7671q.

Control device means equipment (such as an incinerator or carbon adsorber) used to reduce, by destruction or removal, the amount of air pollutant(s) in an air stream prior to discharge to the ambient air.

Control efficiency means the product of the capture efficiency times the destruction or removal efficiency of a

control system, expressed as a percentage.

Control system means a combination of one or more capture system(s) and control device(s) working in concert to reduce discharges of pollutants to the ambient air.

Destruction or removal efficiency means the amount of VOC destroyed or removed by a control device expressed as a percentage of the total amount of VOC entering the device.

EPA means the United States Environmental Protection Agency. Reports submitted to EPA shall be addressed care of U.S. EPA, Region IX (A-1), 75 Hawthorne Street, San Francisco, CA 94105.

Exempt compounds means any of the following compounds:

methane;

ethane;

chlorodifluoromethane (HCFC-22);

trifluoromethane (HFC-23);

dichlorotrifluoroethane (HCFC-123);

tetrafluoroethane (HFC-134a);

dichlorofluoroethane (HCFC-141b);

chlorodifluoroethane (HCFC-142b);

2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124);

pentafluoroethane (HFC-125);

methylene chloride;

1,1,1-trichloroethane (methyl chloroform);

trichlorotrifluoroethane (CFC-113);

dichlorodifluoromethane (CFC-12);

trichlorofluoromethane (CFC-11);

dichlorotetrafluoroethane (CFC-114);

chloropentafluoroethane (CFC-115);

1,1,2,2-tetrafluoroethane (HFC-134);

1,1,1-trifluoroethane (HFC-143a);

1,1-difluoroethane (HFC-152a); or

perfluorocarbon compounds which fall into these classes:

Cyclic, branched, or linear, completely fluorinated alkanes;

Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;

Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; or

Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Facility means all of the pollutant-emitting activities that are located on one or more contiguous or adjacent properties and are under the control of the same person (or persons under common control).

Grams of VOC per liter of coating, less water and less exempt compounds means the weight of VOC per combined volume of VOC and coating solids and can be calculated by the following equation:

Where: W_s = weight of volatile compounds in grams;

W_w = weight of water in grams;

$$\text{Grams of VOC per Liter of Coating, Less Water and Less Exempt Compounds} = \frac{W_s - W_w - W_{es}}{V_m - V_w - V_{es}}$$

W_{es} = weight of exempt compounds in grams;

V_m = volume of material in liters;

V_w = volume of water in liters; and

V_{es} = volume of exempt compounds in liters.

Person means any firm, business establishment, association, partnership, corporation or individual, whether acting as principal, agent, employee, or other capacity including any governmental entity or charitable organization.

Rate per calendar year means the amount applied between 12:00 a.m. January 1 and 11:59 p.m. December 31.

Rate per day means the amount applied between 12:00 a.m. and 11:59 p.m. on the same calendar day.

Transfer efficiency means the ratio of the weight of coating solids deposited on an object to the total weight of coating solids used in a coating application step, expressed as a percentage.

Volatile organic compound (VOC) means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions other than those defined as exempt compounds. These exempt compounds have been determined to have negligible photochemical reactivity. For purposes of determining compliance with emission limits, VOC will

be measured by test methods given in this section. Where such a method also measures compounds with negligible photochemical reactivity, an owner or operator may exclude these negligibly reactive compounds when determining compliance with an emission standard. However, the U.S. EPA may require such owner or operator, as a precondition to excluding these compounds for purposes of determining compliance, to provide monitoring methods and monitoring results demonstrating, to the satisfaction of the U.S. EPA, the amount of negligibly reactive compounds in the source's emissions.

§52.2951 New-technology measures applicable to VOC and NOx (South Coast).

(a) The applicable area of control is the Los Angeles-South Coast Air Basin Nonattainment Area for ozone, as defined in 40 CFR 81.305.

(b) Stationary and area source VOC and NOx source categories. For the purposes of this paragraph, the definitions of §52.2954 shall also apply. For purposes of this paragraph, subject sources include all stationary and area sources of VOC and NOx emissions.

(c) Promulgation schedule and reduction requirements for stationary and area sources. EPA commits to publish rules to control VOC and NOx emissions from the sources described in paragraph (b) of this section according to the following schedule:

Proposal	Promulgation	Effective	Percent Reduction

1/1/2004	1/1/2005	1/1/2007	2007 -- 33% VOC 3% NOx

The percent reduction requirement is a cumulative percent reduction from year 1990 baseline VOC and NOx stationary and area source emissions, beyond all stationary and area source reductions required or credited in the California FIP as of [Insert date of publication in the Federal Register].

(d) Mobile source VOC and NOx source categories. For purposes of this paragraph, subject sources comprise all onroad and nonroad vehicles and engines.

(e) Promulgation schedule and reduction requirements for mobile sources. EPA commits to publish rules to control VOC and NOx emissions from the sources described in paragraph (d) of this section according to the following schedule:

Proposal	**Promulgation**	**Effective**	**Percent Reduction**
1/1/2001	1/1/2002	1/1/2006	2006 -- 5% VOC 3% NOx

The percent reduction requirement is a reduction from year 1990 baseline VOC and NOx mobile source emissions, beyond all mobile source reductions required or credited in the California FIP as of [Insert date of publication of the Federal Register].

(f) Contingency Measures. EPA commits to publish contingency measures by 1/1/1999 to achieve the cumulative percent reduction in VOC and NOx emissions from the sources described in paragraphs (b), and (d) of this section, on the schedule set forth in paragraphs (c) and (e) of this section, if the new-technology measures are not developed or fail to achieve

the emissions reductions specified in paragraphs (c) and (e) of this section.

§52.2952 [Reserved]

§52.2953 [Reserved]

§52.2954 Stationary and area source caps (South Coast).

(a) General Provisions.

(1) Applicability. The provisions of this section shall apply to all stationary emission sources located in the "control area" as defined as the South Coast Air Basin ozone nonattainment area in 40 CFR 81.305, and all other persons identified in subsequent applicability paragraphs in this section.

(2) Compliance dates. Unless otherwise specified in this section, compliance with all requirements of this section is required upon promulgation unless otherwise indicated by compliance dates contained in specific paragraphs of this section. Paragraph (a)(2) shall not operate to provide additional time for compliance under Section 113(d) of the Act, 42 U.S.C 7413(d), for sources subject to compliance upon promulgation.

(3) Definitions. For the purposes of this section, the following definitions apply. All terms not defined herein shall have the meaning given them in §52.2950.

Actual emissions means the actual quantity of VOC emissions from an emissions source during a particular time period.

Actual emissions rate means the actual quantity of VOC emissions from an emissions source per unit of actual production

or throughput.

Agency means the United States Environmental Protection Agency.

Air contaminant means any solid, liquid, or gaseous matter, any odor, or any form of energy, that is capable of being released into the atmosphere from an emission source.

Air pollution means the presence in the atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant, or animal life, to health, or to property, or to unreasonably interfere with the enjoyment of life or property.

Air pollution control equipment means any equipment or facility of a type intended to eliminate, prevent, reduce or control the emission of specified air contaminants to the atmosphere.

Allowable emissions rate means the most stringent of the applicable standards in 40 CFR parts 60 and 61; the applicable implementation plan; or a federally enforceable permit.

Baseline emissions means the emissions calculated using 1990 emission inventory data in the affected FIP areas and adjusted for emission reductions projected to occur by the implementation year of the FIP cap program in the affected FIP area. The baseline shall be denominated in pounds per year of FIP cap pollutant (e.g., pounds of VOC per year) and monthly caps shall be prorated based on this data.

Coating applicator means any equipment or device including

but not limited to cloth, rollers, brushes, spray guns, or dip tanks used to apply a coating.

Day means a period of consecutive 24 hours beginning at 12:00 AM (midnight) local time, or beginning at a time consistent with a facility's operating schedule.

Emission rate means the total mass of VOCs released or discharged from an emissions source into the atmosphere per unit of production or throughput (e.g., pound VOC/gallon of coating solids).

Emission source or source means any building, structure, facility, property, equipment, device, container, or any combination thereof, at, from, or by reason which VOC is emitted or discharged into the atmosphere.

Facility means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control), except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same "Major Group" (i.e., which have the same two-digit code) as described in the "Standard Industrial Classification Manual, 1987" (National Technical Information Service order No. PB 87-10012).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator including those requirements contained in permits issued pursuant to 40 CFR parts

70 and 71, except those terms or conditions designated as not federally enforceable; those requirements developed pursuant to 40 CFR parts 60 and 61; requirements within any applicable implementation plan; and any permit requirements established pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR part 51, subpart I, and 40 CFR 51.166.

Incinerator means a combustion apparatus in which solid, semi-solid, liquid, or gaseous combustible wastes are ignited and burned and from which the solid and gaseous residues contain little or no combustible material.

Monitor means to measure and record.

Organic compound means a chemical compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, carbonates, and ammonium carbonate.

Organic vapor means the gaseous phase of an organic compound or a mixture of organic compounds present in the atmosphere.

Owner or operator means any person including the Department of Defense, who owns, operates, leases, controls, or supervises an emissions source or air pollution control equipment.

Person means any individual, corporation, copartnership, firm, company, partnership, joint stock company, trust, association, State, municipality, political subdivision, or any other legal entity, or their legal representative, agent, or assigns.

Process means any stationary emission source other than a fuel combustion emission source or an incinerator.

Source means emission source.

Standard conditions means a temperature of 20°C (68°F) and a pressure of 760 mm Hg (29.92 in. Hg).

Stationary emission source and Stationary source mean an emission source which is not self-propelled.

(4) Test Methods and Procedures.

(i) Coatings, Inks, and Fountain Solutions. The following test methods and procedures shall be used to determine the VOC content of as applied coatings, inks, and fountain solutions to determine compliance with the limitations set forth in this section.

(A) Sampling. Samples collected for analyses shall be one-liter taken into a one-liter container at a location and time such that the sample will be representative of the coating as applied (i.e., the sample shall include any dilution solvent or other VOC added during the manufacturing process). The container must be tightly sealed immediately after the sample is taken. Any solvent or other VOC added after the sample is taken must be measured and accounted for in the calculations in paragraph (a)(4)(i)(C) of this section. For multiple package coatings, separate samples of each component shall be obtained. A mixed sample shall not be obtained as it will cure in the container. Sampling procedures shall follow the guidelines presented in:

(1) ASTM D3925-81 (1985) Standard Practice for Sampling Liquid Paints and Related Pigment Coating. This practice is incorporated by reference as specified in 40 CFR 52.3002.

(2) ASTM E300 Standard Practice for Sampling Industrial Chemicals. This practice is incorporated by reference as specified in 40 CFR 52.3002.

(B) Analyses. The applicable analytical methods specified below shall be used to determine the composition of coatings, inks, or fountain solutions as applied.

(1) Method 24 of 40 CFR part 60, appendix A shall be used to determine the VOC content and density of coatings.

(2) Method 24A of 40 CFR part 60, appendix A, shall be used to determine the VOC content and density of publication rotogravure printing inks and related coatings.

(3) The following ASTM methods and practices are the analytical procedures for determining VOC:

(i) ASTM D1475-90 Standard Test Method for Density of Paint, Varnish, Lacquer and Related Products. This test method is incorporated by reference as specified in 40 CFR 52.3002.

(ii) ASTM D2369-92 Standard Test Method for Volatile Content of a Coating. This test method is incorporated by reference as specified in 40 CFR 52.3002. The following minor modifications should be used for multicomponent coatings. All components of the coating are to be weighed in the proper proportion into the analysis container and mixed together just prior to analysis and the mixture is allowed to stand for at least one hour but no more than 24 hours prior to being oven dried at 110 degrees celsius for one hour.

(iii) ASTM D3792-91 Standard Test Method for Water Content

of Water-Reducible Paints by Direct Injection into a Gas Chromatograph. This test method is incorporated by reference as specified in 40 CFR 52.3002.

(iv) ASTM D4017-90 (1987) Standard Test Method for Water Content in Paints and Paint Materials by Karl Fischer Method. This test method is incorporated by reference as specified in 40 CFR 52.3002.

(v) ASTM D4457-85 Standard Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph. (The procedure delineated above can be used to develop protocols for any compounds specifically exempted from the definition of VOC.) This test method is incorporated by reference as specified in 40 CFR 52.3002.

(vi) [Reserved]

(vii) ASTM E180-85 Standard Practice for Determining the Precision Data of ASTM Methods for Analysis and Testing of Industrial Chemicals. This practice is incorporated by reference as specified in 40 CFR 52.3002.

(4) Determination of the volume solids of a coating shall be calculated using manufacturer's formulation data or by another method approved in writing by EPA.

(5) Use of an adaptation to any of the analytical methods specified in paragraphs (a)(4)(i)(B)(1), (2), and (3) of this section may be approved by the Administrator on a case-by-case basis. An owner or operator must submit sufficient documentation

for the Administrator to find that the analytical methods specified in paragraphs (a)(4)(i)(B)(1), (2), and (3) of this section will yield inaccurate results and that the proposed adaptation is appropriate.

(C) Calculations. Calculations for determining the VOC content, water content, and the content of any compounds which are specifically exempted from the definition of VOC of coatings, inks, and fountain solutions as applied shall follow the guidance provided in the following documents.

(1) "A Guide for Surface Coating Calculation" EPA-340/1-86-016 (which is available from the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia, 22161)

(2) "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink and Other Coatings" (revised June 1986) EPA-450/3-84-019 (which is available from the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia, 22161)

(3) "A Guide for Graphic Arts Calculations" August 1988 EPA-340/1-88-003 (which is available from the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia, 22161)

(ii) Automobile or Light-Duty Truck Test Protocol. The protocol for testing, including determining the transfer efficiency, of coating applicators at topcoat coating operations at an automobile assembly facility shall follow the procedure in:

"Protocol for Determining the Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations" December 1988 EPA-450/3-88-018 (which is available from the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia, 22161).

(iii) Capture System Efficiency Test Protocols.

(A) Applicability. The requirements of paragraph (a)(4)(iii)(B) of this section shall apply to all VOC emitting processes employing a capture system except those cases noted below.

(1) If a source installs a permanent total enclosure (PTE) that meets U.S.EPA specifications, and which directs all VOC to a control device, then the source is exempted from the requirements described in paragraph (a)(4)(iii)(B) of this section. The U.S.EPA specifications to determine whether a structure is considered a PTE are given in Procedure T of appendix B of 40 CFR 52.741. In this instance, the capture efficiency is assumed to be 100 percent and the source is still required to measure control efficiency using appropriate test methods as specified in paragraph (a)(4)(iv) of this section.

(2) If a source uses a control device designed to collect and recover VOC (e.g., carbon adsorber), an explicit measurement of capture efficiency is not necessary provided that the conditions given below are met. The overall control of the system can be determined by directly comparing the input liquid VOC to the recovered liquid VOC. The general procedure for use

in this situation is given in §60.433 of this chapter, with the following additional restrictions:

(i) The source must be able to equate solvent usage with solvent recovery on a 24-hour (daily) basis, rather than a 30-day weighted average, within 72 hours following the 24-hour period. In addition, one of the following two criteria must be met:

(ii) The solvent recovery system (i.e., capture and control system) must be dedicated to a single process, or

(iii) If the solvent recovery system controls multiple processes, then the source must be able to demonstrate that the overall control (i.e., the total recovered solvent VOC divided by the sum of liquid VOC input to all processes venting to the control system) meets or exceeds the most stringent standard applicable for any process venting to the control system.

(3) The following facilities are exempted from the requirements described in paragraph (a)(1)(iii)(B) of this section:

(i) Automobile-related assembly facilities subject to the "Automobile or Light-Duty Truck Test Protocol" described in paragraph (a)(4)(ii) of this section.

(ii) Heatset-web-offset lithographic printing units as defined in paragraph (b)(1)(i)(B) of this section.

(B) Specific Requirements. The capture efficiency of a process shall be measured using one of the four protocols given below. Any error margin associated with a test protocol may not be incorporated into the results of a capture efficiency test.

If these techniques are not suitable for a particular process, then the source must present an alternative capture efficiency protocol and obtain approval for it by the Administrator as a SIP or FIP revision.

(1) Gas/gas method using temporary total enclosure (TTE). The U.S. EPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T of appendix B of 40 CFR 52.741. The capture efficiency equation to be used for this protocol is:

$$CE = G_w/(G_w + F_w)$$

where

CE = capture efficiency, decimal fraction

G_w = mass of VOC captured and delivered to control device using a TTE

F_w = mass of fugitive VOC that escapes from a TTE Procedure G.2 contained in appendix B of 40 CFR 52.741 is used to obtain G_w. Procedure F.1 in appendix B of 40 CFR 52.741 is used to obtain F_w.

(2) Liquid/gas method using TTE. The U.S. EPA specifications to determine whether a temporary enclosure is considered a TTE are given in Procedure T of appendix B of 40 CFR 52.741. The capture efficiency equation to be used for this protocol is:

$$CE = (L - F_w)/L$$

where

CE = capture efficiency, decimal fraction

L = mass of liquid VOC input to process

F_w = mass of fugitive VOC that escapes from a TTE Procedure L contained in appendix B of 40 CFR 52.741 is used to obtain L. Procedure F.1 in appendix B of 40 CFR 52.741 is used to obtain F_w.

(3) Gas/gas method using the building or room (building or room enclosure) in which the affected source is located as the enclosure and in which "F" and "G" are measured while operating only the affected facility. All fans and blowers in the building or room must be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

$$CE = G/(G + F_B)$$

where

CE = capture efficiency, decimal fraction

G = mass of VOC captured and delivered to control device

F_B = mass of fugitive VOC that escapes from building enclosure

Procedure G.2 contained in appendix B of 40 CFR 52.741 is used to obtain G. Procedure F.2 in appendix B of 40 CFR 52.741 is used to obtain F_B.

(4) Liquid/gas method using the building or room (building or room enclosure) in which the affected source is located as the

enclosure and in which "F" and "L" are measured while operating only the affected facility. All fans and blowers in the building or room must be operated as they would under normal production. The capture efficiency equation to be used for this protocol is:

$$CE = (L - F_B)/L$$

where

CE = capture efficiency, decimal fraction

L = mass of liquid VOC input to process

F_B = mass of fugitive VOC that escapes from building enclosure

Procedure L contained in appendix B of 40 CFR 52.741 is used to obtain L. Procedure F.2 in appendix B of 40 CFR 52.741 is used to obtain F_B.

(C) Recordkeeping and Reporting.

(1) All affected facilities must maintain a copy of the capture efficiency protocol submitted to EPA on file. All results of the appropriate test methods and capture efficiency protocols must be reported to EPA within sixty (60) days of the test date. A copy of the results must be kept on file with the source for a period of three (3) years.

(2) If any changes are made to capture equipment, then affected facilities must notify EPA of these changes and a new test may be required by EPA.

(3) All affected facilities must notify the Administrator 30 days prior to performing any capture efficiency test. At that time, the source must notify the Administrator which capture

efficiency protocol will be used.

(4) All affected facilities utilizing a PTE must demonstrate that this enclosure meets the requirement given in Procedure T in appendix B of 40 CFR 52.741 at all times.

(5) All affected facilities utilizing a TTE must demonstrate that their TTE meets the requirements given in Procedure T in appendix B of 40 CFR 52.741 for a TTE during testing of their control device. The source must also provide documentation that the quality assurance criteria for a TTE have been achieved.

(iv) Control Device Efficiency Testing and Monitoring.

(A) Control Efficiency Test. The control device efficiency shall be determined by simultaneously measuring the inlet and outlet gas phase VOC concentrations and gas volumetric flow rates in accordance with the gas phase test methods specified in paragraph (a)(4)(vi) of this section.

(B) Continuous Monitoring. Any owner or operator that uses an afterburner or carbon adsorber to comply with any requirement of this section shall use continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications and which meets EPA-approved performance specifications at all times when the afterburner or carbon adsorber is in use. The continuous monitoring equipment must automatically monitor and record the following parameters:

(1) Combustion chamber temperature of each afterburner.

(2) Temperature rise across each catalytic afterburner bed

or VOC concentration exhaust.

(3) The VOC concentration of each carbon adsorption bed exhaust.

(C) Recordkeeping and Reporting.

(1) All affected facilities must maintain a copy of all control efficiency test protocols for a period of three (3) years. All control test results must be reported to EPA within sixty (60) days of the test date. A copy of the results must be kept on file with the source for a period of three (3) years.

(2) All affected facilities must maintain copies of all required continuous monitoring records for a period of three (3) years.

(3) If any changes are made to control equipment, affected facilities must notify EPA of these changes and a new control efficiency test may be required by EPA.

(4) All affected facilities must notify the Administrator 30 days prior to performing any control efficiency test. At that time, the source must notify the Administrator which test methods will be used.

(v) Overall Efficiency.

(A) The overall efficiency of each emission control system shall be determined as the product of the capture system efficiency and the control device efficiency or by the liquid/liquid test protocol as specified in paragraph (a)(4)(iii)(A)(2) of this section for each solvent recovery system.

(B) The overall efficiency of the capture system and control device used to control VOC emissions from a paper, fabric, film, can, coil, or miscellaneous metal parts and products coating line, as determined by the test methods and procedures specified in paragraphs (a)(4)(iii), (a)(4)(iv), and (a)(4)(v)(A) of this section, shall be no less than the equivalent overall efficiency which shall be calculated by the following equation:

$$E = ([VOC_a - VOC_1]/VOC_a) \times 100$$

where:

E = Equivalent overall efficiency of the capture system and control device as a percentage,

VOC_a = Actual VOC content of a coating, or the daily-weighted average VOC content of two or more coatings (if more than one coating is used), as applied to the subject coating line as determined by the applicable test methods and procedures specified in paragraph (a)(4)(i) of this section in units of kg VOC/l (lb VOC/gal) of coating solids as applied, and

VOC_1 = The VOC emission limit specified in units of kg VOC/liter (lb VOC/gal) of coating solids as applied.

(vi) Volatile Organic Compound Gas Phase Source Test Methods. The methods in 40 CFR part 60, appendix A, delineated below shall be used to determine control device efficiencies.

(A) 40 CFR part 60, appendix A, Methods 18, 25, 25A, or 25B, as appropriate to the conditions at the site, shall be used to determine VOC concentration. Method selection shall be based on consideration of the diversity of organic species present and their total concentration and on consideration of the potential presence of interfering gases. Except as indicated in paragraphs (a)(4)(vi)(A) (1) and (2) of this section, the test shall consist of three separate runs, each lasting a minimum of 60 min., unless the Administrator determines that process variables dictate shorter sampling times.

(1) When the method is to be used to determine the efficiency of a fixed-bed carbon adsorption system with a common exhaust stack for all the individual adsorber vessels, the test shall consist of three separate runs, each coinciding with one or more complete sequences through the adsorption cycles of all the individual adsorber vessels.

(2) When the method is to be used to determine the efficiency of a carbon adsorption system with individual exhaust stacks for each adsorber vessel, each adsorber vessel shall be tested individually. The test for each adsorber vessel shall consist of three separate runs. Each run shall coincide with one or more complete adsorption cycles.

(B) 40 CFR part 60, appendix A, Method 1 or 1A shall be used for sample and velocity traverses.

(C) 40 CFR part 60, appendix A, Method 2, 2A, 2C, or 2D shall be used for velocity and volumetric flow rates.

(D) 40 CFR part 60, appendix A, Method 3, 3A or 3B shall be used for gas analysis.

(E) 40 CFR part 60, appendix A, Method 4 shall be used for stack gas moisture.

(F) 40 CFR part 60, appendix A, Methods 2, 2A, 2C, or 2D; 3, 3A, or 3B; and 4 shall be performed, as applicable, at least twice during each test run.

(G) Use of an adaptation to any of the test methods specified in paragraphs (a)(4)(vi)(A), (B), (C), (D), (E), and (F) of this section may be approved by the Administrator on a case-by-case basis. An owner or operator must submit sufficient documentation for the Administrator to find that the test methods specified in paragraphs (a)(4)(vi)(A), (B), (C), (D), (E), and (F) of this section will yield inaccurate results and that the proposed adaptation is appropriate.

(vii) Leak Detection Methods for Volatile Organic Compounds. Owners or operators required by the various subparts of this regulation to carry out a leak detection monitoring program shall comply with the following requirements:

(A) Leak Detection Monitoring.

(1) Monitoring shall comply with 40 CFR part 60, appendix A, Method 21.

(2) The detection instrument shall meet the performance criteria of 40 CFR part 60, appendix A, Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the methods specified in 40 CFR part 60,

appendix A, Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air), and

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but no less than, 10,000 ppm methane or n-hexane.

(5) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in 40 CFR part 60, appendix A, Method 21.

(B) When equipment is tested for compliance with no detectable emissions as required, the test shall comply with the following requirements:

(1) The requirements of paragraphs (a)(4)(vii)(A)(1) through (vii)(A)(5) of this section shall apply.

(2) The background level shall be determined as set forth in 40 CFR part 60, appendix A, Method 21.

(C) Leak detection tests shall be performed consistent with:

(1) "APTI Course SI 417 Controlling Volatile Organic Compound Emissions from Leaking Process Equipment" EPA-450/2-82-015 (which is available from the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia, 22161)

(2) "Portable Instrument User's Manual for Monitoring VOC Sources" EPA-340/1-86-015 (which is available from the National Technical Information Services, 5285 Port Royal Road,

Springfield, Virginia, 22161)

(3) "Protocols for Generating Unit-Specific Emission Estimates for Equipment Leaks of VOC and VHAP" EPA-450/3-88-010 (which is available from the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia, 22161)

(4) "Petroleum Refinery Enforcement Manual" EPA-340/1-80-008 (which is available from the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia, 22161)

(viii) Bulk Gasoline Delivery System Test Protocol.

(A) The method for determining the emissions of gasoline from a vapor recovery system are delineated in 40 CFR part 60, subpart XX, §60.503.

(B) Other tests shall be performed consistent with:

(1) "Inspection Manual for Control of Volatile Organic Emissions from Gasoline Marketing Operations: appendix D" EPA-340/1-80-012 (which is available from the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia, 22161).

(2) "Control of Hydrocarbons from Tank Truck Gasoline Loading Terminals: appendix A", EPA-450/2-77-026 (which is available from the National Technical Information Services, 5285 Port Royal Road, Springfield, Virginia, 22161)

(ix) Vapor Pressure of Volatile Organic Liquids.

(A) If the VOL consists of only a single compound, the vapor pressure shall be determined by ASTM Method D2879-86

(incorporated by reference as specified in 40 CFR 52.3002) or the vapor pressure may be obtained from a published source such as: Boublik, T., V. Fried and E. Hala, "The Vapor Pressure of Pure Substances," Elsevier Scientific Publishing Co., New York (1973), Perry's Chemical Engineer's Handbook, McGraw-Hill Book Company (1984), CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company (1986-87), and Lange's Handbook of Chemistry, John A. Dean, editor, McGraw-Hill Book Company (1985).

(B) If the VOL is a mixture, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference as specified in 40 CFR 52.3002) or by the following equation:

$$P_{vol} = \sum_{i=1}^{n} P_i X_i$$

where:

P_{vol} = Total vapor pressure of the mixture,

n = Number of components in the mixture,

i = Subscript denoting an individual component,

P_i = Vapor pressure of a component determined in accordance with paragraph (a)(4)(ix)(A) of this section, and X_i = Mole fraction of the component in the total mixture.

(x) <u>Vapor Pressure of Organic Material or Solvent</u>.

(A) If the organic material or solvent consists of only a single compound, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference as specified in 40 CFR

52.3002) or the vapor pressure may be obtained from a published source such as: Boublik, T., V. Fried and E. Hala, "The Vapor Pressure of Pure Substances," Elsevier Scientific Publishing Co., New York (1973), Perry's Chemical Engineer's Handbook, McGraw-Hill Book Company (1984), CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company (1986-87), and Lange's Handbook of Chemistry, John A. Dean, editor, McGraw-Hill Book Company (1985).

(B) If the organic material or solvent is in a mixture made up of both organic material compounds and compounds which are not organic material, the vapor pressure shall be determined by the following equation:

$$P_{om} = \frac{\sum_{i=1}^{n} P_i X_i}{\sum_{i=1}^{n} X_i}$$

where:

P_{om} = Total vapor pressure of the portion of the mixture which is composed of organic material,

n = Number of organic material components in the mixture,

i = Subscript denoting an individual component,

P_i = Vapor pressure of an organic material component determined in accordance with paragraph (a)(4)(x)(A) of this section, and

X_i = Mole fraction of the organic material component of

the total mixture.

(C) If the organic material or solvent is in a mixture made up of only organic material compounds, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference as specified in 40 CFR 52.3002) or by the above equation.

(xi) Vapor Pressure of Volatile Organic Compounds.

(A) If the VOC consists of only a single compound, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference as specified in 40 CFR 52.3002) or the vapor pressure may be obtained from a published source such as: Boublik, T., V. Fried and E. Hala, "The Vapor Pressure of Pure Substances," Elsevier Scientific Publishing Co., New York (1973), Perry's Chemical Engineer's Handbook, McGraw-Hill Book Company (1984), CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company (1986-87), and Lange's Handbook of Chemistry, John A. Dean, editor, McGraw-Hill Book Company (1985).

(B) If the VOC is in a mixture made up of both VOC compounds and compounds which are not VOC, the vapor pressure shall be determined by the following equation:

$$P_{VOC} = \frac{\sum_{i=1}^{n} P_i X_i}{\sum_{i=1}^{n} X_i}$$

where:

P_{voc} = Total vapor pressure of the portion of the mixture which is composed of VOC,

n = Number of VOC components in the mixture,

i = Subscript denoting an individual component,

P_i = Vapor pressure of a VOC component determined in accordance with paragraph (a)(4)(xi)(A) of this section, and

X_i = Mole fraction of the VOC component of the total mixture.

(C) If the VOC is in a mixture made up of only VOC compounds, the vapor pressure shall be determined by ASTM Method D2879-86 (incorporated by reference as specified in 52.3002) or by the above equation.

(xii) Baseline Emissions. Unless otherwise specified in paragraph (b) of this section, baseline VOC emissions shall be calculated for each emissions source in accordance with one of the procedures specified below:

(A) If daily emissions records which are consistent with the emission inventory data submitted by the State for the control area on November 15, 1992 are available for the calendar years 1989 and 1990, baseline emissions shall be based on the median value of daily emissions recorded for the two-year period.

(B) If daily emissions records are not available for the calendar years 1989 and 1990 or are inconsistent with the emission inventory data submitted by the State for the control area on November 15, 1992 or were not submitted, baseline emissions shall be based on the average daily emissions value calculated for the two-year period. The average daily emissions

value shall be calculated by dividing emissions for the two-year period by the operating or usage time for the two-year period. If solvent or coating usage data are not available, emissions associated with solvent or coating usage may be estimated from purchase-order records. The operating or usage time for the two-year period shall be based on one of the criteria specified as follows:

(1) The number of days specified in a federally enforceable permit if the emissions source operated under the conditions of a federally enforceable permit which restricted operating times during the two-year period,

(2) The average number of days that the emissions source was operated or used over the two-year period if documentation is available to support the number, or

(3) 730 days if documentation of the number of days that the emissions source was operated or used over the two-year period is not available.

(xiii) Implementation Year Monthly Baseline Emissions. Baseline emissions as defined in paragraph (a)(4)(xii) of this section shall be adjusted prior to the implementation year (2001) of the FIP cap program in the control area as follows:

(A) The reductions that are projected to occur as a result of both SIP and FIP measures between 1990 and 2001 and promulgated on or before the date of this FIP shall be subtracted from the baseline emissions. This value shall be defined as the reduced daily baseline emissions and is denoted in pounds of

VOC/day.

(B) The reduced daily baseline emissions shall be annualized by multiplying the daily value by 365. This value shall be defined as the reduced annual baseline emissions and is denoted in pounds of VOC/year.

(C) The reduced annual baseline emissions shall be converted into a monthly value by dividing by 12. This value shall be defined as the implementation year monthly baseline.

(5) Enforcement.

(i) All sources and facilities subject to provisions of §52.2954 shall be subject to unannounced inspections by representatives of the USEPA pursuant to section 114 of the Clean Air Act.

(ii) Documentation maintained by all sources, facilities, and persons subject to this section must be sufficient to demonstrate compliance with all requirements of this section and must be provided to representatives of USEPA upon request.

(iii) Failure to comply with any provision of this section is a violation of the applicable implementation plan for purposes of section 113 of the Clean Air Act.

(iv) Each 50 pounds of emissions in excess of a facility's monthly cap shall be a separate violation for federal enforcement purposes.

(v) In the event that responses to international, national, regional, or local emergencies require increased emissions in excess of Department of Defense (DoD) facilities cap limitations,

such emissions shall not be counted for purposes of determining compliance with the cap. The DoD facility will notify the Administrator, in writing, within one week after the start of increased emissions caused by the emergency operations.

(b) Stationary and Area Source Control Measures.

(1) Industrial and Commercial Solvents/Coatings.

(i) Definitions.

(A) For the purpose of paragraph (b)(1) of this section, the general definitions in paragraph (a)(3) of this section apply.

(B) For the purpose of paragraph (b)(1) of this section, the following definitions also apply:

Adhesives means any substance or mixture of substances intended to serve as a joining compound.

Aerospace component means the fabricated part, assembly of parts, or completed unit of any aircraft or space vehicle.

Aerospace component coating facility means a facility that includes one or more aerospace component coating unit(s).

Aerospace component coating unit means a coating unit in which any protective, decorative, or functional coating or reinforcing material is applied on or impregnated into an aerospace component.

Aircraft means any machine designed to travel through the air above ground without leaving the earth's atmosphere, whether heavier or lighter than air, including airplanes, balloons, dirigibles, helicopters, and missiles.

Automobile means a motor vehicle capable of carrying no more than 12 passengers.

Can means any cylindrical, single walled container that is manufactured from metal sheets thinner than 29 gauge (0.0141 in.); with or without a top, cover, spout, or handles; into which solid or liquid materials are packaged.

Can coating facility means a facility that includes one or more can coating unit(s).

Can coating unit means a coating unit in which any protective, decorative, or functional coating is applied onto the surface of cans or can components.

Coating means a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealants, adhesives, thinners, diluents, inks, maskants, and/or temporary protective coatings.

Coating applicator means any equipment or device, including but not limited to cloth, rollers, brushes, spray guns, and dip tanks, used to apply a coating onto or into a substrate.

Coating unit means a series of one or more coating applicators and any associated drying areas and/or oven wherein a coating is applied, dried, and/or cured. A coating unit ends at the point where the coating is dried or cured, or prior to any subsequent application of a different coating. It is not necessary to have an oven or a flashoff area in order to be included in this definition.

Coil means any continuous metal sheet or strip with thickness of 0.15 mm (0.006 in.) or more that is packaged in a roll or coil.

Coil coating facility means a facility that includes one or more coil coating unit(s).

Coil coating unit means a coating unit in which any protective, decorative, or functional coating is applied onto the surface of flat metal sheets, strips, rolls, or coils for industrial or commercial use.

Cold cleaning means the batch process of cleaning and removing soils from surfaces by spraying, brushing, flushing, or immersion while maintaining the organic solvent below its boiling point. Wipe cleaning is not included in this definition.

Conveyorized degreasing means the continuous process of cleaning and removing soils from surfaces using either cold or vaporized solvents.

Degreaser means any equipment or system used in solvent cleaning.

Degreasing facility means a facility that includes one or more cold cleaning, open-top vapor degreasing, and/or conveyorized degreasing processes.

Dry cleaning facility means a facility engaged in the cleaning of fabrics using an essentially nonaqueous solvent by means of one or more solvent washes, extraction of excess solvent by spinning, and drying by tumbling in an airstream. The facility includes, but is not limited to, washers, dryers, filter

and purification systems, waste disposal systems, holding tanks, pumps, and attendant piping and valves.

Fabric coating facility means a facility that includes one or more fabric coating unit(s).

Fabric coating unit means a web coating unit in which any protective, decorative, or functional coating or reinforcing material is applied on, saturated into, or impregnated into a textile fabric. A fabric printing unit is not considered a fabric coating unit.

Film coating facility means a facility that includes one or more film coating unit(s).

Film coating unit means a coating unit in which any protective, decorative, or functional coating is applied on, saturated into, or impregnated into any film substrate; other than paper, fabric, or vinyl; including but not limited to typewriter ribbons, photographic film, plastic film, magnetic tape, and metal foil.

Flatwood product means panels made of wood materials including; but not limited to; plywood, particle board, and hardboard.

Flatwood product coating facility means a facility that includes one or more flatwood product coating unit(s).

Flatwood product coating unit means a coating unit in which any protective, decorative, or functional coating is applied on or impregnated into a flatwood product.

Flexographic printing means the application of words,

designs, and pictures to a substrate by means of a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of elastomeric materials.

Flexographic printing press means a printing press in which each roll printer uses a roll with raised areas for applying an image such as words, designs, or pictures to a substrate. The image carrier on the roll is made of rubber or other elastomeric material.

Fountain solution means the solution which is applied to the lithographic printing plate to maintain hydrophilic properties of the nonimage areas.

Graphic arts coating facility means a facility that includes one or more graphic arts coating units.

Graphic arts coating unit means any packaging rotogravure printing, publication rotogravure printing, flexographic printing, lithographic printing, letterpress printing, laminating, or screen printing unit or any paper, fabric, or film coating unit operated in conjunction with a printing unit.

Group I vehicles and equipment means large-sized trucks, buses, and mobile equipment.

Group II vehicles means passenger cars, small-sized trucks and vans, medium-sized trucks and vans, and motorcycles.

Heatset means a class of web-offset lithography which requires a heated dryer to solidify the printing inks.

Heatset-web-offset lithographic printing unit means a

lithographic printing unit in which a blanket cylinder is used to transfer ink from a plate cylinder to a substrate continuously fed from a roll or an extension process and an oven is used to solidify the printing inks.

Heavy off-highway vehicle products means heavy construction, mining, farming, or material handling equipment; heavy industrial engines; diesel-electric locomotives and associated power generation equipment; and the components of such equipment or engines.

Heavy off-highway vehicle products coating facility means a facility that includes one or more heavy off-highway vehicle products coating unit(s).

Heavy off-highway vehicle products coating unit means a coating unit in which any protective, decorative, or functional coating is applied onto the surface of heavy off-highway vehicle products.

Highway means a way or place of whatever nature, publicly maintained and open to the public for purposes of vehicular travel. Highway includes street.

Industrial or commercial solvent use facility means any industrial or commercial facility that uses solvents which contain VOCs or substances that contain solvents which contain VOCs. Industrial and commercial solvent use facilities include, but are not limited to, perchloroethylene dry cleaning, petroleum dry cleaning, metal cleaning, degreasing, aerospace component coating, motor vehicle and mobile equipment assembly line

coating, motor vehicle and mobile equipment refinishing, can coating, coil coating, fabric coating, film coating, flatwood product coating, graphic arts coating, large appliance coating, magnet wire coating, marine vessel coating, metal and wood furniture coating, miscellaneous metal parts and products coating, paper coating, and plastic parts coating facilities. Substances that contain solvents include, but are not limited to, coatings, inks, fountain solutions, adhesives, thinners, and clean-up solvents.

Ink means a coating used in printing, impressing, or transferring an image onto a substrate.

Laminating unit means a printing unit in which an adhesive is used to form two or more layers of material into a single, multiple-layer sheet.

Large appliance means the component metal parts (including, but not limited to, doors, cases, lids, panels, and interior support parts) of residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dish washers, trash compactors, air conditioners, and other similar products under SIC Code 363.

Large appliance coating facility means a facility that includes one or more large appliance coating unit(s).

Large appliance coating unit means a coating unit in which any protective, decorative, or functional coating is applied onto the surface of component metal parts of large appliances.

Letterpress printing unit means a printing unit in which the

image area is raised relative to the nonimage area on the roll printer and the ink is transferred to the paper directly from the image surface.

Light-duty truck means any motor vehicle rated at 3864 kg (8500 lb) gross vehicle weight or less, designed mainly to transport property.

Lithographic printing unit means a printing unit in which the image and nonimage areas are on the same plane of the roll printer.

Magnet wire coating facility means a facility that includes one or more magnet coating unit(s).

Magnet wire coating unit means a coating unit in which electrically insulating varnish or enamel is applied onto the surface of wire to be used in electrical machinery.

Marine vessel means a ship or boat used to travel on, or a submarine used to travel through, the sea.

Marine vessel coating facility means a facility that includes one or more marine vessel coating unit(s).

Marine vessel coating unit means a coating unit in which any protective, decorative, or functional coating is applied on the fabricated part, assembly of parts, or completed unit of any marine vessel.

Metal furniture means any furniture piece made of metal or any metal part which is or will be assembled with other metal, wood, fabric, plastic, or glass parts to form a furniture piece including, but not limited to, tables, chairs, waste baskets,

beds, desks, lockers, benches, shelving, file cabinets, lamps, and room dividers. This definition shall not apply to any coating unit coating miscellaneous metal parts or products.

Metal furniture coating facility means a facility that includes one or more metal furniture coating unit(s).

Metal furniture coating unit means a coating unit in which any protective, decorative, or functional coating is applied onto the surface of metal furniture.

Miscellaneous metal part or product means any metal part or metal product, even if attached to or combined with a nonmetal part or product.

Miscellaneous metal parts or products coating facility means a facility that includes one or more miscellaneous metal parts or products coating unit(s).

Miscellaneous metal parts or products coating unit means a coating unit in which any protective, decorative, or functional coating is applied onto the surface of miscellaneous metal parts or products.

Mobile equipment means self-propelled equipment which is physically capable of being driven on a highway. Mobile equipment includes: automobiles, motorcycles, trucks, vans, construction equipment (e.g., mobile cranes, bulldozers, concrete mixers), farming equipment (e.g., wheel tractors, pesticide sprayers), and miscellaneous equipment (e.g., street cleaners, golf carts, and hauling equipment used inside and around airports, docks, depots, and industrial and commercial plants).

Motor vehicle means a vehicle which is self-propelled and physically capable of being driven on a highway.

Motor vehicle or mobile equipment assembly line coating facility means a facility where parts are manufactured or finished for eventual inclusion into finished motor vehicles or mobile equipment ready for sale to motor vehicle or mobile equipment dealers. This definition does not include customizers, body shops, and/or other auto refinishing facilities.

Motor vehicle or mobile equipment refinishing facility means a facility where all or any part of used motor vehicles or mobile equipment is refinished, or customized, by the application of paint. This definition includes motor vehicles or mobile equipment dealerships who purchase new motor vehicle or mobile equipment from Original Equipment Manufacturers. This definition does not include motor vehicle or mobile equipment assembly line coating facilities.

Motorcycle means any motor vehicle other than a tractor having a seat or saddle for the use of the rider and designed to travel on not more than three wheels in contact with the ground and weighing less than 1,500 lbs, except that four wheels may be in contact with the ground when two of the wheels are a functional part of a sidecar.

Offset means a blanket cylinder that is used to transfer ink from a plate cylinder to the substance to be printed.

Open-top vapor degreasing means the batch process of cleaning and removing soils from surfaces by condensing hot

solvent vapor on the colder metal parts.

Oven means a chamber within which heat is used for one or more of the following purposes: to dry, bake, cure, or polymerize a coating or ink.

Packaging rotogravure printing means rotogravure printing upon paper, paper board, metal foil, plastic film, and other substrates which are, in subsequent operations, formed into packaging products or labels for articles to be sold.

Packaging rotogravure printing press means a rotogravure printing press in which surface coatings are applied to paper, paperboard, metal foil, plastic film, or other substrates which are to be used to produce containers, packaging products, or labels for articles.

Paper coating facility means a facility that includes one or more paper coating unit(s).

Paper coating unit means a web coating unit where coating is applied to paper. Printing presses are not considered paper coating units. Products produced on a paper coating unit include, but are not limited to, adhesive tapes and labels, book covers, post cards, office copier paper, drafting paper, and pressure sensitive tapes. Paper coating units include, but are not limited to, application by impregnation or saturation or by the use of roll, knife, or rotogravure coating.

Printing unit means an operation consisting of a series of one or more roll printers and any associated roll coaters, drying areas, and/or ovens wherein one or more surface coatings are

applied, dried, and/or cured. It is not necessary for an operation to have an oven, or flashoff area, or drying area to be included in this definition.

Publication rotogravure printing unit means a rotogravure printing unit in which surface coatings are applied to paper which is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, or other types of printed material.

Refinish means to restore or replace coatings on Group I vehicles (large-sized trucks, buses, and mobile equipment) and Group II vehicles (passenger cars, small-sized trucks and vans, medium-sized trucks and vans, and motorcycles) and equipment, or their parts and components, except Original Equipment Manufacturer coatings applied at motor vehicle or mobile equipment assembly line coating facilities.

Roll coater means an apparatus in which a uniform layer of coating material is applied by means of a roll or rolls across the entire width of a moving substrate which is fed from an unwinding roll.

Roll printer means an apparatus in which a surface coating is applied by means of a roll or rolls with only partial coverage across the width of a moving substrate which is fed from an unwinding roll. The partial coverage results in the formation of words, designs, or pictures on the substrate.

Rotogravure printing means the application of words, designs, and pictures to a substrate using a gravure cylinder by

means of a roll printing technique in which the pattern to be applied is recessed relative to the nonimage area.

Rotogravure printing unit means a printing unit in which each roll printer uses a roll with recessed areas for applying an image to a substrate.

Screen printing unit means a printing unit in which the printing ink passes through a web or a fabric to which a refined form of stencil has been applied. The stencil openings determine the form and dimensions of the imprint.

Solvent means a substance that is liquid at standard conditions that is used to dissolve or dilute another substance; this term includes, but is not limited to, organic materials used as dissolvers, viscosity reducers, degreasing agents, or cleaning agents.

Solvent cleaning means the process of cleaning soils from surfaces by cold cleaning, open-top vapor degreasing, or conveyorized degreasing.

Space vehicle means any vehicle designed to travel beyond the earth's atmosphere.

Street means a public road in a town or city.

Substrate means the surface to which a coating is applied on, saturated into, or impregnated into.

Vinyl coating facility means a facility that includes one or more vinyl coating unit(s).

Vinyl coating unit means a web coating unit in which any protective, decorative, or functional coating or printing ink is

applied onto a continuous web of vinyl-coated fabric or vinyl sheets.

Web means an automatic system which supplies substrate from a continuous roll or an extrusion process.

Wood furniture means room furnishings including cabinets (kitchen, bath, and vanity), tables, chairs, beds, sofas, shutters, art objects, wood paneling, wood flooring, and any other coated furnishings made of wood, wood composition, or fabricated wood materials.

Wood furniture coating facility means a facility that includes one or more wood furniture coating unit(s).

Wood furniture coating unit means a coating unit in which any protective, decorative, or functional coating is applied onto wood furniture.

(ii) Applicability.

(A) The requirements of paragraphs (b)(1)(iii)(A), (B), and (C), (iv)(A), (v)(A), and (vi)(A) of this section shall apply to any owner or operator of any degreasing facility or any motor vehicle or mobile equipment refinishing facility including existing facilities (as of December 31, 1990) which are modified between January 1, 2001 and December 31, 2005 located in the control area as defined in paragraph (a)(1) of this section at which the reduced annual baseline emissions as defined in paragraph (a)(4)(xiii)(B) of this section are greater than or equal to four (4) tons of VOC during any one year.

(B) The requirements of paragraphs (b)(1)(iii)(A), (B), and

(C), (iv)(A), (v)(A), and (vi)(A) of this section shall apply to any owner or operator of an industrial or commercial solvent use facility including existing facilities (as of December 31, 1990) which are modified between January 1, 2001 and December 31, 2005 located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section are greater than or equal to 4 tons during any one year.

(C) The requirements of paragraphs (b)(1)(iv)(B), (v)(B), and (vi)(B) of this section shall apply to any owner or operator of an industrial or commercial solvent use facility located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section from all emissions sources are always less than 4 tons but greater than or equal to 2 tons during any one year. If actual emissions of VOC from a facility which is exempt from the limitations of paragraph (b)(1)(iii)(B) of this section ever exceed 4 tons during any one year on or after January 1, 2000, the facility will lose its exempt status, and the owner or operator shall comply with the requirements of paragraphs (b)(1)(iii)(B)(1) through (5), (b)(1)(iv)(A), (b)(1)(v)(A), and (b)(1)(vi)(A) of this section beginning January 1 of the calendar year following the date of the exceedance.

(D) The requirements of this section do not apply to any owner or operator of an industrial or commercial solvent use

facility located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section from all emissions sources are always less than 2 tons during any one year.

(E) The requirements of this section do not apply to any owner or operator of an industrial or commercial solvent use facility located in the control area specified in paragraph (a)(1) of this section which is constructed after December 31, 1990.

(F) The requirements of this section shall not operate to provide additional time for compliance with or to preclude more stringent requirements such as those found in §112 of the Clean Air Act Amendments of 1990. Sources complying with §52.2954 shall also comply with such requirements.

(iii) Specific Provisions.

(A) Each owner or operator of a source subject to the FIP VOC emissions cap program as defined in paragraph (b)(1)(ii) of this section shall submit a VOC emissions reduction compliance plan to the Administrator by January 1, 1999. The plan shall be prepared for the years 2001 through 2005 and shall include all of the information specified in paragraphs (b)(1)(iii)(A)(1) through (5) of this section. Each owner or operator shall submit a revised plan to the Administrator within 30 calendar days of receipt of comments from the Administrator. Each owner or operator shall comply at all times with the provisions of the

most recent plan approved by the Administrator.

(1) The name, title, address, and telephone number of the owner or operator of the facility, and of each person responsible for preparing the information required under paragraph (b)(1)(iii)(A)(2) of this section.

(2) Baseline VOC emissions shall be calculated for each facility. Baseline emissions for each facility shall equal the sum of VOC emissions from all emissions sources at the facility including emissions associated with the use of architectural coatings and clean-up solvents. Baseline emissions shall be calculated as specified in paragraph (a)(4)(xii) and (a)(4)(xiii) of this section.

(3) Methods to be employed by the owner or operator to limit VOC emissions from emissions sources to within the emissions level required in paragraphs (b)(2)(iii)(B)(1) through (5) of this section. Methods may include but are not limited to:

(i) Installation of capture systems and control devices;

(ii) Modifications to increase the efficiency of existing capture systems and/or control devices;

(iii) Process modifications and/or substitutions; and

(iv) Reduction in operating schedules for one or more emissions sources at the facility. For those facilities choosing to comply through use of reduced operating schedules, operating schedules for baseline emissions levels and for emissions levels starting January 1, 2001, continuing for a period not less than 5 years.

(4) Projections of annual VOC emissions for each emissions source through the year 2005 after application of the reduction methods described in paragraph (b)(2)(iii)(A)(3) of this section.

(5) For all sources subject to the FIP cap reduction requirements, all information required as part of the facility's Title V operating permit. For sources not subject to Title V, sources shall submit all information which would be required for sources subject to Title V.[1]

(B) Beginning January 1, 2001, each owner or operator of a facility which is subject to the limitations of this paragraph, as described under paragraph (b)(1)(ii)(A) or (B) of this section, shall limit actual monthly emissions of VOC from the subject facility to the level calculated by the following equations:

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[1] This information shall include, for example, test or demonstration methods used to demonstrate achievement of the VOC emissions reductions required in paragraphs (b)(1)(iii)(B)(1) through (5) of this section. The methods may include but are not limited to: (1) the test methods and procedures specified in paragraph (a)(4) of this section, and (2) data and engineering calculations approved by EPA documenting process modifications that were made to reduce VOC emissions.

$$\underline{(1)}\quad R_{2001} \leq \sum_{i=1}^{n} R_o(1-(0.09))$$

where[2]

R_{2001} = Allowable VOC for all emissions sources at the facility for the year 2001 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(1)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$\underline{(2)}\quad R_{2002} \leq \sum_{i=1}^{n} R_o(1-(0.18))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this

[2] The 9% cumulative annual rate of emission reductions reflects the reductions EPA believes necessary for attainment (except in the South Coast). For example in the first year, emissions would be reduced by 9% off of baseline levels; in the second year, emissions would be reduced by 18% off of baseline levels, and so on until a 45% VOC reduction is made. This annual reduction is based on EPA's rate of reduction analysis and may change as the analysis continues prior to the implementation date of this FIP rule.

section.)

where

R_{2002}= Allowable VOC for all emissions sources at the facility for the year 2002 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(1)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$(3) \quad R_{2003} \leq \sum_{i=1}^{n} R_o(1-(0.27))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2003}= Allowable VOC for all emissions sources at the facility for the year 2003 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be

calculated in accordance with the requirements specified in paragraph (b)(1)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$(4) \quad R_{2004} \leq \sum_{i=1}^{n} R_o(1-(0.36))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2004}= Allowable VOC for all emissions sources at the facility for the year 2004 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(1)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

(See footnote to paragraph (b)(1)(iii)(B)(1) of this

$$\underline{(5)} \quad R_{2005} \leq \sum_{i=1}^{n} R_o(1-(0.45))$$

section.)

where

R_{2005}= Allowable VOC for all emissions sources at the facility for the year 2005 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(1)(iii)(A)<u>(2)</u> of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

(C) Existing facilities located in the control area as defined in paragraph (a)(1) of this section which are modified between January 1, 2001 and December 31, 2005 shall obtain emissions offsets to mitigate the emissions increases at the applicable offset ratio found in section 182 or section 179(b)(2)[3] of the Clean Air Act Amendments of 1990 if such modification results in emissions in excess of the allowable

[3] If the offset sanction found in section 179(b)(2) of the CAA is in effect for the control area.

emissions as defined in paragraph (b)(1)(iii)(B) of this section. Offsets obtained under this paragraph are not subject to the reduction requirements of paragraph (b)(1)(iii)(B) of this section.

(iv) Reporting.

(A) Each owner or operator of a facility which is subject to the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section, as described under paragraph (b)(1)(ii) of this section, shall submit to the Administrator by March 1 of each calendar year, beginning in 2002, a certification of compliance with this section for the previous calendar year. This certification shall include:

(1) A declaration that the facility is in compliance with all of the requirements of this section, and

(2) Documentation of methods used to achieve the VOC emissions reductions required in paragraphs (b)(1)(iii)(B)(1) through (5) of this section.

(B) Each owner or operator of a facility which is exempt from the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section because of paragraph (b)(1)(ii)(C) of this section shall comply with the following:

(1) By January 1, 2000, the owner or operator shall certify to the Administrator that the facility is exempt from the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section. This certification shall include:

(i) A declaration that the facility is exempt from the

limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section because of paragraph (b)(1)(ii)(C) of this section; and

(ii) Calculations which demonstrate that total baseline VOC emissions from all emissions sources at the facility are and will remain less than 4 tons during any one year. Baseline emissions shall be calculated in accordance with the procedures specified in paragraphs (a)(4)(xii) and (a)(4)(xiii) of this section.

(2) On and after January 1, 2000, the owner or operator shall notify the Administrator of any record showing that actual emissions of VOC from the facility exceeded 4 tons during any one year by sending a copy of such record to the Administrator within 30 calendar days after the exceedance occurs.

(v) Recordkeeping.

(A) Each owner or operator of a facility which is subject to the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section, as described under paragraphs (b)(1)(ii)(A) or (B) of this section shall collect and record all information necessary to demonstrate compliance with the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section for each emissions source and maintain the information at the facility for a period of three (3) years. The information shall be collected and recorded each day of each calendar year beginning in 2001 and ending with 2005.

(B) Each owner or operator of a facility which is exempt from the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section, as described under paragraph (b)(1)(ii)(C) of

this section shall collect and record all information necessary to demonstrate that actual emissions of VOC from all emissions sources are less than 4 tons during each year and maintain the information at the facility for a period of three (3) years. The information shall be collected and recorded each day of each calendar year beginning in 2001 and ending with 2005.

(vi) Testing and Monitoring.

(A) The Administrator may require, at any time, any owner or operator of a facility subject to the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section because of paragraphs (b)(1)(ii)(A) or (B) of this section to perform tests using the applicable test methods and procedures specified in paragraph (a)(4) of this section and/or to install monitoring equipment specified in paragraph (a)(4)(iv)(B) of this section to demonstrate compliance with the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section.

(B) The Administrator may require, at any time, any owner or operator of a facility which is exempt from the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section because of paragraph (b)(1)(ii)(C) of this section to perform tests using the applicable test methods and procedures specified in paragraph (a)(4) of this section to demonstrate that the facility is exempt from the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section.

(2) VOC Emissions Associated with the Manufacturing of Products.

(i) Definitions.

(A) For the purpose of paragraph (b)(2) of this section, the general definitions in paragraph (a)(3) of this section apply.

(B) For the purpose of paragraph (b)(2) of this section, the following definitions also apply:

Facility which manufactures products containing VOCs means any facility where VOCs are emitted from processes which are used to manufacture or fabricate products. These products include, but are not limited to, the products specified in paragraphs (1) through (7) of this definition. This definition does not include facilities which are subject to any of the requirements of paragraphs (b)(1), (b)(4), or (b)(5) of this section.

(1) Industrial and agricultural organic chemicals and gases. Industrial organic chemicals include, but are not limited to, gum and wood chemicals, cyclic organic crudes and intermediates, organic dyes and pigments, and the chemicals listed in 40 CFR 52.741, appendix A. Agricultural organic chemicals include, but are not limited to, pesticides, livestock dips, soil conditioners, and fertilizers.

(2) Plastic materials, synthetic resins, synthetic rubber, elastomizers, and cellulosic and manmade fibers.

(3) Drugs which include, but are not limited to, medicinal chemicals and botanical products, pharmaceutical preparations, in vitro and in vivo diagnostic substances, and biological products.

(4) Soaps; detergents; cleaning, polishing, and sanitizing

preparations; surface active agents, finishing agents, sulfonated oils, and assistants; and perfumes and cosmetics.

(5) Food additives and sweeteners.

(6) Paints, varnishes, lacquers, enamels, inks, primers, paint removers, thinners, stains, shellacs, cleaners, putty, coatings, adhesives, fillers, sealants, explosives, and carbon black.

(7) Fabricated rubber and miscellaneous plastics products including, but not limited to, tires and inner tubes; rubber and plastics footware, hose, belting, gasket, packing, and sealing devices; and molded, extruded, and lathe-cut mechanical rubber goods.

Manufacture means to produce or combine any ingredients contained in any product.

Manufacturing process means a process or a series of processes used to convert raw materials, feed stocks, subassemblies, or other components into a product which will be sold, offered for sale, supplied, or distributed or will be used as a component in a subsequent manufacturing process. This definition includes the storage and handling of organic compounds or gases which are used in a manufacturing process and the handling of organic compounds or gases used to clean-up a manufacturing process.

(ii) Applicability.

(A) The requirements of paragraphs (b)(2)(iii)(A), (B), and (C), (iv)(A), (v)(A), and (vi)(A) of this section shall apply to

any owner or operator of any facility which manufactures products containing VOCs including Department of Defense facilities and existing facilities (as of December 31, 1990) which are modified between January 1, 2001 and December 31, 2005 located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section are greater than or equal to 4 tons during any one year.

(B) The requirements of paragraphs (b)(2)(iv)(B), (v)(B), and (vi)(B) of this section shall apply to any owner or operator of any facility which manufactures products containing VOCs including Department of Defense facilities located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section from all emissions sources are always less than 4 tons but greater than or equal to 2 tons during any one year. If actual emissions of VOC from a facility which is exempt from the limitations of paragraph (b)(2)(iii)(B) of this section ever exceed 4 tons during any one year on or after January 1, 2000, the facility will lose its exempt status, and the owner or operator shall comply with the requirements of paragraphs (b)(2)(iii)(B)(1) through (5), (b)(2)(iv)(A), (b)(2)(v)(A), and (b)(2)(vi)(A) of this section beginning January 1 of the calendar year following the date of the exceedance.

(C) The requirements of this section do not apply to any owner or operator of a facility which manufactures products

containing VOCs including Department of Defense facilities located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section from all emissions sources are always less than 2 tons during any one year.

(D) The requirements of this section do not apply to any owner or operator of a facility which manufactures products containing VOCs including Department of Defense facilities located in the control area specified in paragraph (a)(1) of this section which is constructed after December 31, 1990.

(E) The requirements of this section shall not operate to provide additional time for compliance with or to preclude more stringent requirements such as those promulgated under §112 of the Clean Air Act Amendments of 1990. Sources complying with §52.2954 shall also comply with such requirements.

(iii) Specific Provisions.

(A) Each owner or operator of a source subject to the FIP VOC emissions cap program as defined in paragraph (b)(2)(ii) of this section shall submit a VOC emissions reduction compliance plan to the Administrator by January 1, 1999. The plan shall be prepared for the years 2001 through 2005 and shall include all of the information specified in paragraphs (b)(2)(iii)(A)(1) through (5) of this section. Each owner or operator shall submit a revised plan to the Administrator within 30 calendar days of receipt of comments from the Administrator. Each owner or

operator shall comply at all times with the provisions of the most recent plan approved by the Administrator.

(1) The name, title, address, and telephone number of the owner or operator of the facility, and of each person responsible for preparing the information required under paragraph (b)(2)(iii)(A)(2) of this section.

(2) Baseline VOC emissions shall be calculated for each facility. Baseline emissions for each facility shall equal the sum of VOC emissions from all emissions sources at the facility including emissions associated with the use of architectural coatings and clean-up solvents. Baseline emissions shall be calculated as specified in paragraph (a)(4)(xii) and (a)(4)(xiii) of this section.

(3) Methods to be employed by the owner or operator to limit VOC emissions from emissions sources to within the emissions level required in paragraphs (b)(2)(iii)(B)(1) through (5) of this section. Methods may include but are not limited to:

(i) Installation of capture systems and control devices;

(ii) Modifications to increase the efficiency of existing capture systems and/or control devices;

(iii) Process modifications and/or substitutions; and

(iv) Reduction in operating schedules for one or more emissions sources at the facility. For those facilities choosing to comply through use of reduced operating schedules, operating schedules for baseline emissions levels and for emissions levels starting January 1, 2001, continuing for a period not less than 5

years.

(4) Projections of annual VOC emissions for each emissions source through the year 2005 after application of the reduction methods described in paragraph (b)(2)(iii)(A)(3) of this section.

(5) For all sources subject to the FIP cap reduction requirements, all information required as part of the facility's Title V operating permit. For sources not subject to Title V, sources shall submit all information which would be required for sources subject to Title V.[4]

(B) Beginning January 1, 2001, each owner or operator of a facility which is subject to the limitations of this paragraph, as described under paragraph (b)(2)(ii)(A) or (B) of this section, shall limit actual monthly emissions of VOC from the subject facility to the level calculated by the following equations:

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[4] This information shall include, for example, test or demonstration methods used to demonstrate achievement of the VOC emissions reductions required in paragraphs (b)(1)(iii)(B)(1) through (5) of this section. The methods may include but are not limited to: (1) the test methods and procedures specified in paragraph (a)(4) of this section, and (2) data and engineering calculations approved by EPA documenting process modifications that were made to reduce VOC emissions.

$$\underline{(1)} \quad R_{2001} \leq \sum_{i=1}^{n} R_o(1-(0.09))$$

where[5]

R_{2001} = Allowable VOC for all emissions sources at the facility for the year 2001 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(2)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

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[5] The 9% cumulative annual rate of emission reductions reflects the maximum reductions necessary for attainment. Based on periodic pre-program and inter-program reviews, this value may change. For example in the first year, emissions would be reduced by 9% off of baseline levels; in the second year, emissions would be reduced by 28% off of baseline levels, and so on until the maximum 45% VOC reduction is made. As discussed in the preamble to the regulations this range of annual reductions is based on EPA's preliminary rate of reduction analysis and may change as the analysis continues prior to final promulgation of this FIP. In addition, EPA plans to review this value every three years after final rule promulgation.

$$\underline{(2)}\quad R_{2002} \leq \sum_{i=1}^{n} R_o(1-(0.18))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2002}= Allowable VOC for all emissions sources at the facility for the year 2002 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(2)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$\underline{(3)}\quad R_{2003} \leq \sum_{i=1}^{n} R_o(1-(0.27))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2003}= Allowable VOC for all emissions sources at the

facility for the year 2003 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(2)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$\underline{(4)} \quad R_{2004} \leq \sum_{i=1}^{n} R_o(1-(0.36))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2004}= Allowable VOC for all emissions sources at the facility for the year 2004 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(2)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$\underline{(5)} \quad R_{2005} \leq \sum_{i=1}^{n} R_o(1-(0.45))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2005}= Allowable VOC for all emissions sources at the facility for the year 2005 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(2)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

(C) Existing facilities located in the control area as defined in paragraph (a)(1) of this section which are modified between January 1, 2001 and December 31, 2005 shall obtain emissions offsets to mitigate the emissions increase at the

applicable offset ratio found in §182 of the Clean Air Act Amendments of 1990 if such modification results in emissions in excess of the implementation year monthly baseline as defined in paragraph (a)(4)(xiii) of this section. Offsets obtained under this paragraph are not subject to the reduction requirements of paragraph (b)(2)(iii)(B) of this section.

(iv) Reporting.

(A) Each owner or operator of a facility which is subject to the limitations of paragraphs (b)(2)(iii)(B)(1) through (5) of this section, as described under paragraph (b)(2)(ii) of this section, shall submit to the Administrator by March 1 of each calendar year, beginning in 2002, a certification of compliance with this section for the previous calendar year. This certification shall include:

(1) A declaration that the facility is in compliance with all of the requirements of this section, and

(2) Documentation of methods used to achieve the VOC emissions reductions required in paragraphs (b)(2)(iii)(B)(1) through (5) of this section.

(B) Each owner or operator of a facility which is exempt from the limitations of paragraphs (b)(2)(iii)(B)(1) through (5) of this section because of paragraph (b)(2)(ii)(C) of this section shall comply with the following:

(1) By January 1, 2000, the owner or operator shall certify to the Administrator that the facility is exempt from the limitations of paragraphs (b)(2)(iii)(B)(1) through (5) of this

section. This certification shall include:

(i) A declaration that the facility is exempt from the limitations of paragraphs (b)(2)(iii)(B)(1) through (5) of this section because of paragraph (b)(2)(ii)(C) of this section; and

(ii) Calculations which demonstrate that total baseline VOC emissions from all emissions sources at the facility are and will remain less than 4 tons during any one year. Baseline emissions shall be calculated in accordance with the procedures specified in paragraphs (a)(4)(xii) and (a)(4)(xiii) of this section.

(2) On and after January 1, 2000, the owner or operator shall notify the Administrator of any record showing that actual emissions of VOC from the facility exceeded 4 tons during any one year by sending a copy of such record to the Administrator within 30 calendar days after the exceedance occurs.

(v) Recordkeeping.

(A) Each owner or operator of a facility which is subject to the limitations of paragraphs (b)(2)(iii)(B)(1) through (5) of this section, as described under paragraphs (b)(2)(ii)(A) or (B) of this section shall collect and record all information necessary to demonstrate compliance with the limitations of paragraphs (b)(2)(iii)(B)(1) through (5) of this section for each emissions source and maintain the information at the facility for a period of three (3) years. The information shall be collected and recorded each day of each calendar year beginning in 2001 and ending with 2005.

(B) Each owner or operator of a facility which is exempt

from the limitations of paragraphs (b)(2)(iii)(B)(1) through (5) of this section, as described under paragraph (b)(2)(ii)(C) of this section shall collect and record all information necessary to demonstrate that actual emissions of VOC from all emissions sources are less than 4 tons during each year and maintain the information at the facility for a period of three (3) years. The information shall be collected and recorded each day of each calendar year beginning in 2001 and ending with 2005.

(vi) Testing and Monitoring.

(A) The Administrator may require, at any time, any owner or operator of a facility subject to the limitations of paragraphs (b)(2)(iii)(B)(1) through (5) of this section because of paragraphs (b)(2)(ii)(A) or (B) of this section to perform tests using the applicable test methods and procedures specified in paragraph (a)(4) of this section and/or to install monitoring equipment specified in paragraph (a)(4)(iv)(B) of this section to demonstrate compliance with the limitations of paragraphs (b)(2)(iii)(B)(1) through (5) of this section.

(B) The Administrator may require, at any time, any owner or operator of a facility which is exempt from the limitations of paragraphs (b)(2)(iii)(B)(1) through (5) of this section because of paragraph (b)(2)(ii)(C) of this section to perform tests using the applicable test methods and procedures specified in paragraph (a)(4) of this section to demonstrate that the facility is exempt from the limitations of paragraphs (b)(2)(iii)(B)(1) through (5) of this section.

(3) Disposal of Materials Containing Volatile Organic Compounds.

(i) Definitions.

(A) For the purpose of paragraph (b)(3) of this section, the general definitions in paragraph (a)(3) of this section apply.

(B) For the purpose of paragraph (b)(3) of this section, the following definitions also apply:

Biodegradable waste means any organic waste that can be broken down into its basic elements by microorganisms.

Biodegradable waste disposal facility means any facility which is operated as a business or owned by a state or municipality and is used to treat, store, or dispose of biodegradable waste or to reclaim or recycle organic compounds or gases from biodegradable wastes.

Organic waste disposal facility means any facility which is operated as a business or owned by a state or municipality and is used to treat, store, or dispose of organic wastes that contain VOCs or to reclaim or recycle organic compounds or gases from organic wastes that contain VOCs. Such facilities include, but are not limited to, biodegradable waste disposal facilities (e.g., landfills); publicly owned treatment works; hazardous waste treatment, storage, and disposal facilities; and sewage sludge, solid waste, and hazardous waste incinerators.

Publicly owned treatment work (POTW) means any device or system which is owned by a state or municipality and is used to

treat (including recycling and reclamation) municipal sewage or industrial liquid waste.

(ii) Applicability.

(A) The requirements of paragraphs (b)(3)(iii)(A), (B), and (C), (iv)(A), (v)(A), and (vi)(A) of this section shall apply to any owner or operator of any organic waste disposal facility including Department of Defense facilities and existing facilities (as of December 31, 1990) which are modified between January 1, 2001 and December 31, 2005 located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section are greater than or equal to 4 tons during any one year.

(B) The requirements of paragraphs (b)(3)(iv)(B), (v)(B), and (vi)(B) of this section shall apply to any owner or operator of any organic waste disposal facility including Department of Defense facilities located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section from all emissions sources are always less than 4 tons but greater than or equal to 2 tons during any one year. If actual emissions of VOC from a facility which is exempt from the limitations of paragraph (b)(3)(iii)(B) of this section ever exceed 4 tons during any one year on or after January 1, 2000, the facility will lose its exempt status, and the owner or operator shall comply with the requirements of paragraphs

(b)(3)(iii)(B)(1) through (5), (b)(3)(iv)(A), (b)(3)(v)(A), and (b)(3)(vi)(A) of this section beginning January 1 of the calendar year following the date of the exceedance.

(C) The requirements of this section do not apply to any owner or operator of any organic waste disposal facility including Department of Defense facilities located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section from all emissions sources are always less than 2 tons during any one year.

(D) The requirements of this section do not apply to any owner or operator of any organic waste disposal facility including Department of Defense facilities located in the control area specified in paragraph (a)(1) of this section which is constructed after December 31, 1990.

(E) The requirements of this section shall not operate to provide additional time for compliance with or to preclude more stringent requirements such as those promulgated under §112 of the Clean Air Act Amendments of 1990. Sources complying with §52.2954 shall also comply with such requirements.

(iii) Specific Provisions.

(A) Each owner or operator of a source subject to the FIP VOC emissions cap program as defined in paragraph (b)(3)(ii) of this section shall submit a VOC emissions reduction compliance plan to the Administrator by January 1, 1999. The plan shall be prepared for the years 2001 through 2005 and shall include all of

the information specified in paragraphs (b)(3)(iii)(A)(1) through (5) of this section. Each owner or operator shall submit a revised plan to the Administrator within 30 calendar days of receipt of comments from the Administrator. Each owner or operator shall comply at all times with the provisions of the most recent plan approved by the Administrator.

(1) The name, title, address, and telephone number of the owner or operator of the facility, and of each person responsible for preparing the information required under paragraph (b)(3)(iii)(A)(2) of this section.

(2) Baseline VOC emissions shall be calculated for each facility. Baseline emissions for each facility shall equal the sum of VOC emissions from all emissions sources at the facility including emissions associated with the use of architectural coatings and clean-up solvents. Baseline emissions shall be calculated as specified in paragraph (a)(4)(xii) and (a)(4)(xiii) of this section.

(3) Methods to be employed by the owner or operator to limit VOC emissions from emissions sources to within the emissions level required in paragraphs (b)(3)(iii)(B)(1) through (5) of this section. Methods may include but are not limited to:

(i) Installation of capture systems and control devices;

(ii) Modifications to increase the efficiency of existing capture systems and/or control devices;

(iii) Process modifications and/or substitutions; and

(iv) Reduction in operating schedules for one or more

emissions sources at the facility. For those facilities choosing to comply through use of reduced operating schedules, operating schedules for baseline emissions levels and for emissions levels starting January 1, 2001, continuing for a period not less than 5 years.

(4) Projections of annual VOC emissions for each emissions source through the year 2005 after application of the reduction methods described in paragraph (b)(3)(iii)(A)(3) of this section.

(5) For all sources subject to the FIP cap reduction requirements, all information required as part of the facility's Title V operating permit. For sources not subject to Title V, sources shall submit all information which would be required for sources subject to Title V.[6]

(B) Beginning January 1, 2001, each owner or operator of a facility which is subject to the limitations of this paragraph, as described under paragraph (b)(3)(ii)(A) or (B) of this section, shall limit actual monthly emissions of VOC from the subject facility to the level calculated by the following equations:

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[6] This information shall include, for example, test or demonstration methods used to demonstrate achievement of the VOC emissions reductions required in paragraphs (b)(1)(iii)(B)(1) through (5) of this section. The methods may include but are not limited to: (1) the test methods and procedures specified in paragraph (a)(4) of this section, and (2) data and engineering calculations approved by EPA documenting process modifications that were made to reduce VOC emissions.

$$\underline{(1)}\quad R_{2001} \leq \sum_{i=1}^{n} R_o(1-(0.09))$$

where[7]

R_{2001} = Allowable VOC for all emissions sources at the facility for the year 2001 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(3)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

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[7] The 9% cumulative annual rate of emission reductions reflects the maximum reductions necessary for attainment. Based on periodic pre-program and inter-program reviews, this value may change. For example in the first year, emissions would be reduced by 9% off of baseline levels; in the second year, emissions would be reduced by 38% off of baseline levels, and so on until the maximum 45% VOC reduction is made. As discussed in the preamble to the regulations this range of annual reductions is based on EPA's preliminary rate of reduction analysis and may change as the analysis continues prior to final promulgation of this FIP. In addition, EPA plans to review this value every three years after final rule promulgation.

$$\underline{(2)}\quad R_{2002} \leq \sum_{i=1}^{n} R_o(1-(0.18))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2002}= Allowable VOC for all emissions sources at the facility for the year 2002 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(3)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$\underline{(3)}\quad R_{2003} \leq \sum_{i=1}^{n} R_o(1-(0.27))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2003}= Allowable VOC for all emissions sources at the

facility for the year 2003 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(3)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$\underline{(4)} \quad R_{2004} \leq \sum_{i=1}^{n} R_o(1-(0.36))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2004}= Allowable VOC for all emissions sources at the facility for the year 2004 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(3)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$\underline{(5)} \quad R_{2005} \leq \sum_{i=1}^{n} R_o(1-(0.45))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2005}= Allowable VOC for all emissions sources at the facility for the year 2005 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(3)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

(C) Existing facilities located in the control area as defined in paragraph (a)(1) of this section which are modified between January 1, 2001 and December 31, 2005 shall obtain emissions offsets to mitigate the emissions increase at the

applicable offset ratio found in §182 of the Clean Air Act Amendments of 1990 if such modification results in emissions in excess of the implementation year monthly baseline as defined in paragraph (a)(4)(xiii) of this section. Offsets obtained under this paragraph are not subject to the reduction requirements of paragraph (b)(3)(iii)(B) of this section.

(iv) Reporting.

(A) Each owner or operator of a facility which is subject to the limitations of paragraphs (b)(3)(iii)(B)(1) through (5) of this section, as described under paragraph (b)(3)(ii) of this section, shall submit to the Administrator by March 1 of each calendar year, beginning in 2002, a certification of compliance with this section for the previous calendar year. This certification shall include:

(1) A declaration that the facility is in compliance with all of the requirements of this section, and

(2) Documentation of methods used to achieve the VOC emissions reductions required in paragraphs (b)(3)(iii)(B)(1) through (5) of this section.

(B) Each owner or operator of a facility which is exempt from the limitations of paragraphs (b)(3)(iii)(B)(1) through (5) of this section because of paragraph (b)(3)(ii)(C) of this section shall comply with the following:

(1) By January 1, 2000, the owner or operator shall certify to the Administrator that the facility is exempt from the limitations of paragraphs (b)(3)(iii)(B)(1) through (5) of this

section. This certification shall include:

(i) A declaration that the facility is exempt from the limitations of paragraphs (b)(3)(iii)(B)(1) through (5) of this section because of paragraph (b)(3)(ii)(C) of this section; and

(ii) Calculations which demonstrate that total baseline VOC emissions from all emissions sources at the facility are and will remain less than 4 tons during any one year. Baseline emissions shall be calculated in accordance with the procedures specified in paragraphs (a)(4)(xii) and (a)(4)(xiii) of this section.

(2) On and after January 1, 2000, the owner or operator shall notify the Administrator of any record showing that actual emissions of VOC from the facility exceeded 4 tons during any one year by sending a copy of such record to the Administrator within 30 calendar days after the exceedance occurs.

(v) Recordkeeping.

(A) Each owner or operator of a facility which is subject to the limitations of paragraphs (b)(3)(iii)(B)(1) through (5) of this section, as described under paragraphs (b)(3)(ii)(A) or (B) of this section shall collect and record all information necessary to demonstrate compliance with the limitations of paragraphs (b)(3)(iii)(B)(1) through (5) of this section for each emissions source and maintain the information at the facility for a period of three (3) years. The information shall be collected and recorded each day of each calendar year beginning in 2001 and ending with 2005.

(B) Each owner or operator of a facility which is exempt

from the limitations of paragraphs (b)(3)(iii)(B)(1) through (5) of this section, as described under paragraph (b)(3)(ii)(C) of this section shall collect and record all information necessary to demonstrate that actual emissions of VOC from all emissions sources are less than 4 tons during each year and maintain the information at the facility for a period of three (3) years. The information shall be collected and recorded each day of each calendar year beginning in 2001 and ending with 2005.

(vi) Testing and Monitoring.

(A) The Administrator may require, at any time, any owner or operator of a facility subject to the limitations of paragraphs (b)(3)(iii)(B)(1) through (5) of this section because of paragraphs (b)(3)(ii)(A) or (B) of this section to perform tests using the applicable test methods and procedures specified in paragraph (a)(4) of this section and/or to install monitoring equipment specified in paragraph (a)(4)(iv)(B) of this section to demonstrate compliance with the limitations of paragraphs (b)(3)(iii)(B)(1) through (5) of this section.

(B) The Administrator may require, at any time, any owner or operator of a facility which is exempt from the limitations of paragraphs (b)(3)(iii)(B)(1) through (5) of this section because of paragraph (b)(3)(ii)(C) of this section to perform tests using the applicable test methods and procedures specified in paragraph (a)(4) of this section to demonstrate that the facility is exempt from the limitations of paragraphs (b)(3)(iii)(B)(1) through (5) of this section.

(4) Commercial Food Preparation and/or Baking.

(i) Definitions.

(A) For the purpose of paragraph (b)(4) of this section, the general definitions in paragraph (a)(3) of this section apply.

(B) For the purpose of paragraph (b)(4) of this section, the following definitions also apply:

Brandy-making facility means a facility that distills wine, the refuse of a wine press, or any other fermented fruit juices to produce alcoholic liquors.

Charcoal means any substance obtained by charring wood or any other organic matter by a process of smothered combustion to exclude air.

Commercial baking facility means a facility that bakes bread, biscuits, rolls, pies, cakes, cookies, or other similar products.

Commercial charbroiling facility means a facility that broils any type of food over a charcoal or gas-fired broiler.

Food preparation facility means any commercial baking, commercial charbroiling, wine- or brandy-making, fruit and vegetable preservation, grain mill production, vegetable oil production, or malt beverage production facility. This definition includes restaurants involved in activities described in the previous sentence.

Fruit and vegetable preservation facility means a facility that preserves food by, but not limited to, canning, curing,

pickling, salting, smoking, cooking, or freezing.

Grain mill production facility means a facility that grinds any grain including, but not limited to, wheat, rice, corn, or rye into flour or meal.

Malt beverage production facility means a facility engaged in malting, fermentation, aging, or packaging of barley or any other grain for the purpose of producing an alcoholic beverage.

Vegetable oil production facility means a facility that extracts oil from any vegetable seed.

Wine- or brandy-making facility means a facility that ferments juices from grapes or any other fruit for the purpose of producing alcoholic beverages.

(ii) Applicability.

(A) The requirements of paragraphs (b)(4)(iii)(A), (B), and (C), (iv)(A), (v)(A), and (vi)(A) of this section shall apply to any owner or operator of a commercial food preparation facility including Department of Defense facilities and existing facilities (as of December 31, 1990) which are modified between January 1, 2001 and December 31, 2005 located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section are greater than or equal to 4 tons during any one year.

(B) The requirements of paragraphs (b)(4)(iv)(B), (v)(B), and (vi)(B) of this section shall apply to any owner or operator of a commercial food preparation facility including Department of

Defense facilities located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section from all emissions sources are always less than 4 tons but greater than or equal to 2 tons during any one year. If actual emissions of VOC from a facility which is exempt from the limitations of paragraph (b)(4)(iii)(B) of this section ever exceed 4 tons during any one year on or after January 1, 2000, the facility will lose its exempt status, and the owner or operator shall comply with the requirements of paragraphs (b)(4)(iii)(B)(1) through (5), (b)(4)(iv)(A), (b)(4)(v)(A), and (b)(4)(vi)(A) of this section beginning January 1 of the calendar year following the date of the exceedance.

(C) The requirements of this section do not apply to any owner or operator of a commercial food preparation facility including Department of Defense facilities located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section are always less than 2 tons during any one year.

(D) The requirements of this section do not apply to any owner or operator of a commercial food preparation facility including Department of Defense facilities located in the control area specified in paragraph (a)(1) of this section which is constructed after December 31, 1990.

(E) The requirements of this section shall not operate to

provide additional time for compliance with or to preclude more stringent requirements such as those promulgated under §112 of the Clean Air Act Amendments of 1990. Sources complying with §52.2954 shall also comply with such requirements.

(iii) Specific Provisions.

(A) Each owner or operator of a source subject to the FIP VOC emissions cap program as defined in paragraph (b)(4)(ii) of this section shall submit a VOC emissions reduction compliance plan to the Administrator by January 1, 1999. The plan shall be prepared for the years 2001 through 2005 and shall include all of the information specified in paragraphs (b)(4)(iii)(A)(1) through (5) of this section. Each owner or operator shall submit a revised plan to the Administrator within 30 calendar days of receipt of comments from the Administrator. Each owner or operator shall comply at all times with the provisions of the most recent plan approved by the Administrator.

(1) The name, title, address, and telephone number of the owner or operator of the facility, and of each person responsible for preparing the information required under paragraph (b)(4)(iii)(A)(2) of this section.

(2) Baseline VOC emissions shall be calculated for each facility. Baseline emissions for each facility shall equal the sum of VOC emissions from all emissions sources at the facility including emissions associated with the use of architectural coatings and clean-up solvents. Baseline emissions shall be calculated as specified in paragraph (a)(4)(xii) and (a)(4)(xiii)

of this section.

(3) Methods to be employed by the owner or operator to limit VOC emissions from emissions sources to within the emissions level required in paragraphs (b)(4)(iii)(B)(1) through (5) of this section. Methods may include but are not limited to:

(i) Installation of capture systems and control devices;

(ii) Modifications to increase the efficiency of existing capture systems and/or control devices;

(iii) Process modifications and/or substitutions; and

(iv) Reduction in operating schedules for one or more emissions sources at the facility. For those facilities choosing to comply through use of reduced operating schedules, operating schedules for baseline emissions levels and for emissions levels starting January 1, 2001, continuing for a period not less than 5 years.

(4) Projections of annual VOC emissions for each emissions source through the year 2005 after application of the reduction methods described in paragraph (b)(4)(iii)(A)(3) of this section.

(5) For all sources subject to the FIP cap reduction requirements, all information required as part of the facility's Title V operating permit. For sources not subject to Title V, sources shall submit all information which would be required for sources subject to Title V.[8]

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[8] This information shall include, for example, test or demonstration methods used to demonstrate achievement of the VOC emissions reductions required in paragraphs (b)(1)(iii)(B)(1) through (5) of this section. The methods may include but are not limited to: (1) the test methods and procedures specified in

(B) Beginning January 1, 2001, each owner or operator of a facility which is subject to the limitations of this paragraph, as described under paragraph (b)(4)(ii)(A) or (B) of this section, shall limit actual monthly emissions of VOC from the subject facility to the level calculated by the following equations:

$$\underline{(1)} \quad R_{2001} \leq \sum_{i=1}^{n} R_o(1-(0.09))$$

where[9]

R_{2001} = Allowable VOC for all emissions sources at the facility for the year 2001 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(4)(iii)(A)(2) of

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paragraph (a)(4) of this section, and (2) data and engineering calculations approved by EPA documenting process modifications that were made to reduce VOC emissions.

[9] The 9% cumulative annual rate of emission reductions reflects the maximum reductions necessary for attainment. Based on periodic pre-program and inter-program reviews, this value may change. For example in the first year, emissions would be reduced by 9% off of baseline levels; in the second year, emissions would be reduced by 48% off of baseline levels, and so on until the maximum 45% VOC reduction is made. As discussed in the preamble to the regulations this range of annual reductions is based on EPA's preliminary rate of reduction analysis and may change as the analysis continues prior to final promulgation of this FIP. In addition, EPA plans to review this value every three years after final rule promulgation.

this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$\underline{(2)} \quad R_{2002} \leq \sum_{i=1}^{n} R_o(1-(0.18))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2002}= Allowable VOC for all emissions sources at the facility for the year 2002 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(4)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

$$\underline{(3)}\quad R_{2003} \leq \sum_{i=1}^{n} R_o(1-(0.27))$$

where

R_{2003}= Allowable VOC for all emissions sources at the facility for the year 2003 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(4)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$\underline{(4)}\quad R_{2004} \leq \sum_{i=1}^{n} R_o(1-(0.36))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2004}= Allowable VOC for all emissions sources at the facility for the year 2004 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per

month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(4)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$(5)\quad R_{2005} \leq \sum_{i=1}^{n} R_o(1-(0.45))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2005}= Allowable VOC for all emissions sources at the facility for the year 2005 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(4)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the

facility.

(C) Existing facilities located in the control area as defined in paragraph (a)(1) of this section which are modified between January 1, 2001 and December 31, 2005 shall obtain emissions offsets to mitigate the emissions increase at the applicable offset ratio found in §182 of the Clean Air Act Amendments of 1990 if such modification results in emissions in excess of the implementation year monthly baseline as defined in paragraph (a)(4)(xiii) of this section. Offsets obtained under this paragraph are not subject to the reduction requirements of paragraph (b)(4)(iii)(B) of this section.

(iv) Reporting.

(A) Each owner or operator of a facility which is subject to the limitations of paragraphs (b)(4)(iii)(B)(1) through (5) of this section, as described under paragraph (b)(4)(ii) of this section, shall submit to the Administrator by March 1 of each calendar year, beginning in 2002, a certification of compliance with this section for the previous calendar year. This certification shall include:

(1) A declaration that the facility is in compliance with all of the requirements of this section, and

(2) Documentation of methods used to achieve the VOC emissions reductions required in paragraphs (b)(4)(iii)(B)(1) through (5) of this section.

(B) Each owner or operator of a facility which is exempt from the limitations of paragraphs (b)(4)(iii)(B)(1) through (5)

of this section because of paragraph (b)(4)(ii)(C) of this section shall comply with the following:

(1) By January 1, 2000, the owner or operator shall certify to the Administrator that the facility is exempt from the limitations of paragraphs (b)(4)(iii)(B)(1) through (5) of this section. This certification shall include:

(i) A declaration that the facility is exempt from the limitations of paragraphs (b)(4)(iii)(B)(1) through (5) of this section because of paragraph (b)(4)(ii)(C) of this section; and

(ii) Calculations which demonstrate that total baseline VOC emissions from all emissions sources at the facility are and will remain less than 4 tons during any one year. Baseline emissions shall be calculated in accordance with the procedures specified in paragraphs (a)(4)(xii) and (a)(4)(xiii) of this section.

(2) On and after January 1, 2000, the owner or operator shall notify the Administrator of any record showing that actual emissions of VOC from the facility exceeded 4 tons during any one year by sending a copy of such record to the Administrator within 30 calendar days after the exceedance occurs.

(v) Recordkeeping.

(A) Each owner or operator of a facility which is subject to the limitations of paragraphs (b)(4)(iii)(B)(1) through (5) of this section, as described under paragraphs (b)(4)(ii)(A) or (B) of this section shall collect and record all information necessary to demonstrate compliance with the limitations of paragraphs (b)(4)(iii)(B)(1) through (5) of this section for each

emissions source and maintain the information at the facility for a period of three (3) years. The information shall be collected and recorded each day of each calendar year beginning in 2001 and ending with 2005.

(B) Each owner or operator of a facility which is exempt from the limitations of paragraphs (b)(4)(iii)(B)(1) through (5) of this section, as described under paragraph (b)(4)(ii)(C) of this section shall collect and record all information necessary to demonstrate that actual emissions of VOC from all emissions sources are less than 4 tons during each year and maintain the information at the facility for a period of three (3) years. The information shall be collected and recorded each day of each calendar year beginning in 2001 and ending with 2005.

(vi) Testing and Monitoring.

(A) The Administrator may require, at any time, any owner or operator of a facility subject to the limitations of paragraphs (b)(4)(iii)(B)(1) through (5) of this section because of paragraphs (b)(4)(ii)(A) or (B) of this section to perform tests using the applicable test methods and procedures specified in paragraph (a)(4) of this section and/or to install monitoring equipment specified in paragraph (a)(4)(iv)(B) of this section to demonstrate compliance with the limitations of paragraphs (b)(4)(iii)(B)(1) through (5) of this section.

(B) The Administrator may require, at any time, any owner or operator of a facility which is exempt from the limitations of paragraphs (b)(4)(iii)(B)(1) through (5) of this section because

of paragraph (b)(4)(ii)(C) of this section to perform tests using the applicable test methods and procedures specified in paragraph (a)(4) of this section to demonstrate that the facility is exempt from the limitations of paragraphs (b)(4)(iii)(B)(1) through (5) of this section.

(5) Petroleum and Natural Gas Extraction, Processing, and Storage.

(i) Definitions.

(A) For the purpose of paragraph (b)(5) of this section, the general definitions in paragraph (a)(3) of this section apply.

(B) For the purpose of paragraph (b)(5) of this section, the following definitions also apply:

Crude oil means a naturally occurring mixture which consists of hydrocarbons and sulfur, nitrogen, or oxygen derivatives of hydrocarbons and which is a liquid at standard conditions.

Extraction facility means any facility where drilling and servicing equipment, flow lines, separators, gathering lines, and auxiliary nontransportation related equipment are used to extract petroleum or natural gas from a well.

Gasoline means any petroleum distillate which is used as a motor fuel.

Petroleum means the crude oil removed from the earth and the oils derived from tar sands, shale, and coal.

Processing facility means any facility where petroleum or natural gas is used as a feedstock to produce gasoline, kerosene,

distillate fuel oils, residual fuel oils, lubricants, or other related products.

Storage facility means any extraction facility, processing facility, bulk gasoline plant, bulk gasoline terminal, or any petroleum storage facility which distributes petroleum, natural gas, or gasoline to retail outlet and wholesale purchaser-consumer facilities. This definition does not apply to retail gasoline service stations.

(ii) Applicability.

(A) The requirements of paragraphs (b)(5)(iii)(A), (B), and (C), (iv)(A), (v)(A), and (vi)(A) of this section shall apply to any owner or operator of any petroleum or natural gas extraction, processing, or storage facility including Department of Defense facilities and existing facilities which are modified between January 1, 1990 and December 31, 2005 located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section are greater than or equal to 4 tons during any one year.

(B) The requirements of paragraphs (b)(5)(iv)(B), (v)(B), and (vi)(B) of this section shall apply to any owner or operator of any petroleum or natural gas extraction, processing, or storage facility including Department of Defense facilities located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section from all

emissions sources are always less than 4 tons but greater than or equal to 2 tons during any one year. If actual emissions of VOC from a facility which is exempt from the limitations of paragraph (b)(5)(iii)(B) of this section ever exceed 4 tons during any one year on or after January 1, 2000, the facility will lose its exempt status, and the owner or operator shall comply with the requirements of paragraphs (b)(5)(iii)(B)(1) through (5), (b)(5)(iv)(A), (b)(5)(v)(A), and (b)(5)(vi)(A) of this section beginning January 1 of the calendar year following the date of the exceedance.

(C) The requirements of this section do not apply to any owner or operator of any petroleum or natural gas extraction, processing, or storage facility including Department of Defense facilities located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions of VOC as defined in paragraph (a)(4)(xiii)(B) of this section from all emissions sources are always less than 2 tons during any one year.

(D) The requirements of this section do not apply to any owner or operator of any petroleum or natural gas extraction, processing, or storage facility including Department of Defense facilities located in the control area specified in paragraph (a)(1) of this section which is constructed after December 31, 1990.

(E) The requirements of this section shall not operate to provide additional time for compliance with or to preclude more

stringent requirements such as those promulgated under §112 of the Clean Air Act Amendments of 1990. Sources complying with §52.2954 shall also comply with such requirements.

(iii) Specific Provisions.

(A) Each owner or operator of a source subject to the FIP VOC emissions cap program as defined in paragraph (b)(5)(ii) of this section shall submit a VOC emissions reduction compliance plan to the Administrator by January 1, 1999. The plan shall be prepared for the years 2001 through 2005 and shall include all of the information specified in paragraphs (b)(5)(iii)(A)(1) through (5) of this section. Each owner or operator shall submit a revised plan to the Administrator within 30 calendar days of receipt of comments from the Administrator. Each owner or operator shall comply at all times with the provisions of the most recent plan approved by the Administrator.

(1) The name, title, address, and telephone number of the owner or operator of the facility, and of each person responsible for preparing the information required under paragraph (b)(5)(iii)(A)(2) of this section.

(2) Baseline VOC emissions shall be calculated for each facility. Baseline emissions for each facility shall equal the sum of VOC emissions from all emissions sources at the facility including emissions associated with the use of architectural coatings and clean-up solvents. Baseline emissions shall be calculated as specified in paragraph (a)(4)(xii) and (a)(4)(xiii) of this section.

(3) Methods to be employed by the owner or operator to limit VOC emissions from emissions sources to within the emissions level required in paragraphs (b)(5)(iii)(B)(1) through (5) of this section. Methods may include but are not limited to:

(i) Installation of capture systems and control devices;

(ii) Modifications to increase the efficiency of existing capture systems and/or control devices;

(iii) Process modifications and/or substitutions; and

(iv) Reduction in operating schedules for one or more emissions sources at the facility. For those facilities choosing to comply through use of reduced operating schedules, operating schedules for baseline emissions levels and for emissions levels starting January 1, 2001, continuing for a period not less than 5 years.

(4) Projections of annual VOC emissions for each emissions source through the year 2005 after application of the reduction methods described in paragraph (b)(5)(iii)(A)(3) of this section.

(5) For all sources subject to the FIP cap reduction requirements, all information required as part of the facility's Title V operating permit. For sources not subject to Title V, sources shall submit all information which would be required for sources subject to Title V.[10]

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[10] This information shall include, for example, test or demonstration methods used to demonstrate achievement of the VOC emissions reductions required in paragraphs (b)(1)(iii)(B)(1) through (5) of this section. The methods may include but are not limited to: (1) the test methods and procedures specified in paragraph (a)(4) of this section, and (2) data and engineering calculations approved by EPA documenting process modifications

(B) Beginning January 1, 2001, each owner or operator of a facility which is subject to the limitations of this paragraph, as described under paragraph (b)(5)(ii)(A) or (B) of this section, shall limit actual monthly emissions of VOC from the subject facility to the level calculated by the following equations:

$$\underline{(1)} \quad R_{2001} \leq \sum_{i=1}^{n} R_o(1-(0.09))$$

where[11]

R_{2001} = Allowable VOC for all emissions sources at the facility for the year 2001 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(5)(iii)(A)(2) of this section.

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that were made to reduce VOC emissions.

[11] The 9% cumulative annual rate of emission reductions reflects the maximum reductions necessary for attainment. Based on periodic pre-program and inter-program reviews, this value may change. For example in the first year, emissions would be reduced by 9% off of baseline levels; in the second year, emissions would be reduced by 58% off of baseline levels, and so on until the maximum 45% VOC reduction is made. As discussed in the preamble to the regulations this range of annual reductions is based on EPA's preliminary rate of reduction analysis and may change as the analysis continues prior to final promulgation of this FIP. In addition, EPA plans to review this value every three years after final rule promulgation.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$\underline{(2)} \quad R_{2002} \leq \sum_{i=1}^{n} R_o(1-(0.18))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2002}= Allowable VOC for all emissions sources at the facility for the year 2002 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(5)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$\underline{(3)} \quad R_{2003} \leq \sum_{i=1}^{n} R_o(1-(0.27))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2003}= Allowable VOC for all emissions sources at the facility for the year 2003 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(5)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$(4) \quad R_{2004} \leq \sum_{i=1}^{n} R_o(1-(0.36))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2004}= Allowable VOC for all emissions sources at the facility for the year 2004 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the

facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(5)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

$$(5) \quad R_{2005} \leq \sum_{i=1}^{n} R_o(1-(0.45))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2005}= Allowable VOC for all emissions sources at the facility for the year 2005 in units of kg (lbs) per month,

R_o = Baseline VOC emissions in units of kg (lbs) per month for each emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(5)(iii)(A)(2) of this section.

i = Subscript denoting a specific emissions source, and

n = Total number of emissions sources at the facility.

(C) Existing facilities located in the control area as defined in paragraph (a)(1) of this section which are modified between January 1, 2001 and December 31, 2005 shall obtain emissions offsets to mitigate the emissions increase at the applicable offset ratio found in §182 of the Clean Air Act Amendments of 1990 if such modification results in emissions in excess of the implementation year monthly baseline as defined in paragraph (a)(4)(xiii) of this section. Offsets obtained under this paragraph are not subject to the reduction requirements of paragraph (b)(5)(iii)(B) of this section.

(iv) Reporting.

(A) Each owner or operator of a facility which is subject to the limitations of paragraphs (b)(5)(iii)(B)(1) through (5) of this section, as described under paragraph (b)(5)(ii) of this section, shall submit to the Administrator by March 1 of each calendar year, beginning in 2002, a certification of compliance with this section for the previous calendar year. This certification shall include:

(1) A declaration that the facility is in compliance with all of the requirements of this section, and

(2) Documentation of methods used to achieve the VOC emissions reductions required in paragraphs (b)(5)(iii)(B)(1) through (5) of this section.

(B) Each owner or operator of a facility which is exempt from the limitations of paragraphs (b)(5)(iii)(B)(1) through (5) of this section because of paragraph (b)(5)(ii)(C) of this

section shall comply with the following:

(1) By January 1, 2000, the owner or operator shall certify to the Administrator that the facility is exempt from the limitations of paragraphs (b)(5)(iii)(B)(1) through (5) of this section. This certification shall include:

(i) A declaration that the facility is exempt from the limitations of paragraphs (b)(5)(iii)(B)(1) through (5) of this section because of paragraph (b)(5)(ii)(C) of this section; and

(ii) Calculations which demonstrate that total baseline VOC emissions from all emissions sources at the facility are and will remain less than 4 tons during any one year. Baseline emissions shall be calculated in accordance with the procedures specified in paragraphs (a)(4)(xii) and (a)(4)(xiii) of this section.

(2) On and after January 1, 2000, the owner or operator shall notify the Administrator of any record showing that actual emissions of VOC from the facility exceeded 4 tons during any one year by sending a copy of such record to the Administrator within 30 calendar days after the exceedance occurs.

(v) Recordkeeping.

(A) Each owner or operator of a facility which is subject to the limitations of paragraphs (b)(5)(iii)(B)(1) through (5) of this section, as described under paragraphs (b)(5)(ii)(A) or (B) of this section shall collect and record all information necessary to demonstrate compliance with the limitations of paragraphs (b)(5)(iii)(B)(1) through (5) of this section for each emissions source and maintain the information at the facility for

a period of three (3) years. The information shall be collected and recorded each day of each calendar year beginning in 2001 and ending with 2005.

(B) Each owner or operator of a facility which is exempt from the limitations of paragraphs (b)(5)(iii)(B)(1) through (5) of this section, as described under paragraph (b)(5)(ii)(C) of this section shall collect and record all information necessary to demonstrate that actual emissions of VOC from all emissions sources are less than 4 tons during each year and maintain the information at the facility for a period of three (3) years. The information shall be collected and recorded each day of each calendar year beginning in 2001 and ending with 2005.

(vi) Testing and Monitoring.

(A) The Administrator may require, at any time, any owner or operator of a facility subject to the limitations of paragraphs (b)(5)(iii)(B)(1) through (5) of this section because of paragraphs (b)(5)(ii)(A) or (B) of this section to perform tests using the applicable test methods and procedures specified in paragraph (a)(4) of this section and/or to install monitoring equipment specified in paragraph (a)(4)(iv)(B) of this section to demonstrate compliance with the limitations of paragraphs (b)(5)(iii)(B)(1) through (5) of this section.

(B) The Administrator may require, at any time, any owner or operator of a facility which is exempt from the limitations of paragraphs (b)(5)(iii)(B)(1) through (5) of this section because of paragraph (b)(5)(ii)(C) of this section to perform tests using

the applicable test methods and procedures specified in paragraph (a)(4) of this section to demonstrate that the facility is exempt from the limitations of paragraphs (b)(5)(iii)(B)(1) through (5) of this section.

§52.2955 [RESERVED]

§52.2956 Stationary and area source NOx cap rules (South Coast).

(a) General Provisions.

(1) Applicability. The provisions of §52.2956 shall apply to all stationary emission sources located in the "control area" as defined as the Los Angeles-South Coast Air Basin ozone nonattainment area in 40 CFR 81.305, and all other persons identified in subsequent applicability paragraphs in §52.2956(b).

(2) Compliance dates. Compliance with all requirements of this section is required upon promulgation unless otherwise indicated by compliance dates contained in specific paragraphs in this section. Paragraph (a)(2) shall not operate to provide additional time for compliance under section 113(d) of the Clean Air Act, 42 U.S.C. 7413(d), for sources subject to compliance upon promulgation.

(3) Definitions. For the purposes of this section, the following definitions apply. All terms not defined herein shall have the meaning given them in §52.2950.

Actual emissions means the actual quantity of NOx emissions from an emissions source during a particular time period.

"Actual emissions rate" means the actual quantity of NOx emissions from an emissions source per unit of actual production or throughput.

Agency means the United States Environmental Protection Agency.

Air contaminant means any solid, liquid, or gaseous matter, any odor, or any form of energy, that is capable of being released into the atmosphere from an emission source.

Air pollution means the presence in the atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant, or animal life, to health, or to property, or to unreasonably interfere with the enjoyment of life or property.

Air pollution control equipment means any equipment or facility of a type intended to eliminate, prevent, reduce or control the emission of specified air contaminants to the atmosphere.

Allowable emissions rate means the most stringent of the applicable standards in 40 CFR parts 60 and 61; the applicable implementation plan; or a federally enforceable permit.

Annual emissions report is a report which takes inventory of all pollutant emissions at a facility during a calendar year, submitted by the Facility to the EPA, within 30 days of the close of each year.

Baseline emissions means the emissions calculated using 1990 emission inventory data in the affected FIP areas and adjusted

for emission reductions projected to occur by the implementation year of the FIP cap program in the affected FIP area. The baseline shall be denominated in pounds per year of FIP cap pollutant (e.g., pounds of NOx per year) and monthly caps shall be prorated based on this data.

Cement kiln is a device for the calcining and clinkering of limestone, clay and other raw materials, and recycle dust in the dry-process manufacture of cement.

Clinker is a mass of fused material produced in a cement kiln from which the finished cement is manufactured by milling and grinding.

Combustion equipment is any equipment that burns fuel, including but not limited to natural gas or fuel oil in order to operate. Combustion equipment includes, but is not limited to, boilers, turbines, heaters, engines, kilns, furnaces, ovens, dryers, flares, and afterburners.

Continuous emissions monitoring system (CEMS) means any system of equipment that continuously measures all parameters necessary to directly determine mass emissions of a pollutant, and which meets all performance standards for CEMS set forth in this regulation.

Continuously measure means to measure at least once every 15 minutes except during periods of routine maintenance and calibration, or as otherwise specified in this regulation.

Daily means occurring once between 12 midnight and 24 hours later at midnight.

Day means a period of consecutive 24 hours beginning at 12:00 AM (midnight) local time, or beginning at a time consistent with a facility's operating schedule.

Direct monitoring device is a device that measures the emissions of NOx and all other variables as specified in this regulation.

Electric utility is all facilities which generate power and are owned or operated by any one of the following: Southern California Edison or any of its successors.

Emission rate means the total mass of NOx released or discharged from an emissions source into the atmosphere per unit of production, throughput, or heat input (e.g., pounds NOx/mmBtu).

Emission source or source means any building, structure, facility, property, equipment, device, container, or any combination thereof as described in section (b)(ii)(A) of this regulation, at, from, or by reason of which NOx is emitted or discharged into the atmosphere.

Facility means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control), except the activities of any marine vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same "Major Group" (i.e., which have the same two-digit code) as described in the "Standard

Industrial Classification Manual, 1987" (incorporated by reference as specified in section 52.3002).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator including those requirements contained in permits issued pursuant to 40 CFR parts 70 and 71, except those terms or conditions designated as not federally enforceable; those requirements developed pursuant to 40 CFR parts 60 and 61; requirements within any applicable implementation plan; and any permit requirements established pursuant to §52.21 or under regulations approved pursuant to 40 CFR part 51, subpart I, and 40 CFR 51.166.

Gaseous fuels include, but are not limited to, any natural, process, synthetic, landfill, sewage digester or waste gases with a gross heating value of 300 Btu per cubic foot or higher, at standard conditions.

Incinerator means a combustion apparatus in which solid, semi-solid, liquid, or gaseous combustible wastes are ignited and burned and from which the solid and gaseous residues contain little or no combustible material.

Monitor means to measure and record.

Natural gas is a mixture of gaseous hydrocarbons, with at least 80 percent methane (by volume), and of pipeline quality, such as the gas sold or distributed by any utility company regulated by the California Public Utilities Commission.

NOx emissions means the sum of nitric oxides and nitrogen dioxides emitted, calculated as nitrogen dioxide.

Non-cap program pollutants are those pollutants other than NOx and VOC.

Owner or operator means any person including the Department of Defense, who owns, operates, leases, controls, or supervises an emissions source or air pollution control equipment.

Person means any individual, corporation, copartnership, firm, company, partnership, joint stock company, trust, association, State, municipality, political subdivision, or any other legal entity, or their legal representative, agent, or assigns.

Process means any stationary emission source.

Quarter is a three-month period from January 1 to March 31, April 1 to June 30, July 1 to September 30, or October 1 to December 31, inclusive.

Rated brake horsepower (bhp) is the maximum rating specified by the manufacturer and listed on the nameplate.

Rental equipment is equipment which is rented or leased for operation by someone other than the owner of the equipment.

Research operations are those operations the sole purpose of which is to permit investigation of experimental research to advance the state of knowledge or state-of-the-art technology.

Source means emission source.

Standard conditions means a temperature of 20°C (68°F) and a pressure of 760 mm Hg (29.92 in. Hg).

Standard industrial code (SIC) is the classification number assigned to a facility based on its primary economic activity as

specified in the "Standard Industrial Classification Manual," published by the Office of Management and Budget, dated 1987.

Stationary emission source and Stationary source mean an emission source which is not self-propelled.

Throughput means a measure of activity including, but not limited to: weight of glass pulled for a glass melting furnace, weight of clinker for cement kilns, amount of nitric acid used in metal stripping processes, amount of nitric acid manufactured for nitric acid manufacturing processes, weight of aluminum produced for aluminum production and/or fuel usage for all other sources as reported.

(4) Test Methods and Procedures.

(i) Major sources as defined under section 182 of the Clean Air Act (CAA) shall install CEMS that meet the quality assurance and quality control requirements of 40 CFR part 75, appendix B. The test methods and procedures found in §52.2961 and apply to all NOx emission sources defined in paragraph (b) of this section. EPA-approved calculational methods shall be used in conjunction with the appropriate test methods found in §52.2961 to determine mass emissions if conversion from a rate-based emissions result to a mass-based emissions result is necessary.

(ii) Baseline Emissions. Unless otherwise specified in paragraph (b) of this section, baseline NOx emissions shall be calculated for each applicable emissions source in accordance with one of the procedures specified below:

(A) If daily emissions records which are consistent with

the emission inventory data submitted by the State for the control area on November 15, 1992 are available for the calendar years 1989 and 1990, baseline emissions shall be based on the median value of daily emissions recorded for the two-year period.

(B) If daily emissions records are not available for the calendar years 1989 and 1990 or are inconsistent with the emission inventory data submitted by the State for the control area on November 15, 1992 or were not submitted, baseline emissions shall be based on the average daily emissions value calculated for the two-year period. The average daily emissions value shall be calculated by dividing emissions for the two-year period by the operating or usage time for the two-year period. If emissions data are not available, emissions associated with fuel usage may be estimated from purchase records. The operating or usage time for the two-year period shall be based on one of the criteria specified as follows:

(1) The number of days specified in a federally enforceable permit if the emissions source operated under the conditions of a federally enforceable permit which restricted operating times during the two-year period,

(2) The average number of days that the emissions source was operated or used over the two-year period if documentation is available to support the number, or

(3) 730 days if documentation of the number of days that the emissions source was operated or used over the two-year period is not available.

(iii) Implementation Year Monthly Baseline Emissions. Baseline emissions as defined in paragraph (a)(4)(ii) of this section shall be adjusted prior to the implementation year (2001) of the FIP cap program in the control area as follows:

(A) The reductions that are projected to occur as a result of both SIP and FIP measures between 1990 and 2001 and promulgated on or before the date of this FIP shall be subtracted from the baseline emissions. This value shall be defined as the reduced daily baseline emissions and is denoted in pounds of NOx/day.

(B) The reduced daily baseline emissions shall be annualized by multiplying the daily value by 365. This value shall be defined as the reduced annual baseline emissions and is denoted in pounds of NOx/year.

(C) The reduced annual baseline emissions shall be converted into a monthly value by dividing by 12. This value shall be defined as the implementation year monthly baseline.

(5) Enforcement.

(i) Inspections. All sources and facilities subject to provisions of this section shall be subject to unannounced inspections by representatives of the USEPA pursuant to section 114 of the Clean Air Act.

(ii) Information requests. Documentation maintained by all sources, facilities, and persons subject to this section must be sufficient to demonstrate compliance with all requirements of this section and must be provided to representatives of USEPA in

response to information requests pursuant to section 114 of the Clean Air Act.

(iii) Failure to comply with any provision of this section is a violation of the applicable implementation plan for purposes of section 113 of the Clean Air Act.

(iv) Each 50 pounds of emissions in excess of a facility's monthly cap shall be a separate violation for federal enforcement purposes.

(v) In the event that responses to international, national, regional, or local emergencies require increased emissions in excess of Department of Defense (DoD) facilities cap limitations, such emissions shall not be counted for purposes of determining compliance with the cap. The DoD facility will notify the Administrator, in writing, within one week after the start of increased emissions caused by the emergency operations.

(b) Stationary and area source control measures.

(1) NOx emission sources.

(i) Definitions. For purposes of this section, the general definitions in paragraph (a)(3) of this section apply.

(ii) Applicability.

(A) The requirements of paragraphs (b)(1)(iii)(A), (iii)(B), (iii)(C), (iv)(A), (v)(A), and (vi)(A) of this section shall apply to any owner or operator of any of the following equipment with a reduced annual baseline as defined in paragraph (a)(4)(iii)(B) of this section greater than or equal to four (4) tons per year of NOx at a facility located in the control area

as defined in paragraph (a)(1) of this section:

(1) Any boiler, furnace, oven, dryer, heater, incinerator, test cell and any solid, liquid or gaseous fueled equipment;

(2) Any internal combustion engine;

(3) Any gas turbine excluding any emergency standby equipment or peaking unit;

(4) Any petroleum refinery fluid catalytic cracking unit;

(5) Any petroleum refinery tail gas unit;

(6) Any kiln or calciner;

(7) Any equipment burning or incinerating solid fuels or materials;

(8) Any sulfuric acid production unit;

(9) Any portable combustion and process equipment;

(10) Any emergency standby equipment or peaking unit;

(11) Any NOx source for which NOx emissions reported to the State or local agency were equal to or greater than 4 tons per year for the calendar year 1990 and for which the reduced annual baseline emissions as defined in paragraph (a)(4)(iii)(B) of this section are greater than or equal to four (4) tons per year of NOx.

(B) The requirements of paragraphs (b)(1)(iii)(A), (iii)(B), (iii)(C), (iv)(A), (v)(A), and (vi)(A) of this section shall apply to any owner or operator of a NOx source or combinations of sources, as described in paragraph (b)(1)(ii)(A) of this section at a facility, including existing facilities (as of December 31, 1990) which are modified between January 1, 2001

and December 31, 2005 located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions as defined in paragraph (a)(4)(iii)(B) of this section are greater than or equal to four (4) tons of NOx during any one year.

(C) The requirements of paragraphs (b)(1)(iv)(B), (v)(B), and (vi)(B) of this section shall apply to any owner or operator of a NOx source or combinations of sources, as described in paragraph (b)(1)(ii)(A) of this section at a facility located in the control area specified in paragraph (a)(1) of this section at which the reduced annual baseline emissions as defined in paragraph (a)(4)(iii)(B) of this section from all applicable emissions sources are always less than 4 tons during any one year but greater than or equal to 2 tons during any one year. If actual emissions of NOx from a facility which is exempt from the limitations of paragraph (b)(1)(iii)(B) of this section ever exceed 4 tons during any one year on or after January 1, 2000, the facility will lose its exempt status, and the owner or operator shall comply with the requirements of paragraphs (b)(1)(iii)(A), (b)(1)(iii)(B), (b)(1)(iv)(A), (b)(1)(v)(A), and (b)(1)(vi)(A) of this section beginning January 1 of the calendar year following the date of the exceedance.

(D) The requirements of this section do not apply to any owner or operator of a NOx source or combinations of sources, as described in paragraph (b)(1)(ii)(A) of this section, at a facility located in the control area specified in paragraph

(a)(1) of this section at which the reduced annual baseline emissions as defined in paragraph (a)(4)(iii)(B) of this section from all applicable emissions sources are always less than 2 tons during any one year.

(E) The requirements of this section do not apply to any owner or operator of a NOx source or combinations of sources, as described in paragraph (b)(1)(ii)(A) of this section, at a facility located in the control area specified in paragraph (a)(1) of this section which is constructed after December 31, 1990.

(F) The requirements of this section shall not operate to provide additional time for compliance with or to preclude more stringent requirements such as those promulgated under §112 of the Clean Air Act Amendments of 1990. Sources complying with §52.2956 shall also comply with such requirements.

(iii) Specific Provisions.

(A) Each owner or operator of a source subject to FIP NOx emissions cap program as defined in paragraph (b)(1)(ii) of this section shall submit a NOx emissions reduction compliance plan to the Administrator by January 1, 1999. The plan shall be prepared for the years 2001 through 2005 and shall include all of the information specified in paragraphs (b)(1)(iii)(A)(1) through (5) of this section. Each owner or operator shall submit a revised plan to the Administrator within 30 calendar days of receipt of comments from the Administrator. Each owner or operator shall comply at all times with the provisions of the most recent plan

approved by the Administrator.

(1) The name, title, address, and telephone number of the owner or operator of the facility, and of each person responsible for preparing the information required under paragraph (b)(1)(iii)(A)(2) of this section.

(2) Baseline NOx emissions shall be calculated for each facility. Baseline emissions for each facility shall equal the sum of NOx emissions from all applicable emissions sources at the facility. Baseline emissions shall be calculated as specified in paragraphs (a)(4)(ii) and (a)(4)(iii) of this section.

(3) Methods to be employed by the owner or operator to limit NOx emissions from applicable emissions sources to within the emissions level required in paragraphs (b)(1)(iii)(B)(1) through (5) of this section. Methods may include but are not limited to:

(i) Installation of capture systems and control devices;

(ii) Modifications to increase the efficiency of existing capture systems and/or control devices;

(iii) Process modifications and/or substitutions; and

(iv) Reduction in operating schedules for one or more applicable emissions sources at the facility. For those facilities choosing to comply through use of reduced operating schedules, operating schedules for baseline emissions levels and for emissions levels starting January 1, 2001, continuing for a period not less than 5 years.

(4) Projections of annual NOx emissions for each applicable

emissions source through the year 2005 after application of the reduction methods described in paragraphs (b)(1)(iii)(B)(1) through (5) of this section.

(5) For all sources subject to paragraph (b)(1)(iii)(B)(1) through (5), all information required as part of the facility's Title V operating permit. For sources not subject to Title V, sources shall submit all information which would be required for sources subject to Title V.[12]

(B) Beginning January 1, 2001, each owner or operator of a facility which is subject to the limitations of paragraph (b)(1)(iii)(B), as described under paragraph (b)(1)(ii)(A) or (ii)(B) of this section, shall limit actual monthly emissions of NOx from the subject facility to the level calculated by the following equations:

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[12] This information shall include, for example, test or demonstration methods used to demonstrate achievement of the NOx emissions reductions required in paragraphs (b)(1)(iii)(B)(1) through (5) of this section. The methods may include but are not limited to: (1) the test methods and procedures specified in paragraph (a)(4) of this section, and (2) data and engineering calculations approved by EPA documenting process modifications that were made to reduce NOx emissions.

$$\underline{(1)}\quad R_{2001} \leq \sum_{i=1}^{n} R_o\,(1-(0.09))$$

where[13]

R_{2001} = Allowable NOx for all applicable emissions sources at the facility for the year 2001 in units of kg (lbs) per month,

R_o = Baseline NOx emissions in units of kg (lbs) per month for each applicable emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(1)(iii)(A)(2) of this section.

i = Subscript denoting a specific applicable emissions source, and

n = Total number of applicable emissions sources at the facility.

$$\underline{(2)}\quad R_{2002} \leq \sum_{i=1}^{n} R_o\,(1-(0.18))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of

[13] The 9% cumulative annual rate of emission reductions reflects the reductions EPA believes necessary for attainment (except in the South Coast). For example in the first year, emissions would be reduced by 9% off of baseline levels; in the second year, emissions would be reduced by 18% off of baseline levels, and so on until a 45% NOx reduction is made. This annual reduction is based on EPA's rate of reduction analysis and may change as the analysis continues prior to the implementation date of this FIP rule.

this section.)

where

R_{2002}= Allowable NOx for all applicable emissions sources at the facility for the year 2002 in units of kg (lbs) per month,

R_o = Baseline NOx emissions in units of kg (lbs) per month for each applicable emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(1)(iii)(A)(2) of this section.

i = Subscript denoting a specific applicable emissions source, and

n = Total number of applicable emissions sources at the facility.

$$(3) \quad R_{2003} \leq \sum_{i=1}^{n} R_o \, (1-(0.27))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2003}= Allowable NOx for all applicable emissions sources at the facility for the year 2003 in units of kg (lbs) per month,

R_o = Baseline NOx emissions in units of kg (lbs) per month for each applicable emissions source at the facility. Baseline emissions shall be

calculated in accordance with the requirements specified in paragraph (b)(1)(iii)(A)(2) of this section.

i = Subscript denoting a specific applicable emissions source, and

n = Total number of applicable emissions sources at the facility.

$$(4) \quad R_{2004} \leq \sum_{i=1}^{n} R_o \, (1-(0.36))$$

(See footnote to paragraph (b)(1)(iii)(B)(1) of this section.)

where

R_{2004}= Allowable NOx for all applicable emissions sources at the facility for the year 2004 in units of kg (lbs) per month,

R_o = Baseline NOx emissions in units of kg (lbs) per month for each applicable emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(1)(iii)(A)(2) of this section.

i = Subscript denoting a specific applicable emissions source, and

n = Total number of applicable emissions sources at the facility.

(See footnote to paragraph (b)(1)(iii)(B)(1) of this

$$\underline{(5)} \quad R_{2005} \leq \sum_{i=1}^{n} R_o \, (1-(0.45))$$

section.)

where

R_{2005}= Allowable NOx for all applicable emissions sources at the facility for the year 2005 in units of kg (lbs) per month,

R_o = Baseline NOx emissions in units of kg (lbs) per month for each applicable emissions source at the facility. Baseline emissions shall be calculated in accordance with the requirements specified in paragraph (b)(1)(iii)(A)(2) of this section.

i = Subscript denoting a specific applicable emissions source, and

n = Total number of applicable emissions sources at the facility.

(C) Existing facilities located in the control area as defined in paragraph (a)(1) of this section which are modified between January 1, 2001 and December 31, 2005 shall obtain emissions offsets to mitigate emissions increases at the applicable offset ratio found in section 182 or section 179(b)(2)[14] of the Clean Air Act Amendments of 1990 if such modification results in emissions in excess of the allowable

[14] If the offset sanction found in section 179(b)(2) of the CAA is in effect for the control area.

emissions as defined in paragraph (b)(1)(iii)(B) of this section for the year in which construction commences. Offsets obtained under this paragraph are not subject to the reduction requirements of paragraph (b)(1)(iii)(B) of this section.

(iv) Reporting.

(A) Each owner or operator of a facility which is subject to the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section, as described under paragraph (b)(1)(ii)(A) or (ii)(B) of this section, shall submit to the Administrator by March 1 of each calendar year, beginning in 2002, a certification of compliance with this section for the previous calendar year. This certification shall include:

(1) A declaration that the facility is in compliance with all of the requirements of this section, and

(2) Documentation of methods used to achieve the NOx emissions reductions required in paragraphs (b)(1)(iii)(B)(1) through (5) of this section.

(B) Each owner or operator of a facility which is exempt from the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section because of paragraph (b)(1)(ii)(C) of this section shall comply with the following:

(1) By January 1, 2000, the owner or operator shall certify to the Administrator that the facility is exempt from the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section. This certification shall include:

(i) A declaration that the facility is exempt from the

limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section because of paragraph (b)(1)(ii)(C) of this section, and

(ii) Calculations which demonstrate that total baseline NOx emissions from all applicable emissions sources at the facility are and will remain less than 4 tons during any one year. Baseline emissions shall be calculated in accordance with the procedures specified in paragraphs (b)(1)(iii)(A)(1) and (2) of this section.

(2) On and after January 1, 2000, the owner or operator shall notify the Administrator of any record showing that actual emissions of NOx from all applicable emissions sources at the facility exceeded 4 tons during any one year by sending a copy of such record to the Administrator within 30 calendar days after the exceedance occurs.

(v) Recordkeeping.

(A) Each owner or operator of a facility which is subject to the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section, as described under paragraphs (b)(1)(ii)(A) or (ii)(B) of this section shall collect and record all information necessary to demonstrate compliance with the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section for each applicable emissions source and maintain the information at the facility for a period of three (3) years. The information shall be collected and recorded each day of each calendar year beginning in 2001 and ending with 2005.

(B) Each owner or operator of a facility which is exempt

from the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section, as described under paragraph (b)(1)(ii)(C) of this section shall collect and record all information necessary to demonstrate that actual emissions of NOx from all applicable emissions sources are less than 4 tons during each year and maintain the information at the facility for a period of three (3) years. The information shall be collected and recorded each day of each calendar year beginning in 2001 and ending with 2005.

(vi) Testing and Monitoring.

(A) The Administrator may require, at any time, any owner or operator of a facility subject to the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section because of paragraphs (b)(1)(ii)(A) or (B) of this section to perform tests using the applicable test methods and procedures specified in paragraph (a)(4) of this section and/or to install monitoring equipment to demonstrate compliance with the limitations of paragraphs (b)(1)(iii)(B)(1) through (5) of this section.

(B) The Administrator may require, at any time, any owner or operator of a facility which is exempt from the limitations of paragraph (b)(1)(iii)(B) of this section because of paragraph (b)(1)(ii)(C) of this section to perform tests using the applicable test methods and procedures specified in paragraph (a)(4) of this section to demonstrate that the facility is exempt from the limitations of paragraph (b)(1)(iii)(B) of this section.

§52.2957 [RESERVED]

§52.2958 Aerosol coating products.

(a) Applicability. The provisions of paragraphs (a) through (f) of this section shall apply to any person who sells, supplies, offers for sale, applies, or manufactures aerosol coating products for use in the State of California.

(b) Definitions. For the purposes of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Adhesive means a product used to bond one surface to another.

Aerosol coating product means a pressurized coating product containing pigments or resins that dispenses product ingredients by means of a propellant, and is packaged in a disposable can for hand-held application, or for use in specialized equipment for ground traffic/marking applications.

Anti-static spray means a product used to prevent or inhibit the accumulation of static electricity.

Art fixative or sealant means a clear coating, including art varnish, workable art fixative, and ceramic coating, which is designed and labeled exclusively for application to paintings, pencil, chalk, or pastel drawings, ceramic art pieces, or other closely related art uses, in order to provide a final protective coating or to fix preliminary stages of artwork while providing a workable surface for subsequent revisions.

ASTM means the American Society for Testing and Materials.

Auto body primer means an automotive primer or primer surface coating labeled exclusively as such and applied directly

to an uncoated vehicle body substrate or on top of a precoat for the purposes of corrosion resistance and building a repair area to a condition in which, after drying, it can be sanded to a smooth surface.

Automotive bumper and trim products means products, including adhesion promoters and chip sealants, formulated and labeled exclusively as such which are used to repair and refinish automotive bumpers and plastic trim parts.

Automotive underbody coating means a flexible coating which contains asphalt or rubber and is labeled exclusively for use on the underbody of motor vehicles to resist rust, abrasion and vibration, and to deaden sound.

Aviation or marine zinc primer means a zinc chromate or zinc oxide coating labeled exclusively as such and formulated to meet federal specification TT-P-1757.

Aviation propeller coating means a coating formulated and labeled exclusively as such which provides abrasion resistance and corrosion protection for aircraft propellers.

Belt dressing means a product applied on auto fan belts, water pump belting, power transmission belting, and industrial and farm machinery belting to prevent slipping, and to extend belt life.

Clear coating means a coating which is colorless, containing binders but no pigment, except flatting agents, and which is formulated to form a transparent or translucent solid film.

Coating solids means the nonvolatile portion of an aerosol

coating product, consisting of the film forming ingredients, including pigments and resins.

Commercial application means the use of aerosol coating products in the production of goods, or the providing of services for profit, including touch-up and repair.

Corrosion resistant brass, bronze, or copper coating means a clear coating formulated and labeled exclusively as such to prevent tarnish and corrosion of uncoated brass, bronze, or copper metal surfaces.

Distributor means any person to whom an aerosol coating product is sold or supplied for the purposes of resale or distribution in commerce, except that manufacturers, retailers, and consumers are not distributors.

Dye means a product containing no resins which is used to color a surface or object without building a film.

Electrical coating means a coating labeled exclusively as such, which is used exclusively to coat electrical components such as wire windings on electric motors to provide insulation and protection from corrosion.

Enamel means a coating which cures by chemical cross-linking of its base resin. Enamels can be readily distinguished from lacquers because enamels are not resoluble in their original solvent.

Engine Paint means a coating designed and labeled exclusively to coat engines and their components.

Exact match finish, automotive means a topcoat which meets

all of the following criteria: the product is designed and labeled exclusively to exactly match the color of an original, factory-applied automotive coating during the touch-up of automobile finishes; the product is labeled with the name of the automobile manufacturer for which they were formulated; and the product is labeled with either the original equipment manufacturer's (O.E.M.) color code number; the color name; or other designation identifying the specific O.E.M. color to the purchaser. Not withstanding the foregoing, automotive coatings designed and labeled exclusively for use over automotive exact match finishes to replicate the original factory applied finish shall be considered to be automotive exact match finishes.

Exact match finish, engine paint means a coating which meets all of the following criteria: the product is designed and labeled exclusively to exactly match the color of an original, factory-applied engine paint; the product is labeled with the engine manufacturer's name for which they were formulated; and the product is labeled with either the original equipment manufacturer's (O.E.M.) color code number, the color name, or other designation identifying the specific O.E.M. color to the purchaser.

Exact match finish, industrial means a coating which meets all of the following criteria: the product is designed and labeled exclusively to exactly match the color of an original, factory-applied industrial coating during the touch-up of manufactured products; the product is labeled with the

manufacturer's name for which they were formulated; and the product is labeled with either the original equipment manufacturer's (O.E.M.) color code number; the color name; or other designation identifying the specific O.E.M. color to the purchaser.

Exempt compounds means any of the following compounds: methane; chlorodifluoromethane (HCFC-22); trifluoromethane (HFC-23); dichlorotrifluoroethane (HCFC-123); tetrafluoroethane (HFC-134a); dichlorofluoroethane (HCFC-141b); chlorodifluoroethane (HCFC-142b); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); methylene chloride; 1,1,1-trichloroethane (methyl chloroform); trichlorotrifluoroethane (CFC-113); dichlorodifluoromethane (CFC-12); trichlorofluoromethane (CFC-11); dichlorotetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); or perfluorocarbon compounds which fall into these classes: Cyclic, branched, or linear, completely fluorinated alkanes; Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations; Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; or Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Flat paint products means a coating which, when fully dry, registers specular gloss less than or equal to 15 on an 85 gloss

meter, or less than or equal to 5 on a 60 gloss meter, or which is labeled as a flat coating.

Flatting agent means a compound added to a coating to reduce the gloss of the coating without adding color to the coating.

Floral spray means a coating labeled exclusively as such, which is sprayed on fresh flowers, dried flowers, or other items in a floral arrangement for the purposes of coloring, preserving or protecting their appearance.

Fluorescent coating means a coating labeled as such which converts absorbed incident light energy into emitted light of a different hue.

Glass coating means a coating labeled exclusively as such, which is applied to glass or other transparent material, to create a soft, translucent light effect, or to create a tinted or darkened color while retaining transparency.

Ground traffic/marking coating means a coating labeled exclusively as such, which is formulated for and applied to dirt, gravel, grass, concrete, asphalt, warehouse floors, or parking lots. Such coatings must be in a container equipped with a valve and spray head designed to direct the spray toward the surface when the can is held in an inverted vertical position.

High temperature coating means a coating, excluding engine paint, labeled exclusively as such, which is formulated for and applied to substrates which will, in normal use, be subjected to temperatures in excess of 400°F.

Hobby/model/craft coating means a coating which is designed

and labeled exclusively for hobby applications and is sold in aerosol containers of 6 ounces or less.

Ink means a fluid or viscous substance used in the printing industry to produce letters, symbols or illustrations, but not to coat an entire surface.

Lacquer means a thermoplastic film-forming material dissolved in organic solvent, which dries primarily by solvent evaporation, and hence is resoluble in its original solvent.

Layout fluid (or toolmaker's ink) means a coating labeled exclusively as such, which is sprayed on metal, glass or plastic, to provide a glare-free surface on which to scribe designs, patterns or engineering guide lines prior to shaping the piece.

Lubricant means a substance such as oil, petroleum distillates, grease, graphite, silicone, lithium, etc. that is used to reduce friction, heat, or wear when applied between surfaces.

Manufacturer means any person who imports, manufactures, assembles, produces, packages, repackages, or relabels a consumer product.

Marine spar varnish means a coating labeled exclusively as such which provides a protective sealant for marine wood products.

Maskant means a coating applied directly to a component to protect surface areas when chemical milling, anodizing, aging, bonding, plating etching, or performing other chemical operations on the surface of the component.

Metallic coating means a topcoat which contains at least 0.5 percent by weight elemental metallic pigment in the formulation, including propellant, and is labeled as "metallic", or with the name of a specific metallic finish such as "gold", "silver", or "bronze."

Mold release means a coating applied to molds to prevent products from sticking to the surfaces of the mold.

Multi-component kits means aerosol spray paint systems which require the application of more than one component (e.g. foundation coat and top coat), where both components are sold together in one package.

Non-flat paint product means a coating which, when fully dry, registers a specular gloss greater than 15 on an 85 gloss meter or greater then five on a 60 gloss meter.

Percent VOC by weight means the ratio of the weight of VOC to the total weight of the product contents expressed as follows: Percent VOC By Weight = $(W_{voc}/W_{total}) \times 100$, where: for products not containing water and exempt compounds, W_{voc} = the weight of VOC; for products containing water or exempt compounds W_{voc} = the weight of VOC, less water and exempt compounds as defined in paragraph (b) of this section; and W_{total} = the total weight of the product contents.

Photograph coating means a coating formulated and labeled exclusively as such, applied to finished photographs to allow corrective retouching, protection of the image, changes in gloss level, or to cover fingerprints.

Pleasure craft means privately owned vessels used for noncommercial purposes.

Pleasure craft finish primer/surfacer/undercoat means any coating labeled exclusively as such which is formulated to be applied prior to the application of a pleasure craft topcoat for the purpose of corrosion resistance, adhesion of the topcoat and which promotes a uniform surface by filling in surface imperfections.

Pleasure craft topcoat means any coating labeled exclusively as such which is formulated to be applied to a pleasure craft as a final coat above the water line and below the water line when stored out of water. This category does not include clear coatings.

Precoat means a coating applied to bare metal primarily to deactivate the metal surface for corrosion resistance to a subsequent water-based primer.

Primer means a coating formulated and labeled as such to be applied to a surface to provide a bond between that surface and subsequent coats.

Propellant means a liquefied or compressed gas that is used in whole or in part, such as a cosolvent, to expel a liquid or any other material from the same self-pressurized container or from a separate container.

Responsible Party means the company, firm, or establishment which is listed on the product's label. If the label lists two companies, firms, or establishments, the responsible party is the

party for which the product was "manufactured for" or "distributed by" as noted on the label.

Retailer means any person who sells, supplies, or offers aerosol coating products for sale directly to consumers.

Retail Outlet means any establishment where consumer products are sold, supplied, or offered for sale, directly to consumers.

Rust converter means a product designed and labeled exclusively to convert rust to an inert material and which contains a minimum acid content of 0.5 percent by weight, and a maximum coating solids content of 0.5 percent by weight.

Shellac sealer means a clear or pigmented coating formulated solely with the resinous secretion of the lac beetle (*Laccifer lacca*), thinned with alcohol, and formulated to dry by evaporation without a chemical reaction.

Slip-resistant coating means a coating labeled exclusively as such which is formulated with synthetic grit, and used as a safety coating.

Spatter coating/multicolor coating means a coating labeled exclusively as such wherein spots, globules, or spatters of contrasting colors appear on or within the surface of a contrasting or similar background.

Stain means a coating which is formulated to change the color of a surface but not conceal the surface.

Vinyl/fabric/polycarbonate leather coating means a coating labeled exclusively as such, which is used to coat vinyl, fabric,

or polycarbonate leather substrates.

Volatile organic compound (VOC) means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions other than those defined as exempt compounds. These exempt compounds have been determined to have negligible photochemical reactivity. For purposes of determining compliance with emission limits, VOC will be measured by test methods given in this section. Where such a method also measures compounds with negligible photochemical reactivity, an owner or operator may exclude these negligibly reactive compounds when determining compliance with an emission standard. However, the U.S. EPA may require such owner or operator, as a precondition to excluding these compounds for purposes of determining compliance, to provide monitoring methods and monitoring results demonstrating, to the satisfaction of the U.S. EPA, the amount of negligibly reactive compounds in the source's emissions.

Webbing/veiling coating means a coating labeled exclusively as such, which is formulated to give a stranded to spider webbed appearance when applied.

Weld-through primer means a coating formulated and labeled exclusively as such which provides a bridging or conducting effect to provide corrosion protection following welding.

Wood stain means a coating which is formulated to change the color of a wood surface but not conceal the surface.

Wood touch-up/repair/restoration means a coating formulated and labeled exclusively as such which provides an exact color or sheen match on finished wood products.

Working Day means any day between Monday and Friday, inclusive, except for days that are Federal holidays.

(c) Standards.

(1) Except as provided in paragraphs (d) and (g) of this section, no person shall sell, supply, offer for sale, apply, or manufacture for sale in California, any aerosol coating product which, at the time of sale, use, or manufacture, contains volatile organic compounds in excess of the limits specified in the following Table of Standards after the specified effective dates.

Aerosol Coating Table of Standards

Percent Volatile Organic Compounds by Weight

Aerosol Coating Category	05/15/97	12/31/99
General Coatings		
Clear Coating	67	40
Flat Paint Products	60	30
Fluorescent Coatings	75	45
Metallic Coatings	80	50
Non-Flat Paint Products	65	30
Primer	60	30
Specialty Coatings		
Art Fixative or Sealant	95	70

Auto Body Primer	80	50
Automotive Bumper and		
Trim Products	95	75
Aviation Propeller Coating	84	75
Aviation/Marine Zinc Primer	80	70
Corrosion Resistant Brass, Bronze,		
or Copper Coatings	92	70
Pleasure Craft Topcoat	80	55
Exact Match finish		
Engine enamel	80	60
Automotive	88	60
Industrial	88	60
Floral Spray	95	85
Glass Coating	95	80
Ground Traffic		
Marking Coating	66	40
High Temperature Coating	80	55
Hobby/Model/Craft Coating		
Enamel	80	70
Lacquer	88	70
Clear or Metallic	95	75
Marine Spar Varnish	85	70
Photograph Coating	95	70
Pleasure Craft Finish Primer		
Surfacer or Undercoater	75	55

Shellac Sealer		
Clear	88	70
Pigmented	75	60
Slip-Resistant Coating	80	70
Spatter Coating	80	60
Vinyl/Fabric/Polycarbonate	95	70
Webbing/Veil Coating	90	70
Weld-Through Primer	75	60
Wood Stain	95	75
Wood Touch-Up, Repair or Restoration	95	95

(2) (i) If an aerosol coating product is subject to both a general coating limit and a specialty coating limit, as listed in paragraph (c)(1), and the product meets all the criteria of the applicable specialty coating category as defined in subsection (b), then the specialty coating limit shall apply instead of the general coating limit.

(ii) Sell-Through of Products. Notwithstanding the provisions of paragraph (c)(1) of this section, an aerosol coating product manufactured prior to each of the effective dates specified for that product in the Table of Standards may be sold, supplied, offered for sale, or applied for up to eighteen months after each of the specified effective dates. Paragraph (c)(2) of this section does not apply to any product which:

(A) Is subject to the provisions of Bay Area Air Quality Management District Rule 8-49 and is sold, supplied, offered for

sale, or applied within the Bay Area Air Quality Management District; or

(B) Does not display on the product container or package the date on which the product was manufactured, or a code indicating such date.

(3) Products Containing Perchloroethylene or Ozone Depleting Substances. After May 15, 1997, for any aerosol coating product for which standards are specified under paragraph (c)(1) of this section, no person shall sell, supply, offer for sale, apply, or manufacture for use in California any aerosol coating product which contains perchloroethylene, or an ozone depleting substance identified by the Environmental Protection Agency Appendices A and B to 40 CFR Part 82 Subpart A--Class I and Class II Controlled Substances. The requirements of this paragraph shall not apply to (1) any existing product formulation that complies with the Table of Standards and was sold in California during calendar year 1992, or (2) any product formulation that was sold in California during calendar year 1992 that is reformulated to meet the Table of Standards, as long as the content of perchloroethylene or other ozone depleting substances, as identified in this paragraph, in the reformulated product does not increase.

(4) The requirements of paragraph (c)(3) of this section shall not apply to any aerosol coating product containing perchloroethylene, or an ozone depleting substance as identified in paragraph (c)(3) of this section that are present as

impurities in a combined amount equal to or less than 0.01% by weight of the product.

(5) Multicomponent Kits. No person shall sell, supply, offer for use, apply, or manufacture for sale in California:

(i) Any multi-component kit, as defined in paragraph (b) of this section, in which the total weight of VOC and methylene chloride (MC) contained in the multi-component kit $(\text{Total VOC} + \text{MC})_{actual}$ is greater than the total weight of VOC and methylene chloride that would be allowed in the multi-component kit if each component product in the kit had separately met the applicable VOC standards $(\text{Total VOC} + \text{MC})_{standard}$, as calculated below:

$$(Total\ VOC + MC)_{actual} = \sum_{i=1}^{N} VOC_i \cdot W_i + \sum_{i=1}^{N} MC_i \cdot W_i$$

$$(Total\ VOC + MC)_{standard} = \sum_{i=1}^{N} STD_i \cdot W_i$$

Where VOC = The percent by weight VOC of the component product

MC= The percent by weight methylene chloride of the component product

STD = The VOC standard specified in section 94522(a) which applies to the component product.

N = The total number of component products in the kit.

Subscript i denotes the ith component product in the kit.

(ii) Products Assembled by Adding Bulk Paint to Aerosol Containers of Propellant. No person shall sell, supply, offer for sale, apply, or manufacture for use in the state of California any aerosol coating product assembled by adding bulk

paint to aerosol containers of propellant, unless such products comply with the standards specified in paragraph (c)(1) of this section.

(6) Any manufacturer and responsible party of an aerosol coating product subject to this section shall submit the following information by March 31, 1998 to EPA:

(i) The information required under paragraphs (e)(3)(ii)(A) through (G) and (e)(3)(iii) of this section for the 1997 calendar year;

(ii) The information required under paragraphs (e)(3)(ii)(A) through (D), (e)(3)(ii)(F) and (G), and (e)(3)(iii) of this section for the products marketed after January 1, 1998; and

(iii) A written report describing the research and development efforts undertaken to achieve the December 31, 1999 VOC limits.

(7) Requirements for Lacquer Aerosol Coating Products.

(i) Notwithstanding the provisions of paragraph (c)(1), lacquer aerosol coating products may be sold, supplied, offered for sale, applied, and manufactured for use in California with a combined VOC and methylene chloride content of up to 80 percent by weight until January 1, 1998.

(ii) On or after January 1, 1998, all lacquer aerosol coating products sold, supplied, offered for sale, applied, or manufactured for use in California shall comply with the provisions of paragraph (c)(1), except that lacquer aerosol

coating products manufactured prior to January 1, 1998 may be sold, supplied, offered for sale, or applied until July 1, 1999, as long as the product container or package displays the date on which the product was manufactured or a code indicating such date.

(iii) Paragraphs (c)(7)(i)-(iii) do not apply to: any lacquer coating product not clearly labeled as such; any lacquer coating product which is sold, supplied, offered for sale, applied, or manufactured for use in the Bay Area Air Quality Management District (BAAQMD) and is subject to BAAQMD Rule 8-49; or any lacquer coating product that meets the definition of "clear coating" specified in subsection (b).

(8) Products Containing Methylene Chloride. For any aerosol coating product containing methylene chloride, the VOC standards specified in subsection (c)(1) shall apply to the combined percent by weight of both VOCs and methylene chloride, calculated as follows: Percent by weight VOC and Percent by weight methylene chloride must be less than or equal to the applicable VOC standard.

(d) Exemptions.

(1) This section shall not apply to aerosol lubricants, mold releases, automotive underbody coating, electrical coatings, cleaners, belt dressings, anti-static sprays, layout fluids and removers, adhesives, maskants, rust converters, dyes or inks.

(2) This section shall not apply to any aerosol coating product manufactured in California for shipment and use outside

of California.

(3) The provisions of this section shall not apply to a manufacturer, distributor, or responsible party who sells, supplies, or offers for sale in California an aerosol coating product that does not comply with the VOC standards specified in paragraph (c)(1) of this section, as long as the manufacturer, distributor, or responsible party can demonstrate both that the aerosol coating product is intended for shipment and use outside of California, and that the manufacturer, distributor, or responsible party has taken reasonable prudent precautions to assure that the aerosol coating product is not distributed to California. This paragraph (3) does not apply to aerosol coating products that are sold, supplied, or offered for sale by any person to retail outlets in California.

(4) The requirement in paragraph (c)(1) of this section prohibiting the application of aerosol coating products containing volatile organic compounds in excess of the limits specified in the Table of Standards shall not apply to any noncommercial application of aerosol coating products.

(e) Administrative requirements.

(1) Most restrictive limit. Except as otherwise provided in section (c)(2)(i), if anywhere on the container of any aerosol coating product listed in the Table of Standards, or on any sticker or label affixed thereto, or in any sales or advertising literature, any representation is made that the product may be used as, or is suitable for use as a product for which a lower

VOC standard is specified, then the lowest applicable VOC standard shall apply. However, notwithstanding the provisions of this paragraph, if an aerosol coating product is subject to both a general coating limit and a specialty coating limit, as listed in paragraph (c)(1) of this section, and the product meets all the criteria of the applicable specialty coating category as specified in paragraph (b) of this section, then the specialty coating limit shall take precedence over the general coating limit.

(2) Labeling Requirements. Both manufacturer and responsible party of an aerosol coating product subject to paragraph (c)(1) of this section shall clearly display the following information on each product manufactured 90 days or more after the effective date of this section:

(i) The applicable VOC standard for the product as specified in paragraph (c)(1) of this section, expressed as a percentage by weight.

(ii) The aerosol coating category as defined in paragraph (b) of this section, or an abbreviation of the coating category; and

(iii) The day, month, and year on which the product was manufactured, or a code indicating such date.

(iv) The information required in paragraphs (c)(2)(i)-(iii) shall be displayed on the product container such that it is readily observable without removing or disassembling any portion of the product container or packaging. For the purposes of this

subsection, information may be displayed on the bottom of a container as long as it is clearly legible without removing any product packaging.

(v) No person shall remove, alter, conceal, or deface the information required in paragraphs (c)(2)(i)-(iii) prior to final sale of the product.

(vi) If a manufacturer uses a code indicating the date of manufacture or an abbreviation of the coating category as defined in paragraph (b) of this section, on any aerosol coating product subject to paragraph (c)(1) of this section, an explanation of the code or abbreviation must be filed with EPA prior to the use of the code or abbreviation.

(3) Reporting Requirements.

(i) Any responsible party of an aerosol coating product subject to this section which is sold, supplied, or offered for sale in California must supply the EPA with the following information by July 1, 1998: the company name, mail address, contact person, and the telephone number of the contact person. The responsible party must also notify EPA within 90 days of any change in the information supplied to EPA pursuant to this paragraph. For responsible parties who do not manufacturer their aerosol coating products, the responsible party shall also supply the information specified in this subsection (c)(1) for those manufacturers which produce products for the responsible party.

(ii) Upon 90 days written notice from EPA, each responsible party subject to this section shall submit to EPA a

written report with all or part of the following information for each product they manufacture under their name or another company's name:

(A) The brand name of the product;

(B) Upon request, a copy of the product label;

(C) The owner of the trademark or brand names;

(D) The product category as defined in paragraph (b) of this section;

(E) The percent by weight VOC, water, solids, propellant, and any compounds exempt from the definition of VOC as specified in paragraph (b) of this section;

(F) An identification of each product brand name as a "household","industrial", or "both" product; and

(G) Any other information necessary to determine the emissions from aerosol coating products.

(iii) The information requested in paragraph (e)(3)(ii) of this section may be supplied as an average for a group of aerosol coating products within the same coating category when the products do not vary in VOC content by more than two percent (by weight), and the coatings are based on the same resin type; or the products are color variations of the same product (even if the coatings vary by more than two percent in VOC content).

(f) Test Methods.

(1) The VOC content of solvent-based aerosol coating products subject to paragraph (a) of this section shall be determined by the procedures set forth in Bay Area Air Quality

Management District Manual of Procedure, Volume III, Laboratory Procedures, Method 35, "Determination of Volatile Organic Compounds (VOC) in Solvent Based Aerosol Paints," as amended January 19, 1994 (incorporated by reference as specified at 40 CFR 52.3002). For water-containing aerosol coating products, subject to the paragraph (a) of this section, the VOC content shall be determined by ASTM D 5325-92, Standard Test Method for Determination of Weight Percent Volatile Content of Water-Borne Aerosol Paints, November 15, 1992, incorporated by reference as specified in 40 CFR 52.3002.

(2) Compounds exempt from the definition of VOC shall be analyzed according to the test methods listed below:

(i) The content of 1,1-difluoroethane shall be determined by BAAQMD Method 35, "Determination of Volatile Organic Compound (VOC) in Solvent Based Aerosol Paints," as amended January 19, 1994.

(ii) The content of dichloromethane (methylene chloride) and 1,1,1-trichloroethane shall be determined by ARB Method 432, California Code of Regulations, Title 17, Section 94144 (incorporated by reference as specified at 40 CFR 52.3002), after removal of the propellant following the procedure in ASTM Method D-5325-92, "Standard Test Method for Determination of Weight Percent Volatile Content of Water-Borne Aerosol Paints," November 15, 1992 (incorporated by reference as specified in 40 CFR 52.3002).

(iii) The following classes of compounds will be analyzed

as exempt compounds only if manufacturers specify which individual compounds are used in the product formulations and identify the test methods, which, prior to such analysis, have been approved by EPA, and can be used to quantify the amounts of each exempt compound: cyclic, branched, or linear completely fluorinated alkanes; cyclic, branched, or linear, completely fluorinated ethers with no unsaturations; cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

(3) The metal content of metallic aerosol coating products shall be determined by SCAQMD Method 311-91 Analysis of Percent Metal in Metallic Coatings by Spectrographic Method, June 1, 1991, (incorporated by reference as specified at 40 CFR 52.3002) after removal of the propellant following the procedure in ASTM Method 5325-92, "Standard Test Method for Determination of Weight Percent Volatile Content of Water-Borne Aerosol Paints", November 15, 1992, incorporated by reference as specified in 52.3002.

(4) Specular gloss of flat and non-flat coatings shall be determined by ASTM Method D 523-89, March 31, 1989, incorporated by reference as specified in 52.3002.

(5) Acid content of rust converters shall be determined by ASTM Method D-1613-91, "Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products, May 15, 1991, (incorporated by reference as specified in 40 CFR 52.3002) after

removal of the propellant following the procedure in ASTM Method D-5325-92, "Standard Test Method for Determination of Weight Percent Volatile Content of Water-Borne Aerosol Paints," November 15, 1992 (incorporated by reference as specified in 40 CFR 52.3002).

(6) Lacquers. Lacquer aerosol coating products shall be identified according to the procedures specified in ASTM Method D-5043-90, "Standard Test Methods for Field Identification of Coatings," April 27, 1990 (incorporated by reference as specified in 40 CFR 52.3002).

(7) Alternative methods may be used if they are demonstrated to the Administrator's satisfaction to provide results equivalent to those obtained by the applicable method provided under paragraphs (f)(1) through (f)(6) of this section.

§52.2959 Architectural coatings.

(a) Applicability. This section applies to any person who supplies, sells, offers for sale, applies, solicits the application of, or manufactures for use any architectural coating used in California.

(b) Definitions. For the purposes of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Antenna coatings are coatings applied to equipment and associated structural appurtenances which are used to receive or transmit electromagnetic signals.

Anti-fouling coatings are coatings applied to submerged stationary structures and their appurtenances to prevent or reduce the attachment of marine or freshwater biological organisms, including, but not limited to, coatings registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (7 USC 136, et seq.) and nontoxic foul-release coatings.

Anti-graffiti coatings mean clear or opaque high performance coatings specifically labeled as anti-graffiti coatings and applied to interior and exterior walls, doors, partitions, fences, signs and murals to deter adhesion of graffiti and to resist repeated scrubbing and exposure to harsh solvents, cleansers, or scouring agents used to remove graffiti.

Appurtenances are accessories to an architectural structure, including, but not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain-gutters and down-spouts, window screens, lamp-posts, (heating and air conditioning) equipment, other mechanical equipment, large fixed stationary tools and concrete forms.

Architectural coatings are any coatings applied to stationary structures and their appurtenances, to mobile homes or portable buildings, to pavements, or to curbs.

Below-ground wood preservatives are coatings formulated to protect below-ground wood from decay or insect attack and registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (7 USC 136, et seq.).

Bituminous coatings materials are black or brownish coating materials, soluble in carbon disulfide, consisting mainly of hydrocarbons and which are obtained from natural deposits, or as residues from the distillation of crude petroleum oils, or of low grades of coal.

Bond breakers are coatings applied between layers of concrete to prevent the freshly poured top layer of concrete from bonding to the substrate over which it is poured.

Chalkboard resurfacers are coatings formulated and recommended for application to chalkboards to restore a suitable surface for writing with chalk.

Clear wood finishes are clear and semi-transparent coatings, including lacquers and varnishes, applied to wood substrates to provide a transparent or translucent solid film.

Colorants are solutions of dyes or suspensions of pigments.

Concrete-curing compounds are coatings applied to freshly poured concrete to retard the evaporation of water.

Dry-fog coatings are coatings which are formulated only for spray application so that when sprayed, overspray droplets dry before falling on floors and other surfaces.

Exempt compounds mean compounds listed as having negligible photochemical reactivity under the definition of "volatile organic compounds" in 40 CFR part 51, § 51.100.

Fire retardant coatings are coatings which have a flame spread index of less than 25 when tested in accordance with ASTM E 84-91a Standard Test Method for Surface Burning Characteristics

of Building Materials (incorporated by reference as specified in 40 CFR 52.3002) after application to Douglas fir according to the manufacturer's recommendations.

Flat coatings are coatings which register gloss less than 15 on an 85° meter or less than five on a 60° meter, according to American Society for Testing and Materials Method D 523, Standard Test Method for Specular Gloss.

Flow coatings are coatings which are used by electric power companies or their subcontractors to maintain the protective coating systems present on utility transformer units.

Form-release compounds are coatings applied to a concrete form to prevent the freshly poured concrete from bonding to the form. The form may consist of wood, metal, or some material other than concrete.

Grams of VOC per liter--Low solids means the weight of VOC per volume of material and can be calculated by the following equation:

Where:

$$\textit{Grams of VOC per Liter--Low Solids} = \frac{Ws - Ww - Wec}{Vm}$$

W_s = weight of volatile compounds, in grams;

W_w = weight of water, in grams;

W_{ec} = weight of exempt compounds, in grams; and

V_m = volume of material, in liters.

This equation may be used to calculate the VOC content of a low solid stain.

Grams of VOC per liter of coating, less water and less exempt compounds is the weight of VOC per combined volume of VOC and coating solids and can be calculated by the following equation:

$$Grams\ VOC/\ell\ of\ Coating = \frac{(W_s - W_w - W_{ec})}{(V_m - V_w - V_{ec})}$$

= W_s Weight of VOC in grams

W_w = Weight of water in grams

W_{ec} = Weight of exempt compounds in grams

V_m = Volume of coating in liters

V_w = Volume of water in liters

V_{ec} = Volume of exempt compounds in liters

Graphic arts coatings (Sign Paints) are coatings formulated for and hand-applied by artists using brush or roller techniques to indoor and outdoor signs (excluding structural components) and murals, including lettering enamels, poster colors, copy blockers, and bulletin enamels.

Heat reactive coatings mean high performance phenolic based coatings requiring a minimum temperature of 191°C (375°F) to 204°C (400°F) to obtain complete polymerization or cure. These coatings are formulated and recommended for commercial and industrial use to protect substrates from degradation and maintain product purity in which one or more of the following extreme conditions exist:

(1) Continuous or repeated immersion exposure to 90 to 98 percent sulfuric acid or oleum;

(2) Continuous or repeated immersion exposure to strong organic solvents;

(3) Continuous or repeated immersion exposure to petroleum processing at high temperatures and pressures; and

(4) Continuous or repeated immersion exposure to food or pharmaceutical products which may or may not require high temperature sterilization.

High-temperature industrial maintenance coatings are industrial maintenance coatings formulated for and applied to substrates exposed continuously or intermittently to temperatures above 400° F.

Impact immersion coatings are industrial maintenance coatings applied to steel structures subject to immersion in turbulent, debris-laden water. These coatings are specifically resistant to high-energy impact damage caused by floating ice or debris.

Industrial maintenance coatings are high performance coatings formulated for and applied to substrates in industrial, commercial, or institutional situations that are exposed to one or more of the following extreme environmental conditions:

(1) immersion in water, wastewater, or chemical solutions (aqueous and non-aqueous solutions), or chronic exposure of interior surfaces to moisture condensation;

(2) acute or chronic exposure to corrosive, caustic or acidic agents, or to chemicals, chemical fumes, chemical

mixtures, or solutions;

(3) repeated exposure to temperatures in excess of 250 degrees Fahrenheit;

(4) repeated heavy abrasion, including mechanical wear and repeated scrubbing with industrial solvents, cleaners, or scouring agents; or

(5) exterior exposure of metal structures.

Industrial maintenance coatings are not for residential use or for use in areas of industrial, commercial, or institutional facilities such as office space and meeting rooms.

Lacquers are clear wood finishes, including clear lacquer sanding sealers, formulated with nitrocellulose or synthetic resins to dry by evaporation without chemical reaction.

Low-solids stain or wood preservative means a waterborne wood stain or wood preservative containing one pound or less of solids per gallon of material and containing water as at least half the volatile portion of the liquid coating.

Magnesite cement coatings are coatings formulated for and applied to magnesite cement decking to protect the magnesite cement substrate from erosion by water.

Mastic coatings are coatings formulated to cover holes and minor cracks and to conceal surface irregularities, and applied in a thickness of at least 10 mils (dry, single coat).

Metallic pigmented coatings are coatings containing at least 0.4 pound of elemental metallic pigment per gallon (50 grams/liter of coating as applied) or non-bituminous coatings

which are formulated with metallic pigment.

Multi-colored coatings are coatings which exhibit more than one color when applied and which are packaged in a single container and applied in a single coat.

Non-flat coatings are coatings which register gloss of 15 or greater on an 85° meter or five or greater on a 60° meter and which are identified on the label as a gloss, semigloss, or eggshell enamel coating.

Non-flat high gloss coatings are coatings which register gloss of 70 or greater on a 60° meter and which are identified on the label as a high gloss enamel coating.

NOS means not otherwise specified.

Nuclear power plant coatings mean any protective coating used to seal porous surfaces such as steel (or concrete) that otherwise would be subject to intrusion by radioactive materials. These coatings must be resistant to long-term (service life) cumulative radiation exposure (American Society for Testing and Materials D4082-83,incorporated by reference as specified in 40 CFR 52.3002), relatively easy to decontaminate (American Society for Testing and Materials D4256-83, incorporated by reference as specified in 40 CFR 52.3002), and resistant to various chemicals to which the coatings are likely to be exposed (American Society for Testing and Materials 3912-80, incorporated by reference as specified in 40 CFR 52.3002). General protective requirements are outlined by the Department of Energy (formerly U. S. Atomic Energy Commission Regulatory Guide 1.54).

Opaque stains are all stains that are not classified as semitransparent stains.

Opaque wood preservatives are all wood preservatives not classified as clear or semitransparent wood preservatives or as below-ground wood preservatives and are registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (7 USC 136 et seq.).

Quick-dry enamels mean non-flat coatings that: are capable of being applied directly from the container under normal conditions, with ambient temperatures between 16°C (60°)and 27°C (80°); when tested in accordance with ASTM D 1640 (incorporated by reference as specified in 40 CFR 52.3002) are set to touch in two hours or less, be tack free in four hours or less, and dry hard in eight hours or less by the mechanical test method; shall have a dried film gloss of 70 or above on a 60 degree meter.

Residential use is use in areas where people reside or lodge including, but not limited to single and multiple family dwellings, condominiums, mobile homes, apartment complexes, motels, and hotels.

Roof coatings are coatings formulated for application to exterior roofs and for the primary purpose of preventing penetration of the substrate by water, or reflecting heat and reflecting ultraviolet radiation. Metallic pigmented roof coatings which qualify as metallic pigmented coatings shall not be considered to be in this category, but shall be considered to

be in the metallic pigmented coatings category.

Sanding sealers are clear wood coatings formulated for and applied to bare wood for sanding and to seal the wood for subsequent application of varnish. To be considered a sanding sealer a coating must be clearly labelled as such.

Sealers are coatings applied to substrates to prevent subsequent coatings from being absorbed by the substrate, or to prevent harm to subsequent coatings by materials in the substrate.

Semitransparent stains are coatings which are formulated to change the color of a surface but not conceal the surface.

Semitransparent wood preservative are wood preservative stains formulated to protect exposed wood from decay or insect attack by the addition of a wood preservative registered with the EPA under the Federal Insecticide, Fungicide, and Rodenticide Act (7 USC 136 et seq.) and which change the color of a surface but do not conceal the surface, including clear wood preservatives.

Shellacs are clear or pigmented coatings formulated solely with the resinous secretions of the lac beetle (laccifer lacca), thinned with alcohol, and formulated to dry by evaporation without a chemical reaction.

Solicit is to require for use or to specify, by written or oral contract.

Specialty primers, sealers, and undercoaters means primers, sealers, and undercoaters that are specifically formulated for and used only to perform one of the following functions: repair

fire, smoke or water damage; neutralize odor; block stains; block efflorescence; condition chalky surfaces; or coat acoustical materials without affecting their acoustical abilities.

Swimming pool coatings are coatings specifically formulated to coat the interior of swimming pools and to resist swimming pool chemicals.

Swimming pool repair coatings are chlorinated rubber based coatings used for the repair and maintenance of swimming pools over existing chlorinated rubber based coatings.

Tint base is an architectural coating to which colorants are added.

Traffic coatings are coatings formulated for and applied to public streets, highways, and other surfaces including, but not limited to curbs, berms, driveways, airport runways, and parking lots.

Undercoaters are coatings formulated and applied to substrates to provide a smooth surface for subsequent coats.

Varnishes are clear wood finishes formulated with various resins to dry by chemical reaction on exposure to air.

Volatile organic compound or VOC means any compound of carbon, other than those organic compounds that the Administrator has excluded in 40 CFR part 51, § 51.100 from this definition.

Waterproofing sealers are colorless coatings which are formulated for the sole purpose of preventing penetration of porous substrates by water and which do not alter surface appearance or texture.

(c) Requirements.

(1) Except as provided in paragraphs (c)(2), (c)(3), (c)(4) and (c)(5) of this section, after May 15, 1997, no person shall manufacture, supply, sell, offer for sale, blend, repackage, apply, or solicit the application for use within California any architectural coating which contains more than 250 grams of volatile organic compounds per liter of coating (excluding water and exempt solvents, and any colorant added to tint bases).

(2) Except as provided in paragraphs (c)(3), (c)(4) and (c)(5) of this section, no person shall manufacture, supply, sell, offer for sale, blend, repackage, apply, or solicit the application for use within California any architectural coating listed in the Table of Standards which contains volatile organic compounds (less water and exempt solvents, and excluding any colorant added to tint bases) in excess of the corresponding limit and date specified in the table.

VOC Limit Table of Standards

Grams of VOC Per Liter less Water And Exempt Compounds

Category	5/15/1997	1/1/2000	1/1/2004
Antenna Coating	420		
Anti-Fouling Coating	400		350
Anti-Graffiti Coating	350	275	
Bond Breakers	350		

Chalkboard Resurfacers	450		420
Clear Wood Finishes			
Varnish	350		250
Sanding Sealers	350		
Lacquer Sanding Sealers	680	350	
Lacquer	680	350	
Concrete-Curing	350	250	
Dry-Fog Coatings	400		250
Fire Retardant Coatings			
Clear	350		
Pigmented	350		
Flats	250	200	150
Flow Coating	650		420
Form Release Compounds	250		
Graphic Arts Coatings	500	425	
Heat Reactive Coatings	420		
High Temperature	550	420	
Impact Immersion	420		340
Industrial Maintenance Coatings, NOS	350		275

Magnesite Cement	600		500
Mastic Coatings	300		
Metallic Pigmented	500	450	340
Multi-Color Coatings	420		
Non-Flats, NOS	250		150
Non-Flats - High Gloss	250		
Nuclear Power Plant	380		
Pretreat Wash Primers	780		
Primers and Undercoaters	350		275
Quick-Dry Enamels	400	250	
Specialty Primers and Undercoaters	350		
Sealers NOS	350		
Roof Coatings	250		
Shellac Clear	650	600	
Shellac Pigmented	550	500	
Stains and Wood Preservatives			
Semi-Transparent	350		
Opaque	350		150

Clear	350		
Below-Ground	350		
Low-solids	120		
Swimming Pool Coatings	340		
Swimming Pool Repair and Maintenance Coatings	650	340	
Traffic Paints	150	125	100
Waterproofing Sealers	400		

(3) If anywhere on the container of any coating listed in the Table of Standards, on any sticker or label affixed thereto, or in any sales or advertising literature, any representation is made that the coating may be used as, or is suitable for use as a coating for which a lower VOC standard is specified in the Table of Standards or in paragraph (c)(1) of this section, then the lowest VOC standard shall apply. This requirement does not apply to the representation of the following coatings in the manner specified:

(i) High-temperature industrial maintenance coatings, which may be represented as metallic pigmented coatings for use consistent with the definition of high temperature industrial maintenance coatings;

(ii) Metallic pigmented coatings, which may be recommended for use as primers, sealers, undercoaters, roof coatings, or

industrial maintenance coatings; and

(iii) Shellacs.

(4) Sale or application of a coating manufactured prior to the effective date of the corresponding standard in the Table of Standards, and not complying with that standard, shall not constitute a violation of paragraph (c)(2) of this section until eighteen months after the effective date of the standard.

(5) Sale or application of a coating in a container of one quart capacity or less shall not constitute a violation of paragraph (c)(1) or (c)(2) of this section until January 1, 2004.

(6) All VOC-containing materials shall be stored in closed containers when not in use. In use includes, but is not limited to: being accessed, filled, emptied, or repaired.

(d) Administrative Requirements.

(1) Containers for all coatings subject to this section shall display the date of manufacture of the contents or a code indicating the date of manufacture. The manufacturers of such coatings shall file with the EPA an explanation of each code.

(2) Containers for all coatings subject to the requirements of this section shall carry a statement of the manufacturer's recommendation regarding thinning of the coating. This recommendation shall not apply to the thinning of architectural coatings with water. The recommendation shall specify that the coating, is to be employed without thinning or diluting under normal environmental and application conditions, unless any thinning recommended on the label for normal environmental and

application conditions does not cause a coating to exceed its applicable standard.

(3) Each container of any coating subject to this section shall display the maximum VOC content of the coating, as applied, and after any thinning as recommended by the manufacturer. VOC content shall also be displayed as grams of VOC per liter of coating (less water and exempt solvent, and excluding any colorant added to tint bases). VOC content displayed may be calculated using product formulation data, or may be determined using the test method in paragraph (e) of this section.

(4) The labels of all industrial maintenance coatings shall include the statement "Not for Residential Use," or "Not for Residential Use in California," prominently displayed.

(e) Test Method. The VOC content of a coating subject to the provisions of this section shall be determined using the following procedures:

(1) Method 24 of 40 CFR part 60, appendix A, shall be used in the determination of volatile matter content, water content, and density, volume solids, and weight solids of paint, varnish, lacquer or related surface coatings.

(2) The measurement of exempt solvents shall be determined using ASTM Test Method 4457-85 (incorporated by reference as specified in 40 CFR 52.3002).

(3) Measurement of dry time for quick-dry enamels shall be done using ASTM D 1640-89, Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature

(incorporated by reference as specified in 40 CFR 52.3002).

(4) Measurement of metal content of metallic pigmented coatings shall be done using the SCAQMD Method 311-91, Analysis of Percent Metal in Metallic Coatings by Spectrographic Method (incorporated by reference as specified at 40 CFR 52.3002).

(5) Measurement of acid content of pretreatment wash primers shall be done in accordance with ASTM Method D 1613-85 (modified) (incorporated by reference as specified in 40 CFR 52.3002).

(6) Measurement of gloss shall be doen using ASTM D 523, Standard Test Method for Specular Gloss (incorporated by reference as specified in 40 CFR 52.3002).

(f) Exemptions.

(1) The provisions of this section shall not apply to:

(i) Until January 1, 2004, architectural coatings in containers having capacities of one quart; or

(ii) Architectural coatings sold in California for shipment outside of the state or for shipment to other manufacturers for repackaging; or

(iii) Emulsion type bituminous pavement sealers.

(2) Coatings subject to the requirements of the Federal Insecticide, Fungicide, and Rodenticide Act are exempt from the labeling requirements listed under paragraph (d) of this section.

§52.2960 Pesticides.

(a) Applicability.

(1) The requirements of this section shall apply to all

persons located inside or outside of the affected area who produce agricultural and/or structural pesticides that are registered in the State of California.

(2) The requirements of this section shall apply to all persons who distribute and/or store agricultural and/or structural pesticides within the affected area, unless such person can demonstrate both that the pesticide is intended only for shipment and use outside of the affected area, and that the person has taken reasonable prudent precautions to assure that the pesticide is not distributed within the affected area. Activities which shall not qualify as such reasonable prudent precaution include but are not limited to:

(i) Distribution to a retail distributor within the affected area; or

(ii) Failure to clearly identify pesticides as not for sale or use within California.

(3) The requirements of this section shall apply to all persons who apply agricultural and/or structural pesticides within the affected area.

(4) For the purposes of this section, the affected area is the State of California.

(b) Definitions. For the purposes of this section, the following definitions will apply. All terms not defined herein shall have the meaning given them in the Clean Air Act (42 U.S.C. 7401-7671q) or the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. 136 et seq.

Agricultural pesticide means a pesticide intended for:

(1) Use in the commercial production, transportation or storage of agricultural commodities, including but not limited to food, feed and fiber crops, farm animals, forest and timber commodities, ornamentals, flowers and turf;

(2) Use in, on or around agricultural premises or buildings, including but not limited to barns, silos, animal enclosures, greenhouses and similar agricultural structures; or

(3) Use on terrestrial, aquatic or forestry sites not directly related to the production of agricultural commodities, including but not limited to rights-of-way, golf courses, parks, mosquito control use, farm ponds, pasture and rangeland.

A pesticide is not an agricultural pesticide if it is intended solely for: residential, institutional, industrial or structural pest control; consumer or personal use, including use on pets; non-commercial production of agricultural commodities (e.g., home gardens); or research or experimental pest control.

Applicator means any person who uses or supervises the use of any pesticide.

Distributor means any person who distributes, sells, offers for sale, holds for distribution, holds for sale, holds for shipment, ships, delivers for shipment, releases for shipment, or receives and (having so received) delivers or offers to deliver. The term does not include the holding or application of registered pesticides or use dilutions thereof by any applicator who provides a service of controlling pests without delivering

any unapplied pesticide to any person so served. The term "distribute" means to distribute, sell, offer for sale, hold for distribution, hold for sale, hold for shipment, ship, deliver for shipment, release for shipment, or receive and (having so received) deliver or offer to deliver any pesticide. This includes persons who distribute pesticides to applicators or to other dealers or distributors.

EPA means the United States Environmental Protection Agency. Reports submitted to EPA shall be addressed care of U.S. EPA, Region IX (A-1-1), 75 Hawthorne Street, San Francisco, CA 94105.

Emergency condition means an urgent, non-routine situation as described in 40 CFR 166.3(d)(2) and (3).

Exempt compounds means any of the following compounds: methane; ethane; 1,1,1-trichloroethane (methyl chloroform); trichlorotrifluoroethane (CFC-113); methylene chloride; trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); chlorodifluoromethane (HCFC-22); trifluoromethane (HFC-23); dichlorotetrafluoroethane (CFC-114); chloropentafluoroethane (CFC-115); dichlorotrifluoroethane (HCFC-123); tetrafluoroethane (HFC-134a); dichlorofluoroethane (HCFC-141b); chlorodifluoroethane (HCFC-142b); 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1-trifluoroethane (HFC-143a); 1,1-difluoroethane (HFC-152a); and perfluorocarbon compounds which fall into these classes -- cyclic, branched, or linear, completely fluorinated alkanes; cyclic, branched, or

linear, completely fluorinated ethers with no unsaturations; cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; or sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Person means any firm, business establishment, association, partnership, corporation or individual, whether acting as principal, agent, employee, or other capacity including any governmental entity or charitable organization.

Pesticide means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest; and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

Pheromone means a compound produced by arthropods which, when used alone or in combination with other such compounds, modifies the behavior of other individuals of the same species. The definition of pheromone includes identical or substantially similar synthetically produced compounds as defined in 40 CFR 152.25(b).

Producer means the person who manufacturers, prepares, compounds, propagates, or processes any pesticide or active ingredient used in producing a pesticide. The term "produce" means to manufacture, prepare, compound, propagate, or process any pesticide or active ingredient used in producing a pesticide. The dilution by individuals of formulated pesticides for their own use and according to the directions on registered labels

shall not itself result in such individuals being included in the definition of "producer" for the purposes of this section.

Registered, with respect to a pesticide product, means that the product has been approved for sale and distribution within the State of California pursuant to the California Food and Agricultural Code (Division 7, Chapter 2, Article 4, §12811).

Structural pesticide, for the purposes of this section, means a pesticide intended for use in the protection of structures, buildings or building materials, including but not limited to fumigants, termiticides, and wood preservatives, but not including the field application of wood preservative coatings.

Volatile organic compound (VOC) means any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions other than those defined as exempt compounds. These exempt compounds have been determined to have negligible photochemical reactivity. For purposes of determining compliance with this section, VOC will be measured by test methods given in this section.

(c) Specific provisions.

(1) Required submission of data.

(i) By May 15, 1997, all persons who produce agricultural and/or structural pesticides that are registered in California must submit reports in accordance with paragraph (d)(1) of this section that identify the VOC content of each pesticide. The VOC

content will be determined according to the methodology provided in paragraphs (f) or (g) of this section.

(ii) If EPA determines that a report does not affirmatively demonstrate compliance with the methodology in paragraphs (f) or (g) of this section, EPA may assign the pesticide a VOC content value equal to the highest VOC content reported for any pesticide.

(2) Establish VOC limit. Upon compilation of the data received pursuant to paragraph (c)(1) of this section, EPA will determine a pesticide VOC limit based on the following criteria:

(i) EPA will establish a base-year inventory for each registered pesticide. This inventory will be based on the amount of each pesticide used in the affected area. These amounts will be based on data from the 1990 pesticide use report (PUR) and the inerts database, which are both maintained by the California Department of Pesticide Regulation (DPR), unless EPA determines that another year or years of PUR data or other information provides a more appropriate basis for the inventory.

(ii) EPA will rank all registered pesticides according to their VOC content as determined by the data submitted pursuant to paragraph (c)(1) of this section. The pesticide with the largest VOC content will be ranked "1".

(iii) EPA will multiply the VOC contents (as determined by paragraph (c)(1) of this section) by the inventory (as determined in paragraph (c)(2)(i) of this section) to determine "individual base-year VOC emissions" for each individual pesticide.

(iv) EPA will add the individual base-year VOC emissions for all pesticides to determine the "total base-year VOC emissions" from all pesticides combined.

(v) Starting with the pesticide or pesticides ranked "1" according to paragraph (c)(2)(ii) of this section, EPA will add the individual base-year VOC emissions for pesticides ranked 2, 3, 4. . . etc, until the sum equals Fifty-two percent (52%)[15] of the total base-year VOC emissions. The VOC content of the last pesticide needed to achieve 52% of the total base-year VOC emissions becomes the "VOC limit."

(vi) EPA will promulgate the VOC limit with a summary of the assumptions and results from paragraphs (c)(2)(i) - (v) of this section.

(3) Restrictions on pesticides.

(i) Except as provided in paragraph (c)(5) of this section, on and after 1 (one) year after EPA publishes the VOC limit, all persons are prohibited from distribution within the affected area of pesticides with VOC contents in excess of the VOC limit.

(ii) Except as provided in paragraph (c)(5) of this section, on and after 2 (two) years after EPA publishes the VOC limit, all persons are prohibited from application and/or storage within the affected area of pesticides with VOC contents in excess of the VOC limit.

(4) Additional testing and revisions to the VOC limit.

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[15] **52% of total base-year VOC emissions was selected to achieve a 30% reduction in VOC emissions from agricultural and structural pesticides.**

(i) For purposes of determining compliance with paragraph (c)(3) of this section, EPA may, at any time, require producer(s) to reanalyze their pesticides according to the methodology described in paragraph (f) of this section and to submit the new data according to paragraph (d) of this section.

(ii) For purposes of reevaluating the VOC limit, EPA may, at any time, require producer(s) to reanalyze their pesticides according to the methodology described in paragraph (f) of this section and to submit the new data according to paragraph (d) of this section.

(iii) EPA may, at any time, revise the VOC limit consistent with the methodology described in paragraph (c)(2) of this section and based on information submitted pursuant to paragraph (c)(4)(ii) of this section or elsewhere.

(5) Exemptions.

(i) Pheromones. Pheromones, as defined herein, shall be exempt from provisions of paragraph (c)(3) of this section.

(ii) Emergency conditions. The Administrator may approve an exemption of a pesticide from the provisions of paragraph (c)(3) of this section provided that it is used in accordance with FIFRA, and that the Secretary of the California Department of Food and Agriculture has demonstrated the existence of an emergency condition as defined herein. The duration of an exemption for emergency conditions shall be for such a period no longer than is necessary to control the pest or conditions causing the emergency.

(d) Reporting.

(1) Producers. Reports submitted pursuant to this section must include:

(i) Name, address, name of contact person, and telephone number of producer.

(ii) Name and description of pesticide product, including a copy of the pesticide product label.

(iii) Name, address and telephone number of the laboratory performing analysis; name of analyst; and date and time of analysis.

(iv) Certification signed and dated by a responsible official of the producer stating the following:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(v) Summary and results of analysis performed pursuant to paragraph (f) of this section. If, for example, TGA analysis is performed, the summary of analysis shall include uncorrected weight percent VOC content (i.e., kg VOC per kg pesticide), weight percent water content, weight percent exempt solvents content, and weight percent VOC content corrected for water and exempt solvents, as applied.

(vi) Either of:

(A) A demonstration that the State of California transmitted information on the pesticide product described in paragraph (g) of this section; or

(B) All raw data collected during analysis performed pursuant to paragraphs (f) of this section. If, for example, TGA analysis is performed as described in paragraph (f)(1)(i) of this section, all thermograms produced must be submitted, as well as justification for rejecting any unacceptable thermogram.

(2) Distributors. Any person who distributes pesticides within the affected area must report the following information to EPA:

(i) Distributor notification. The distributor notification shall include the name, address, and telephone number of the distributor, and the name of a responsible official of the distributor. The report shall be postmarked not later than the date the VOC limit becomes effective (see paragraph (c)(3)(i) of this section) or 30 days after the distributor first begins distribution of pesticides, whichever is later.

(ii) Annual report. The annual report shall specify the type and amount of each pesticide sold, shipped, or otherwise distributed in the affected area. The annual report shall be submitted by January 30 of each year for the preceding year's data beginning with the year in which the effective date specified in paragraph (c)(3)(i) of this section occurs.

(3) Applicators. All applicators within the affected areas

shall submit a copy of all PURs to EPA at the same time the PUR is submitted to DPR once the effective date specified in paragraph (c)(3)(ii) of this section occurs.

(e) Recordkeeping. All producers, distributors, and applicators must maintain all information necessary to demonstrate compliance with this section for a period of three (3) years. This information includes, but is not limited to, copies of all reports required in paragraph (d) of this section, and any technical support to those reports. Copies of this information must be provided to EPA upon request.

(f) Test methods.

(1) For the purposes of this section, the VOC content in pesticides shall be determined by the methods described in paragraphs (f)(1)(i) or (ii) of this section, or by methods as stringent in accuracy, reliability, reproducibility, and frequency and approved by EPA.

(i) Thermogravimetric Analysis (TGA). The "American Standard Test Method (ASTM) for Compositional Analysis by Thermogravimetry" (ASTM E-1131-86) as modified in EPA's alternative control technology document (ACT) for pesticides ("Alternative Control Technology Document; Control of VOC Emissions from the Application of Agricultural Pesticides," EPA-453/R-92-011, March 1993, appendix C) and as incorporated by reference as specified at 40 CFR 52.3002; or

(ii) Volatile Organics in Pesticides (VOP). The purge and trap procedure as described in EPA's ACT (EPA-453/R-92-011,

appendix C) and as incorporated by reference as specified at 40 CFR 52.3002.

(2) Pesticides that are diluted with VOC-containing material (e.g., gasoline, xylene, toluene, and other solvents), at any point before application, are to be tested diluted with said material at the average dilution used during application.

(3) Determination of VOC content shall be performed after water content is subtracted from the pesticide.

(4) The exempt compound content of a pesticide may be determined by the statement of formulation required pursuant to FIFRA (7 U.S.C. 136a(c)(1)(E)).

(g) Data submitted by the State of California. For the purpose of establishing the VOC limit as described in paragraph (c)(2) of this section, EPA will accept VOC content data submitted by the State of California to EPA and certified by the State of California as having been collected using accurate, reliable and reproducible analytic test methods. EPA may also use this information in determining compliance with paragraph (c)(3) of this section.

§52.2961 Stationary and area source rules.

(a) Solvent Cleaning Operations.

(1) Purpose and Applicability. The purpose of this section is to reduce emissions of volatile organic compounds (VOC) from solvent cleaning operations, and from the storage and disposal of materials used in solvent cleaning operations. This section applies to any facility located in the affected area that uses

VOC-containing materials in the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or general work areas, or that stores and/or disposes of VOC-containing materials used in solvent cleaning operations. For the purposes of this section, the affected area includes the Ventura County Area for ozone and the Sacramento Metro Area for ozone as described in 40 CFR 81.305.

(2) Definitions. For the purposes of paragraph (a) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Aerosol product means a hand-held, nonrefillable container which expels pressurized product ingredients by means of a propellant-induced force.

Application line means that portion of a motor vehicle assembly production line which applies surface and other coatings to motor vehicle bodies, hoods, fenders, cargo boxes, doors, and grill opening panels.

Appurtenances means accessories to an architectural structure, including, but not limited to: hand railings, cabinets, bathroom and kitchen fixtures, fences, rain-gutters and down-spouts, window screens, lamp-posts, heating and air conditioning equipment, other mechanical equipment, and large fixed stationary tools and concrete forms.

Architectural coatings means any coatings applied to stationary structures and their appurtenances, to mobile homes, to pavements, or to curbs.

Closed container means a container with a closely fitting lid that remains in place, except when depositing and removing objects to be cleaned or for maintenance and repair to the container itself.

Cured coatings, cured inks, and cured adhesives means coatings, inks, and adhesives which are dry to the touch.

Electronic components means circuit card assemblies, printed wire assemblies, printing wiring boards, soldered joints, ground wires, bus bars, and other electrical fixtures, except for the actual cabinet in which the components are housed.

Flexographic printing means a printing method utilizing flexible rubber or other elastomeric plate which employs rapid-drying liquid inks.

Grams of VOC per liter of material means the weight of VOC per volume of material and can be calculated by the following equation:

$$\textit{Grams of VOC per Liter of Material} = \frac{Ws - Ww - Wes}{Vm}$$

Where: Ws = weight of volatile compounds in grams;

Ww = weight of water in grams;

Wes = weight of exempt compounds in grams; and

Vm = volume of material in liters.

Graphic arts means all screen, gravure, letterpress, flexographic, and lithographic printing processes.

Gravure printing means an intaglio process in which the ink

is carried in minute etched or engraved wells on a roll or cylinder. The excess ink is removed from the surface by a doctor blade.

Institutions mean, but are not limited to, schools, hospitals, sanitariums, prisons, health clubs, and theaters.

Janitorial cleaning means the cleaning of building or facility components, such as the floor, ceiling, walls, windows, doors, stairs, bathrooms, etc.

Letterpress printing means the method in which the image area is raised relative to the nonimage area and the ink is transferred to the paper directly from the image surface.

Lithographic printing means a plane-o-graphic method in which the image and nonimage areas are on the same plane.

Liquid leak means a visible liquid solvent leak from a container at a rate of more than three drops per minute, or a visible liquid mist.

Maintenance cleaning means a solvent cleaning operation carried out to keep parts, products, tools, machinery, equipment, or general work areas in clean and good operational condition.

Manufacturing process means the process of making goods or articles by hand or by machinery.

Medical equipment means equipment used by physicians to cure diseases or conditions requiring surgical procedures that are implanted in the body or used during invasive medical procedures. Medical equipment includes, but is not limited to, heart valves, catheters, oxygenenators, pressure monitors, pharmaceutical and

dental equipment.

Non-absorbent containers mean containers made of nonporous material which do not allow the migration of the liquid solvent through them.

Non-atomized solvent flow means the use of a solvent to remove uncured adhesives, uncured inks, uncured coatings, and contaminants from an article in the form of a liquid stream without atomization.

Non-leaking containers mean containers without liquid leaks.

Printing means any operation that imparts color, design, alphabet, or numerals on a substrate.

Remote reservoir cold cleaner means a cleaning device in which liquid solvent is pumped from a solvent container to a sink-like work area and the solvent from the sink-like area drains into an enclosed solvent container while parts are being cleaned.

Repair cleaning means a solvent cleaning operation carried out during a repair process.

Repair process means the process of returning a damaged object or an object not operating properly to good condition.

Screen printing means a process in which the printing ink passes through a web or a fabric to which a refined form of stencil has been applied. The stencil openings determine the form and dimensions of the imprint.

Solvent means a VOC-containing liquid used to perform solvent cleaning operations.

Solvent cleaning operation means the removal of loosely held uncured adhesives, uncured inks, uncured coatings, and contaminants which include, but are not limited to, dirt, soil, and grease from parts, products, tools, machinery, equipment, and general work areas. Each distinct method of cleaning in a cleaning process which consists of a series of cleaning methods shall constitute a separate solvent cleaning operation.

Solvent container means that part of a cleaning device that holds the solvent.

Solvent flushing means the use of a solvent to remove uncured adhesives, uncured inks, uncured coatings, or contaminants from the internal surfaces and passages of the equipment by flushing solvent through the equipment.

Stripping means the removal of cured coatings, cured inks, and cured adhesives.

Surface preparation means the removal of contaminants such as dust, soil, oil, grease, etc., prior to coating, adhesive, or ink applications.

Ultraviolet inks mean inks which dry by polymerization reaction induced by ultraviolet energy.

VOC composite partial pressure means the following:

$PP_c = A/B$

Where:

$$A = \sum_{i=1}^{n} (W_i)\ (VP_i)\ /MW_i$$

and:

$$B = \frac{W_w}{MW_w} + \frac{W_e}{MW_e} + \sum_{i=1}^{n} \frac{W_i}{MW_i}$$

W_i = weight of the "i"th VOC compound, in grams;

W_w = weight of water, in grams;

W_e = weight of exempt compound, in grams;

MW_i = molecular weight of the "i"th VOC compound, in g/(g-mole);

MW_w = molecular weight of water, in g/(g-mole);

MW_e = molecular weight of exempt compound, in g/(g-mole);

PP_c = VOC composite partial pressure at 20 C, in mm Hg; and

VP_i = vapor pressure of the "i"th VOC compound at 20 C, in mm Hg.

Wipe cleaning means the method of cleaning a surface by physically rubbing it with a material such as a rag, paper, or a cotton swab moistened with a solvent.

(3) Standards.

(i) Solvent requirements. On and after May 15, 1997, a person shall not use a solvent to perform solvent cleaning operations, including the use of cleaning devices or methods, unless the solvent complies with the applicable requirements set forth below.

(A) Surface cleaning during manufacturing processes, and surface preparation for coating, adhesive, or ink applications.

The solvents used on surfaces for cleaning during the manufacturing process or for surface preparation prior to coating, adhesive, or ink applications shall not exeed the following limits:

VOC Composite Partial Pressure		VOC Content
25 mm Hg @ 20°C or less	and	200 grams/liter or less
or,		
more than 25 mm Hg @ 20°C	and	70 grams/liter or less

(B) Repair and maintenance cleaning. The solvents used for repair or maintenance cleaning shall have a VOC content of 900 grams or less of VOC per liter of material and a VOC composite partial pressure of 20 mm Hg or less at 20°C (68°F).

(C) Cleaning of coatings and adhesives application equipment. The solvents used for cleaning coatings or adhesives application equipment shall have a VOC content of 950 grams or less of VOC per liter of material and a VOC composite partial pressure of 35 mm Hg or less at 20°C (68°F).

(D) Cleaning of polyester resin application equipment. The solvents used for cleaning polyester resin application equipment shall comply with one of the limits specified below:

(1) The solvent shall have a VOC content of 200 grams or less of VOC per liter of material; or

(2) The solvent shall have a VOC content of 1,100 grams or less of VOC per liter of material and a VOC composite partial pressure of 1.0 mm Hg or less at 20°C (68°F).

(E) Cleaning of ink application equipment. The solvents used for cleaning of ink application equipment in graphic arts shall meet the limits specified below.

(1) The solvents used in screen printing shall have a VOC content of 1,070 grams or less of VOC per liter of material and a VOC composite partial pressure of 5 mm Hg or less at 20°C (68°F).

(2) The solvents used in lithographic and letterpress printing not subject to provisions of paragraph (a)(3)(i)(E)(4) of this section shall have a VOC content of 800 grams or less of VOC per liter of material and a VOC composite partial pressure of 25 mm Hg or less at 20°C (68°F).

(3) The solvents used in gravure printing, flexographic printing, and printing operations not subject to provisions of paragraphs (a)(3)(i)(E)(1), (2), or (4) of this section shall have a VOC content of 100 grams or less of VOC per liter of material and a VOC composite partial pressure of 3 mm Hg at 20°C (68°F).

(4) The solvents used to remove ultraviolet inks from application equipment in graphic arts printing operations, except screen printing, shall have a VOC content of 800 grams or less of VOC per liter of material and a VOC composite partial pressure of 33 mm Hg or less at 20°C (68°F).

(F) Cleaning of electronic components and medical

equipment. The solvents used for manufacturing or maintenance cleaning of electronic components or medical equipment shall have a VOC content of 900 grams or less of VOC per liter of material and a VOC composite partial pressure of 33 mm Hg or less at 20°C (68°F).

(ii) Cleaning devices and methods requirements. On and after May 15, 1997, a person shall not perform solvent cleaning operations unless one of the following cleaning devices or methods is used:

(A) Wipe cleaning;

(B) Spray bottles or closed containers from which solvents are applied without a propellant-induced force;

(C) Cleaning equipment using solvent within a closed container, except when depositing and removing objects to be cleaned, or for maintenance and repair to the cleaning equipment itself. This includes but is not limited to:

(1) Any cleaning device or mechanism which has been determined by EPA to result in equivalent or lower emissions; or

(2) Any remote reservoir cold cleaner used pursuant to the provisions of paragraph (a)(3)(iii) of this section;

(D) Non-atomized solvent flow method where the cleaning solvent is collected in a closed container; or

(E) Solvent flushing method where the cleaning solvent is discharged into a container. The discharged solvent from the equipment must be collected into containers without atomizing

into the open air. The solvent may be flushed through the system by air or hydraulic pressure, or by pumping.

(iii) Remote reservoir cold cleaners. On and after May 15, 1997, any person owning or operating a remote reservoir cold cleaner shall comply with all of the following requirements:

(A) Prevent solvent vapors from escaping from the solvent container by using such devices as a cover or a valve when the remote reservoir is not being used, cleaned, or repaired;

(B) Direct solvent flow in a manner that will prevent liquid solvent from splashing outside of the remote reservoir cold cleaner;

(C) Not degrease porous or absorbent materials, such as cloth, leather, wood, or rope; and

(D) Use only solvent containers free of all liquid leaks. Auxiliary equipment, such as pumps, pipelines, or flanges, shall not have any liquid leaks, visible tears, or cracks. Any liquid leak, visible tear, or crack detected shall be repaired within one calendar day, or the leaking section of the remote reservoir cold cleaner shall be drained of all solvent and shut down until it is replaced or repaired.

(iv) Storage and disposal.

(A) All VOC-containing solvents shall be stored in non-absorbent, non-leaking containers which shall be kept closed at all times except when filling or emptying.

(B) All waste solvent and waste solvent residues shall be disposed of by at least one of the following methods:

(1) Disposal through a commercial reclamation service;

(2) Disposal at a facility that is federally or state licensed to treat, store or dispose of such waste; or

(3) Disposal by recycling in conformance with §25143.2 of the Caliofornia Health and Safety Code.

(v) Emission control system. In lieu of complying with the requirements in paragraphs (a)(3)(i), (a)(3)(ii), (a)(3)(v)(A) of this section, a person may comply by using an emission control system in association with the solvent cleaning operation regulated by this section provided:

(A) The emission control system maintains a capture efficiency of at least 90%, by weight, of the emissions generated by the solvent cleaning operation and a destruction or removal efficiency of at least 95% by weight; or

(B) The emission control system maintains a capture efficiency of at least 90%, by weight, of the emissions generated by the solvent cleaning operation and the output of the control system is less than 50 parts per million (ppm) calculated as carbon with no dilution; or

(C) The emission control system meets the requirements of an applicable source-specific section of the Federal or federally approved State Implementation Plan.

(vi) General prohibitions.

(A) On and after May 15, 1997, a person shall not atomize any solvent into open air.

(B) On and after May 15, 1997, a person shall not specify

or require any person to use solvent or equipment subject to the provisions of this section that do not meet the requirements of this section.

(4) Exemptions.

(i) The following solvent cleaning operations are not subject to any provision of paragraph (a)(3) of this section.

(A) Cleaning performed in batch-loaded cold cleaners, open-top vapor degreasers, conveyorized degreasers, or film cleaning machines which are regulated under an equivalent (i.e., equally stringent) source-specific section contained in the Federal or federally approved State Implementation Plan.

(B) Cleaning operations performed at solvent dry cleaners and perchloroethylene dry cleaning systems which are regulated under an equivalent (i.e., equally stringent) source-specific section contained in the Federal or federally approved State Implementation Plan.

(C) Cleaning operations performed at semiconductor manufacturing facilities which are regulated under an equivalent (i.e., equally stringent) source-specific section contained in the Federal or federally approved State Implementation Plan.

(D) Cleaning operations performed at aerospace assembly and component manufacturing facilities which are regulated under an equivalent (i.e., equally stringent) source-specific section contained in the Federal or federally approved State Implementation Plan, except coating application equipment cleaning, and storage and disposal of VOC-containing materials

used in solvent cleaning operations.

(E) Cleaning operations performed at remote reservoir cold cleaners which are regulated under an equivalent (i.e., equally stringent) source-specific section contained in the Federal or federally approved State Implementation Plan.

(F) Janitorial cleaning.

(G) Stripping of cured coatings, cured adhesives, and cured inks.

(H) Cleaning operations using solvents with a water content of 98% or more by weight.

(I) Cleaning operations using solvents for clean up of polyester resin application equipment provided they do not exceed 4 gallons a day.

(ii) Wipe cleaning is not subject to the provisions of paragraph (a)(3)(i) of this section when carried out for any of the following applications.

(A) Cleaning of solar cells, laser hardware, and high-precision optics.

(B) Cleaning for conducting performance laboratory tests on coatings, adhesives, or inks; research and development programs; and laboratory tests in quality assurance laboratories.

(C) Cleaning of polycarbonate plastics.

(iii) Internal cleaning of the tips of automated spray equipment systems, except for robotic systems, and cleaning with spray bottles or containers described in paragraph (a)(3)(ii)(B) of this section, are not subject to the provisions of paragraph

(a)(3)(vi)(A) of this section.

(iv) Cleaning with aerosol products shall not be subject to the provisions of paragraphs (a)(3)(i) and (a)(3)(v)(A) of this section if 160 fluid ounces or less per day per facility of aerosol products are used.

(v) Cleaning of cotton swabs to remove cottonseed oil before cleaning of high-precision optics shall not be subject to paragraph (a)(3)(i) of this section.

(vi) A facility which uses non-compliant solvents in quantities less than 1 gallon a week shall not be subject to paragraphs (a)(3)(i)(A) and (B) of this section for those solvents.

(vii) Maintenance cleaning conducted at institutions and residential dwellings shall not be subject to paragraph (a)(3)(i)(B) of this section.

(5) Reporting and Recordkeeping.

(i) Records shall be maintained pursuant to paragraph (a)(5)(ii) of this section for all applications subject to this section, including those exempted under paragraph (a)(4) of this section, except for cleaning operations performed with a solvent which has a water content of 98% or more, by weight, or a VOC composite partial pressure of 0.1 mm Hg or less at 20°C (68°F).

(ii) Any source within the affected area that uses greater than 20 gallons per year of VOC-containing materials used in solvent cleaning operations shall comply with the following requirements:

(A) Maintain a current file of each VOC-containing material in use and in storage for solvent cleaning operations. The file shall provide all of the data necessary to evaluate compliance and shall include, but not be limited to, the following information, as applicable:

(1) A data sheet or material list giving material name, manufacturer identification and material application;

(2) Any thinners or other components used and the mix ratio; and

(3) The VOC content limit or vapor pressure limit from paragraph (a)(3) of this section and the actual VOC content, as applied, or vapor pressure of the solvent used for cleaning operations.

(B) Maintain records of the monthly volume of each solvent used.

(C) When compliance is achieved through the use of add-on control equipment pursuant to paragraph (a)(3)(v) of this section, maintain records on a daily basis of key operating parameters for the emission control equipment, including, but not limited to:

(1) Hours of operation;

(2) Routine and nonroutine maintenance;

(3) All information needed to demonstrate continuous compliance with paragraph (a)(3)(v) of this section, such as temperatures, pressures, and flowrates; and

(4) Maintain records of the daily volume of each VOC-

containing solvent subject to abatement by add-on control equipment.

(D) Maintain records sufficient to demonstrate compliance with paragraph (a)(3)(iv)(B) of this section including, but not limited to:

(1) Date;

(2) Source of waste (e.g., "waste solvent from cold cleaner");

(3) Description of waste (e.g., "rags in two 55 gallon drums with 5-10% liquid");

(4) Amount of solvent in waste shipment; and

(5) Destination of each shipment of waste solvent and/or waste solvent residues off-site.

(E) All records shall be maintained for at least three years and shall be provided to EPA upon request.

(6) Test Methods. For the purpose of this section, the following test methods shall be used. VOC emissions or other parameters determined to exceed any limits established by this section through the use of any of the following test methods shall constitute a violation of the section.

(i) The VOC content of materials subject to the provisions of this section shall be determined by EPA Method 24 (40 CFR part 60, appendix A).

(ii) The efficiency of the collection device of the emissions control system, as specified in paragraph (b)(3)(v)(A) of this section, shall be determined by the EPA method described

at §52.741(a)(4)(iii).

(iii) The efficiency of the control device of the emission control system, as specified in paragraph (b)(3)(v)(B) of this section, shall be determined by the EPA method described at §52.741(a)(4)(iv). The VOC content measured and calculated as carbon in the control device exhaust gases shall be determined by EPA Method 25 or 25A (40 CFR part 60, appendix A).

(iv) The identity of components in solvents shall be determined by EPA Method 18 (40 CFR part 60, appendix A).

(v) Vapor pressure of a VOC shall be determined by ASTM Method D2879-86 (incorporated by reference as specified at 40 CFR 52.3002) or may be obtained from a published source such as: Boublik, T., V. Fried and E. Hala, "The Vapor Pressure of Pure Substances," Elsevier Scientific Publishing Co., New York (1973); Perry's Chemical Engineer's Handbook, McGraw-Hill Book Company (1984); CRC Handbook of Chemistry and Physics, Chemical Rubber Publishing Company (1986-87); and Lange's Handbook of Chemistry, John A. Dean, editor, McGraw-Hill Book Company (1985).

(b) Wood Products Coatings.

(1) Applicability. This section applies to all persons applying coating, inks, stains, and/or strippers in wood product coating operations for the purpose of manufacture of wood products, including furniture and other coated objects made of solid wood and/or wood composition, and/or simulated wood material. This section shall not apply to residential noncommercial operations. For the purposes of this section, the

affected area is the Sacramento Metro Area for ozone and the Ventura County Area for ozone as described in §81.305.

(2) Definitions. For the purposes of paragraph (b) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Aerosol-spray coating means a coating which is sold in a hand-held, pressurized, non-refillable container of sixteen ounces or less and which is expelled from the container in a finely divided spray when a valve on the container is depressed.

Binders means non-volatile polymeric organic materials (resins) which form the surface film in coating applications.

Clean topcoat means a final coating which contains binders, but not opaque pigments, and is specifically formulated to form a transparent or translucent solid protective film.

Coating means a material which is applied to a surface and which forms a film in order to beautify and/or protect such surface.

Dip coat means to dip an object into a vat of coating material and drain off any excess coating.

Electrostatic application means charging of atomized paint droplets for deposition by electrostatic attraction.

Filler means a preparation used to fill in cracks, grains, etc., of wood before applying a coating.

Flow coat means to coat an object by flowing a stream of coating over an object and draining off any excess coating.

Grams of VOC per liter of material means the weight of VOC

per volume of material and can be calculated by the following equation:

$$\textit{Grams of VOC per Liter of Material} = \frac{Ws - Ww - Wes}{Vm}$$

Where:	Ws	=	weight of volatile compounds in grams
	Ww	=	weight of water in grams
	Wes	=	weight of exempt compounds in grams
	Vm	=	volume of material in liters

High-solids stains means stains containing more than 1 pound of solids per gallon, by weight, and can include wiping stains, glazes, and opaque stains.

High-volume, low-pressure (HVLP) spray means to spray a coating by means of a gun that operates between 0.1 and 10.0 pounds per square inch gauge (psig) air pressure.

Ink means a fluid that contains dyes and/or colorants and is used to make markings, but not to protect surfaces.

Low-solids stains means stains containing 1 pound of solids per gallon, or less, by weight.

Mold-seal coating means the initial coating applied to a new mold or repaired mold to provide a smooth surface which, when coated with a mold release coating, prevents products from sticking to the mold.

Multi-colored coating means a coating which exhibits more than one color when applied, and which is packaged in a single

container and applied in a single coat.

Pigmented coatings means opaque coatings which contain binders and colored pigments which are formulated to hide the wood surface, either as an undercoat or topcoat.

Rate per calendar year means the amount applied between 12:00 a.m. January 1 and 11:59 p.m. December 31.

Rate per day means the amount applied between 12:00 a.m. and 11:59 p.m. on the same calendar day.

Repair coating means a coating used to recoat portions of a product which has sustained mechanical damage to the coating following normal painting operations.

Roll coater means a series of mechanical rollers that forms a thin coating film on the surface of the roller, which is applied to a substrate by moving the substrate underneath the roller.

Sealer means a coating, containing binders, which seals the wood prior to application of the subsequent coatings.

Simulated wood materials means materials, such as plastic, glass, metal, etc., that are made to give a wood-like appearance or are processed like a wood product.

Stencil coating means an ink or a pigmented coating which is rolled or brushed onto a template or stamp in order to add identifying letters and/or numbers to wood products.

Stripper means a liquid used to remove cured coatings, cured inks, and/or cured adhesives.

Toner means a wash coat which contains binders and dyes or

pigments to add tint to a coated surface.

Touch-up coating means a coating used to cover minor coating imperfections appearing after the main coating operation.

Wash coat means a coating that contains no more than 1.0 pound of solids per gallon, by weight, which is used to seal wood surfaces, prevent undesired staining, and control penetration.

Wood product coating application operations means a combination of coating application steps which may include use of spray guns, flash-off areas, spray booths, ovens, conveyors, and/or other equipment operated for the purpose of applying coating materials.

Wood products means those surface-coated room furnishings which include cabinets (kitchen, bath, and vanity), tables, chairs, beds, sofas, shutters, art objects, and any other coated objects made of solid wood, and/or wood composition, and/or made of simulated wood material used in combination with solid wood or wood composition.

(3) Standards.

(i) VOC Content of Coatings and Strippers.

(A) A person or facility shall not apply any coating to a new wood product, or a new product made of simulated wood materials which has a VOC content, including any VOC-containing material added to the original coating supplied by the manufacturer, which exceeds the applicable limit specified below:

VOC LIMITS
Grams Per Liter of Material
Less Water and Less Exempt Compounds

Coating	On and After 5/15/97 (g/L)	(lb/gal)
Clear Topcoats	275	(2.3)
Filler	275	(2.3)
High-Solid Stains		
Non-Glaze	240	(2.0)
Glaze	240	(2.0)
Inks	500	(4.2)
Mold-Seal Coating	750	(6.3)
Multi-Colored Coating	275	(2.3)
Pigmented Coating	275	(2.3)
Sealer	240	(2.0)
Low-Solids Stains, Toner, or Washcoat	120	(1.0)

(B) A person or facility shall not apply any coating in a refinishing operation necessary to repair, preserve, or restore a wood product which has a VOC content, as applied, exceeding the applicable limit specified below:

VOC LIMITS
Grams per Liter of Material
Less Water and Less Exempt Compounds

	On and After 5/15/97	
Coating	g/L	lb/gal
Clear Topcoat	680	(5.7)
Filler	500	(4.2)
High-Solid Stains	700	(5.8)
Inks	500	(4.2)
Mold-Seal Coating	750	(6.3)
Multi-colored Coating	680	(5.7)
Pigmented Coating	600	(5.0)
Sealer	680	(5.7)
Low-solids Stains, Toners, or Washcoats	480	(4.0)

(C) No person shall use any stripper on wood products unless:

a. The VOC content is 350 grams per liter (2.9 lb/gal) of material or less; or

b. The composite vapor pressure of the stripper is 2 mm Hg (0.04 psia) or less at 20°C (68°F).

(D) Emission control system. A person or facility may comply with the provisions of paragraph (b)(3)(i)(A) and (B) of this section by using an emission control system, provided that this system maintains a control efficiency (capture efficiency times

destruction or removal efficiency) of the VOC emissions of at least 85 (eighty-five) percent by weight.

(ii) Transfer Efficiency. A person or facility shall not apply a coating subject to this section except by means of the following application methods:

(A) Electrostatic spray application;

(B) Flow coat application;

(C) Dip coat application;

(D) Hand application methods;

(E) High-volume low-pressure (HVLP) spray application; or

(F) Other coating application methods that are demonstrated to have a transfer efficiency at least equal to HVLP in the application, and which are used in such a manner that parameters under which they were tested are permanent features of the method. Such coating application methods shall be approved in writing by EPA.

(iii) Solvent cleaning operations; storage and disposal of VOC-containing materials. Cleanup solvents used for surface preparation, equipment cleanup, and thinning operations, including storage and disposal of VOC-containing materials, shall be subject to the provisions and requirements of §52.2961(a), Solvent cleaning operations.

(iv) Prohibition of specifications. A person shall not specify the use in the affected area of any coating to be applied to any wood products subject to the provisions of this section

that does not meet the limits and requirements of this section. The requirements of this paragraph shall apply to all written or oral contracts.

(4) Exemptions.

(i) The provisions of paragraphs (b)(3)(i) and (ii) of this section shall not apply to:

(A) Aerosol-spray coatings for touch up and repair; or

(B) Facilities that use less than 1 gallon per day of coating subject to this section.

(ii) The provisions of this section shall not apply to coating operations for the purpose of manufacturing a finished wood panel intended for attachment to the inside walls of buildings, including, but not limited to, homes and office buildings, mobile homes, trailers, prefabricated buildings and similar structures, boats, and ships; or a finished exterior wood siding intended for use in construction.

(5) Reporting and Recordkeeping. Any source within the affected area that uses greater than 1 gallon of wood product coating materials (coatings, inks, fillers, stains, strippers, toners, washcoats, or solvents) per day shall comply with the following requirements:

(i) Maintain a current file of each wood product coating material in use and storage. This file shall provide all of the data necessary to evaluate compliance and shall include, but not be limited to, the following information, as applicable:

(A) A data sheet or material list giving material

name, manufacturer identification, and material application;

(B) Any catalysts, reducers, or other components used and the mix ratio; and

(C) The VOC content limit from paragraph (b)(3) of this section and the actual VOC content, as applied, or vapor pressure of the wood product coating material.

(ii) Maintain records of the monthly volume (e.g., gallons) of each wood product coating material.

(iii) Control equipment records. Any person using an emission control system as a means of complying with this section shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control device during periods of emission producing activities. Key system operating parameters are those necessary to ensure compliance with the requirements of paragraph (b)(3)(i)(D) of this section such as temperatures, pressures, and flowrates.

(iv) All records shall be maintained for at least three years and shall be made available to EPA upon request.

(6) Test Methods.

(i) Determination of VOC content.

(A) The VOC content of coatings and strippers shall be determined by using EPA Method 24 (40 CFR part 60, appendix A).

(B) The exempt compound content of coatings and strippers shall be determined by ASTM Method D-4457-85

(incorporated by reference as specified at 40 CFR 52.3002), which is limited to the measurement of dichloromethane and 1,1,1-trichloroethane only.

(C) The VOC content of emissions shall be determined by EPA Method 18 (40 CFR part 60, appendix A).

(ii) Equipment test methods.

(A) Capture efficiency. The efficiency of the collection device of the emission control system, as specified in paragraph (b)(3)(i)(D) of this section, shall be determined by the EPA method described at §52.741(a)(4)(iii).

(B) Destruction or removal efficiency. The efficiency of the control device of the emission control system, as specified in paragraph (b)(3)(i)(D) of this section, shall be determined by the EPA method described at §52.741(a)(4)(iv). The VOC content measured and calculated as carbon in the control device exhaust gases shall be determined by EPA Method 25 or Method 25A (40 CFR part 60, appendix A).

(C) Transfer efficiency. The transfer efficiency for other coating application methods, as defined in paragraph (b)(3)(ii)(6) of this section, shall be determined in accordance with South Coast Air Quality Management District Spray Equipment Transfer Efficiency Test Procedure for Equipment User, May 24, 1989 (incorporated by reference as specified at 40 CFR 52.3002). This transfer efficiency (TE)

test method is approved only for the limited purpose of comparing alternative application technologies under controlled conditions. The results of these tests are not transferable to a production setting. The test method is not acceptable for determining TE to establish VOC emission reduction credits to allow the use of higher VOC coatings, or to establish VOC credits for trading or offset purposes.

(c) Automotive refinishing operations.

(1) Applicability. This section applies to all coating operations of Group I vehicles and Group II vehicles and equipment, as described in paragraph (c)(2) of this section, or their existing parts and components, for the purpose of on-site refinishing and modification except Original Equipment Manufacturer (OEM) coatings applied at manufacturing plants. Facilities with coating operations considered within the scope of this section include: autobody repair/paint shops, production autobody paint shops, new car dealer repair/paint shops, fleet operator repair/paint shops, custom-made car fabrication facilities, and truck body-builders. For the purposes of this section, the affected area is the Sacramento Metro Area for ozone as described in 40 CFR 81.305.

(2) Definitions. For the purposes of paragraph (c) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Adhesion promoter means a coating applied over both an existing non-sanded topcoat and the coated area immediately

adjacent to the non-sanded topcoat, to promote the adhesion of a subsequent topcoat. No topcoat, primer, primer sealer, or primer surfacer shall be classified as an adhesion promoter.

Anti-glare safety coating means a coating formulated to eliminate glare for safety purposes on interior surfaces of a vehicle and which shows a reflectance of 25 or less on a 60° gloss meter.

Basecoat means a pigmented topcoat which is the first topcoat applied as part of a multistage topcoat system.

Basecoat/clearcoat topcoat system means a topcoat system composed of a basecoat portion and a clearcoat portion. The VOC content of a basecoat/clearcoat topcoat system shall be calculated according to the following formula:

$$VOCms = \frac{VOCbc + 2\,VOCcc}{3}$$

Where:

VOCms	=	the composite VOC content, less water and less exempt compounds to be used for compliance determination under the multistage topcoat system coating category.
VOCbc	=	the VOC content, less water and less exempt compounds as applied, of any given basecoat.
2 VOCcc	=	two times the VOC content, less water and less exempt compounds as applied, of any given clearcoat.

Bright metal trim repair coating means a coating applied directly to chrome-plated metal surfaces for the purpose of appearance.

Bus means any motor vehicle having a manufacturer's gross vehicle weight of more than 8,600 pounds, which is designed primarily for the transportation of persons and has a design capacity of over 12 persons.

Clearcoat means a topcoat which contains no pigments or only transparent pigments and which is the final topcoat applied as a part of a multistage topcoat system.

Coating means a material which is applied to a surface and which forms a film in order to beautify and/or protect such surface.

Elastomeric materials mean coatings which are specifically formulated and applied over coated or uncoated flexible plastic substrates for the purpose of adhesion.

Electrostatic application means charging of atomized paint droplets for deposition by electrostatic attraction.

Enamel means a coating that cures by chemical cross-linking of its base resin. Enamels can be readily distinguished from lacquers because enamels are not resoluble in their original solvent.

Extreme-performance topcoat means a topcoat used on the surface of Group II vehicles and mobile equipment, and which qualifies under the provisions of paragraph (c)(6)(vii) of this section.

General topcoat means any type of topcoat except extreme-performance topcoat, metallic topcoat, and any topcoat applied as part of a multistage topcoat system.

Grams of VOC per liter of material means the weight of VOC per volume of material and can be calculated by the following equation:

$$\textit{Grams of VOC per Liter of Material} = \frac{Ws - Ww - Wes}{Vm}$$

Where: Ws = weight of volatile compounds in grams;

Ww = weight of water in grams;

Wes = weight of exempt compounds in grams; and

Vm = volume of material in liters.

Group I vehicles mean passenger cars, small-sized trucks and vans, medium-sized trucks and vans, motor homes, and motorcycles.

Group II vehicles and equipment mean large-sized trucks, buses, street and mobile equipment.

High-volume, low-pressure (HVLP) spray means equipment used to spray a coating by means of a gun that operates between 0.1 and 10 pounds per square inch gauge (psig) air pressure.

Highway means a way or place of whatever nature, publicly maintained and open to the public for purposes of vehicular travel. Highway includes street.

Impact-resistant coating means any coating applied to a rocker panel for the purpose of chip resistance to road debris.

Metallic/iridescent topcoat means a topcoat which contains

iridescent particles, composed of either metal as metallic particles or silicon as mica particles, in excess of 5 g/L (0.042 lb/gal) as applied, where such particles are visible in the dried film.

Midcoat means a semi-transparent topcoat which is the middle topcoat applied as part of a three-stage topcoat system.

Mobile equipment means self-propelled equipment which is physically capable of being driven on a highway. Mobile equipment includes, but is not limited to, the following: truck bodies, truck trailers, utility bodies, camper shells, and miscellaneous hauling equipment.

Motor home means any motor vehicle originally designed, or permanently altered, and equipped for human habitation as defined in Section 362 of the California Vehicle Code.

Motor vehicle means a vehicle which is self-propelled and which is physically capable of being driven on a highway.

Motorcycle means any motor vehicle other than a tractor having a seat or saddle for the use of the rider, which is designed to travel on not more than three wheels in contact with the ground and weighs less than 1,500 pounds. Four wheels may be in contact with the ground when two of the wheels are a functional part of a sidecar.

Multistage topcoat system means any basecoat/clearcoat topcoat system or any three-stage topcoat system, manufactured as a system, and used as specified by the manufacturer.

Passenger car means any motor vehicle designed primarily for

transportation of persons and having a design capacity of 12 persons or less.

Pretreatment coating means a coating which contains no more than 12 percent solids, by weight, and at least 1/2-percent acid, by weight, which is used to provide surface etching and is applied directly to bare metal surfaces to provide corrosion resistance and adhesion.

Primer means a coating applied for purposes of corrosion resistance or adhesion of subsequent coatings.

Primer sealer means a coating applied prior to the application of a topcoat for the purpose of color uniformity, or to promote the ability of an underlying coating to resist penetration by the topcoat.

Primer surfacer means a coating applied for the purpose of corrosion resistance or adhesion, and which promotes a uniform surface by filling in surface imperfections.

Rocker panel means the panel area of a motor vehicle which is no more than 10 inches from the bottom of a door, quarter panel, or fender.

Rubberized asphaltic underbody coating means a coating applied to wheel wells, the inside of door panels or fenders, the underside of a trunk or hood, or the underside of the motor vehicle itself for the purpose of sound deadening or protection.

Specialty coating means any of the following coatings: adhesion promoters, uniform finish blenders, elastomeric materials, anti-glare safety coatings, impact-resistant coatings,

rubberized asphaltic underbody coatings, water hold-out coatings, weld-thru coatings, and bright metal trim repair coatings.

Spot repairs mean repairs to motor vehicles in which the damaged area to be repaired is limited to only a portion of any given panel so that an entire panel need not be repaired.

Stencil coating means an ink or a pigmented coating which is rolled or brushed onto a template or a stamp in order to add identifying letters, symbols, and/or numbers to motor vehicles, mobile equipment, or their parts and components.

Three-stage topcoat system means a topcoat system composed of a basecoat portion, a midcoat portion and a transparent clearcoat portion. The VOC content of a three-stage topcoat system shall be calculated according to the following formula:

$$VOCms = \frac{VOCbc + VOCmc + 2\ VOCcc}{4}$$

Where:

VOCms	=	the composite VOC content, less water and less exempt compounds to be used for compliance determination under the multistage topcoat system coating category.
VOCbc	=	the VOC content, less water and less exempt compounds as applied, of any given basecoat.
VOVmc	=	the VOC content, less water and less exempt compounds as applied, of any given midcoat.
2 VOCcc	=	two times the VOC content, less water and

less exempt compounds as applied, of any given clearcoat.

Topcoat means a coating applied over any coating, for the purpose of appearance, identification, or protection.

Touch-up coating means a coating applied by brush or non-refillable aerosol can to cover minor surface damage and dispensed in containers of no more than 8 ounces.

Truck means a motor vehicle designed, used, or maintained primarily for the transportation of property.

(1) Large-sized truck means a truck having a manufacturer's gross vehicle weight rating of more than 8,600 pounds.

(2) Medium-sized truck means a truck having a manufacturer's gross vehicle weight of 6,001 to 8,600 pounds.

(3) Small-sized truck means any motor vehicle having a manufacturer's gross vehicle weight rating at 6,000 pounds or less and which is designed primarily for the purposes of transportation of property or is a derivative of such vehicle, or is available with special features enabling on-street or off-highway operation and use.

Uniform finish blenders mean coatings which are applied in spot repairs for the purpose of blending a paint overspray area of a repaired topcoat to match the appearance of an adjacent existing topcoat.

Van means a closed truck for carrying property or persons.

(1) Medium-sized van means a van having a manufacturer's gross vehicle weight rating of 6,001 to 8,600 pounds.

(2) Small-sized van means a van having a manufacturer's gross vehicle weight rating at 6,000 pounds or less and which is designed primarily for purposes of transportation of property and/or persons.

Vehicle means a device by which any person or property may be propelled, moved, or drawn upon a highway, excepting a device moved exclusively by human power or used exclusively upon stationary rails or tracks.

Water hold-out coating means a coating applied to the interior cavity areas of doors, quarterpanels, and rocker panels for the purpose of corrosion resistance to prolonged water exposure.

Weld-thru coating means a coating applied to metal immediately prior to welding to provide corrosion resistance.

(3) Standards.

(i) VOC content of coatings. On and after May 15, 1997 a person shall not apply a coating to Group I vehicles and Group II vehicles and equipment, or their existing parts and components, which has a VOC content which exceeds the limits contained in paragraphs (c)(3)(i)(A) and (B) of this section. Compliance with the VOC limits shall be based on VOC content, including any VOC material added to the original coating supplied by the manufacturer, less water and exempt solvent, as applied to the

vehicle, mobile equipment, or parts and components.

(A) Group I vehicles. A person who refinishes Group I vehicles, or their existing parts or components, or replacement parts or components, shall not apply a coating which has a VOC content in excess of the limits in the table of group 1 vehicle VOC limits.

Table of Group I Vehicle VOC Limits

	VOC LIMITS Grams Per Liter of Coating, Less Water and Exempt Compounds	
Coating	g/L	lb/gal
Pretreatment	780	6.5
Primer/Primer Surfacer	250	2.1
Primer Sealer	250	2.1
Topcoats		
General	340	2.8
Metallic/Iridescent[a]	340	2.8
Multistage System[a]	340	2.8
Specialty Coating	840	7.0

[a] Metallic topcoat and multistage topcoat system VOC content limits do not apply to spot repairs of Group I vehicles and mobile equipment. The use of metallic topcoats and multistage topcoat systems in spot repairs on Group I vehicles and mobile equipment shall be subject to the VOC content limits of paragraph (c)(3)(i)(B) of this section.

(B) Group II vehicles and equipment. A person who refinishes Group II vehicles and equipment, or their

existing parts or components, or replacement parts or components, shall not apply a coating which has a VOC content in excess of the limits in the table of group II vehicle VOC limits.

Table of Group II Vehicle VOC limits

	VOC LIMITS Grams Per Liter of Coating, Less Water and Exempt Compounds	
Coating	g/L	lb/gal
Pretreatment	780	6.5
Primer/Primer Surfacer	250	2.1
Primer Sealer	340	2.8
Topcoats		
General	420	3.5
Metallic/Iridescent	420	3.5
Multistage	420	3.5
Specialty Coating	840	7.0

(ii) Specialty coatings. Use of all specialty coatings at a facility, as defined in paragraph (c)(2) of this section, shall not exceed 5.0% of all coatings applied, by volume, on a daily basis.

(iii) Transfer efficiency.

(A) A person shall not apply coatings subject to the provisions of this section except by the use of one of the following methods:

(1) Electrostatic application;

(2) High-volume, low-pressure (HVLP) spray;

(3) Flow coat;

(4) Roll coat;

(5) Dip coat;

(6) Hand application methods; or

(7) Other coating application methods that are demonstrated to have transfer efficiency at least equal to HVLP spray equipment in the application, and which are used in such a manner that the parameters under which they were tested are permanent features of the method. Such coating application methods shall be approved in writing by EPA.

(B) A person shall not apply coatings by any of the methods listed in paragraph (c)(3)(iii)(A) of this section unless the coating is applied with properly operating equipment and operated according to procedures recommended by the manufacturer.

(iv) Cleanup solvent use. Solvents used for surface preparation, equipment cleanup, and thinning operations, including storage and disposal of VOC-containing materials, shall be subject to the provisions and requirements of §52.2961(a).

(v) Emission control system. A person may comply with the provisions of paragraph (c)(3)(i) of this section by using an emission control system, provided that this system maintains a control efficiency (capture efficiency times destruction or removal efficiency) of the VOC emissions of at least 85 (eighty-

five) percent by weight.

(vi) Prohibition of specifications.

(A) A person shall not solicit from, or require any other person to use in the affected area, any VOC-containing material subject to the provisions of this section which, when applied as supplied or thinned or reduced according to the manufacturer's recommendation for application, does not meet the limits and requirements of this section. The prohibition against soliciting, or requiring the use of VOC-containing materials shall not apply with respect to solicitations from or requirements of persons operating pursuant to an approved emission control system, as provided for in paragraph (c)(3)(v) of this section.

(B) The requirements of this paragraph shall apply to all written or oral agreements executed and entered into.

(4) Exemptions.

(i) The provisions of paragraphs (c)(3)(i) and (iii) of this section shall not apply to:

(A) Touch-up coatings; or

(B) Stencil coatings.

(ii) The exemptions described in paragraphs (c)(4)(i)(A) and (B) of this section shall not apply to aerosol container applications.

(5) Recordkeeping requirements. Any person subject to this section shall comply with the following requirements:

(i) The person shall maintain and have available during an

inspection the listed category of each of the coatings and the type of vehicle or equipment to which each coating was applied.

(ii) The person shall maintain and have available during an inspection a current list of coatings in use which provides all of the coating data necessary to evaluate compliance, including the following information, as applicable:

(A) Coating, catalyst, additives, and reducer used;

(B) Mix ratio of components used; and

(C) VOC content of coating as applied.

(iii) The person shall maintain records on a daily basis, including the following information:

(A) Coating and mix ratio of components in the coating used; and

(B) Quantity of each coating applied.

(iv) Any person using an emission control system as a means of complying with this section shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control device during periods of emission-producing activities. Key system operating parameters are those necessary to ensure compliance with VOC content of coating requirements such as temperatures, pressures, and flowrates.

(v) All records shall be retained at the facility for at least three years and shall be provided to EPA upon request.

(6) Test methods. For the purposes of this section, the following test methods shall be used:

(i) VOC content.

(A) The VOC content of coatings shall be determined by EPA Method 24 (40 CFR part 60, appendix A);

(B) The VOC content of emissions shall be determined by EPA Method 18 (40 CFR part 60, appendix A); and

(C) The exempt compound content of coatings shall be determined by ASTM Test Method D-4457-85 (incorporated by reference as specified at 40 CFR 52.3002).

(ii) Determination of iridescent particles in metallic/iridescent topcoat. The metal and silicon content of metallic/iridescent topcoat shall be determined using the SCAQMD Method 311-91, Analysis of Percent Metal in Metallic Coatings by Spectrographic Method (incorporated by reference as specified at 40 CFR 52.3002).

(iii) Acid content in pretreatment coatings. The acid content of pretreatment coatings shall be determined by ASTM Test Method D-1613-91 (modified) (incorporated by reference as specified at 40 CFR 52.3002).

(iv) Determination of efficiency of emission control systems.

(A) Capture efficiency. The efficiency of the collection device of the emission control system, as specified in paragraph (c)(3)(v) of this section, shall be determined by the EPA method described at §52.741(a)(4)(iii).

(B) Destruction or removal efficiency. The efficiency

of the control device, as specified in paragraph (c)(3)(v) of this section, shall be determined by the EPA method described at §52.741(a)(4)(iv). The VOC content measured and calculated as carbon in the control device exhaust gases shall be determined by EPA EPA Method 25 or 25A (40 CFR part 60, appendix A).

(v) Reflectance of anti-glare safety coatings. The reflectance of anti-glare safety coatings shall be measured by ASTM Test Method D-523-89 (incorporated by reference as specified at 40 CFR 52.3002).

(vi) Transfer efficiency. The transfer efficiency for alternative coating application methods, as defined in paragraph (c)(3)(iii)(A)(7) of this section, shall be determined in accordance with the South Coast Air Quality Management District (SCAQMD) test method for determining transfer efficiency entitled, Spray Equipment Transfer Efficiency (TE) Test Procedure for Equipment User, May 24, 1989 (incorporated by reference as specified at 40 CFR 52.3002). This transfer efficiency method is approved for the limited purpose of comparing alternative application technologies under controlled conditions. The results of these tests are not transferable to a production setting. The test method is not acceptable for determining transfer efficiency to establish VOC emission reduction credits to allow the use of higher VOC coatings, or to establish VOC credits for trading or offset purposes.

(vii) Qualification and petition for classification as an

extreme-performance topcoat.

(A) Extreme-performance topcoat qualification. A topcoat is an extreme-performance topcoat if it is to be applied on Group II vehicles and equipment and will be repeatedly exposed to any of the following:

(1) Heavy abrasion, including mechanical wear and repeated scrubbing with industrial-grade detergents, cleaners, solvents, or abrasive scouring agents;

(2) Temperatures in excess of 250°F;

(3) Corrosive, caustic, or acidic agents, chemicals, chemical fumes, chemical mixtures or solutions; or

(4) Other similar environmental conditions as determined by EPA.

(B) Extreme-performance coating petition. Any person seeking to use an extreme-performance coating in any coating operation which is subject to the provisions of this section shall comply with the following requirements:

(1) A petition shall be submitted to EPA stating the performance requirements, volume of coating, and VOC level which is attainable.

(2) If EPA grants written approval, such petition will be repeated on an annual basis.

(3) If EPA grants written approval, such approval shall contain volume and VOC limit conditions.

(4) Records shall be maintained as in paragraph

(c)(5) of this section.

52.2961(d) Adhesives and sealants.

(1) Applicability. This section applies to any person who supplies, sells, offers for sale, or uses adhesives, sealants, or adhesive primers in the affected area. This section does not apply to household adhesives which are subject to consumer products regulations in the California Code of Regulations (Title 17, Division 3, Subchapter 8.5 - Consumer Products, §§94507-94517). For the purpose of this section, the affected area refers to the Sacramento Metro Area for ozone as described at 40 CFR 81.305.

(2) Definitions. For the purposes of paragraph (d) of this section, the following definitions apply. All terms not defined herein shall have the meaning given them in §52.2950.

ABS adhesive means any substance that is intended for welding acrylonitrile butadiene styrene (ABS) plastic pipe.

Adhesive means any substance that is used to bond one surface to another surface by attachment.

Adhesive primer means a coating that is intended by the manufacturer to be applied to a substrate, prior to the application of an adhesive, to provide a bonding surface.

Aerosol adhesive means a mixture of rubber, resins, and liquid and gaseous solvents and propellants packaged in a disposable container for hand-held application.

Aerospace component means the fabricated part, assembly of parts, or completed unit of any aircraft or space vehicle

excluding tires.

Aircraft means any machine designed to travel through the air without leaving the earth's atmosphere, whether heavier or lighter than air, including airplanes, balloons, dirigibles, helicopters, and missiles.

Automotive glass primer means any adhesive primer that is intended by the manufacturer to be applied to automotive glass prior to installation with an adhesive/sealant. This primer improves adhesion to the pinch weld and blocks ultraviolet light.

Ceramic tile installation means the installation of ceramic tile products using an adhesive formulated for that purpose.

Computer diskette manufacturing means the process where the fold-over flaps are glued to the body of a vinyl jacket.

Contact adhesive means any adhesive that is intended by the manufacturer to adhere to itself instantaneously upon contact. This adhesive is applied to both adherents and, when dry, develops a bond when the adherents are brought together without sustained pressure. For the purpose of this section, products that qualify as a contact adhesive using the above definition, and that are labelled exclusively for only one of the following applications, shall not be required to meet the VOC limit for "Contact adhesives" in paragraph (d)(3)(i)(A) of this section.

(1) Single-ply roofing material installation;

(2) Bonding of immersible products; or

(3) Bonding of flexible vinyl to flexible vinyl.

Cove base installation means the installation of cove base

(or wall base), which is generally made of vinyl or rubber, on a wall or vertical surface at floor level using an adhesive formulated for that purpose.

Dry wall and panel installation means the installation of gypsum dry wall to studs or solid surfaces using an adhesive formulated for that purpose.

Fiberglass means fine filaments of glass.

Flexible vinyl means nonrigid polyvinyl chloride plastic with at least 5%, by weight, of plasticizer content. A plasticizer is a material, such as a high boiling-point organic solvent, that is incorporated into an adhesive to increase its flexibility, workability, or distensibility, and may be determined using ASTM Method E260-73 (incorporated by reference as specified at 40 CFR 52.3002) or from product formulation data.

Floor covering installation means the installation of wood flooring, indoor carpet, outdoor carpet, resilient tile, cove base, or artificial grass, using an adhesive formulated for that purpose. Ceramic tile is excluded from this category.

Foam means a rigid or spongy cellular mass with gas bubbles dispersed throughout.

Grams of VOC per liter of material means the weight of VOC per volume of material and can be calculated by either of the following equations:

$$\textit{Grams of VOC per Liter--Low Solids} = \frac{Ws - Ww - Wec}{Vm} \qquad \dagger$$

Where:

W_s = weight of volatile compounds, in grams;

W_w = weight of water, in grams;

W_{ec} = weight of exempt compounds, in grams; and

V_m = volume of material, in liters.

The equation above (denoted by '†') may be used to calculate the VOC content of the coating only when the concentration of solids in the coating is equal to or less than ten percent by volume. Otherwise, the equation below (denoted by '‡') should be used.

$$Grams\ VOC/\ell\ of\ Coating = \frac{(W_s - W_w - W_{ec})}{(V_m - V_w - V_{ec})} \quad ‡$$

W_s = Weight of VOC in grams

W_w = Weight of water in grams

W_{ec} = Weight of exempt compounds in grams

V_m = Volume of coating in liters

V_w = Volume of water in liters

V_{ec} = Volume of exempt compounds in liters

Household adhesive means any adhesive subject to the consumer products regulations in Title 17, Division 3, Subchapter 8.5, §§94507-94517, of the California Code of Regulations.

Multipurpose architectural adhesive means any adhesive that is intended by the manufacturer to be applied for the installation, manufacture, or repair of various construction materials to bond architectural structures or appurtenances, including but not limited to drywall, subfloor, panel deck and lumber, seams, fiberglass reinforced plastic, ceiling tile and

acoustical tile. Adhesives used to bond uninstalled cabinets, counters and other architectural appurtenances are subject to this adhesive category.

Nonmembrane roof installation/maintenance means any product that is intended for the installation or repair of roofs and that is not intended for the installation of prefabricated single-ply flexible roofing membrane. This category includes plastic or asphalt roof cement, asphalt roof coatings, or cold application cement.

Panel installation means the installation of plywood, pre-decorated hardboard (or tileboard), fiberglass, reinforced plastic, and similar pre-decorated or non-decorated panels to studs or solid surfaces using an adhesive formulated for that purpose.

Percent VOC by weight means the ratio of the weight of the VOC to the weight of the material, expressed as a percentage of VOC by weight. The percent VOC by weight can be calculated as follows:

$$\%\ VOC\ weight = \frac{Wv}{W} \times 100$$

Where:

Wv = weight of VOCs in grams; and

W = weight of material in grams.

Plastic cement welding means the use of adhesives made of resins and solvents which are formulated to dissolve the surfaces

of plastic to form a bond between mating surfaces.

Plastic foam means a foam constructed of plastics.

Plastics means various synthetic materials chemically formed by the polymerization of organic (carbon-based) substances.

Porous material means a substance which has tiny openings, often microscopic, in which fluids may be absorbed or discharged. Such materials include but are not limited to paper and corrugated paperboard.

Propellant means a fluid under pressure which expels the contents of a container when a valve is opened.

PVC/CPVC welding adhesive means any adhesive intended by the manufacturer to weld polyvinyl chloride (PVC) or chlorinated polyvinyl chloride (CPVC) plastic pipe.

Rubber flooring installation means the installation of flooring material in which both the back and top surfaces are made of synthetic rubber, and may not be in sheet or tile form.

Sealant products mean any material with adhesive properties that is formulated to be used primarily to fill, seal, waterproof, or weatherproof gaps or joints between two surfaces. Sealant products include sealant, primers, and caulks.

Single-ply roof membrane installation/repair means the installing or fixing, mending and/or repairing of a single-ply membrane. Installation includes, as a minimum, attaching the edge of the membrane to the edge of the roof and flashings to vents, pipes, and ducts that protrude through the roof. Repair includes gluing the edges of the tears together, attaching a

patch over a hole, and applying flashings to vents, pipes or ducts installed through the membrane.

Structural glazing means the use of an adhesive/sealant to adhere glass, ceramic, metal, stone, or composite panels to exterior building frames.

Subfloor installation means the installation of subflooring material, typically plywood, over floor joists. Subflooring is covered by a finished surface material.

Thin metal laminating means a process of bonding multiple layers of metal to metal or metal to plastic in the production of electronic or magnetic components in which the thickness of the bond line(s) is less than .025 mils.

Tire repair means the expanding of a hole, tear, fissure, or blemish in a tire casing by grinding or grouping, applying adhesive, and filling the hole or crevice with rubber.

VCT means vinyl composition tile.

(3) Standards.

(i) VOC limits. On and after the dates specified below, a person shall not apply adhesives, adhesive bonding primers, adhesive primers, or sealants which have a VOC content (grams of VOC per liter of adhesive), in excess of the following limits. The sales prohibition in paragraph (d)(3)(v) of this section shall apply to the following adhesives, adhesive bonding primers, adhesive primers, or sealants except where exempted as indicated in paragraphs (d)(3)(v)(C) - (E) of this section.

TABLE OF VOC LIMITS

Grams VOC/Liter Material

	5/15/97	1/1/98
Adhesives Products:		
Contact Adhesives	200	
Floor covering, except ceramic tile installation	150	
Ceramic tile installation	130	
Rubber floor installation	150	
VCT and asphalt tile installation	150	
Multipurpose architectural adhesive	200	
Cove base installation	150	
PVC and CPVC welding	480	
ABS welding	480	
Other plastic cement welding	480	
Computer diskette manufacturing	850	550
Nonmembrane roof installation/ maintenance	300	
Single-ply roof membrane repair/installation	250	
Structural glazing	100	
Other adhesive products	250	
Sealants:		
Architectural and roadways	250	
Single-ply roof membrane material	450	
Nonmembrane roof installation/ maintenance	300	
Other sealants	420	
Primers:		
Plastic cement welding primer	480	
Adhesive primer	250	
Single-ply roof membrane primer	250	
Automotive-glass adhesive primer	700	
Adhesives Application Onto Substrate:		
Wood	30	
Metal	30	
Porous material (except wood)	120	
Plastic foam	120	
Fiberglass	200	
Flexible vinyl to flexible vinyl	250	
Flexible vinyl to other substrate	250	
Other substrates	250	

If an adhesive is used to bond dissimilar substrates together, except for bonding flexible vinyl to any other substrate, the

applicable substrate category with the highest VOC content shall be the limit for that operation. Where more than one limit from the table of VOC limits could apply to a product or application, the first three groups of limits (adhesive products, sealants, and primers) shall be applicable rather than the fourth group of limits (adhesives application onto substrate).

(ii) Aerosol spray products. A person shall not use any adhesive aerosol spray unless the VOC content, including the propellant, does not exceed 25 percent by weight.

(iii) Cleanup solvents. Solvents used for surface preparation, equipment cleanup, and thinning operations, including storage and disposal of VOC-containing materials, shall be subject to the provisions and requirements of §52.2961(a).

(iv) Emission control system. A person may comply with the provisions of paragraph (d)(3)(i) of this section by using an emission control system, provided that this system maintains a control efficiency (capture efficiency times destruction or removal efficiency) of the VOC emissions of at least 85 (eighty-five) percent by weight.

(v) Prohibition of sales.

(A) Except as provided in paragraphs (d)(3)(v)(C) - (E) of this section, no person shall supply, sell, or offer for sale any non-complying adhesive, sealant, or adhesive primer which, at the time of sale, is defined under a product category in the table of VOC limits of this section after the specified effective dates. This provision only

applies to products that are supplied to or sold within the affected area.

(B) Except as provided in paragraphs (d)(3)(v)(C) or (E) of this section, no person shall supply, sell, or offer for sale, any adhesive aerosol which, at the time of sale, exceed the VOC limits listed in paragraph (d)(3)(ii) of this section after the specified effective dates.

(C) The sales prohibition in paragraphs (d)(3)(v)(A) and (B) of this section shall not apply to any supplier or seller of any adhesive, sealant, or adhesive primer as follows:

(1) Any adhesive shipped outside of the affected area for use outside of the affected area.

(2) The sale of adhesives to a person controlling the emissions from use of those adhesives by using an emission control system pursuant to paragraph (d)(3)(iv) of this section.

(D) The sales prohibition in paragraphs (d)(3)(v)(A) and (B) of this section shall not apply to the sale of any adhesive, sealant, or adhesive primer, except plastic cement welding adhesives or primers, if the product is sold in any container(s) having a capacity of 16 ounces or less (net volume) or 1 pound or less (net weight). The total weight or volume of two or more containers packaged together must be less than 1 pound (16 ounces) to qualify for this exemption.

(E) The sales prohibitions in paragraphs (d)(3)(v)(A) and (B) of this section shall not apply to any manufacture of any adhesive, sealant, or primer if the manufacturer has provided an accurate compliance statement and if:

(1) The product was not sold directly to a user or a sales outlet located in the affected area, or

(2) The product was sold to an independent distributor that is not a subsidiary, or under the direct control of, the manufacturer.

(vi) Compliance statement requirement. The manufacturer of any adhesive, sealant, or adhesive primer subject to this determination shall include a designation of maximum VOC content as supplied, including adhesive components, expressed in grams per liter of adhesive (or pounds per gallon) on labels or data sheets. VOC content shall be determined by using the appropriate calculation procedures (percent by weight for adhesive aerosols) and test methods as specified elsewhere in this regulation. This designation shall include recommendations regarding thinning, reducing, or mixing with any other VOC-containing material. This statement shall include the maximum VOC on an as-applied basis when used in accordance with the manufacturer's recommendations.

(vii) Prohibition of specification. No person shall solicit, require for use, or specify the application of any adhesive, primer, or sealant if such use or application results in a violation of the provisions of this section. This prohibition shall apply to all written or oral contracts.

(4) Exemptions.

(i) The provisions of paragraphs (d)(3)(i) and (ii) of this section shall not apply to the following:

(A) Adhesives used in tire repair, provided the label on the adhesive used states:

For Tire Repair Only.

(B) Assembly and manufacturing of undersea-based weapon systems.

(C) Testing and evaluation of adhesive or sealant products in any research and development, quality assurance, or analytical laboratories, provided that:

(1) A record is kept of:

(i) The date when the adhesives, sealants, or adhesive primers are used, and the type of applications(s); and

(ii) The amount of adhesives, sealants, and adhesive primers used and the VOC content of such products; and

(iii) The amount of solvents used and the VOC content of such solvents.

(2) Such records shall be retained in accordance with the provisions of paragraph (d)(5) of this section.

(D) Solvent welding operations used in the manufacturing of medical devices.

(E) Plaque laminating operations where adhesives are

used to bond a clear, polyester acetate laminate to wood with lamination equipment installed prior to July 1, 1992. Any person seeking to claim this exemption shall notify EPA in writing that a complying adhesive is not available.

(F) Manufacturing operations of the following products: diving suits, rubber bladders, inflatable boats, life preservers, or other products designed for immersion in water or fuels. The adhesive products used by these operations must be labelled:

For the Bonding of Immersible Products Only.

(ii) The provision of this section shall not apply to aerospace components.

(iii) The provisions of this section shall not apply to any adhesive or sealant that contains less than 20 g/L of VOC per liter of adhesive or sealant, using the appropriate calculation method, as applied.

(iv) Paragraph (d)(5) of this section shall not apply to facilities with a combined use of adhesives, sealants, adhesive primers, and solvents used in a total volume of less than 20 gallons on a calendar year basis. Any facility claiming this exemption must have information available, such as purchase orders, that will allow for the verification of facility usage.

(5) Reporting and Recordkeeping. Any source within the affected area that uses greater than 20 gallons of adhesive and/or sealant product per year subject to paragraphs (d)(3)(i)(A) - (C) of this section shall comply with the

following requirements:

(i) Maintain a current file of each adhesive, sealant, adhesive primer, and solvent in use and in storage. The file shall provide all of the data necessary to evaluate compliance and shall include, but not be limited to, the following information, as applicable:

(A) A data sheet or material list giving material name, manufacturer identification, and material application;

(B) Any catalysts, reducers, or other components used and the mix ratio; and

(C) The VOC content limit or vapor pressure limit from paragraph (d)(3) of this section and the actual VOC content, as applied, or vapor pressure of the adhesive, sealant, primer, or solvent.

(ii) Maintain records of the monthly volume of each adhesive, sealant, primer, or solvent used.

(iii) Any person using an emission control system as a means of complying with this section shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control device during periods of emission-producing activities. Key system operating parameters are those necessary to ensure compliance with VOC content of coating requirements such as temperatures, pressures, and flow rates.

(iv) All records shall be maintained for at least three years and shall be available for inspection and provided to EPA

upon request.

(6) Test Methods. For the purpose of this section, the following test methods shall be used:

(i) VOC content.

(A) The VOC content of aerosol adhesives and sealants shall be determined by EPA Method 24 (40 CFR part 60, appendix A);

(B) The VOC content of aerosol adhesives or aerosol adhesive primers shall be determined using South Coast Air Quality Management District (SCAQMD) Test Method 305-91 Determination of Volatile Organic Compounds (VOC) in Aerosol Applications (June 1993) (incorporated by reference as specified at 40 CFR 52.3002);

(C) The VOC content of emissions shall be determined by EPA Method 18 (40 CFR part 60, appendix A); and

(E) The exempt compound content of coatings shall be determined by ASTM Test Method D-4457-85 (incorporated by reference as specified at 40 CFR 52.3002).

(ii) Determination of collection efficiency of emission control systems.

(A) Capture efficiency. The efficiency of the collection device of an emission control system, as specified in paragraph (d)(3)(iv) of this section, shall be determined by the EPA method described at §52.741(a)(4)(iii).

(B) Destruction or removal efficiency. The efficiency

of the control device, as specified in paragraph (d)(3)(iv) of this section, shall be determined by the EPA method described at §52.741(a)(4)(iv). The VOC content measured and calculated as carbon in the control device exhaust gases shall be determined by EPA Method 25 or 25A (40 CFR part 60, appendix A). The percent control efficiency shall be calculated as follows:

$$\% \ CE = \frac{(MU-MD)}{MU} \cdot 100$$

Where:

CE = control efficiency

MU = upstream VOC mass emission rate, in mass per hour

MD = downstream VOC mass emission rate, in mass per hour.

The mass emission rate shall be calculated as follows:

$$M = \frac{Q \cdot C \cdot (60 \ minutes)}{1 hour}$$

Where

M = VOC mass emission rate, in lb/hr.

Q = the volumetric flow rate of the exhaust stack, in scam.

C = the VOC mass concentration, in lb/scf, as measured by EPA method 25.

(iii) The active and passive solvent losses from spray gun cleaning systems shall be determined using SCAQMD's "General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems," dated October 3, 1989 (incorporated by reference as specified at 40 CFR 52.3002). The test solvent for this determination shall be any lacquer thinner with a minimum vapor pressure of 105 mm of Hg at 20°C, and the minimum test temperature shall be 15°C.

(iv) The test method used to determine plasticizer content and flexible vinyls shall be ASTM Method E260-73, "General Gas Chromatography Procedures" (incorporated by reference as specified at 40 CFR 52.3002).

(e) [Reserved].

(f) [Reserved].

(g) Municipal solid waste landfills.

(1) Applicability. This section shall apply to all municipal solid waste (MSW) landfills with a maximum design capacity of greater than 111,000 tons of solid waste, although facilities that have received less than 500,000 tons of decomposable solid waste during their operational lifetime are only subject to the requirements of paragraph (g)(5)(i) of this section. The refuse density shall be assumed to be 1,300 pounds per cubic yard and the decomposable fraction shall be assumed to be 70% by weight unless other site-specific factors are submitted to and approved by EPA. For the purposes of this section, the affected area refers to the Sacramento Metro Area for ozone as

described at 40 CFR 81.305.

(2) Definitions. For the purposes of paragraph (g) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Active landfill means any MSW landfill which received waste at any time during the past six months.

Baseline condition means there are no leaks existing at:

(1) Any location on the surface of the landfill covered by final cover;

(2) Any location on the surface of the landfill which has been covered by intermediate cover for over 6 months; and

(3) Any location along the gas transfer path of the gas collection system.

Control device means any device that disposes of the collected gas by one or more of the following means: combustion, gas treatment and subsequent sale, sale and processing off site, or other equivalent methods.

Decomposable solid waste means any material which is not non-decomposable inert solid waste.

Design capacity means the maximum amount of waste a landfill can accept, as specified in the construction permit issued by the county or State agency responsible for regulating the landfill.

Destruction/treatment efficiency means a measure of the ability of the control device to combust, transform, or otherwise prevent the emissions to the atmosphere of non-methane organic compounds in landfill gas, expressed as a percentage.

Energy recovery equipment means any equipment that uses landfill gas to produce useful energy.

Excavation means any movement of landfill cover that triggers notification requirements of any government agency.

Final cover means cover material that is applied on areas where additional cells are not to be constructed and, therefore, must be highly resistant to erosion.

Gas collection system means a series of collectors and associated piping and equipment which provides a gas transfer path to the control device.

Gas transfer path means the piping, pumps, and other equipment used to transfer evolved landfill gas from the point of gas evolution through the control device.

Household waste means any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas).

Industrial solid waste means solid waste generated by manufacturing or industrial processes, that is not a hazardous waste regulated under subtitle C of the Resource Conservation and Recovery Act (42 U.S.C. 6901-6992k). Such waste may include, but is not limited to, the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous

metals manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay, and concrete products; textile manufacturing; transportation equipment; and water treatment. This term does not include mining waste or oil and gas waste.

Intermediate cover means cover material that is applied on areas where additional cells are not to be constructed for extended periods of time and, therefore, must resist erosion for a longer period of time than daily cover.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.

Landfill gas means any gas derived through a natural process through the decomposition of organic waste deposited in a landfill or from the evolution of volatile organic species in the waste.

Leak means any point where the concentration of total organic compounds measured as methane exceeds 1000 ppm by volume except non-repeatable momentary readings.

Leak free means the absence of the evidence of "leaks."

Municipal solid waste (MSW) landfill means an entire disposal facility in a contiguous geographical space where household waste is placed in or on land. An MSW landfill may also receive commercial waste, sludges, and industrial solid

waste. Portions of an MSW landfill may be separated by access roads. An MSW landfill may be publicly or privately owned.

Non-decomposable inert solid waste means materials which do not degrade biologically to form landfill gas. Examples include, but are not limited to: earth, rock, concrete, clay products, inert tailings, plaster board, glass, inert slag, asbestos, and demolition materials containing less than 10% by volume wood and metals.

Non-methane organic compounds (NMOC) means any compound in a gaseous state at standard temperature and pressure which contains at least one atom of carbon except: methane, carbon monoxide, carbon dioxide, metallic carbides, carbonates, and carbonic acid, as measured according to paragraph (g)(6) of this section.

Non-repeatable, momentary readings means indications of the presence of organic gases using a detector meeting the apparatus requirements of EPA Method 21 (40 CFR part 60, appendix A) which persist for less than 5 seconds and do not recur when the sampling probe is placed in the same location for at least twice the response time of the instrument.

Owner means the fee owner of a solid waste disposal site and the person who through lease, or other arrangement with the fee owner is responsible for complying with all applicable federal, state and local requirements for landfill gas emissions, provided that upon the expiration of such person's responsibility for landfill gas emissions under such lease or other arrangement the fee owner shall be deemed the owner. Where specific requirements

of this section apply to equipment at the MSW landfill that is owned or operated by a second party other than the fee owner, the second party shall be deemed the owner for the purpose of such section requirements as they relate to such equipment.

Perimeter means the outer boundary of the MSW landfill property.

Quarter means the months that define a "quarter." These are: January, February and March (1st quarter ends on March 31); April, May and June (2nd quarter ends on June 30); July, August and September (3rd quarter ends on September 30); and October, November and December (4th quarter ends on December 31).

Sludge means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

Solid waste means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges that are point sources subject to permit requirements under 33 U.S.C. 1342, or sources of special nuclear, or by-product

material as defined by the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011, et seq.)

(3) Standards.

(i) Gas collection system.

(A) The owner shall install and operate a gas collection system which prevents overdraw that can cause fires or damage to the collection system while collecting, in each quarter, at least 90% of the target volume established for that quarter.

(B) The owner shall use the procedures in paragraph (g)(6)(i) of this section to establish baseline conditions. The owner may re-establish baseline conditions using the procedures in paragraph (g)(6)(i) of this section at any time. Each time that baseline conditions are achieved, the owner shall measure and record:

(1) The baseline gas collection flowrate, in standard cubic feet per minute (SCFM) for the entire landfill; and

(2) The baseline oxygen concentration in the collected landfill gas stream at the inlet to the control device before adding combustion air.

The owner shall notify EPA at least five days prior to each establishment of baseline conditions so that EPA personnel may be on site to confirm that baseline conditions exist.

(C) The owner shall measure and record the oxygen concentration at the inlet to the control device on at least four days each week. Each sampling run shall last at least twice the response time of the analyzer. Each sampling run shall establish

the oxygen concentration for all preceding hours retroactive to the hour of the previous measurement.

(D) The owner shall monitor the total gas collection flowrate for the landfill at least once every 15 minutes and keep records at least once per hour. A chart recorder may be used for this purpose.

(E) Within two weeks after the end of each quarter the owner shall determine the overall effectiveness of the gas collection system for the past quarter. To make such a determination, the owner shall meet the following requirements.

(1) The owner shall establish a quarterly target for the volume of landfill gas to be collected. The target volume shall be the time-weighted average of all baseline collection flowrates (SCFM) established pursuant to paragraph (g)(3)(i)(B) of this section during the quarter, or were applicable during the quarter, multiplied by the number of minutes in the quarter. The volume is calculated as follows:

Quarterly target volume =

$$\frac{\sum_{t=1}^{i} SCFM_i t_i \; * \; \sum_{t=1}^{i} t_i}{\sum_{t=1}^{i} t_i}$$

or simply,

$$\sum_{t=1}^{i} SCFM_i t_i$$

(2) Each hourly flowrate record during which the measured oxygen concentration (established in paragraph (g)(3)(i)(C) of this section) exceeds the current baseline oxygen concentration (established in paragraph (g)(3)(i)(B)(2) of this section) by a measured value greater than 2% oxygen, shall be corrected using the following equation:

$$Corrected\ Flow = Measured\ Flow * \left[\frac{20.9 - O_2\ measured\ (\%)}{20.9 - O_2\ baseline\ (\%)}\right]$$

(3) The owner shall use this corrected flowrate data to calculate the total volume of gas collected for the quarter.

(F) If the volume of gas collected in any quarter is less than 90% of the target volume established for that quarter, the owner shall be in violation of this section and shall re-establish baseline conditions pursuant to paragraph (g)(3)(i)(B) of this section within the first two weeks of the following quarter.

(G) Notwithstanding the requirements of paragraph (g)(3)(i)(F) of this section, the owner of any active landfill shall re-establish baseline conditions pursuant to paragraph (g)(3)(i)(B) of this section at least once every six months.

(H) The owner shall install and operate a gas collection system that effectively captures the gas that is generated within the landfill. The collection system shall:

(1) Be designed to handle the maximum expected gas flowrate over the lifetime of the gas control or treatment system equipment from the entire area of the landfill that warrants control. For the purposes of calculating the maximum expected gas generation flowrate from the landfill to determine compliance, the following equation shall be used:

$$Q_m = 2 L_o R (1-e^{-kt})$$

where,

Q_m = maximum expected gas generation flow rate, m^3/yr;

L_o = refuse methane generation potential, m^3/Mg refuse;

R = average annual acceptance rate, Mg/yr;

k = methane generation rate constant, yr^{-1}; and

t = age of the landfill plus the gas mover equipment life or active life of the landfill, whichever is less, in years.

A value of 230 m^3/Mg shall be used for L_o. A value of 0.02 $years^{-1}$ shall be used for k. A value of 15 years shall be used for gas mover equipment life. The active life of the landfill is the age of the landfill plus the estimated number of years until closure.

(2) Collect gas from each area, cell, or group of cells in the landfill in which refuse has been placed for a

period of two years or more. For the purposes of calculating the area of influence of the gas collection system to determine compliance, the owner shall use best engineering practices. A discussion of best engineering practices is contained in the Technical Support Document associated with this measure.

(3) Collect gas at a sufficient extraction rate. For the purpose of demonstrating whether the gas collection system flowrate is sufficient to determine compliance, the owner shall measure gauge pressure in the gas collection header. If a positive pressure exists, the gas collection system flowrate shall be increased until a negative pressure is measured. If the gauge pressure at a wellhead is positive, the valve shall be opened to restore negative pressure. If negative pressure cannot be achieved, an additional well shall be added.

(I) The owner shall:

(1) Maintain, monitor, operate, and improve as necessary the gas collection system and landfill cover to prevent leaks from:

(i) All locations on the surface of the landfill covered by final cover;

(ii) All locations on the surface of the landfill which have been covered by intermediate cover for over six months; and

(iii) All locations along the gas transfer path

of the gas collection system.

When a leak is identified, it shall be conspicuously tagged with a marker which displays the date of identification. The marker shall not be removed until the leak is repaired. (Markers placed by EPA personnel may be removed only by EPA personnel, except as necessary during the repair of leaks.) Within 15 calendar days of identification, each leak shall be repaired to a leak-free state unless such repair requires excavation. Where repair requires excavation, the owner shall submit an excavation plan for approval by EPA which shows that repairs will be made promptly and which specifies the expected date of completion. The owner is in violation of this section if the leak is not repaired within 15 calendar days of identification, or if an excavation plan is not submitted to EPA within 15 calendar days after the date of identification.

(2) Repair leaks to a leak-free state using at least one of the following methods:

(i) Increasing the collection rate of existing wells.

(ii) Repairing the landfill cover.

(iii) Installing additional collection wells.

(iv) Repairing the gas transfer path.

(J) Whenever previously buried waste is brought to the surface during installation or preparation of wells, trenches, piping, or other equipment, or when solid waste is to be

excavated and moved, the owner shall cover the excavated waste using fresh soil, plastic sheeting, vapor retarding foam, or other California Integrated Waste Management Board approved "Alternate Daily Cover," by the end of the working day or as necessary to prevent a public nuisance.

(ii) Control equipment. All landfill gases collected pursuant to this section shall be processed using control devices that meet the following requirements:

(A) All control devices shall meet either of the following requirements:

(1) Have a non-methane organic compound (NMOC) destruction/treatment efficiency of at least 98% by weight; or

(2) Reduce the NMOC concentration at the outlet of the control device to 30 ppm measured as methane and corrected to 3% oxygen.

(B) Open flares used as control devices shall be designed and operated in accordance with §60.18.

(C) The owner shall demonstrate that each control device meets the requirements of this section using the source testing procedures in paragraphs (g)(6)(iv) and (vi) of this section. Source testing shall be performed when the device begins operation. Flares shall be source tested to demonstrate continuing compliance every two years thereafter. All other control devices shall be source tested annually to demonstrate continuing compliance.

(iii) Violations. Failure to comply with any provision of this section shall constitute a violation of the section.

(iv) Compliance schedule.

(A) The owner of any MSW landfill subject to the requirements of this section shall demonstrate compliance with this section no later than July 1, 1997.

(4) Exemptions.

(i) This section shall not apply to sites that have received only hazardous waste.

(ii) The provisions of paragraph (g)(3)(ii) of this section shall not apply to control devices for which a construction permit was issued by the applicable air pollution control district or air quality management district before May 15, 1995, provided that the control device has a NMOC destruction/treatment efficiency of at least 90% by weight or reduces the NMOC concentration at the outlet of the control device to 30 ppm or less measured as methane corrected to 3% oxygen, and annual source testing for NO_x, CO and NMOC is performed simultaneously using the procedures in paragraphs (g)(6)(iv) and (vi) of this section.

(5) Reporting and Recordkeeping. The following reporting requirements shall each apply independently:

(i) Each owner of an MSW landfill having a maximum design capacity greater than 100,000 megagrams (Mg) (111,000 tons) shall submit an initial design capacity report to EPA.

(A) The initial design capacity report shall contain the

following information:

(1) A map or plot of the landfill, providing the size and location of the landfill, and identifying all areas where refuse may be landfilled according to the provisions of the state or county permit;

(2) The maximum design capacity of the landfill. Where the maximum design capacity is specified in the state or county construction or Resource Conservation and Recovery Act (RCRA) permit, a copy of the permit specifying the maximum design capacity may be submitted. If the maximum design capacity of the landfill is not specified in the permit, the maximum design capacity must be calculated using good engineering principles. The calculations must be provided, along with such parameters as depth of refuse, refuse acceptance rate, and compaction practices. The state, county, or EPA may request other reasonable information as may be necessary to verify the maximum design capacity of the landfill.

(B) An amended design capacity report must be submitted to EPA providing notification of any increase in the size of the landfill, whether the increase results from an increase in the permitted area or depth of the landfill, a change in the operating procedures, or any other means which results in an increase in the maximum design capacity of the landfill. The amended design capacity report must be submitted within 90 days of the issuance of an amended construction or operating permit,

or the actual use of additional land, or the change in operating procedures which will result in an increase in maximum design capacity, whichever comes first.

(ii) Each owner who installs a gas collection system and/or control system described in paragraph (g)(3) of this section, shall perform an initial performance test as described in §60.8. The initial performance test report shall include, but not be limited to, the following:

(A) A diagram of the collection system showing vertical extraction well spacing, including the locations of any areas excluded from collection and the proposed sites for the future addition of wells;

(B) The documentation of the presence of asbestos for each area from which collection wells have been excluded based on the presence of asbestos;

(C) The sum of the gas generation rates for all areas from which collection wells have been excluded based on the presence of nondegradable materials and the calculations of the gas generation rate for each excluded area; and

(D) The provisions for increasing gas mover capacity with increased gas generation rate, if the present gas mover is inadequate to move the maximum flowrate expected over the life of the landfill.

(iii) Each owner of a controlled landfill shall, within 48 hours, report to EPA by telephone any malfunction, shutdown, or other event causing a reduction in the gas collection rate.

(iv) If any portion of the gas collection system is shut down which results in a gas collection flowrate of less than 80% of the target volume for longer than 24 hours due to scheduled or unscheduled maintenance activities, equipment breakdown, or any other reason, the owner shall notify EPA by telephone within 48 hours of the detection of such shutdown. A written follow-up report shall be forwarded to EPA within 15 calendar days describing the duration and reason for the shut down.

(v) Each owner of a controlled landfill shall submit a closure report to EPA. For the purposes of this section, closure means that refuse is no longer being placed in the landfill, and that no additional wastes will be placed into the landfill without filing a notification of modification. EPA may request such additional information as may be reasonably necessary to verify that permanent closure has taken place.

(vi) Each owner of a controlled landfill shall submit an equipment removal report to EPA prior to removal or cessation of operation of the control equipment.

(A) The equipment removal report shall contain the following items:

(1) A copy of the closure report submitted in accordance with paragraph (g)(5)(v) of this section;

(2) A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired; and

(3) Dated copies of the three successive NMOC emission

rate reports demonstrating that the landfill is no longer emitting above the level of the standard.

(B) EPA may request such additional information as may be reasonably necessary to verify that all of the conditions for removal have been met.

(vii) The following records shall be maintained in written form at the MSW landfill for a period of three years from the date of each entry and shall be made available to EPA upon request:

(A) Records of the gas collection flowrate, in SCFM, and the oxygen concentration, for each time that baseline conditions are established.

(B) Records of continuous measurements (at least hourly records or a chart record) of the total gas collection flowrate, in SCFM, including notes describing the reasons for down-time.

(C) Records of the oxygen concentration measured at the inlet to the control device before adding combustion air (readings on at least four days per week).

(D) Records of all surface monitoring including the date, time, weather conditions, areas sampled, calibration records, and test results. Test results shall include the approximate location of each detected leak, the date of detection, the date of correction, and the repair method used.

(E) A map indicating the location of areas with intermediate cover and areas with final cover. The map shall indicate the date of cover placement for each area with

intermediate cover.

(F) All records of perimeter well testing.

(G) Where an owner subject to the provisions of this paragraph seeks to demonstrate compliance with paragraph (g)(3)(i)(H) of this section:

(1) The calculated maximum expected gas generation flowrate using the method described in paragraph (g)(3)(i)(H)(1) of this section.

(2) The calculated area of influence of the extraction wells.

(3) Gauge pressure in the gas collection header at the point where each well is connected to the gas collection header pipe.

(H) Where an owner subject to the provisions of this paragraph seeks to demonstrate compliance through use of an enclosed combustion device:

(1) The average combustion temperature measured every 15 minutes and averaged over the same time period of the performance testing.

(2) The percent reduction of NMOC achieved by the control device.

(I) Where an owner subject to the provisions of this paragraph seeks to demonstrate compliance through use of a boiler:

(1) A description of the location at which the process vent stream is introduced into the boiler or process heater;

(2) The average combustion temperature of the boiler or process heater with a design heat input capacity of less than 44 MW (150 million Btu/hr) measured at least every 15 minutes and averaged over the same time period of the performance testing.

(J) Where an owner subject to the provisions of this paragraph seeks to demonstrate compliance through use of an open flare, the flare type (i.e., steam-assisted, air-assisted, or unassisted), all visible emission readings, heat content determination, flowrate measurements, and exit velocity determinations made during the performance test, continuous records of the flare pilot flame monitoring, and records of all periods of operations during which the pilot flame is absent.

(K) Source test reports showing the NMOC destruction/treatment efficiency and emissions in units of pounds per million BTU of heat input for the control device.

(viii) Operation and maintenance plan. The owner shall prepare and adhere to an operation and maintenance plan. The plan shall be revised at least once every six months to reflect operating experience and changing site conditions. The plan shall be submitted to EPA upon request. This plan shall at a minimum contain:

(A) An engineering evaluation of the expected landfill gas generation rate, and design specifications for the gas collection system. Data concerning waste type, volume, tonnage and age shall be included if available.

(B) A map showing the location, spacing and depths of collection wells and/or trenches, and the direction of flow through the header system to the control device.

(C) A map indicating areas of steep slopes and any other safety hazards to personnel performing the surface emissions testing.

(D) Sampling and analysis methods to be used by the owner to meet the requirements of this section.

(E) Specific techniques to ensure that overdraw is minimized. These may include a schedule for periodic temperature measurements at wellheads and a schedule for periodic gas sampling including gas analysis methods.

(F) A schedule detailing inspection and maintenance intervals including dates and durations of expected system shutdowns.

(G) Written justification for less than continuous operation of the gas collection system.

(H) Operating procedures including system start-up, balancing, optimization, and shutdown.

(I) Qualifications and training requirements for on-site personnel.

(J) Safety precautions, protective clothing and equipment requirements, and emergency procedures.

(6) Test Methods.

(i) The following procedures shall be used to establish baseline conditions pursuant to paragraph (g)(3)(i)(B) of this

section:

(A) The gas collection rate and landfill surface integrity shall be evaluated and brought to baseline conditions by testing for leaks and repairing all such leaks using the repair methods listed in paragraph (g)(3)(i)(H)(1) of this section. Surface leak testing shall be performed using an instrument which meets the apparatus specifications of EPA Method 21 (40 CFR part 60, appendix A). The instrument shall be calibrated before and after each test using zero air and an approximate 500 ppm methane standard calibration gas in accordance with the instrument manufacturer's recommendations.

(B) Surface leak testing shall be performed by holding the detector probe 2 inches from the landfill surface while walking a pattern of parallel paths not more than 50 feet apart over all surface areas specified in paragraph (g)(3)(i)(H)(1) of this section. Cracks, holes, and other breaches in the surface as well as areas where buried waste interfaces with undisturbed, native soil shall also be evaluated. The owner is not required to monitor surfaces on steep slopes and other areas posing a hazard to testing personnel; however, leaks identified in such areas are not exempt from the provisions of paragraph (g)(3)(i)(H) of this section.

(C) Surface leak testing shall be performed only when the average wind speed is less than 5 miles per hour and instantaneous wind speed is less than 10 miles per hour, unless EPA approves alternate wind speed limits based on demonstrated

recurrent site-specific conditions. Average wind speed shall be determined on a 10 minute average using an on-site anemometer with a continuous recorder. Surface testing shall not be conducted when the surface is wet or when there has been rain during the preceding 72 hours. Surface testing of landfill surfaces that are normally wet (i.e., a golf course) may be performed when the surface is wet. EPA personnel may randomly identify leaks without regard to the above wind speed and surface condition requirements.

(D) EPA Method 21 (40 CFR part 60, appendix A) shall be used to determine leaks along the gas transfer path.

(ii) EPA Method 2D (40 CFR part 60, appendix A) shall be used for the flowrate measurements required by paragraphs (g)(3)(i)(B)(1) and (g)(3)(i)(D) of this section.

(iii) EPA Method 3A (40 CFR part 60, appendix A) shall be used for the oxygen concentration measurements required by paragraphs (g)(3)(i)(B)(2) and (g)(3)(i)(C) of this section.

(iv) The non-methane organic compound destruction/treatment efficiency of a control device shall be determined using the following equation:

$$Efficiency = \left[1 - \left[\frac{NMOC_{out} * exhaust\ flow}{NMOC_{in} * inlet\ flow}\right]\right] * 100\%$$

where:

$NMOC_{out}$ = the measured concentration as methane of non-methane organic compounds in the exhaust, and

$NMOC_{in}$ = the measured concentration as methane of non-methane organic compounds in the landfill gas entering the control device.

(A) $NMOC_{in}$ and $NMOC_{out}$ shall be determined using EPA Method 25 (40 CFR part 60, appendix A) sampling and analysis procedures modified to delete the condensate trap from the sampling train. Grab samples of landfill gas at the inlet to the control device, and exhaust from the control device shall be collected simultaneously and at a constant rate over a period of at least 10 minutes in identical clean Tedlar®[16] bags (or equivalent). Each sample volume shall be sufficient to perform two NMOC analyses and to measure the sample's oxygen content. The oxygen concentration shall be measured at both the inlet to the control device and the exhaust from the control device and in each grab sample using EPA Method 3A (40 CFR part 60, appendix A). Corresponding oxygen concentrations (grab samples and sampling port readings) must agree to within 1% oxygen.

(B) The inlet flow shall be determined using:

(1) EPA Method 2 (40 CFR part 60, appendix A); or

(2) The continuous flow measuring system installed pursuant to paragraph (g)(3)(i)(D) of this section. The continuous flow measuring system shall be used if the entire

[16]Mention of trade names or specific products does not constitute endorsement by EPA.

flow it measures is directed to the control device being tested.

(C) The exhaust flow shall be determined during the collection of grab samples using EPA's design standard for flares, as described in §60.18.

(v) NMOC emissions from the control device shall be determined using the following equation:

$$Q_e = F_e * NMOC_{out} * 3.69 * 10^{-8}$$

where:

Q_e = NMOC emissions from the control device, in pounds per hour,

F_e = Exhaust flow in standard cubic feet per hour at the actual (measured) oxygen concentration, from paragraph (g)(6)(iv)(C) of this section,

$NMOC_{out}$ = NMOC concentration in exhaust in ppm, from paragraph (g)(6)(iv)(A) of this section, and

$3.69 * 10^{-8}$ assumes a molecular weight of 14.2 for NMOC as carbon, and 385 cubic feet per pound-mole.

(vi) NO_x and CO emissions from a control device in pounds per million BTU shall be determined using:

(A) EPA Method 7E (40 CFR part 60, appendix A) for NO_x.

(B) EPA Method 10 (40 CFR part 60, appendix A) for CO.

(C) ASTM D1826-88 for the gross (higher) calorific value

(GCV) of landfill gas (incorporated by reference as specified at 40 CFR 52.3002).

(D) EPA Method 3A (40 CFR part 60, appendix A) for Oxygen Concentration.

(E) The calculations contained in §60.45(f)(5) and §60.46b(f).

(h) [reserved]

(i) Fugitive Emissions from Gas Processing Plants, Refineries, Bulk Plants, Bulk Terminals, and Chemical Plants.

(1) Applicability. The requirements of paragraphs (i)(1) through (i)(7) of this section shall apply to any owner or operator of a refinery, bulk plant, bulk terminal, chemical plant, or gas processing plant. For the purposes of this section, the affected areas include the Sacramento Metro Area, the Los Angeles-South Coast Air Basin Area, and the Ventura County Area as described for ozone in 40 CFR 81.305.

(2) Definitions. For the purposes of paragraphs (i)(1) through (i)(7) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Background means a reading expressed as methane on a portable hydrocarbon detection instrument which is taken at least three meters upwind from any component to be inspected and which is not influenced by any specific emission point.

Bulk plant means any distribution facility which receives organic liquid; stores it in stationary tanks; loads it into tank

trucks, transportable containers, or pipeline for delivery to other bulk plants, service stations or other distribution points.

Bulk terminal means any primary distributing plant which receives organic liquid; stores it in stationary tanks; and loads it into transportable containers, excluding marine vessels, or pipeline for delivery to bulk plants, service stations, or other distribution points.

Chemical plant means any facility or operation engaged in producing chemicals and/or manufacturing chemical products by chemical processes, with 282, 284, or 286 as the first three digits in its four digit Standard Industrial Classification (SIC) Code as defined in the SIC Manual.

Closed-vent system means any system that is not open to the atmosphere and is composed of piping, connections and, if necessary, flow-inducing devices that transport gases or vapors from a piece or pieces of equipment to a vapor recovery or disposal system.

Component means any valve, fitting, pump, compressor, pressure relief device, diaphragm, hatch, sight-glass, open-ended line, or meter.

Compressor means any device used to compress gases and/or vapors.

Control device means a device that is used to regulate fluid pressure or volume in a process unit that, upon actuation, releases VOC from the process stream. Control devices which are actuated with non-process stream compressed air are excluded from

this definition.

Critical component means any component that if shut down would require the shutdown of the associated process unit.

Fitting means a component used to attach or connect pipes, piping details, and other equipment, such as, vessels, heat exchangers, and condensers. These components include but are not limited to flanges, threaded connections, and other connectors.

Gas processing plant means any facility engaged in the separation of liquids from field gas and/or fractionation of the liquids into gaseous products, such as ethane, propane, butane, and natural gasoline. Excluded from the definition are compressor stations, dehydration units, sweetening units, field treatment, underground storage facilities, liquefied natural gas units, and field gas gathering systems unless these facilities are located at a natural gas processing plant.

Hatch means any covered opening system that provides access to a tank or container, usually through the top deck.

Inaccessible component means any component located over fifteen feet above ground when access is required from the ground; or any component located over six feet away from a platform when access is required from the platform.

Leak means a major gas leak, major liquid leak, minor gas leak, or minor liquid leak.

Leak minimization means reducing a leak to the lowest achievable level using best modern practices including tightening, adjusting, or adding sealing material and without

shutting down the process which the component serves.

Leak repair means any corrective action taken for the purposes of reducing a component leak to the lowest achievable level below the applicable standard using best modern practices.

Major component means any 4-inch or larger valve, any 5-horse-power (5-hp) or larger pump, any compressor, and any 4-inch or larger pressure relief device

Major gas leak for any component except pressure relief devices means the detection of total gaseous organic compounds in excess of 10,000 ppmv as methane above background as measured according to the test procedures in paragraph (i)(7)(i) of this section. A major gas leak for a pressure relief device means the detection of total gaseous organic compounds in excess of 200 ppmv as methane above background as measured according to the test procedures in paragraph (i)(7)(i) of this section.

Major liquid leak means a visible mist or cloud or a continuous flow of liquid.

Minor component means any component that is not a major component.

Minor gas leak for any component means the detection of total gaseous organic compounds in excess of 1,000 ppmv but not more than 10,000 ppmv as methane above background as measured according to the test procedures in paragraph (i)(7)(i) of this section. As of May 15, 1997 and applicable in the South Coast Air Basin, minor gas leak means the detection of gaseous organic compounds in excess of 500 ppmv but not more than 10,000 ppmv as

methane above background as measured according to the test procedures in paragraph (i)(7)(i) of this section.

Minor liquid leak is any liquid leak which is not a major liquid leak and drips at a rate of more than three drops per minute.

Owner or operator means any person who owns, operates, leases, controls, or supervises an emissions source or air pollution control equipment.

Person means any individual, corporation, copartnership, firm, company, partnership, joint stock company, trust, association, State, municipality, political subdivision, or any other legal entity, or their legal representative, agent, or assigns.

Pipeline transfer station means a facility that handles the storage or transfer, or both, of petroleum products or crude petroleum in pipelines.

Platform means any raised, permanent, horizontal surface that provides access to components.

Pressure relief device (PRD) means a pressure relief valve, rupture disc, or any other equipment designed to relieve pressure within a process line when the static pressure reaches a setpoint.

Pressure relief valve (PRV) means any valve that is automatically actuated by upstream static pressure, and used for safety or emergency purposes.

Pump means any device used to transport fluids by the

addition of mechanical energy.

Refinery means a facility that processes petroleum, as defined in the Standard Industrial Classification Manual as Industry Number 2911, Petroleum Refining.

Rupture disc means a diaphragm held between flanges for the purpose of isolating a volatile organic compound from the atmosphere or from a downstream pressure relief valve.

Unmanned facility means a remote facility which has no permanent sited personnel and is greater than five miles from the nearest manned facility.

Unsafe-to-monitor component means a component installed at a location that would prevent its safe inspection or repair as defined by Occupational Safety and Health Administration (OSHA) standards or in provisions for worker safety found in 29 CFR 1910.

Vacuum service or In vacuum service means that the equipment in VOC service is operating at an internal pressure that is at least 5 kPa (0.73 in. Hg) below ambient pressure.

Valve means a device that regulates or isolates the fluid flow in a pipe, tube, or conduit by means of an external actuator.

Vapor control system means any system that is not open to the atmosphere and is composed of piping, connections and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a vapor recovery or disposal system.

Visual inspection means performing a survey to identify signs of leaking liquid, visible mist, or audible leaks.

(3) Specific provisions. Each owner or operator of a gas processing plant, bulk plant, bulk terminal, refinery, or chemical plant shall be in compliance with the requirements of paragraphs (i)(3)(i) and (i)(3)(ii) of this section by May 15, 1997.

(i) Identification requirements. Components in VOC service shall meet the following identification requirements:

(A) All major and critical components shall be physically identified clearly and visibly for inspection, repair, replacement, and recordkeeping purposes.

(B) All major, critical, inaccessible, and unsafe-to-monitor components shall be clearly identified in diagrams for inspection, repair, replacement, and recordkeeping purposes.

(C) All minor components shall be individually identified and/or grouped together functionally for identification in diagrams or tabulated inventory listings for inspection, repair, replacement, and recordkeeping purposes.

(ii) Inspection and maintenance (I&M) program. Any owner or operator of a facility subject to this section shall implement an I&M program that meets the requirements of paragraphs (i)(3)(ii)(A) through (i)(3)(ii)(C) of this section.

(A) Inspection requirements. The I&M program will be conducted with the following inspection requirements.

(1) All accessible pump seals, compressor seals, and

pressure relief devices (PRDs) shall be visually inspected for leaks once during every operating shift. Any vapor leak which is identified during the visual inspection of components under paragraphs (i)(3)(ii)(A)(1) of this section shall be measured to quantify emission concentrations according to the test method specified in paragraph (i)(7)(i) of this section.

(2) All components, except as provided in paragraphs (i)(3)(ii)(A)(3), (4) and (5) of this section, shall be inspected quarterly according to the method prescribed in paragraph (i)(7)(i) of this section. The time between inspections shall not exceed 110 consecutive days.

(3) The components specified in paragraphs (i)(3)(ii)(A)(3)(i) and (i)(3)(ii)(A)(3)(ii) of this section shall be subject to other than quarterly inspection requirements.

(i) All inaccessible components shall be inspected annually according to the method prescribed in paragraph (i)(7)(i) of this section. The time between inspections shall not exceed 13 consecutive months.

(ii) All fittings, including threaded connections and flanges, shall be inspected for leaks according to the method prescribed in paragraph (i)(7)(i) of this section immediately after being placed into service and semi-annually, not to exceed 195 consecutive days between inspections, thereafter.

(4) Unsafe-to-monitor components shall be inspected in accordance with an inspection plan approved by the EPA.

(5) PRDs shall be inspected according to the method prescribed in paragraph (i)(7)(i) of this section within three calendar days after every pressure relief event.

(6) The inspection frequency for all components except pump seals, compressor seals, and PRDs may be changed to annually, not to exceed 13 consecutive months between inspections, provided that all of the following conditions are met:

(i) All components at the facility, not including pump seals, compressor seals, and PRDs, have been successfully operated and maintained for a period of twelve consecutive months with no liquid or major gas leaks exceeding the thresholds listed in the table of leak thresholds in this section.

(ii) The requirements specified in paragraph (i)(3)(ii)(A)(6)(i) of this section are substantiated by documentation and written approval obtained from the EPA.

(7) Any annual inspection frequency approved in paragraph (i)(3)(ii)(A)(6)(ii) of this section, shall revert to the inspection frequencies specified in paragraphs (i)(3)(ii)(A)(2) and (3) of this section, should liquid leaks or major gas leaks from components other than pump seals, compressor seals, and PRDs exceed the thresholds

listed in the table of leak thresholds in this section.

(8) A brightly colored, weather-proof tag shall be affixed to all leaking components showing the date of leak detection and the hydrocarbon concentration determined according to the method prescribed in paragraph (i)(7)(i) of this section.

(B) Repair and maintenance requirements. The I&M program shall be conducted in accordance with the following repair and maintenance requirements:

(1) All component leaks shall be immediately minimized following detection.

(2) All leaks from noncritical components shall be successfully repaired or replaced within the time period following detection of the leak, as specified in the table of repair periods in this section.

(3) For leaks from critical and unsafe-to-monitor components, the leaking component shall be replaced with Best Available Control Technology (BACT) equipment as determined by EPA within one year or during the next process turnaround, whichever occurs first.

(i) The percentage of valves in service and awaiting repair or replacement at any time shall not exceed the values below:

Effective Date	Percentage of Leaking Valves
May 15, 1997	2%
January 1, 1998	1%

January 1, 1999	0.5%

(ii) The percentage of pump and compressor seals in service and awaiting repair or replacement at any time shall not exceed the values below:

Effective Date	Percentage of Leaking Pumps and Compressors
May 15, 1997	10%
January 1, 1999	1%

(4) Any repaired or replaced component shall be re-inspected in accordance with the method prescribed in paragraph (i)(7) of this section by the owner or operator within 30 days of the repair or replacement.

(5) A component or parts thereof which incur five repair actions for a major gas or liquid leak within a continuous twelve month period shall be replaced with BACT equipment as determined by EPA.

(C) Leak control requirements. The owner or operator of any facility subject to this section shall comply with the following leak control requirements. The requirements of paragraphs (i)(3)(ii)(C)(1) and (2) of this section shall not apply to components being repaired or replaced within the specified repair or replacement period, as given in the table of repair periods in this section or paragraph (i)(3)(ii)(B)(3) of this section, if the requirements for leak minimization under paragraph (i)(3)(ii)(B)(1) of this section have been met.

(1) Any liquid leak detected during an inspection by EPA shall constitute a violation of this section.

(2) Any major gas leak detected during an inspection by EPA, within any continuous 24-hour period, and numbering in excess of the leak thresholds for that component listed in the table of leak thresholds in this section, shall constitute a violation of this section.

(3) Any open-ended line or valve found to be leaking shall be sealed with a second valve, blind flange, cap, plug, or a second closed valve except during operations requiring process fluid flow through the open-ended line or valve.

(4) Hatches shall be closed at all times except during sampling, addition of process material, or attended maintenance operations.

(5) Effective May 15, 1997, control devices which are actuated more frequently than once every 15 minutes shall be replaced or retrofitted so that a major leak shall not occur during valve actuation or at any other time.

(6) Effective May 15, 1997, any component leak that is vented through a stack or other confined air stream shall be transported in a closed-vent system with a collection efficiency of at least 95% to a vapor control system with a control efficiency of at least 95%. The determination of control efficiency shall be made in accordance with the test method specified in paragraph (i)(7)(iv) of this section.

(4) Exemptions. The provisions of paragraphs (i)(3)(i) and (ii) of this section shall not apply to the following components:

(i) Pressure relief devices, pump seals, and compressor

seals that are equipped with a closed-vent system with a VOC collection efficiency of at least 95% that transports the VOC emissions to a vapor control system with a VOC control efficiency of at least 95%. The determination of control efficiency shall be made in accordance with the test method specified in paragraph (i)(7)(iv) of this section.

(ii) The following cases, where the person seeking the exemption shall supply proof of the applicable criteria to the satisfaction of the EPA:

(A) Components buried below ground.

(B) Components, except those at gas processing plants, exclusively handling fluids with a VOC concentration, including ethane, of 10 percent by weight or less, as determined by the test method specified in paragraph (i)(7)(ii) of this section; or components exclusively handling fluids, if the weight percent evaporated is 10 percent or less at 150 degrees Celsius, as determined by the test method specified in paragraph (i)(7)(iii) of this section.

(C) Components at bulk plants and bulk terminals which exclusively handle liquids with a true vapor pressure of 0.5 pounds per square inch atmospheric or less.

(iii) One-half inch and smaller stainless steel tube fittings which have been demonstrated to the EPA to be leak-free based on an initial inspection in accordance with paragraph (i)(7)(i) of this section.

(iv) Components in vacuum service.

(v) Bulk plants and bulk terminals in the Sacramento Metro Area and Ventura County Area as described for ozone in 40 CFR 81.305.

(5) Reporting. Any owner or operator of a facility subject to this section shall comply with the following reporting requirements.

(i) A compliance plan shall be prepared and submitted to the EPA by May 15, 1997. The plan shall include the following information:

(A) Component identification methodology to meet the requirements of paragraphs (i)(3)(i)(A) through (C) of this section.

(B) An inspection schedule for all unsafe-to-monitor components pursuant to paragraph (i)(3)(ii)(A)(4) of this section.

(C) A description of all components meeting the exemption requirements of paragraphs (i)(4)(i) through (iv) of this section.

(ii) An annual certification of compliance shall be submitted to the EPA on or before January 1, 1998, and annually thereafter. The certification of compliance shall include:

(A) A declaration that the facility is in compliance with all of the requirements of this section.

(B) A summary of any changes that have been made to component identification in the original compliance plan.

(6) Recordkeeping.

(i) Each facility operator shall maintain an inspection log containing, at a minimum, the following:

(A) Name, location, type of components, and description of any unit where leaking components are found.

(B) Date of leak detection, emission level (ppmv) of leak, and method of leak detection.

(C) Date of leak repair and description of repair action.

(D) Date and emission level of re-check after leak is repaired.

(E) Identification of leaks from critical components that cannot be repaired until the next process turnaround.

(F) If necessary to demonstrate an exemption, the VOC content of leaking process fluids or gases.

(G) Total number of components inspected, and total number and percentage of leaking components found by component type.

(ii) Records of leaks detected by a quarterly or annual operator inspection and each subsequent repair and reinspection shall be submitted to the EPA upon request.

(iii) All records of operator inspection and repair shall be maintained at the facility for the previous three year period and be made available at the time of inspection by the EPA or immediately upon EPA request.

(7) Test Methods.

(i) Measurements of total gaseous organic compounds in leak concentrations shall be conducted according to EPA Reference Method 21. The analyzer shall be calibrated with methane.

(ii) The VOC content of fluids shall be determined using procedures that conform to ASTM Methods E 168, E 169, or E 260 (incorporated by reference as specified at 40 CFR 52.3002) or any other procedure that conforms to the above ASTM methods and is approved by the EPA in writing.

(iii) Determination of the evaporated compounds of liquids shall be performed in accordance with ASTM Method D 86-82 (incorporated by reference as specified at 40 CFR 52.3002).

(iv) Determination of the control efficiency of any VOC control equipment shall be performed in accordance with 40 CFR part 60, appendix A, Method 25 or 25A, or South Coast Air Quality Management District Method 25.1 (incorporated by reference as specified at 40 CFR 52.3002).

(v) True vapor pressure of liquids shall be determined by one of the following:

(A) By using standard reference texts; or

(B) In accordance with methods described in API Bulletin 2517; or

(C) By ASTM D2879-83.

Table of Leak Thresholds

Component Type	Maximum Number of Leaks	
	200 or Less Components Inspected	More than 200 Components Inspected
Valves	1	0.5% of the number inspected
Pump seals	2	1% of the number inspected

Compressors	1	1
Pressure Relief Devices	1	1
Other Components	1	1

Table of Repair Periods

Type of Leak	Time Period (days)[a]
Minor Gas Leak	14
Major Gas Leak	5
Major Gas Leak over 50,000 ppmv	1[b]
Major Liquid Leak	1[b]
Minor Liquid Leak	2[b]

[a] Day means a 24 hour period from the time of leak detection.

[b] Unless prohibited by state safety standards or 29 CFR part 1910.

(j) Gasoline Transfer and Dispensing.

(1) Applicability. The requirements of paragraphs (j)(1) through (j)(7) of this section shall apply to any owner or operator of a gasoline dispensing facility. For the purposes of this paragraph, the affected areas include the Sacramento Metro Area, the Los Angeles-South Coast Air Basin Area, and the Ventura County Area as described for ozone in 40 CFR 81.305.

(2) Definitions. For the purposes of paragraph (j) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Alteration(s) and/or repair(s) of a gasoline storage and/or dispensing facility is any of the following: the replacement of one or more existing storage tank(s); the removal or addition of storage tank(s) or dispensing nozzle(s), piping or any other component; the replacement of storage tanks, dispensing nozzle(s), piping or any other component with different characteristics from those of the existing or original equipment; or any excavation (exposure to view by digging) of an existing gasoline storage tank and/or the underground liquid piping from the storage tank(s) to the gasoline dispenser(s).

Balance system is a Phase II (Stage II) vapor recovery system that operates on the principle of vapor displacement.

CARB certified vapor recovery system is any Phase I or Phase II vapor recovery system which has been certified by the California Air Resources Board (CARB) pursuant to section 41954 of the California Health and Safety Code as capable of recovering or processing displaced gasoline vapors to an efficiency of ninety-five (95) percent or greater. For the purpose of this section, the term certified shall refer to CARB certification.

CARB executive orders document the requirements of specific vapor control equipment and procedures used in Phase I and II vapor control. They are generated by the California Air Resources Board.

Gasoline is any petroleum distillate and/or mixture of petroleum distillates and oxygenates used as a fuel in spark ignition engines and having a Reid vapor pressure of four pounds

per square inch or greater.

Gasoline storage and dispensing facility means an aggregate of one or more stationary storage tanks, any of which is subject to the provisions of paragraphs (j)(3) through (j)(7) of this section, together with dispensers and control equipment required by the section.

Hold-open latch is a certified device which is an integral part of the dispensing nozzle and is manufactured specifically for the purpose of dispensing gasoline without requiring the consumer's constant physical contact with the nozzle during fueling operations.

Insertion interlock is any certified mechanism which is an integral part of a bellows-equipped dispensing nozzle which prohibits the dispensing of fuel unless the bellows is compressed.

Liquid removal device is a device designed specifically to remove liquid from the vapor return portion of a coaxial hose.

Liquid tight means a liquid leak rate not exceeding three drops per minute.

Motor vehicle is any self-propelled vehicle registered or which requires registration for use on the highway.

Owner/operator is any person who owns, leases, operates, controls or supervises the operation of a gasoline dispensing facility.

Phase I or Stage I is gasoline vapor recovery during the transfer of gasoline into or out of stationary tanks at a

gasoline dispensing facility.

Phase II or Stage II is gasoline vapor recovery during motor vehicle or utility equipment fueling operations from stationary tanks at gasoline dispensing facilities.

Rebuilt equipment is any component of a vapor recovery system that has undergone repair or replacement of any or all of its internal parts.

Reid vapor pressure means the absolute vapor pressure of volatile crude oil and volatile non-viscous petroleum liquids, except liquified petroleum gases, as determined by ASTM D323-90 (incorporated by reference as specified at 40 CFR 52.3002).

Submerged fill tube is any fill tube, the discharge opening of which is entirely submerged, when the liquid level above the bottom of the tank is: 15.2 cm (6 inches), for tanks filled from the top, except for flat bottom tanks where the liquid level above the bottom is 7.6 cm (3 in.); or 45.7 cm (18 inches) for tanks filled from the side.

Top off is the attempt to dispense gasoline to a motor vehicle or utility equipment fuel tank after the dispensing nozzle primary shutoff mechanism has engaged. The filling of those class of vehicle tanks which, because of the configuration of the fill pipe, cause premature activation of the primary shutoff, shall not be considered topping off.

Vacuum assist system is any Phase II vapor recovery system that utilizes a pump, blower, or other vacuum-producing device. Vacuum assist systems may also incorporate an incinerator to

process any excess vapors generated by the collection system.

Vapor tight means the detection of less than 10,000 ppm hydrocarbon concentration, as determined by 40 CFR part 60, appendix A, Method 21, using an appropriate analyzer calibrated with methane.

(3) Standards.

(i) Gasoline Transfer Into Stationary Storage Tanks (Phase I). An owner/operator shall not transfer, permit the transfer or provide equipment for the transfer of gasoline into from any tank truck, trailer or railroad car into any stationary storage tank with a capacity of 950 liters (251 gallons) or more unless all of the following conditions are met:

(A) Such tank is equipped with a permanent submerged fill tube.

(B) Such tank is equipped with a CARB certified vapor recovery system which is maintained and operated according to the manufacturer's specifications.

(C) All vapor return lines are connected between the tank truck, trailer or railroad tank car, and the stationary storage tank and all associated hoses, fittings, and couplings are maintained in a vapor tight condition.

(D) The hatch on any tank truck, trailer, or railroad tank car shall not be opened for more than three minutes for each visual inspection, provided that:

(1) Transfer or pumping has been stopped for at least 3 minutes prior to opening; and

(2) The hatch is closed before transfer or pumping is resumed.

(E) Underground tank lines are gravity drained, and above-ground tanks are equipped with dry breaks such that upon line disconnect the liquid leak rate does not exceed 3 drops per minute.

(F) As of May 15, 1997, an owner/operator shall not install a coaxial Phase I vapor recovery system at a gasoline dispensing facility unless the Phase I system was certified after January 1, 1994. In addition, an owner/operator shall not install a Phase I vapor recovery system unless that system incorporates certified poppetted drybreaks or spring-loaded vapor check valves on the vapor return coupler of the system.

(G) As of May 15, 1997, all open vent pipes on stationary tanks at gasoline dispensing facilities shall be equipped with a pressure-vacuum relief valve. Unless otherwise specified in the applicable CARB executive order, pressure relief shall be set at 3 inches water column and vacuum relief shall be set at 8 inches water column. For the purposes of this paragraph, vent pipes of gasoline storage tanks may be manifolded to a single valve when the storage tanks are manifolded according to the applicable CARB executive order.

(H) As of May 15, 1997, any time a gasoline storage tank or associated piping is replaced or installed, a CARB certified spill box must be installed. This spill box must be equipped with an integral vapor-tight drain valve to return spilled

gasoline to the storage tank.

(I) Equipment subject to this paragraph is operated and maintained, according to all of the following requirements:

(1) All fill tubes are equipped with vapor-tight covers, including gaskets;

(2) All dry breaks are equipped with vapor-tight seals and dust covers;

(3) Fixed or Spring-Loaded coaxial fill tubes are operated so that there is no obstruction of vapor passage from the storage tank back to the tank truck, trailer, or railroad tank car;

(4) The fill tube assembly, including fill tube, fittings and gaskets, is maintained to prevent vapor leakage from any portion of the vapor recovery system;

(5) All storage tank vapor return lines without dry breaks are equipped with vapor-tight covers, including gaskets.

(ii) Gasoline Transfer Into Vehicle Fuel Tanks (Phase II). An owner/operator shall not transfer, or permit the transfer, or provide equipment for the transfer of gasoline from a stationary storage tank into any motor vehicle fuel tank of greater than 19 liters (5 gallons) capacity unless all of the following conditions are met:

(A) The dispensing unit used to transfer the gasoline from the stationary storage tank to the motor vehicle fuel tank is equipped with a CARB certified vapor recovery system.

(B) The vapor recovery system and associated components are

operated and maintained in a vapor-tight and liquid-tight manner in accordance with the manufacturer's specifications and the applicable CARB certification.

(C) As of May 15, 1997, an owner/operator shall not install any balance system vapor recovery nozzle unless a vapor check valve is located in the nozzle. In addition, a balance system shall not be operated with more than one check valve per nozzle and hose assembly.

(D) As of May 15, 1997, the nominal inside diameter of the connection between the riser and dispenser cabinet shall not be less than 0.75 inches. If flexible tubing is used for this connection, the material shall be appropriate for use with gasoline and shall be equipped with a clearly visible bonding strap.

(E) As of May 15, 1997, an owner/operator shall not sell, offer for sale, or install a bellows-equipped vapor recovery nozzle unless it is equipped with an insertion interlock.

(F) As of May 15, 1997, an owner/operator shall not install a vapor recovery nozzle unless it is equipped with a coaxial hose.

(G) As of May 15, 1997, all liquid removal devices required by CARB Executive Orders shall be maintained to achieve a minimum liquid removal rate of five milliliters per gallon transferred. This standard shall apply at dispensing rates exceeding five gallons per minute, unless a higher removal rate is specified by the Executive Order.

(H) Equipment subject to this section shall be operated and maintained with none of the following defects:

(1) Absence or disconnection of any component required to be used in the CARB Executive Order(s) that certified the system.

(2) A vapor hose which is crimped or flattened such that the vapor passage is blocked, or the pressure drop through the vapor hose exceeds by a factor of two or more the requirements in the system certified in the CARB Executive Order(s) applicable to the system.

(3) A nozzle boot which is torn in one or more of the following manner:

(i) Triangular-shaped or similar tear 1/2 inch or more to a side, or hole 1/2 inch or more in diameter or,

(ii) Slit 1 inch or more in length.

(4) Faceplate or flexible cone which is damaged in the following manner:

(i) For balance nozzles and for nozzles for aspirator and educator assist type systems, damage shall be such that the capability to achieve a seal with a fill pipe interface is affected for 1/4 of the circumference of the faceplate (accumulated).

(ii) For nozzles for vacuum assist-type systems, more than 1/4 of the flexible cone missing.

(5) Nozzle shutoff mechanisms which malfunction in any manner.

(6) Vapor return lines, including such components as swivels, anti-recirculation valves and underground piping, which malfunction or are blocked, or restricted such that pressure drop through the lines exceeds by factor of two or more requirements specified in the CARB Executive Order(s) that certified the system.

(7) Vapor processing unit which is inoperative.

(8) Vacuum producing device which is inoperative.

(9) Pressure/vacuum relief valves, vapor check valves, or dry breaks which are inoperative.

(10) Any equipment defect which is identified in an Executive Order certifying a system pursuant to the Certification Procedures incorporated in Section 94001 of Title 17, California Code of Regulations, as substantially impairing the effectiveness of the system in reducing air contaminants.

(11) All nozzles affected by the above defects are to be considered defective.

(iii) Additional Requirements.

(A) An owner/operator shall not offer for sale, sell, or install any new or rebuilt vapor recovery equipment unless the system is clearly identified or marked by the certified manufacturing company and/or the certified rebuilding company.

(B) As of May 15, 1997, an owner/operator shall not perform or permit the "pump-out" (bulk transfer) of gasoline from a storage tank subject to paragraph (j)(3)(i) of this section;

unless such bulk transfer is performed using a vapor collection and transfer system capable of returning the displaced vapors to the stationary storage tank or unless the storage tank will be removed or filled with water for testing.

(C) An owner/operator shall not store, or allow the storage of, gasoline in any stationary storage tank with a capacity of 950 liters (251 gallons) or more unless such tank is equipped with a Phase I vapor recovery system.

(D) An owner/operator of any gasoline dispensing facility shall conspicuously post the following signs in the immediate gasoline dispensing area.

(1) "NOZZLE" operating instructions;

(2) Appropriate District toll-free telephone number; and

(3) A warning sign stating:

TOXIC RISK - FOR YOUR OWN PROTECTION DO NOT BREATHE FUMES. DO NOT TOP TANKS.

(E) All required signs shall conform to all of the following:

(1) For decal signs:

(i) Each sign shall be located adjacent to the dispenser price indicator (per gallon) on each side next to the driveway it serves; and

(ii) Sign shall be readable from a distance of 3 feet or more.

(2) All other signs:

(i) For pump toppers, one double-back sign per island;

(ii) For permanent (non-decal) signs, two single-sided or one double-sided sign(s) per two (2) dispensers.

(iii) All signs shall be readable from a distance of 6 feet or more.

(F) A dispenser that is never used to fuel motor vehicles shall have a sign posted on it restricting its use for vehicles.

(G) Gasoline shall not be stored in open container(s) of any size or handled in any other manner (spillage, spraying, etc.) that permit gasoline or gasoline vapors to enter the atmosphere, contaminate the ground, or the sewer.

(H) The failure of an owner/operator to meet any requirements of paragraphs (j)(3)(i), (j)(3)(ii), or (j)(3)(iii) of this section shall constitute a violation. Such equipment determined to be in violation shall be tagged "Out-of-Order."

(I) Except during repair activity, the "Out-of-Order" tag specified in paragraph (j)(3)(iii)(H) of this section shall not be removed and the tagged equipment shall not be used, permitted to be used, or provided for use unless all of the following conditions are satisfied:

(1) The tagged equipment has been repaired, replaced, or adjusted, as necessary;

(2) The District, Office of Operations, has been notified of the repairs by completing and signing the form supplied by the District;

(3) The tagged equipment has been reinspected and/or authorized for use by the District.

(4) Exemptions. The provisions of this section shall not apply to the transfer of gasoline into or from any stationary tank if its monthly throughput is used exclusively for the fueling of implements of husbandry, such as vehicles defined in Division 16 (Section 36000 et seq.) of the California Vehicle Code, provided such a tank is equipped with a submerged fill tube and its storage capacity is less than or equal to 550 gallons (2,082 liters).

(5) Compliance Schedule.

(i) The owner/operator of a new facility subject to this section shall comply with the provisions of this section at the time gasoline receiving and/or dispensing is initiated.

(ii) The owner/operator of any existing facility shall achieve compliance by May 15, 1997.

(6) Testing.

(i) For new or altered gasoline storage or dispensing facilities, once the system is in operational condition and ready for use, testing to verify the proper installation and function of the entire system (both infrastructure plumbing and aboveground equipment) shall be conducted. Tests of Phase II systems at gasoline dispensing stations shall be conducted in accordance with the following test procedures as found in appendix J of the EPA document, "Technical Guidance - Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions a Gasoline Dispensing Facilities," Vol. II (EPA-450/3-91-022b, November 1991:

(A) Bay Area Source Test Procedure ST-30, Leak Test Procedure (incorporated by reference as specified at 40 CFR 52.3002);

(B) Bay Area Source Test Procedure ST-27, Dynamic Back Pressure (incorporated by reference as specified at 40 CFR 52.3002); and

(C) Bay Area Source Test Procedure ST-37, Liquid Removal Devices (incorporated by reference as specified at 40 CFR 52.3002).

(ii) In addition to the above tests, Phase I efficiency testing will be done in accordance with Bay Area Source Test Procedure ST-36, Phase I Volumetric Efficiency (incorporated by reference as specified at 40 CFR 52.3002).

(iii) Testing may be done by the facility or by a testing company provided that the testing meets the minimum criteria established by CARB for such tests.

(iv) Reverification of the function of the Phase I or Phase II vapor recovery system shall be performed as shown below or upon alteration or repair of any gasoline storage or dispensing facility. Functional tests may also be performed upon request by EPA or the local Air Pollution Control District. Where multiple tests are specified, a leak or blockage found by any method constitutes a violation of this section.

(A) A static pressure leak test using ST-30 (incorporated by reference as specified at 40 CFR 52.3002) shall be performed at least once per calendar year or upon alteration or repair of

facilities equipped with a vacuum-assist Phase II system.

(B) A static pressure leak test using ST-30 (incorporated by reference as specified at 40 CFR 52.3002) shall be performed at least once every two years or upon alteration or repair of facilities equipped with a balanced Phase II system.

(C) A liquid blockage test using ST-27 (incorporated by reference as specified at 40 CFR 52.3002) shall be performed at least every five years.

(v) For existing gasoline storage and dispensing facilities, if the facility has not been verified for functional Phase I or Phase II vapor recovery systems within the last three years before [insert date of publication], then the functional tests shall be performed at the facility by May 15, 1997. Facilities which have been tested within three years and have the test results documented, shall perform the reverification test within five years from the date of the tests. Reverification of static pressure integrity for Phase II systems shall be performed by May 15, 1997.

(7) Recordkeeping. All permits or licenses to operate the facility or to operate a specific system at the facility shall be current at all times. The records required in paragraphs (j)(7)(i) through (j)(7)(iv) of this section shall be maintained for a minimum of three years and should be made available to EPA and local enforcement personnel upon request. Records which are two years old or less must be kept at the facility; records more than two years old must be accessible within 24 hours.

(i) Verification that the vapor recovery system meets or exceeds the requirements of the tests specified in paragraphs (j)(6)(i), (j)(6)(ii), and (j)(6)(iv) of this section shall be maintained. The test results shall be dated and shall contain names, addresses, and telephone numbers of the parties responsible for the system installation and/or testing.

(ii) All maintenance conducted on any part of the vapor recovery system shall be logged on a maintenance record maintained in chronological order showing dates, description of any equipment replaced with its location, and a description of the system problem which resulted in repairs. The log shall also indicate the time period and duration of each malfunction of the system.

(iii) A file of all inspection reports issued by inspecting agencies shall be maintained in chronological order.

(iv) A chronologically organized file of all compliance records issued by regulating agencies shall be maintained separately from the inspection reports.

(k) Emissions from Waste Burning.

(1) Applicability. On or after May 15, 1997, any person conducting agricultural burning or open burning shall comply with the requirements of paragraph (k)(4) and (k)(5) of this section. For the purposes of this section, the affected areas include the Los Angeles-South Coast Air Basin Area, and the Ventura County Area as described for ozone in 40 CFR 81.305.

(2) Definitions. For the purposes of paragraph (k) of this

section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Agricultural burning means open outdoor fires used in the following operations: agricultural operations; forest management; range improvement; improvement of land for wildlife and game habitat; disease or pest prevention; operation or maintenance of a system for the delivery of water used in any agricultural operation, forest management, range improvement, land improvement for wildlife and game habitat, and disease or pest prevention operation; wildland vegetation management.

Agricultural operations means the production of materials produced wholly from operations in the growing and harvesting of crops or raising of fowl or animals for the primary purpose of making a profit, of providing a livelihood, or of conducting agricultural research or instruction by an educational institution. In connection with open burning of materials produced from agricultural operations are the burning of grass and weeds in or adjacent to fields in cultivation or being prepared for cultivation, and the burning of materials not produced wholly from agricultural operations, but which are intimately related to the growing or harvesting of crops and which are used in the field (e.g., trays for drying raisins, date palm protection paper, and fertilizer and pesticide sacks or containers where the sacks or containers are emptied in the field.)

Designated agency means any agency designated by the

California Air Resources Board as having authority to issue agricultural burning permits. The U.S. Forest Service, the California Department of Forestry, and local air districts are designated for their respective jurisdictions.

Ecosystem Burning means prescribed burning which improves ecosystem health and is intended to re-introduce fire into short interval, fire adapted ecosystems. Ecosystem burning does not include burns from agricultural operations.

Fire Hazard Reduction Burning means prescribed burning of natural fuel accumulations over large areas. Natural fuels include live brush, dead vegetation, and accumulation of needles, leaves, litter, branches and logs. Natural fuels does include not fuels generated from agricultural operations.

Forest management burning means the use of open fires, as part of a forest management practice, to remove forest debris or for forest management practices which include timber operations, silvicultural practices or forest protection practices.

Local air district means any of the following districts: El Dorado County Air Pollution Control District (APCD), Feather River Air Quality Management District (AQMD), Placer County APCD, Sacramento Metropolitan AQMD, South Coast AQMD, Ventura County APCD, Yolo-Solano AQMD.

No-burn day means a day on which agricultural burning and open burning are prohibited by the EPA, State Air Resources Board, or local air district due to a predicted exceedence of the State ambient air quality standard (0.09 ppm) for ozone.

Open burning means planned open burning of trash, leaves, and refuse from all activities except agricultural operations, forest management, range improvement, improvement of land for wildlife and game habitat, disease or pest prevention, operation or maintenance of a system for the delivery of water used in any agricultural operation, forest management, range improvement, land improvement for wildlife and game habitat, and disease or pest prevention operation, and wildland vegetation management where the products of combustion are not directed through a flue.

Permissive-burn day means a day on which agricultural burning and open burning are allowed by the EPA, State Air Resources Board, or local air district.

Range improvement burning means the use of open fires to remove vegetation for a wildlife, game or livestock habitat or for the initial establishment of an agricultural practice on previously uncultivated land.

Silvicultural practices means establish, development, care and reproduction of stands of timber.

Timber operations means cutting or removal of timber or other forest vegetation.

Waste burning means agricultural burning, range management burning, forest management burning, and open burning.

Wildland vegetation management burning means the use of prescribed burning conducted by a public agency, or through a cooperative agreement or contract involving a public agency, to burn land predominantly covered with chaparral, trees, grass, or

standing brush.

(3) No-burn day determination. A no-burn day may be declared by the USEPA, California Air Resources Board, or local air district if an exceedence of the State ambient air quality standard for ozone (0.09 ppm) is predicted. The following conditions will be evaluated each day for predicting the ozone level for the following day.

(i) Current hourly ozone level, in ppm, measured in the portion of the local air district that falls within the boundaries of the FIP area;

(ii) Predicted meteorology including wind speed, and mixing height; and

(iii) Forecast temperature.

(iv) [Reserved for additional criteria].

(4) Permitting. Agricultural burning is prohibited unless a valid burn permit is obtained from the appropriate designated agency.

(5) Restrictions.

(i) Agricultural burning shall be prohibited on a no-burn day.

(ii) Open burning shall be prohibited on a no-burn day.

(6) Exemptions.

(i) The prevention of a fire hazard which cannot be abated by any other means.

(ii) The instruction of public employees in the methods of fire fighting.

(iii) The instruction of employees in methods of fire fighting, when such fire is set, pursuant to permit, on property used for industrial purposes.

(iv) The setting of backfires necessary to save life or valuable property.

(v) The abatement of fire hazards.

(vi) Disease or pest prevention, where there is an immediate need and no reasonable alternative to burning.

(vii) Open outdoor fires used only for cooking of food for human beings or for recreational purposes.

(viii) Fires set by public employeees for ecosystem management.

(l) Emissions of Oxides of Nitrogen from Natural Gas-fired Water Heaters.

(1) Applicability. For the purposes of paragraph (l) of this section, the affected area includes the Sacramento Metro Area as described for ozone in 40 CFR 81.305. The requirements of paragraphs (l)(1) through (l)(6) of this section shall apply to any person who manufactures, offers for sale, sells, or installs any natural gas-fired water heater with a rated heat input capacity less than 75,000 British thermal units per hour (Btu/hr).

(2) Definitions. For the purposes of paragraph (l) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

British thermal unit (Btu) means the amount of heat required

to raise the temperature of one pound of water from 59°F to 60°F at one atmosphere.

Heat input means the actual amount of heat released by natural gas burned in a water heater.

Heat output means the product obtained by multiplying the recovery efficiency, as defined by Title 20, California Administrative Code, Chapter 2, Subchapter 4, Article 4, Sections 1603 and 1607, by the heating value of the natural gas furnished to the water heater.

Natural gas means a mixture of gaseous hydrocarbons containing at least 80 percent methane by volume as determined according to American Standard Test Method (ASTM) D1945-64 (incorporated by reference as specified at 40 CFR 52.3002).

Rated heat input capacity means the heat input capacity specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different than the heat input capacity specified on the nameplate, the new maximum heat input shall be considered as the rated heat input capacity.

Water heater means a device that heats water at a thermostatically-controlled temperature for delivery on demand.

(3) Standards. After May 15, 1997, no person shall manufacturer, offer for sale, sell, or install any natural gas-fired water heater with NO_x emissions in excess of 40 nanograms calculated as weight equivalent NO_x per joule (ng/j) [93 pounds per billion Btu (93 lb/10^9 Btu)] of heat output.

(4) Exemptions. The provisions of this section shall not apply to:

(i) Water heaters with a rated heat input of 75,000 Btu/hr or greater.

(ii) Water heaters used in recreational vehicles.

(iii) Water heaters used exclusively to heat swimming pools and hot tubs.

(5) Reporting and Recordkeeping.

(i) Compliance Report. A manufacturer shall submit to the Administrator a Compliance Report which demonstrates that each water heater model complies with the section. A manufacturer shall submit a new Compliance Report for any water heater model whose design is changed in any manner which may alter NO_x emissions. Compliance Reports, for either new models or altered models, shall be submitted to the Administrator at least 30 days before the water heater model is offered for sale, sold, or installed in the control area. The Compliance Report shall contain the following information:

(A) General Information.

(1) Name and address of manufacturer;

(2) Brand name and model;

(3) Model number as it appears on the rating plate of each water heater; and

(4) Description of each water heater model being certified.

(B) Test Report.

(1) All compliance test procedures and results for each

water heater model; and

(2) All calculations for determining compliance of each water heater model.

(C) Compliance Statement. A signed and dated statement attesting to the accuracy of all statements and information in the Compliance Report.

(ii) Labeling. A manufacturer shall display the model number of the water heater on the shipping carton and rating plate of each water heater unit.

(iii) Recordkeeping. A manufacturer shall keep Compliance Reports, test reports, and compliance statements for as long as the water heater model is offered for sale, sold, or installed in the control area, or for three calendar years, whichever is longer.

(6) Test Methods. The manufacturer shall have each water heater model tested in accordance with the following procedures:

(i) Each water heater model tested shall be operated in accordance with Section 2.4 of American National Standards Institute (ANSI) Z21.10.1-1975 at normal test pressure, input rates, and with a 5-foot exhaust stack installed during the NO_x emissions tests, and

(ii) The measurement of NO_x emissions shall be conducted in accordance with South Coast Air Quality Management District, Interim Protocol, "Rule 1121 Nitrogen Oxides Emissions Compliance Testing For Natural Gas-Fired Water heaters and Small Boilers," September 16, 1992, or using other methods as approved in writing

by the Administrator.

(iii) The following procedure shall be used to calculate the NO_x emissions rate in ng/j (lb/10^9 Btu) of heat output:

$$N = \frac{5211 \times Cf \times P \times F}{Ho \times C}$$

Where:

N	=	Nanograms of NO_x expressed as weight equivalent NO_2 emitted per joule of heat output, ng/j (lb/10^9 Btu)
Cf	=	Carbon number of fuel, dimensionless
P	=	NO_x concentration in flue gas, parts per million by volume
F	=	Volume of fuel burned, cubic feet at 30 inches of mercury (Hg) and 60°F
Ho	=	Heat output, Btu
C	=	Concentration of CO_2 measured in flue gas, percent

(iv)

(m) <u>Emissions of oxides of nitrogen from stationary reciprocating internal combustion engines</u>.

(1) <u>Applicability</u>. For the purposes of this paragraph, the affected area includes the Sacramento Metro Area as described for ozone in 40 CFR 81.305.

(i) Any owner or operator of a stationary internal

combustion engine rated at equal to or greater than 50 brake horsepower shall comply with the applicable requirements of paragraphs (m)(1) through (m)(7) of this section.

(ii) Any owner or operator of a stationary internal combustion engine that claims an exemption from the standards of paragraph (m)(3) of this section because of the exemption criteria specified in paragraph (m)(4)(ii) of this section shall comply with the monitoring requirements of paragraph (m)(6)(ii)(C) of this section.

(iii) Any owner or operator of a diesel stationary internal combustion engine that claims an exemption from the standards of paragraph (m)(3) of this section because of the exemption criteria specified in paragraph (m)(4)(viii) of this section shall comply with the monitoring and reporting requirements of paragraph (m)(4)(viii) of this section.

(2) Definitions. For the purposes of paragraphs (m)(1) through (m)(7) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Diesel engine means a compression ignited two or four-stroke engine in which liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition.

Emergency standby engine means an internal combustion engine used only when normal power line or natural gas service fails, or for the emergency pumping of water for either fire protection or

flood relief. An emergency standby engine may not be operated to supplement a primary power source when the load capacity or rating of the primary power source has been either reached or exceeded.

Engine rating means the output of an engine as determined by the engine manufacturer and listed on the nameplate of the unit, regardless of any derating.

Higher heating value (HHV) means the total heat liberated per mass of fuel burned (Btu per pound), when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to their standard states at standard conditions. If certification of the HHV is not provided by the third party fuel supplier, it shall be determined by one of the following test methods: ASTM D2015-85 for solid fuels; ASTM D240-87 or ASTM D2382-88 for liquid hydrocarbon fuels; or ASTM D1826-88 or ASTM D1945-81 in conjunction with ASTM D3588-89 for gaseous fuels. These methods are all incorporated by reference as specified at 40 CFR 52.3002.

Lean-burn engine means any two or four-stroke spark-ignited engine that is not a rich-burn engine.

Lowest Achieveable Emissions Rate (LAER) means the most stringent emission limitation which is contained in the SIP for such class or category of stationary source or the most stringent emission limitation which is achieved in practice by such class or category of stationary source.

Maintenance operation means the use of an emergency standby

engine and fuel system during testing, repair and routine maintenance to verify its readiness for emergency standby use.

Malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

Output means the shaft work output from an engine plus the energy reclaimed by any useful heat recovery system.

Peak load means the maximum instantaneous operating load.

Permitted capacity factor means the annual permitted fuel use divided by the manufacturers specified maximum fuel consumption times 8,760 hours per year.

Rich-burn engine means a two or four-stroke spark-ignited engine where the manufacturers original recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio is less than or equal to 1.1.

Shutdown means the period of time a unit is cooled from its normal operating temperature to cold or ambient temperature.

Startup means the period of time a unit is heated from cold or ambient temperature to its normal operating temperature as specified by the manufacturer.

Stationary internal combustion engine means any internal combustion engine of the reciprocating type that is either attached to a foundation at a facility or is designed to be

capable of being carried or moved from one location to another and remains at a single site at a building, structure, facility, or installation for more than 12 consecutive months. Any engine (or engines) that replaces an engine at a site that is intended to perform the same or similar function as the engine replaced is included in calculating the consecutive time period. Nonroad engines and engines used solely for competition are not stationary internal combustion engines.

Stoichiometric air/fuel ratio means the air/fuel ratio where all fuel and all oxygen in the air/fuel mixture will be consumed.

Unit means any diesel, lean-burn, or rich-burn stationary internal combustion engine as defined in this paragraph.

Waste gas means the fuel gas produced at either waste-water/sewage treatment facilities or landfills containing no more than 25 percent by volume supplemental gas.

(3) Standards.

(i) No owner or operator of a unit subject to the standards of this paragraph shall operate the unit unless the owner or operator complies with the requirements of paragraphs (m)(3)(i)(A), (B), (C), or (D) of this section. Any owner or operator that chooses to comply with this paragraph by means of paragraph (m)(3)(i)(C) or (D) of this section shall also comply with the requirements of paragraphs (m)(3)(ii) and (iii) of this section.

(A) Replace the unit with an electric motor in accordance with the applicable compliance schedule specified in paragraph

(m)(5) of this section.

(B) Decrease the annual operating time of the unit to less than 200 hours per calendar year in accordance with the operating time phase-down schedule specified in paragraph (m)(5)(v) of this section. Any owner or operator that chooses to comply with this paragraph shall comply with the monitoring requirements of paragraph (m)(6)(ii)(C) of this section.

(C) No owner or operator of a stationary internal combustion engine shall cause to be discharged into the atmosphere any gases that contain NO_x in excess of the following applicable limit expressed as NO_2 corrected to 15 percent parts per million by volume (ppmv) stack gas O_2 on a dry basis averaged over a period of 15 consecutive minutes:

(1)	Rich-burn, ≥ 300 bhp:	25 ppmv
(2)	Lean-burn, ≥ 300 bhp:	45 ppmv
(3)	Diesel, ≥ 300 bhp:	80 ppmv
(4)	Rich-burn, 50-299 bhp:	50 ppmv
(5)	Lean-burn, 50-299 bhp:	125 ppmv
(6)	Diesel, 50-300 bhp:	175 ppmv

(7) Each emission limit expressed in paragraphs (m)(3)(i)(C)(1) through (6) of this section may be multiplied by X, where X equals the engine efficiency (E) divided by a reference efficiency of 30 percent. Engine efficiency (E) shall be determined using one of the methods specified in paragraph (m)(3)(i)(C)(7)(i) or (ii) of this section, whichever provides a higher value. However, engine efficiency (E) shall not be less

than 30 percent. An engine with an efficiency lower than 30 percent shall be assigned an efficiency of 30 percent.

(i)

$$E = \frac{(Engine\ output) * (100)}{Energy\ input}$$

where energy input is determined by a fuel measuring device accurate to ±5 percent and is based on the HHV of the fuel. Percent efficiency (E) shall be averaged over 15 consecutive minutes and measured at peak load for the applicable engine.

(ii)

$$E = \frac{(Mftrs\ Rated\ Efficiency\ [Continuous]\ at\ LHV) * (LHV)}{(HHV)}$$

where

LHV = the lower heating value of the fuel; and

HHV = the higher heating value of the fuel

(D) In lieu of complying with the NO_x emission limit in paragraph (m)(3)(i)(C)(1), (2), or (3) of this section, an owner or operator shall achieve the applicable percent reduction of the NO_x concentration in the uncontrolled exhaust gas stream specified below. A controlled ppmv NO_x limit shall be established in accordance with the requirements of paragraph (m)(7) of this section for the purpose of demonstrating compliance with the applicable percent reduction.

(1)	Rich-burn, general:	94 percent
(2)	Lean-burn, general:	90 percent
(3)	Diesel:	90 percent

(ii) Standards for carbon monoxide (CO). Any owner or operator of a stationary internal combustion engine subject to

the requirements of paragraph (m)(3)(i)(C) or (D) of this section shall establish a controlled ppmv CO emission limit that represents good operating and combustion practices. No owner or operator shall cause to be discharged into the atmosphere any gases that contain CO in excess of the lowest of one of the following limits:

(A) 120 percent of the CO ppmv level established by an initial compliance test in accordance with the requirements of paragraph (m)(7) of this section; or

(B) 4,500 ppmv.

The owner or operator shall subsequently comply with the limit once it is established. The ppmv CO emissions shall be corrected to 15 percent volume stack gas O_2 on a dry basis averaged over a period of 15 consecutive minutes.

(iii) Standards for volatile organic compounds (VOC). Any owner or operator of a stationary internal combustion engine subject to the requirements of paragraph (m)(3)(i)(C) or (D) of this section shall establish a controlled ppmv VOC emission limit. No owner or operator shall cause to be discharged into the atmosphere any gases that contain VOC in excess of the lowest of one of the following limits:

(A) 120 percent of the VOC ppmv level established by an initial compliance test in accordance with the requirements of paragraph (m)(7) of this section; or

(B) 350 ppmv.

The owner or operator shall subsequently comply with the limit

once it is established. The ppmv VOC emissions shall be corrected to 15 percent volume stack gas O_2 on a dry basis averaged over a period of 15 consecutive minutes.

(4) Exemptions. The requirements of paragraphs (m)(3), (5), (6), and (7) of this section shall not apply to the following, unless otherwise specified:

(i) Engines rated at less than 50 brake horsepower.

(ii) Engines operated at less than 200 hours per calendar year. Owners or operators that claim an exemption from the standards of paragraph (m)(3) of this section by means of this paragraph shall comply with the monitoring requirements of paragraph (m)(6)(ii)(C) of this section.

(iii) Emergency standby engines operated during either an emergency or maintenance operation. Maintenance operation shall be limited to 50 hours per calendar year.

(iv) Engines used in a laboratory for the sole purpose of conducting research or teaching.

(v) Engines used directly and exclusively for agricultural operations necessary for the growing of crops or the raising of fowl or animals.

(vi) Engine test stands used for evaluating engine performance.

(vii) Diesel engines used to power cranes necessary for emergency evacuation or safety of personnel.

(viii) Diesel engines rated at less than 125 brake horsepower and operated at less than 200,000 horsepower-hours per

calendar year.

(A) To demonstrate that a unit is operated less than 200,000 horsepower-hours in a calendar year, the owner or operator shall install, operate, and maintain in calibration equipment that continuously monitors and records elapsed time of operation. For each year, the owner or operator shall also keep an operating log of start and stop times, type and quantity of fuel used, and cumulative annual hours and horsepower-hours of operation for each unit. Each operating log shall be maintained at the plant at which the unit is located for a period of three years. The operating log shall be made available to the Administrator upon request.

(B) The owner or operator of any unit that claims an exemption from the requirements of paragraph (m)(3) of this section under paragraph (m)(4)(viii)(A) of this section shall notify the Administrator within 7 days if the unit is ever operated equal to or greater than 200,000 horsepower-hours in a calendar year. If the unit is ever operated equal to or greater than 200,000 horsepower-hours in a calendar year, the exemption shall be permanently withdrawn and the owner or operator shall be subject to the compliance schedule in paragraph (m)(5)(iv) of this section and the applicable requirements of paragraphs (m)(3), (6), and (7) of this section. Nothing in this paragraph shall prevent EPA from bringing enforcement action for violation of paragraph (m)(3) of this section or for failure to demonstrate compliance with this paragraph (m)(3) of this section.

(ix) Stationary internal combustion engines operated on fuel consisting of not less than 75% landfill gas by volume.

(5) Compliance schedule.

(i) Any owner or operator of a unit in existence prior to the date of adoption of this section that does not need to retrofit the unit, install new control equipment, or decrease annual operating hours to comply with the requirements of paragraph (m)(3) of this section shall demonstrate compliance with all of the applicable requirements of this section by May 15, 1997.

(ii) Any owner or operator of a unit in existence prior to the date of adoption of this section that must retrofit the unit to comply with the requirements of paragraphs (m)(3)(i)(A), (C) or (D), (m)(3)(ii), and (m)(3)(iii) of this section, shall demonstrate compliance in accordance with the applicable schedule specified in paragraph (m)(5)(ii)(A) or (B) of this section. The compliance schedule in sections (m)(5)(ii)(A) and (B) may be extended 5 additional years for units that are already controlled to LAER levels as defined in section (m)(2) on or after January 1, 1990. Owners or operators of such units must have current, valid local permits reflecting these LAER levels and must be operating in compliance with the permitted LAER determination. Owners or operators of such units seeking a 5 year extension of the compliance dates specified in (m)(5)(ii)(A) and (B) shall identify such units and the applicable LAER limits in accordance with meeting the requirements of section (m)(6).

(A) Any owner or operator that chooses to convert the unit to electric power shall demonstrate compliance with all of the applicable requirements of this section by May 15, 1999. Any owner or operator of a unit to which this paragraph is applicable shall meet the following increments of progress:

(1) By May 15, 1997, apply for all authority-to-construct permits required by the local Air Pollution Control District for conversion of the unit to electric power, and

(2) By January 1, 1999, commence conversion of the unit to electric power, as approved by the local Air Pollution Control District, to demonstrate compliance by May 15, 1999.

(B) Any owner or operator that chooses to retrofit the unit with combustion controls or install new control equipment shall demonstrate compliance with all of the applicable requirements of this section by February 15, 1998. Any owner or operator of a unit to which this paragraph is applicable shall meet the following increments of progress:

(1) By May 15, 1997, apply for all authority-to-construct permits required by the local Air Pollution Control District for all retrofits and/or additions of new control equipment, and

(2) By November 15, 1997, commence construction of all retrofits and/or additions of new control equipment, as approved by the local Air Pollution Control District, to demonstrate compliance by February 15, 1998.

(iii) Any owner or operator of a new unit that is constructed on and after the date of adoption of this section

shall apply for, and receive approval of, all authority-to-construct permits required by the local Air Pollution Control District prior to beginning construction of the unit. The owner or operator shall demonstrate that the unit will be operated in compliance with all of the applicable requirements of this section within 60 days after the date of the initial startup of the unit.

(iv) On and after the date of adoption of this section, any owner or operator of a diesel engine that claims an exempt from the requirements of paragraph (m)(3) of this section which operates the unit equal to or greater than 200,000 brake horsepower hours in a calendar year shall demonstrate compliance in accordance with the applicable schedule specified in paragraph (m)(5)(iv)(A) or (B) of this section.

(A) Any owner or operator that chooses to retrofit the unit with combustion controls or install new control equipment shall meet the following increments of progress:

(1) Within 2 months after the day that the unit is operated equal to or greater than 200,000 brake horsepower hours in a calendar year, apply for all authority-to-construct permits required by the local Air Pollution Control District for all retrofits and/or additions of new control equipment, and

(2) Within 6 months after the day that the unit is operated equal to or greater than 200,000 brake horsepower hours in a calendar year, commence construction of all retrofits and/or additions of new control equipment, as approved by the local Air

Pollution Control District, to demonstrate compliance within 12 months after the day that the unit is operated equal to or greater than 200,000 brake horsepower hours in a calendar year.

(B) Any owner or operator that chooses to convert the unit to electric power shall meet the following increments of progress:

(1) Within 4 months after the day that the unit is operated equal to or greater than 200,000 brake horsepower hours in a calendar year, apply for all authority-to-construct permits required by the local Air Pollution Control District for conversion of the unit to electric power, and

(2) Within 18 months after the day that the unit is operated equal to or greater than 200,000 brake horsepower hours in a calendar year, commence conversion of the unit to electric power, as approved by the local Air Pollution Control District, to demonstrate compliance within 24 months after the day that the unit is operated equal to or greater than 200,000 brake horsepower hours in a calendar year.

(v) Any owner or operator of a unit in existence prior to the date of adoption of this section that chooses to comply with the requirements of paragraph (m)(3) of this section by means of paragraph (m)(3)(i)(B) of this section shall comply with the following increments of progress:

(A) From May 15, 1997 through May 14, 1998, no owner or operator shall operate a unit in excess of 4,380 hours. The owner or operator shall demonstrate that the unit is operated

less than or equal to 4,380 hours in accordance with the requirements of paragraph (m)(6)(ii)(C) of this section.

(B) From May 15, 1998 through May 14, 1999, no owner or operator shall operate a unit in excess of 1,800 hours. The owner or operator shall demonstrate that the unit is operated less than or equal to 1,800 hours in accordance with the requirements of paragraph (m)(6)(ii)(C) of this section.

(C) From May 15, 1999 through May 14, 2000, no owner or operator shall operate a unit in excess of 900 hours. The owner or operator shall demonstrate that the unit is operated less than or equal to 900 hours in accordance with the requirements of paragraph (m)(6)(ii)(C) of this section.

(D) On and after May 15, 2000, no owner or operator shall operate a unit equal to or greater than 200 hours per calendar year. The owner or operator shall demonstrate that the unit is operated less than 200 hours in accordance with the requirements of paragraph (m)(6)(ii)(C) of this section.

(6) Reporting, monitoring, and recordkeeping.

(i) Reporting requirements. Any owner or operator subject to the requirements of paragraph (m)(3) of this section shall comply with the applicable notification requirements of §60.7, and shall also comply with the following requirements:

(A) By May 15, 1997, submit to the Administrator the identification number and type of each unit subject to the section, the name and address of the plant where the unit is located, and the name and telephone number of the person responsible for demonstrating compliance with the section. For each unit identified, the following information shall be submitted to the Administrator:

(1) The rated brake horsepower and combustion method (i.e., rich-burn, lean-burn, or diesel) of the engine; type of gaseous and/or liquid fuel(s) that will be burned in the unit; purpose for which the unit is used; hours of operation and fuel consumption (cubic feet of gas or gallons of liquid) for each type of fuel for the previous one year period; brake horsepower hours for the previous one year period; and manufacturer, model designation, and age of the unit.

(2) A selection of the standard(s) in paragraph (m)(3) of this section with which the unit will comply.

(3) For owners or operators complying by means of paragraph (m)(3)(i)(C) or (D) of this section, a description of the NOx control system that will be installed on the engine (if any), including type (e.g., selective or nonselective catalytic reduction, "clean-burn" combustion, etc.) and manufacturer, as well as a description of any ancillary equipment related to the control of emissions (e.g., automatic air/fuel ratio controller, fuel valves, etc.).

(B) Any owner or operator subject to the compliance

schedule specified in of paragraph (m)(5)(ii), (iii), or (iv) of this section shall notify the Administrator in writing of the following:

(1) The date construction is commenced on retrofits and/or additions of new control equipment to the unit.

(2) The anticipated date of initial startup of the unit after completing retrofits and/or additions of new control equipment to the unit.

(3) The actual date of initial startup of the unit after completing retrofits and/or additions of new control equipment to the unit.

(C) By the applicable compliance date specified in paragraph (m)(5) of this section, submit to the Administrator certification that the unit is in compliance with the applicable standards in paragraph (m)(3) of this section. Any owner or operator complying by means of paragraphs (m)(3)(i)(C) or (D), (3)(ii), and (3)(iii) of this section shall demonstrate compliance by submitting to the Administrator and the local Air Pollution Control District the results of an initial compliance test performed in accordance with the applicable requirements of paragraph (m)(7) of this section. The owner or operator shall provide the Administrator at least 30 days prior notice of the compliance test to afford the Administrator the opportunity to have an observer present. As a part of the certification, the owner or operator shall submit to the Administrator and the local Air Pollution Control District a written report of the results of

the compliance test.

(D) Engine operator inspection plan. By the applicable compliance date specified in paragraph (m)(5) of this section, any owner or operator of a unit rated at equal to or greater than 50 brake horsepower and less than 300 brake horsepower that chooses to comply with the requirements of paragraph (m)(3) of this section by means of paragraphs (m)(3)(i)(C) or (D), (3)(ii), and (3)(iii) of this section shall submit an Engine Operator Inspection Plan to the Administrator and the local Air Pollution Control District. The owner or operator may request a change to the plan at any time. On and after the applicable compliance date specified in paragraph (m)(5) of this section, the plan shall be updated and submitted to the Administrator and the local Air Pollution Control District prior to commencing any change in operation. The Plan shall include the following for each engine:

(1) The manufacturer, model number, rated brake horsepower, combustion method (i.e., rich-burn, lean-burn, or diesel), and company identification number and the location of the engine.

(2) A description of the NO_x control system installed on the engine (if any), including type (e.g., selective or nonselective catalytic reduction, "clean-burn" combustion, etc.) and manufacturer, as well as a description of any ancillary equipment related to the control of emissions (e.g., automatic air/fuel ratio controller, fuel valves, etc.).

(3) Establish engine operating parameters (e.g., timing, manifold vacuum pressure, valve set points, etc.) using the

results of the initial compliance test required under paragraph (m)(6)(i)(C) of this section. In addition, the plan shall establish engine exhaust oxygen concentrations in accordance with the test data.

(4) A specific emission inspection procedure to assure that the engine is operated in continual compliance with the requirements of this section. The procedure shall include an inspection schedule requiring that inspections be conducted every calendar quarter or after every 2,000 hours of engine operation. In no event shall the frequency of inspection be less than once per calendar year.

(5) The plan shall require that a portable NOx analyzer be used to take readings during any quarter in which source tests are not performed. The instrument readings for each parameter in the inspection plan, a description of the corrective actions taken, a determination of whether or not the engine is in compliance, and the name of the person recording the measurement shall be recorded in the inspection log.

(6) Each preventative or corrective maintenance procedure or practice that will be used to maintain the engine and NOx control system in continual compliance with the provisions of this section.

(ii) Monitoring requirements.

(A) Any owner or operator of a unit rated at equal to or greater than 300 brake horsepower that chooses to comply with the requirements of paragraph (m)(3) of this section by means of paragraph (m)(3)(i)(C) or (D) and paragraph (m)(3)(ii) of this section shall comply with the following requirements:

(1) By the applicable compliance date specified in paragraph (m)(5) of this section, install, calibrate, operate, and maintain a continuous emissions monitoring system (CEMS) in accordance with the applicable requirements of Appendices B and F of 40 CFR part 60 to demonstrate continuous compliance with the requirements of paragraph (m)(3)(i) and (ii) of this section. The CEMS shall be installed and operational before conducting the initial compliance test required under paragraph (m)(6)(i)(C) and paragraph (m)(7) of this section. The owner or operator shall submit to the Administrator documentation that the CEMS is in compliance with the requirements of this paragraph.

(2) Each owner or operator shall submit an excess emissions and monitoring systems performance report, in accordance with the requirements of §60.7(c) and 60.13, to the Administrator within 30 days after the end of each calendar quarter.

(B) Any owner or operator of a unit rated at equal to or greater than 50 brake horsepower and less than 300 brake horsepower that chooses to comply with the requirements of paragraph (m)(3) of this section by means of either paragraph (m)(3)(i)(C) or (D), and paragraphs (m)(3)(ii) and

(m)(3)(iii) of this section, shall comply with the following requirements:

(1) Complete an emission test at least once every 24 months in accordance with the requirements of paragraph (m)(7) of this section. If the results of an emission test indicate that a unit is in violation of the applicable NOx, CO, and/or VOC emission standards specified in paragraphs (m)(3)(i)(C), (m)(3)(i)(D), (m)(3)(ii), and (m)(3)(iii) of this section, the owner or operator shall make any adjustments to the operating parameters of the unit and/or associated control equipment necessary to bring the unit into compliance as demonstrated through an emission test. If it is necessary to adjust the operating parameters of the unit and/or associated control equipment that are different from those specified in the Engine Operator Inspection Plan to bring the unit into compliance, the owner or operator shall revise the Engine Operator Inspection Plan to reflect the changes made to the operating parameters, and shall submit the revisions to the Administrator and the local Air Pollution Control District. Nothing in this paragraph shall prevent EPA from bringing an enforcement action for violation of the applicable emission standards in paragraphs (m)(3)(i)(C), (m)(3)(i)(D), (m)(3)(ii), and (m)(3)(iii) of this section or for failure to demonstrate compliance with this paragraph.

(2) By the applicable compliance date in paragraph (m)(5) of this section, each IC Engine subject to this part shall either install, calibrate, operate and maintain a CEMS for NOx in

accordance with the requirements of 40 CFR part 60, appendix B or shall have an engine parameter monitoring scheme developed which shall be capable of continuously predicting the NOx emission concentration. By the applicable compliance date such parameter monitoring scheme shall be demonstrated to meet a 20% relative accuracy for predicting the 15 minute concentration of NOx in the exhaust. This relative accuracy evaluation should be conducted in accordance with the techniques of 40 CFR part 60, appendix B and shall compare the predicted 15 minute NOx concentration through a continuous parameter monitoring model to the NOx emissions measured by a Method 7E stack test. The parameter monitoring scheme shall continually meet the 20% relative accuracy requirement and at a minimum the parameter monitoring scheme shall be reevaluated for the relative accuracy during each biannual test required by paragraph (m)(6)(ii)(B)(1) of this section.

(C) Any owner or operator of a unit rated at equal to or greater than 50 brake horsepower that chooses to comply with the requirements of paragraph (m)(3) of this section by means of paragraph (m)(3)(i)(B) of this section, and any owner or operator that claims an exemption from the standards of paragraph (m)(3) of this section by means of paragraph (m)(4)(ii) of this section, shall install, operate, and maintain in calibration equipment that continuously monitors and records elapsed time of operation to demonstrate compliance with the compliance schedule specified in paragraph (m)(5)(v) of this section. For each year, the owner

or operator shall keep an operating log of start and stop times, type and quantity of fuel used, and cumulative annual hours of operation and brake horsepower hours for each unit. Each operating log shall be maintained at the plant at which the unit is located for a period of three years. The operating log shall be made available to the Administrator upon request.

(iii) Recordkeeping requirements. Any owner or operator of a unit subject to this section shall maintain all records necessary to demonstrate compliance with the section for a period of three calendar years at the plant at which the subject unit is located. The records shall be made available to the Administrator upon request. The owner or operator shall maintain records of the following information for each day the unit is operated:

(A) Identification and location of each engine subject to the requirements of this section.

(B) Calendar date of record.

(C) The number of hours the unit is operated during each day including startups, shutdowns, malfunctions, and the type and duration of maintenance and repairs.

(D) Date and results of each emission inspection.

(E) A summary of any emissions corrective maintenance taken.

(F) Any additional information required in the Engine Operator Inspection Plan.

(G) The results of all compliance tests.

(H) If a unit is equipped with a CEMS:

(1) Identification of time periods during which NOx and CO standards are exceeded, the reason for the exceedance, and action taken to correct the exceedance and to prevent similar future exceedances.

(2) Identification of the time periods for which operating conditions and pollutant data were not obtained including reasons for not obtaining sufficient data and a description of corrective actions taken.

(7) Test Methods. Any owner or operator that is required to perform a compliance test to demonstrate compliance with the standards specified in paragraphs (m)(3)(i)(C) or (D), (m)(3)(ii), and (m)(3)(iii) of this section shall comply with the requirements of §60.8(c), (d), and (e). The test shall be performed and data reduced and reported as follows:

(i) Each emission test shall be conducted while the unit is operated at maximum operating capacity and operating under representative operating conditions.

(ii) Each emission test shall be conducted in accordance with the appropriated test methods in 40 CFR part 60, appendix A. Except for the modifications in this paragraph and unless otherwise approved by the Administrator, NOx shall be measured in accordance with Method 7E, CO shall be measured in accordance with Method 10, and the diluent shall be measured using Method 3A. Reactive organic compounds shall be measured in accordance with Method 25 or 25A, referenced to methane. If Method 25A is

used, Method 18 shall be used to determine methane content. Testing shall be conducted for four 15 minute testing periods. Compliance shall be evaluated for each 15 minute period. Data recorded during testing to determine the 15 minute average shall either be continuously integrated by the testing instrument and data recorder, or recorded manually at 30 second intervals during each 15 minute test period. Zero and calibration checks shall be conducted after each 15 minute test period.

(iii) Any owner or operator that chooses to comply with the requirements of paragraph (m)(3) of this section by means of paragraph (m)(3)(i)(D) of this section shall calculate the applicable percent NOx emission reduction using the pre- and post-controlled ppmv NOx concentration. After demonstrating the applicable percent reduction by means of a post-controlled emissions test, the post-controlled NOx concentration shall be used to establish the outlet ppmv NOx emission limit for determining subsequent compliance. The outlet ppmv NOx emission limit established for determining subsequent compliance shall be documented in the applicable certification report required under paragraph (m)(6)(i)(C) of this section.

(iv) The ppmv CO and VOC emission limits required by paragraphs (m)(3)(ii) and (iii) of this section, respectively, shall be established during the initial compliance test for NOx emissions. The CO and VOC emission limits established for determining subsequent compliance shall be documented in the applicable certification report required under paragraph

(m)(6)(i)(C) of this section.

(n) Biomass boilers or steam generators.

(1) Applicability. Any owner or operator of a biomass boiler or steam generator with a rated heat input capacity equal to or greater than 5 million British thermal units per hour (mmBtu/hr) and an annual heat input equal to or greater than 9 billion British thermal units per year (10^9 Btu/yr) shall comply with the applicable requirements of paragraphs (n)(1) through (n)(7) of this section. For the purposes of this paragraph, the affected area includes the Sacramento Metro Area as described for ozone in 40 CFR 81.305.

(2) Definitions. For the purposes of paragraphs (n)(1) through (n)(7) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Annual heat input means the actual amount of heat released by fuels burned in a unit during a 12 calendar month rolling period, based on the fuel's higher heating value. The annual heat input shall be calculated as the sum of the previous 12 monthly fuel use rates multiplied by the fuel's higher heating value.

Biomass means any solid organic material used as a fuel source for boilers or steam generators including, but not limited to, wood, almond shells, or agricultural waste.

Biomass boiler or steam generator means any combustion equipment used in any institutional, commercial, or industrial

operation that is designed to burn biomass to produce steam, heat water and/or other fluids, and/or generate electricity. A biomass boiler or steam generator does not include any waste heat recovery boiler that is used to recover sensible heat from the exhaust of a combustion turbine or any unfired waste heat recovery boiler that is used to recover sensible heat from the exhaust of any combustion equipment.

British thermal unit (Btu) means the amount of heat required to raise the temperature of one pound of water from 59°F to 60°F at one atmosphere.

Heat input means the chemical heat released due to fuel combustion in a unit, using the higher heating value of the fuel. This does not include the sensible heat of incoming combustion air.

Higher heating value (HHV) means the total heat liberated per mass of fuel burned (Btu per pound), when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to their standard states at standard conditions. If certification of the HHV is not provided by the third party fuel supplier, it shall be determined by one of the following test methods: ASTM D2015-85 for solid fuels; ASTM D240-87 or ASTM D2382-88 for liquid hydrocarbon fuels; or ASTM D1826-88 or ASTM D1945-81 in conjunction with ASTM D3588-89 for gaseous fuels. These methods are all incorporated by reference as specified at 40 CFR 52.3002.

Malfunction means any sudden and unavoidable failure of air

pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

Municipal-type solid waste means household, commercial/retail, and/or institutional waste. Household waste includes material discarded by single and multiple residential dwellings, hotels, motels, and other similar permanent or temporary housing establishments or facilities. Commercial/retail waste includes material discarded by stores, offices, restaurants, warehouses, nonmanufacturing activities at industrial facilities, and other similar establishments or facilities. Institutional waste includes material discarded by schools, hospitals, nonmanufacturing activities at prisons and government facilities and other similar establishments or facilities.

NO_x emissions means the sum of nitric oxide and nitrogen dioxide in the flue gas, collectively expressed as nitrogen dioxide.

Rated heat input capacity means the heat input capacity specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different than the heat input capacity specified on the nameplate, the new maximum heat input shall be considered as the rated heat input capacity.

Shutdown means the period of time a unit is cooled from its normal operating temperature to cold or ambient temperature.

Startup means the period of time a unit is heated from cold or ambient temperature to its normal operating temperature as specified by the manufacturer.

Unit means any biomass boiler or steam generator as defined in this paragraph.

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

(3) Standards.

(i) No owner or operator of a biomass boiler or steam generator shall cause to be discharged into the atmosphere any gases that contain NO_x in excess of one of the following standards, which ever is less stringent:

(A) 70 parts per million (ppm) corrected to 12 percent volume stack gas carbon dioxide (CO_2) on a rolling 3 hour average dry basis; or

(B) 50 percent (0.50) of the NO_x concentration in the uncontrolled exhaust gas stream. A controlled ppm NO_x limit shall be established in accordance with the requirements of paragraph (n)(7)(ii) of this section for the purpose of demonstrating continuous compliance with the 50 percent reduction.

(ii) The owner or operator of any biomass boiler or steam generator subject to one of the standards in paragraph (n)(3)(i) of this section shall establish a controlled ppm carbon monoxide (CO) emission limit that represents good operating and combustion practices. No owner or operator shall cause to be discharged into the atmosphere any gases that contain CO in excess of 120 percent of the CO ppm level established by an initial compliance test in accordance with the requirements of paragraph (n)(7)(iii) of this section. The owner or operator shall subsequently comply with the limit once it is established. The ppm CO emissions shall be corrected to 12 percent volume stack gas CO_2 on a rolling 3 hour average dry basis.

(4) Exemptions. The requirements of paragraphs (n)(3), (n)(5), (n)(6), and (n)(7) of this section shall not apply to any owner or operator of the following:

(i) Any boiler or steam generator fired with only gaseous and/or liquid fuel that is subject to paragraph (u) of this section.

(ii) Any boiler or steam generator that is designed for the primary purpose of burning municipal-type solid waste.

(5) Compliance Schedule.

(i) Any owner or operator of a unit in existence prior to the date of adoption of this section that does not need to retrofit the unit or install new control equipment to comply with the requirements of paragraph (n)(3) of this section shall demonstrate compliance with all of the applicable requirements of

this section by May 15, 1997.

(ii) Any owner or operator of a unit in existence prior to the date of adoption of this section that must retrofit the unit or install new control equipment to comply with the requirements of paragraph (n)(3) of this section shall demonstrate compliance with all of the applicable requirements of this section by May 15, 1998. Any owner or operator of a unit to which this paragraph is applicable shall meet the following increments of progress:

(A) By May 15, 1997, apply for all authority-to-construct permits required by the local Air Pollution Control District for all retrofits and/or additions of new control equipment to the unit, and

(B) By January 1, 1998, commence construction of all retrofits and/or additions of new control equipment to the unit, as approved by the local Air Pollution Control District, to demonstrate compliance by May 15, 1998.

(iii) Any owner or operator of a new unit that is constructed on and after the date of adoption of this section shall apply for, and receive approval of, all authority-to-construct permits required by the local Air Pollution Control District prior to beginning construction of the unit. The owner or operator shall demonstrate that the unit will be operated in compliance with all of the applicable requirements of this section within 60 days after the date of the initial startup of the unit.

(iv) On and after the date of adoption of this section, any owner or operator of a unit exempt from the requirements of paragraph (n)(3) of this section that becomes subject to requirements of paragraph (n)(3) of this section because the unit's annual heat input rate equals or exceeds 9×10^9 Btu/yr shall meet the following increments of progress:

(A) Within 7 months after the day that the unit is operated equal to or greater than 9×10^9 Btu/yr, apply for all authority-to-construct permits required by the local Air Pollution Control District for all retrofits and/or additions of new control equipment, and

(B) Within 19 months after the day that the unit is operated equal to or greater than 9×10^9 Btu/yr, commence construction of all retrofits and/or additions of new control equipment, as approved by the local Air Pollution Control District, to demonstrate compliance within 24 months after the day that the unit is operated equal to or greater than 9×10^9 Btu/yr.

(6) Reporting, Monitoring, and Recordkeeping.

(i) Reporting Requirements. Any owner or operator subject to the requirements of paragraph (n)(3) of this section shall comply with the applicable notification and reporting requirements of §60.7, and shall also comply with the following requirements:

(A) By May 15, 1997, submit to the Administrator the identification number and type of each unit subject to the

section, the name and address of the plant where the unit is located, and the name and telephone number of the person responsible for demonstrating compliance with the section. For each unit identified, the following information shall be submitted to the Administrator:

(1) The rated heat input capacity, hours of operation during the previous one-year period, anticipated annual operating time and annual heat input for 1997, type of fuel(s) that will be burned in the unit, and age and manufacturer of the unit.

(2) Documentation of existing emissions of NO_x and CO in accordance with the applicable requirements of paragraph (n)(7) of this section, a selection of the standard in paragraph (n)(3)(i) of this section with which the unit will comply, and the control method selected for achieving compliance.

(B) Any owner or operator subject to the compliance schedule specified in paragraph (n)(5)(ii), (iii), or (iv) of this section shall notify the Administrator in writing of the following:

(1) The date construction is commenced on all retrofits and/or additions of new control equipment to the unit.

(2) The anticipated date of initial startup of the unit after completing all retrofits and/or additions of new control equipment to the unit.

(3) The actual date of initial startup of the unit after completing all retrofits and/or additions of new control equipment to the unit.

(C) By the applicable compliance date specified in paragraph (n)(5) of this section, submit to the Administrator certification that the unit is in compliance with the applicable standard in paragraph (n)(3) of this section as demonstrated through a report of the initial compliance test performed in accordance with the applicable requirements of paragraph (n)(4)(ii)(A) or (n)(7) of this section. The owner or operator shall provide the Administrator at least 30 days prior notice of the compliance test to afford the Administrator the opportunity to have an observer present.

(ii) Continuous Emissions Monitoring System (CEMS) Requirements. Any owner or operator subject to the requirements of paragraph (n)(3) of this section shall comply with the following:

(A) By the applicable compliance date specified in paragraph (n)(5) of this section, install, calibrate, operate, and maintain a CEMS in accordance with the applicable requirements of Appendices B and F of 40 CFR part 60 to demonstrate continuous compliance with the requirements of paragraph (n)(3) of this section. The CEMS shall be installed and operational before conducting the initial compliance test required under paragraph (n)(6)(i)(C) and paragraph (n)(7) of this section. As a part of the certification requirement under paragraph (n)(6)(i)(C) of this section, the owner or operator shall submit documentation that the CEMS is in compliance with the requirements of this paragraph.

(B) Each owner or operator shall submit an excess emissions and monitoring systems performance report, in accordance with the requirements of §60.7(c) and (d) and 60.13, to the Administrator within 30 days after the end of each calendar quarter.

(iii) Recordkeeping Requirements. Any owner or operator of a unit subject to this section shall maintain all records necessary to demonstrate compliance with the section for a period of three calendar years at the plant where the subject unit is located. The records shall be made available to the Administrator upon request. The owner or operator shall maintain records of the following information for each day the unit is operated:

(A) Identification and location of each unit subject to the requirements of this section.

(B) Calendar date of record.

(C) The number of hours the unit is operated during each day.

(D) Boiler load, fuel type, actual time of startups and shutdowns, malfunctions, and the type and duration of maintenance and repairs.

(E) The results of all compliance tests.

(F) The rolling 3 hour average NO_x emission concentration (expressed as NO_2 corrected to 12 percent CO_2) measured.

(G) The rolling 3 hour average CO emission concentration (corrected to 12 percent volume stack gas CO_2) measured.

(H) Identification of time periods during which NO_x and CO

standards are exceeded, the reason for the exceedance, and action taken to correct the exceedance and to prevent similar future exceedances.

(I) Identification of the time periods for which operating conditions and pollutant data were not obtained including reasons for not obtaining sufficient data and a description of corrective actions taken.

(7) Test Methods.

(i) Any owner or operator that chooses to comply with the standard specified in paragraph (n)(3)(i)(A) of this section shall perform an initial compliance test to demonstrate compliance with the standard in accordance with the applicable requirements of §60.8, and shall also comply with the following:

(A) Each emission test run shall be conducted while the unit is operated at maximum operating capacity and operating under representative operating conditions.

(B) Sampling and analytical procedures shall be conducted in accordance with the applicable EPA Reference Methods and Submethods described in appendix A of 40 CFR part 60.

(C) The 70 ppm emission limit specified in paragraph (n)(3)(i)(A) of this section shall be corrected to 12 percent volume stack gas CO_2 on a rolling 3 hour average dry basis.

(ii) Any owner or operator that chooses to comply with the standard specified in paragraph (n)(3)(i)(B) of this section shall perform an initial compliance test to demonstrate compliance with the standard in accordance with the applicable requirements of §60.8, and shall also comply with the following:

(A) The requirements of paragraphs (n)(7)(i)(A) and (B) of this section.

(B) The 50 percent NO_x emission reduction specified in paragraph (n)(3)(i)(B) of this section shall be calculated based on the pre- and post-controlled ppm NO_x concentration referenced at 12 percent volume stack gas CO_2 on a rolling 3 hour average dry basis. The pre-controlled ppm NO_x concentration to be used in demonstrating the 50 percent reduction shall be the ppm NO_x concentration submitted to the Administrator in accordance with the requirements of paragraph (n)(6)(i)(A)(2) of this section. After demonstrating a 50 percent reduction by means of a post-controlled emissions test, the post-controlled NO_x concentration shall be used to establish the outlet ppm NO_x emission limit for determining subsequent compliance. The ppm NO_x emission limit shall be corrected to 12 percent volume stack gas CO_2 on a rolling 3 hour average dry basis. The outlet ppm NO_x emission limit established for determining subsequent compliance shall be documented in the applicable certification report required under paragraph (n)(6)(i)(C) of this section.

(iii) Any owner or operator that is subject to the requirements of paragraph (n)(3)(ii) of this section shall

perform a test for CO emissions during the initial compliance test for NO_x emissions to establish a ppm CO emission limit that represents good operating and combustion practices for the fuel(s) burned in the unit. Sampling of CO emissions shall be performed at the outlet of the control system in accordance with the applicable requirements of §60.8 and the applicable EPA Reference Methods and Submethods described in appendix A of 40 CFR part 60. The ppm CO emissions shall be corrected to 12 percent volume stack gas CO_2 on a rolling 3 hour average dry basis. The outlet ppm CO emission limit established for determining subsequent compliance shall be documented in the applicable certification report required under paragraph (n)(6)(i)(C) of this section.

(o) Emissions of oxides of nitrogen from stationary gas turbines.

(1) Applicability. For the purposes of paragraph (o) of this section, the affected area includes the Sacramento Metro Area as described for ozone in 40 CFR 81.305. Any owner or operator of a stationary gas turbine with a rated heat output capacity equal to or greater than 0.3 megawatt (MW) shall comply with the applicable requirements of paragraphs (o)(1) through (o)(7) of this section.

(2) Definitions. For the purposes of paragraph (o) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

British thermal unit (Btu) means the amount of heat required

to raise the temperature of one pound of water from 59°F to 60°F at one atmosphere.

Chemical processing stationary gas turbine unit means a gas turbine that vents its exhaust gases into the operating stream of a chemical process.

Cogeneration cycle stationary gas turbine unit means a gas turbine that is operated both for the simultaneous production of shaft work and for the recovery of useful thermal energy from the exhaust gases or waste steam as defined by Section 25134 of the California Public Resources Code.

Combined cycle stationary gas turbine unit means a gas turbine that is operated both for the production of electrical energy from shaft work and the useful energy produced from heat recovered from its exhaust gases.

Emergency standby stationary gas turbine unit means a gas turbine that is operated only as a mechanical or electrical power source for a facility when the primary power source has been rendered inoperable, except due to power interruption pursuant to an interruptible power supply agreement. This does not include utility company electrical power plant units.

Exhaust after treatment means a control method for the post-combustion reduction of NO_x emissions, such as selective catalytic reduction.

Higher heating value (HHV) means the total heat liberated per mass of fuel burned (Btu per pound), when fuel and dry air at standard conditions undergo complete combustion and all resultant

products are brought to their standard states at standard conditions. If certification of the HHV is not provided by the third party fuel supplier, it shall be determined by one of the following test methods: ASTM D2015-85 for solid fuels; ASTM D240-87 or ASTM D2382-88 for liquid hydrocarbon fuels; or ASTM D1826-88 or ASTM D1945-81 in conjunction with ASTM D3588-89 for gaseous fuels. These methods are all incorporated by reference as specified at 40 CFR 52.3002.

LHV means the lower heating value of a fuel.

NO_x emissions means the sum of nitric oxide~~s~~ and nitrogen dioxide in the flue gas, collectively expressed as nitrogen dioxide.

Malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

Measured NO_x emissions concentration corrected to International Standards Organization (ISO) standard conditions is: $NO_x = (NO_x \text{ obs})(Pref/Pobs)^{0.5}(288K/Tamb)^{1.53}(e^{19(Hobs - 0.00633)})$, where:

NO_x = emissions of NO_x at 15 percent oxygen and ISO standard conditions on a dry basis, ppm.

NO_x obs = measured NO_x emissions at 15 percent oxygen on a dry basis, ppm.

Pref	=	reference ambient absolute pressure, 101.3 kilopascals (14.696 psia).
Pobs	=	measured ambient absolute pressure.
Hobs	=	measured absolute specific humidity of ambient air, pounds water per pound dry air.
e	=	transcendental constant (2.718).
Tamb	=	measured temperature of ambient air, degrees K.

Peaking unit means a stationary gas turbine that is used intermittently to produce energy on a demand basis.

Power augmentation means the increase in the gas turbine shaft output and/or the decrease in gas turbine fuel consumption by the addition of energy recovered from exhaust heat.

Rating of a unit means the continuous MW (megawatt) rating or mechanical equivalent by a manufacturer for gas turbine(s) without power augmentation.

Shutdown means the period of time a unit is cooled from its normal operating temperature to cold or ambient temperature.

Startup means the period of time a unit is heated from cold or ambient temperature to its normal operating temperature as specified by the manufacturer.

Stationary gas turbine (unit) means any gas turbine system that is gas and/or liquid fueled with or without power augmentation. This unit is either attached to a foundation at a facility or is portable equipment operated at a specific facility for more than 90 days in any 12-month period. Two or more gas

turbines powering one shaft shall be treated as one unit.

Thermal stabilization period means the two-hour start up time necessary to build-up steam pressure for NOx control purposes in cogeneration cycle and combined cycle units.

(3) Standards.

(i) No owner or operator of a stationary gas turbine unit shall cause to be discharged into the atmosphere any gases that contain NOx, at concentrations corrected for ISO standard conditions, in excess of the following standards:

$$Compliance\ Limit = Reference\ Limit * \frac{EFF}{25\%}$$

where:

Compliance Limit = allowable NOx emissions (ppm by volume).

Reference Limit = the NOx emission limit (ppm by volume), calculated at ISO standard conditions, corrected to 15 percent oxygen on a dry basis, and averaged over 15 consecutive minutes. The limits for various megawatt ratings (continuous rating by the manufacturer without power augmentation) are as follows:

Unit Size Megawatt Rating, MW	Reference Limit, ppm
≥ 0.3 to < 2.9 MW	25
≥ 2.9 MW with SCR	9
≥ 2.9 MW without SCR	15

And,

$$EFF = \frac{3413 * 100\%}{Actual\ Heat\ Rate\ at\ HHV\ of\ Fuel\ (Btu/kw\text{-}hr)}$$

The demonstrated percent efficiency of the gas turbine only as calculated without consideration of any downstream energy recovery from the actual heat rate [i.e., (British thermal units (Btu)/kilowatt-hour) or 1.34 Btu/horsepower-hour], corrected to the HHV of the fuel and ISO conditions, as measured at peak load for the turbine. The value of EFF shall not be less than 25 percent. Gas turbines with lower efficiencies will be assigned a 25 percent efficiency for this calculation.

or

$$EFF = Manufacturer\ Rated\ Efficiency\ at\ LHV * \frac{LHV}{HHV}$$

The manufacturer's continuous rated percent efficiency (manufacturer's rated efficiency) of the gas turbine after correction from LHV to the HHV of the fuel, whichever efficiency is higher. The value of EFF shall not be less than 25 percent. Gas turbines with lower efficiencies will be assigned a 25 percent efficiency for this calculation.

(ii) The owner or operator of any stationary gas turbine subject to the standards in paragraph (o)(3) of this section shall establish a controlled ppm carbon monoxide (CO) emission limit that represents good operating and combustion practices. No owner or operator shall cause to be discharged into the atmosphere any gases that contain CO in excess of 120 percent of the CO ppm level established by an initial compliance test in

accordance with the requirements of paragraph (o)(7)(ii) of this section. The owner or operator shall subsequently comply with the limit once it is established. The ppm CO emissions shall be corrected to 15 percent volume stack gas O_2 on a dry basis averaged over a period of 15 consecutive minutes.

(4) Exemptions.

(i) The requirements of paragraphs (o)(3), (5), (6), and (7) of this section shall not apply to the following:

(A) Laboratory units used in research and testing.

(B) Units operated exclusively for firefighting and/or flood control.

(C) Chemical processing gas turbine units.

(ii) Peaking Units and Emergency Standby Units.

(A) The requirements of paragraphs (o)(3), (5), (6), and (7) of this section shall not apply to peaking units or emergency standby units that operate less than 200 hours per calendar year. To demonstrate that a unit is operated less than 200 hours in a calendar year, the owner or operator shall install, operate, and maintain in calibration equipment that continuously monitors and records elapsed time of operation. The owner or operator shall also keep an operating log of start and stop times, type and quantity of fuel used, and cumulative hours of operation for each unit.

(B) The owner or operator of any stationary gas turbine exempt under paragraph (o)(ii)(A) of this section shall notify the Administrator within 7 days if the unit is operated equal to

or greater than 200 hours in a calendar year. If the unit is ever operated equal to or greater than 200 hours in a calendar year, the exemption shall be permanently withdrawn and the owner or operator shall be subject to the applicable requirements of paragraphs (o)(3), (6), and (7) of this section in accordance with the compliance schedule in paragraph (o)(5)(iv) of this section.

(5) Compliance Schedule.

(i) Any owner or operator of a unit in existence prior to [Insert date of publication of the Federal Register] that does not need to retrofit the unit or install new control equipment to comply with the requirements of paragraph (o)(3) of this section shall demonstrate compliance with all of the applicable requirements of this section by May 15, 1997.

(ii) Any owner or operator of a unit in existence prior to [Insert date of publication of the Federal Register] that must retrofit the unit or install new control equipment to comply with the requirements of paragraph (o)(3) of this section shall demonstrate compliance with all of the applicable requirements of this section by May 15, 1998. Any owner or operator of a unit to which this paragraph is applicable shall meet the following increments of progress:

(A) By May 15, 1997, apply for all authority-to-construct permits required by the local Air Pollution Control District for all retrofits and/or additions of new control equipment, and

(B) By January 1, 1998, comply with the requirements of

paragraph (o)(6)(ii)(A) of this section if the owner or operator chooses to monitor operating conditions of its turbine to demonstrate continuous compliance with the section.

(C) By January 1, 1998, commence construction of all retrofits and/or additions of new control equipment, as approved by the local Air Pollution Control District, to demonstrate compliance by May 15, 1998.

(iii) Any owner or operator of a new unit that is constructed on and after [Insert date of publication of the Federal Register] the date of adoption of this section shall apply for, and receive approval of, all authority-to-construct permits required by the local Air Pollution Control District prior to beginning construction of the unit. The owner or operator shall demonstrate that the unit will be operated in compliance with all of the applicable requirements of this section within 60 days after the date of the initial startup of the unit.

(iv) On and after [Insert date of publication of the Federal Register], any owner or operator of a unit that becomes subject to requirements of paragraph (o)(3) of this section because of the loss of an exemption under paragraph (o)(4)(ii) of this section shall meet the following increments of progress:

(A) Within 7 months after the day that the unit is operated equal to or greater than 200 hours in a calendar year, apply for all authority-to-construct permits required by the local Air Pollution Control District for all retrofits and/or additions of

new control equipment, and

(B) Within 7 months after the day that the unit is operated equal to or greater than 200 hours in a calendar year, comply with the requirements of paragraph (o)(6)(ii)(A) of this section if the owner or operator chooses to monitor operating conditions of its turbine rather than installing a continuous emissions monitoring system to demonstrate continuous compliance with the section.

(C) Within 19 months after the day that the unit is operated equal to or greater than 200 hours in a calendar year, commence construction of all retrofits and/or additions of new control equipment, as approved by the local Air Pollution Control District, to demonstrate compliance within 24 months after the day that the unit is operated equal to or greater than 200 hours in a calendar year.

(6) Reporting, Monitoring, and Recordkeeping.

(i) Reporting Requirements. Any owner or operator subject to the requirements of paragraph (o)(3) of this section shall comply with the applicable notification and reporting requirements of §60.7, and shall also comply with the following requirements:

(A) By May 15, 1997, submit to the Administrator the identification number and type of each unit subject to the section, the name and address of the plant where the unit is located, and the name and telephone number of the person responsible for demonstrating compliance with the section. For

each unit identified, the following information shall be submitted to the Administrator:

(1) The rated heat output capacity (in MW and brake horsepower units); type of fuel(s) (i.e., gaseous and/or liquid) that will be burned in the unit; anticipated annual heat output rate (Btu/kW-hr) corrected to the HHV for each type of fuel; hours of operation and fuel consumption (cubic feet of gas or gallons of liquid) for each type of fuel for the previous one year period; and manufacturer, model designation, and age of the unit.

(2) Identification of the standards in paragraph (o)(3) of this section with which the unit will comply, and the control method selected for achieving compliance.

(B) Any owner or operator subject to the compliance schedule specified in paragraph (o)(5)(ii), (iii), or (iv) of this section shall notify the Administrator in writing of the following:

(1) The date construction is commenced on all retrofits and/or additions of new control equipment to the unit.

(2) The anticipated date of initial startup of the unit after completing all retrofits and/or additions of new control equipment to the unit.

(3) The actual date of initial startup of the unit after completing all retrofits and/or additions of new control equipment to the unit.

(C) By the applicable compliance date specified in

paragraph (o)(5) of this section, submit to the Administrator certification that the unit is in compliance with the applicable standard in paragraph (o)(3) of this section as demonstrated through a report of the initial compliance test performed in accordance with the applicable requirements of paragraph (o)(6)(ii) or (7) of this section. The owner or operator shall provide the Administrator at least 30 days prior notice of the compliance test to afford the Administrator the opportunity to have an observer present.

(ii) Continuous Emissions Monitoring Requirements. Any owner or operator of a unit with a rated heat output capacity less than 2.9 MW that is subject to the requirements of paragraph (o)(3) of this section shall either comply with the requirements of paragraphs (o)(6)(ii)(A) or (B) and (o)(6)(ii)(C) of this section. Any owner or operator of a unit with a rated heat output capacity equal to or greater than 2.9 MW that is subject to the requirements of paragraph (o)(3) of this section shall comply with the requirements of paragraphs (o)(6)(ii)(B) and (C) of this section.

(A) Any owner or operator that chooses to monitor operating conditions shall comply with the following:

(1) By the applicable compliance date specified in paragraph (o)(5) of this section, submit a plan to the Administrator that includes the following:

(i) Identify the specific operating conditions to be monitored and the relationship between the operating

conditions and NO_x, CO, and O_2 emission concentrations in the flue gas. For stationary gas turbines, the most important operating variables are turbine load (i.e., actual heat output/design maximum heat output or actual steam generating rate/design maximum steam generating capacity), the level of excess air (i.e., flue gas O_2 level), and type and nitrogen content of each fuel.

(ii) In addition to those described in paragraph (o)(6)(ii)(A)(1)(i) of this section, the water or steam-to-fuel ratio and turbine load are important operating variables to be monitored for water- or steam-injection systems. For selective catalytic reduction systems, the reagent (i.e., ammonia or urea)-to-NO_x ratio and reagent injection pressure are important operating variables to be monitored.

(iii) Include the data and information that will be used to identify the relationship between NO_x, CO, and O_2 emission concentrations and the operating conditions.

(iv) Describe how the relationship between the operating conditions (including turbine load and fuel type) and NO_x, CO, and O_2 emission concentrations will be established during the initial compliance test. The relationship between the operating conditions and NO_x, CO, and O_2 emission concentrations shall be based on the maximum operating conditions at which the unit can be operated. Once the plan has been approved by the Administrator, the

operating conditions used to establish the relationship will be the optimum operating conditions under which the owner or operator should operate the unit. Deviations from these optimum operating conditions in excess of 10% (averaged over the fifteen minute period) shall be recorded and reported in accordance with paragraph (o)(6)(ii)(C) of this section.

(v) Identify how the operating conditions, including turbine load and fuel type, will be monitored on a fifteen minute basis; the quality assurance procedures or practices that will be used to ensure that the data generated by monitoring the operating conditions will be representative and accurate; and the type and format of the records of the operating conditions, including turbine load and fuel type, that will be maintained by the owner or operator.

(2) By the applicable compliance date specified in paragraph (o)(5) of this section, and annually thereafter, submit to the Administrator certification that the turbine has been operated in accordance with all of the applicable requirements of this section specified under paragraphs (o)(3) and (o)(6)(ii)(A) of this section.

(B) Any owner or operator that is required or chooses to install an in-stack continuous emissions monitoring system (CEMS) shall comply with the following:

(1) By the applicable compliance date specified in paragraph (o)(5) of this section, install, calibrate, operate, and maintain a CEMS in accordance with the

applicable requirements of appendices B and F of 40 CFR part 60 to demonstrate continuous compliance with the requirements of paragraph (o)(3) of this section. The CEMS shall be installed and operational before conducting the initial compliance test required under paragraphs (o)(6)(i)(C) and (o)(7) of this section. As a part of the certification requirement under paragraph (o)(6)(i)(C) of this section, the owner or operator shall submit documentation that the CEMS is in compliance with the requirements of this paragraph. The CEMS shall include equipment that measures and records the following:

(i) Exhaust gas NO_x and CO concentrations corrected to ISO conditions at 15 percent oxygen on a dry basis.

(ii) Flow rate of liquid or gaseous fuels and the ratio of water- or steam-to-fuel added to the combustion chamber or to the exhaust for the reduction of NOx emissions.

(iii) Elapsed time of operation.

(2) [Reserved]

(C) Each owner or operator shall submit an operating conditions deviation or excess emissions report and a monitoring systems performance report, in accordance with the requirements of §60.7(c) and (d) and 60.13, to the Administrator within 30 days after the end of each calendar quarter.

(iii) Recordkeeping Requirements. Any owner or operator of a unit subject to this section shall maintain all records

necessary to demonstrate compliance with the section for a period of three calendar years at the plant where the subject unit is located. The records shall be made available to the Administrator upon request. The owner or operator shall maintain records of the following information for each day the unit is operated:

(A) Identification and location of each unit subject to the requirements of this section.

(B) Calendar date of record.

(C) The number of hours the unit is operated during each day including actual time of startups and shutdowns, malfunctions, and the type and duration of maintenance and repairs.

(D) The results of all compliance tests.

(E) For owners or operators of units complying by means of the monitoring requirements of paragraph (o)(6)(ii)(A) of this section, the monitored operating conditions, including turbine load and fuel type, identified in the plan approved by the Administrator.

(F) The NOx emission concentration (expressed as NO_2 corrected to 15 percent volume stack gas O_2 on a dry basis averaged over a period of 15 consecutive minutes) measured or predicted.

(G) The CO emission concentration corrected to 15 percent volume stack gas O_2 on a dry basis averaged over a period of 15 consecutive minutes) measured or predicted.

(H) Identification of time periods during which NOx and CO standards are exceeded, the reason for the exceedance, and action taken to correct the exceedance and to prevent similar future exceedances.

(I) Identification of the time periods for which operating conditions and pollutant data were not obtained including reasons for not obtaining sufficient data and a description of corrective actions taken.

(7) Test Methods.

(i) Any owner or operator subject to an emission standard under paragraph (o)(3) of this section and required to conduct stack testing shall comply with the requirements of §60.8 (c), (d), and (e). The test shall be performed and data reduced and reported as follows:

(A) Each emission test shall be conducted while the unit is operated at maximum capacity and operating under representative operating conditions.

(B) Emission test shall be conducted in accordance with the appropriate test methods in 40 CFR part 60, appendix A. Except for the modifications in this paragraph and unless otherwise approved by the Administrator: NOx shall be measured in accordance with 40 CFR part 60, appendix A, Method 7E; CO shall be measured in accordance with 40 CFR part 60, appendix A, Method 10; and the diluent shall be measured using 40 CFR part 60, appendix A, Method 3A. Testing shall be conducted for twelve 15 minute testing periods. Compliance shall be evaluated for each

15 minute period. Data recorded during testing to determine the 15 minute average shall either be continuously integrated by the testing instrument and data recorder, or recorded manually at 30 second intervals during each 15 minute test period. Zero and calibration checks shall be conducted after each 15 minute test period.

(ii) Any owner or operator that is subject to the requirements of paragraph (o)(3)(ii) of this section shall perform a test for CO emissions during the initial compliance test for NOx emissions to establish a ppm CO emission limit that represents good operating and combustion practices for fuel(s) burned in the unit. The CO emission limit established for determining subsequent compliance shall be documented in the applicable certification report required under paragraph (o)(6)(i)(C) of this section.

(p) [reserved]

(q) Reasonably Available Control Technology for Emissions of Volatile Organic Compounds at SierraPine, Ltd.

(1) Applicability. The requirements of paragraph (q) of this section shall apply to the owner or operator of SierraPine Limited (SierraPine), a medium density fiberboard plant, conducting operations at 4300 Dominguez Road, Rocklin, California.

(2) Definitions. For the purposes of paragraph (q) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Fiber drier means a device which uses steam-generated heat to reduce the moisture content of wood fibers.

Fiberboard press means a device which uses heat and pressure to form fiberboard from a preformed mat of wood fiber and resin.

Press line means a series of operations occurring within the press building including mat forming, fiberboard pressing, board unloading, and board cooling.

Press vent means a device used to exhaust fiberboard press line emissions from the press line building.

Wood waste-fired boiler means a combustion device which uses wood, wood fiber, sanderdust, or other wood byproducts as fuel to produce steam for process operations.

(3) Standards. The owner or operator of SierraPine shall demonstrate compliance with the requirements of paragraphs (q)(3)(i) through (iii) of this section by May 15, 1997.

(i) Emissions of unburned gaseous combustibles, including VOC and carbon monoxide, from the wood waste-fired boiler shall be minimized by maintaining proper combustion conditions. Proper combustion conditions include but are not limited to optimum combustion temperature, fuel moisture content, fuel firing rate, and sufficient secondary air. The owner or operator of the facility shall submit for approval by EPA a determination of proper combustion conditions. The source shall incorporate additional combustion conditions as recommended in writing by EPA.

(ii) A capture and control system shall be installed and

operated to reduce VOC emissions from the wood fiber driers and which meets the following requirements:

(A) The capture and control system shall achieve a minimum 95% VOC control efficiency. Demonstration of VOC control efficiency shall be performed in accordance with the methods specified in paragraph (q)(6) of this section.

(B) The VOC capture and control system shall be operated at all times during the operation of the wood fiber driers. The capture and control system shall be maintained and operated in a manner which consistently achieves the VOC control efficiency stated in paragraph (q)(3)(ii)(A) of this section.

(iii) A capture and control system shall be installed and operated to reduce VOC emissions from press vents and which meets the following requirements:

(A) The VOC capture and control system shall achieve a minimum 90% overall VOC control efficiency. Demonstration of VOC control efficiency shall be performed in accordance with the methods specified in paragraph (q)(6) of this section.

(B) The VOC capture and control system shall be operated at all times during the operation of the press vents. The VOC capture and control system shall be maintained and operated in a manner which consistently achieves the overall VOC control efficiency stated in paragraph (q)(3)(iii)(A) of this section.

(4) Reporting. The owner or operator of SierraPine shall be subject to the following reporting requirements.

(i) A compliance plan shall be submitted to EPA by May 15, 1997. The compliance plan shall include a description of how the requirements of paragraph (q) of this section shall be met, including:

(A) A description of the proposed VOC capture and control system to be installed at the facility including the following information at a minimum:

(1) Equipment supplier.

(2) Design drawings of the selected capture and control system, including necessary hooding and ducting.

(3) Operating principles of the selected equipment, including any anticipated complications.

(4) Anticipated VOC capture and control efficiency of any installed system.

(5) Disposal of any VOCs that are collected, but not destroyed within the control equipment.

(6) A description of maintenance practices and schedules for the VOC capture and control system necessary to meet the requirements of paragraphs (q)(3)(ii)(B) and (q)(3)(iii)(B) of this section.

(B) Compliance test dates and test methods to be used to satisfy the requirements of paragraph (q)(3)(ii)(A) of this section.

(ii) An annual certification of compliance shall be

submitted to the EPA on or before January 1 of each year. The certification of compliance shall include:

(A) A declaration that the facility is in compliance with all of the requirements of paragraph (q) of this section.

(B) The results of any compliance testing performed during the previous year.

(C) A description of any process upsets that occurred during the previous year that resulted in noncompliance with the emission limit or proper combustion conditions as approved by EPA stated in paragraph (q)(3) of this section and corrective actions taken to correct the noncompliance.

(iii) By May 15, 1997, the owner or operator of the facility shall submit for approval by EPA a determination of proper combustion conditions.

(5) Recordkeeping. The owner or operator of SierraPine shall maintain records on site sufficient to show compliance with paragraph (q) of this section for a period of five years. Records shall be made available to the EPA upon request. At a minimum the following information shall be recorded:

(i) Process data sufficient to show that efficient combustion practices are being utilized at the wood waste-fired boiler. These data will include, at a minimum, the following:

(A) Fuel feed rate and composition.

(B) Combustion temperature.

(C) Fuel moisture content.

(D) Percentage of overfire air.

(E) Boiler load.

(ii) VOC capture and control system operating parameters identified by the EPA following review and approval of the compliance plan submitted pursuant to paragraph (q)(4)(i) of this section.

(6) Test Methods.

(i) Measurements of destruction or removal efficiency shall be determined in accordance with 40 CFR part 60, appendix A, Method 25.

(ii) Measurement of capture efficiency shall be determined in accordance with the EPA method[17] or by an alternative method approved in writing by EPA.

(iii) Characterization of the stack gas shall be determined in accordance with the applicable EPA Reference Methods described in 40 CFR part 60, appendix A.

(r) RACT Determination - Sierra Pacific Industries.

(1) Applicability.

The provisions of paragraph (r) of this section shall apply to "Sierra Pacific Industries" or any subsequent owner or operator of the Sierra Pacific Industries Facility located at 3970 Carson Road, Camino, California. All provisions are RACT and the emissions standards only apply to the main wood waste-fired boiler (Boiler #3) at the facility.

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[17] See 40 CFR 52.741(a)(4)(iii).

(2) Definitions. For the purpose of paragraph (r) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Air Pollution Control Officer means the Executive Officer, or his or her delegate, or an air quality management district or an air pollution control district.

Boiler means any external combustion equipment fired with any fuel used to produce heat or steam.

Production rate is the total steam output of a boiler in pounds of steam per hour (lbs-steam/hour) of boiler operation.

Reasonably Available Control Technology or RACT, for the purposes of paragraph (r) of this section, means the lowest emission limitation that a particular boiler is capable of meeting by using measures that are reasonably available in terms of technological and economic feasibility. Such measures may include either control system(s) or improved combustion conditions, or both.

Total organic gases are any compounds that contain at least one carbon atom.

Wood wastes include bark, sawdust, shavings, hogged wood, and other wood refuse generated during processing operations.

(3) Standards.

(i) Emission limits (ppmv). VOC emissions from wood waste boiler operations at a production rate exceeding an annual (calendar year) average of 50,000 lbs-steam per hour as defined in paragraph (r)(2)(i) of this section must meet the emission

limit of 150 ppmv of VOC in the stack exhaust stream.

(ii) Emission limit maintenance. The VOC emission limit presented in paragraph (r)(3)(i) of this section shall be maintained through any one or more of the following provisions:

(A) Use of fuel with a maximum moisture content of 50%;

(B) Operation of the boiler at optimal combustion conditions;

(C) Proper operation and maintenance of pollution control equipment; and

(D) Periodic inspection, maintenance, and repairs on the boiler and other equipment.

(iii) Compliance Schedule. The VOC emission limit defined in paragraph (r)(3)(i) of this section shall be achieved on or before May 15, 1997.

(4) Test Methods and Calculations.

(i) Determination of VOC content of exhaust stream. The VOC content of the exhaust gas stream subject to the provisions of paragraph (r) of this section, excluding exempt compounds, shall be analyzed as prescribed by 40 CFR part 60, appendix A, Methods 25 and 25A.

(ii) Determination of exempt compounds. Measurement of exempt compounds shall be conducted and reported in accordance with 40 CFR part 60, appendix A, Method 18.

(5) Administrative requirements.

(i) Emissions testing and records. The facility subject to the standards of paragraph (r)(3) of this section shall, at a

minimum, conduct sample analysis for VOC pollutants at least once each year. The Air Pollution Control Officer (APCO) shall be provided with adequate advance notification at least 2 weeks before any scheduled emissions tests. The analysis results must be submitted to the Administrator and APCO within 60 days of the emissions test.

(ii) Emission control records. Any facility complying with the provisions of paragraph (r)(3)(i) of this section through the provisions of paragraph (r)(3)(ii) of this section with air pollution control equipment shall maintain applicable records of system operating parameters, including temperatures, pressures, fuel flow rate, and steam production rate, repair, fuel moisture, and all VOC control measures.

(iii) Reporting. The Administrator and APCO shall be notified within 48 hours of any event or incident that results in a known exceedance of this standard.

(iv) Retention of records. All records maintained pursuant to this section shall be retained and available for inspection by the Administrator for the previous five-year period.

(s) RACT Determination: Reynolds Metals Company.

(1) Applicability.

The provisions of paragraph (s) of this section shall apply to the Reynolds Metals Company or any subsequent owner or operator of the Reynolds Metals Company's Rocklin Plant located at 3939 Cincinnati Avenue, Rocklin, California.

(2) Definitions.

For the purposes of paragraph (s) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Air Pollution Control Officer (APCO) means the Executive Officer or his or her delegate of an air quality management district or an air pollution control district.

Capture efficiency means the quantity of an air contaminant that is collected into the control device versus the total amount emitted, expressed as a percentage. This is defined by the following equation:

$$\frac{\textit{Mass of Air Contaminants Collected into Control Device}}{\textit{Total Mass of Air Contaminant Emitted by the Process}} * 100$$

Control efficiency means the quantity of air contaminant removed from the inlet stream to the control device, expressed as a percentage. This is defined by the following equation:

$$\frac{\textit{Inlet Mass of Contaminant - Outlet Mass of Contaminant}}{\textit{Inlet Mass of Contaminant entering Control Device}} * 100$$

Lubricant applicator is an apparatus used to apply a surface lube.

Oven is a chamber within which heat is used for one or more of the following purposes: dry, bake, cure, or polymerize a surface coating or ink.

Pounds of VOC per gallon of lubricant less water and less exempt compounds means the weight of VOC per combined volume of

VOC and coating solids and is calculated by the following equation:

$$G_{voc} = (W_s - W_w - W_{es}) / (V_m - V_w - V_{es})$$

where:

G_{voc} = Pounds VOC per gallon lubricant less water and exempt compounds;

W_s = Weight of volatile compounds in pounds;

W_w = Weight of water in pounds;

W_{es} = Weight of exempt compounds in pounds;

V_m = Volume of material in gallons;

V_w = Volume of water in gallons;

V_{es} = Volume of exempt compounds in gallons.

Reasonably Available Control Technology or RACT, for the purposes of paragraph (s) of this section, means the lowest emission limitation that a particular coating line is capable of meeting by using measures that are reasonably available in terms of technological and economic feasibility. Such measures may include either control system(s) or coating reformulation(s) or both.

Tab press lubrication is the process which uses a lubricated mechanical press to create beverage container lid tabs from flat aluminum metal stock.

(3) Standards.

(i) Limits. Tab press lubricant cannot exceed a VOC content of 5.73 pounds per gallon of lubricant used, less water and less

exempt compounds, as defined in paragraph (s)(2) of this section; and VOC emissions from tab press lubricant usage cannot exceed 1.2×10^{-5} pounds of VOC per tab produced.

(ii) Emission Control System. Alternatively, a facility may comply with the provisions of paragraph (s)(3)(i) of this section by using an emission control system, provided that the overall efficiency of the system (capture efficiency multiplied by destruction efficiency) shall not be less than 85% by weight in reducing organic compounds. The emission control system, as well as the operation and maintenance plan necessary to ensure compliance on an ongoing basis, shall be approved in writing by the Administrator.

(iii) Compliance Schedule. Limits as defined in paragraphs (s)(3)(i) or (s)(3)(ii) of this section shall be achieved on or before May 15, 1997.

(4) Test Methods.

(i) Determination of VOC content of lubricants. The VOC content of coatings subject to the provisions of paragraph (s) of this section, excluding exempt compounds, shall be analyzed as prescribed by 40 CFR part 60, appendix A, Method 24.

(ii) Determination of exempt compounds. Measurement of exempt compounds shall be conducted and reported in accordance with ASTM D 4457-85 (incorporated by reference as specified at 40 CFR 52.3002). For exempt compounds where no reference test method is available, a facility requesting the exemption shall provide appropriate test methods approved by the Administrator.

(iii) Determination of destruction efficiency. Destruction efficiency as specified in paragraph (s)(3)(ii) of this section shall be determined by 40 CFR part 60, appendix A, Methods 25 and 25A.

(iv) Determination of capture efficiency. Measurement of capture efficiency of the emission control system as specified in paragraph (s)(3)(ii) of this section shall be conducted and reported in accordance with the U.S. EPA protocols[18], or other capture efficiency methods approved by the Administrator.

(5) Administrative Requirements.

(i) Material Usage Records.

(A) The facility shall maintain a current list of lubricants and solvents in use which include the following information:

(1) Name and manufacturer information;

(2) Mixing instructions;

(3) VOC content of tab press lubricants as applied;

(4) Weight percent water; and

(5) Weight percent exempt solvent.

(B) The facility shall maintain records of the amounts of lubricants and VOCs used according to the following schedule:

(1) Monthly records showing the types and amounts of lubricants used that meet the standards in paragraph (s)(3)(i) of this section; and

(2) Daily records showing the types and amounts of lubricants used when such usage was in conjunction with

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[18] See 40 CFR 52.741(a)(4)(iii).

emission control equipment.

(C) The facility shall maintain monthly records of the number of tabs produced by each type of tab press.

(ii) Emission control equipment records. Any facility complying with the provisions of paragraph (s)(3)(ii) of this section by using air pollution control equipment shall maintain daily records of key system operating parameters, such as temperatures, pressures, and/or flow rates, for the emission control equipment.

(iii) Proof of compliance. The facility shall prove compliance with the standards of paragraph (s)(3) of this section by conducting annual source testing of tab press lubrication operations and analyzing VOC content of the lubricants as per paragraph (s)(4)(i) of this section.

(iv) Retention of records. All records maintained pursuant to this section shall be retained and available for inspection by the Administrator for the previous five-year period.

(t) Fugitive emissions from oil and gas production facilities and conveying stations.

(1) Applicability. The requirements of paragraph (t) of this section shall apply to any owner or operator of an oil or gas production field or conveying station. For the purposes of this paragraph, the affected areas include the Sacramento Metro Area, the Los Angeles-South Coast Air Basin Area, and the Ventura County Area as described for ozone in 40 CFR 81.305.

(2) Definitions. For the purposes of paragraphs (t)(1)

through (t)(7) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Background means the ambient concentration of organic compounds expressed as methane as determined by a portable hydrocarbon detection instrument when the reading is taken at least three meters upwind from any component to be inspected and which is not influenced by any specific emission point.

Closed-vent system means any system that is not open to the atmosphere and is composed of piping, connections and, if necessary, flow-inducing devices that transport gases or vapors from a piece or pieces of equipment to a vapor recovery or disposal system.

Commercial natural gas means pipeline quality natural gas which meets the standards of the California Public Utility Commission.

Component means any valve, fitting, pump, compressor, pressure relief device, diaphragm, hatch, sight-glass, open-ended line, or meter.

Compressor means any device used to compress gases and/or vapors.

Control device means a device used to regulate the fluid pressure or volume in a process unit that, upon actuation, releases process stream VOCs. Excluded from this definition are control devices that are actuated by non-process stream compressed air.

Conveying station means any compressor station, metering station, or other transfer station located between the extraction well and the refinery or gas processing plant.

Critical component means any component that if shut down would require the shutdown of a critical process unit.

Critical process unit means a process unit that has no standby equipment available, that cannot be bypassed, and that would be technically infeasible to repair leaks from without shutting down the associated process.

Fitting means a component used to attach or connect pipes, piping details, and other equipment, such as, vessels, heat exchangers, and condensers. These components include but are not limited to flanges, threaded connections, and other connectors.

Gas processing plant means any facility engaged in the separation of liquids from field gas and/or fractionation of the liquids into gaseous products, such as ethane, propane, butane, and natural gasoline.

Gas production facility means a facility at which petroleum gas or natural gas extraction and handling are conducted, as defined in the Standard Industrial Classification Manual as Industry Number 1311, Crude Petroleum and Natural Gas. This definition includes, but is not limited to, compressor stations, dehydration units, sweetening units, field treatment units, liquefied natural gas units, extraction wells, flow lines, gathering lines, separators, and other auxiliary non-transportation equipment used in petroleum gas or natural gas

extraction and handling. Excluded from this definition are underground storage facilities (and their associated extraction and treatment units) which are used by natural gas utility companies for storage of commercial natural gas.

Hatch means any covered opening system that provides access to a tank or container, usually through the top deck.

Inaccessible component means any component located over fifteen feet above ground when access is required from the ground; or any component located over six feet away from a platform when access is required from the platform.

Leak means a major gas leak, major liquid leak, minor gas leak, or minor liquid leak.

Leak minimization means reducing a leak to the lowest achievable level using best modern practices including tightening, adjusting, or adding sealing material and without shutting down the process which the component serves.

Leak repair means any corrective action taken for the purposes of reducing a component leak to the lowest achievable level below the applicable standard using best modern practices.

Major component means any 4-inch or larger valve, any 5-horse-power (5-hp) or larger pump, any compressor, and any 4-inch or larger pressure relief device.

Major gas leak for any component means the detection of total gaseous organic compounds in excess of 10,000 ppmv as methane above background as measured according to the test procedures in paragraph (t)(7)(i) of this section.

Major liquid leak means a visible mist or cloud or a continuous flow of liquid.

Minor component means any component that is not a major component.

Minor gas leak means for any component, except stuffing boxes and control devices, the detection of total gaseous organic compounds in excess of 1,000 ppmv but not more than 10,000 ppmv as methane above background as measured according to the test procedures in paragraph (t)(7)(i) of this section.

Minor liquid leak is any liquid leak which is not a major liquid leak and drips at a rate of more than three drops per minute.

Oil production facility means a facility at which crude oil extraction and handling is conducted, as defined in the Standard Industrial Classification Manual as Industry Number 1311, Crude Petroleum and Natural Gas. This definition includes, but is not limited to, extraction wells, flow lines, gathering lines, separators, and other auxiliary non-transportation equipment used in petroleum extraction and handling.

Open ended line means any valve, except safety relief valves, having one side of the valve seat in contact with the process fluid or gas and one side open to the atmosphere.

Owner or operator means any person who owns, operates, leases, controls, or supervises an emissions source or air pollution control equipment.

Person means any individual, corporation, copartnership,

firm, company, partnership, joint stock company, trust, association, State, municipality, political subdivision, or any other legal entity, or their legal representative, agent, or assigns.

Pipeline transfer station means a facility that handles the storage or transfer, or both, of petroleum products or crude petroleum in pipelines.

Platform means any raised, permanent, horizontal surface that provides access to components.

Pressure relief device (PRD) means a pressure relief valve, rupture disc, or any other equipment designed to relieve pressure within process a line when the static pressure reaches a setpoint.

Pressure relief event means a release from a pressure relief device resulting when the static pressure reaches the setpoint of the pressure relief device. A pressure relief event is not a leak.

Pressure relief valve (PRV) means any valve that is automatically actuated by upstream static pressure, and used for safety or emergency purposes.

Pump means any device used to transport fluids by the addition of mechanical energy.

Refinery means a facility that processes petroleum, as defined in the Standard Industrial Classification Manual as Industry Number 2911, Petroleum Refining.

Repair means any corrective action taken for the purposes of

reducing a leak to below the applicable standard.

Rupture disc means a diaphragm held between flanges for the purpose of isolating a volatile organic compound from the atmosphere or from a downstream pressure relief valve.

Stuffing box means a packing gland, a chamber or "box" which holds packing material compressed around a moving pump rod or valve stem. For the purposes of paragraph (t) of this section, stuffing box seals are considered to be pump seals.

Unmanned facility means a remote facility which has no permanent sited personnel and is greater than five miles from the nearest manned facility.

Unsafe-to-monitor component means a component installed at a location that would prevent its safe inspection or repair as defined by Occupational Safety and Health Administration (OSHA) standards or in provisions for worker safety found in 29 CFR part 1910.

Vacuum service or In vacuum service means that the equipment in VOC service is operating at an internal pressure that is at least 5 kPa (0.73 in. Hg) below ambient pressure.

Valve means a device that regulates or isolates the fluid flow in a pipe, tube, or conduit by means of an external actuator.

Vapor control system means any system that is not open to the atmosphere and is composed of piping, connections and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a vapor recovery or disposal

system.

Visual inspection means performing a survey to identify signs of leaking liquid, visible mist, or audible leaks.

(3) Specific provisions. Each owner or operator of an oil or gas production field or conveying station shall be in compliance with the requirements of paragraphs (t)(3)(i) and (ii) of this section by May 15, 1997.

(i) Identification requirements. Components in VOC service shall meet the following identification requirements:

(A) All major and critical components shall be physically identified clearly and visibly for inspection, repair, replacement, and recordkeeping purposes. The physical identification shall consist of labels, tags, or other system approved by the EPA which enables the EPA and the operator to locate each individual component.

(B) All major, critical, inaccessible, and unsafe-to-monitor components shall be clearly identified in diagrams for inspection, repair, replacement, and recordkeeping purposes. For identical field production units, the following items will satisfy the requirements of this paragraph:

(1) A single diagram representing the typical component configuration.

(2) A listing of field production units by the identification number which is located on a lease map in use by the owner/operator.

(C) A list of all components subject to paragraph (t) of

this section shall be prepared which includes separate identification of inaccessible, unsafe-to-monitor, and critical components. The list shall include component identification information as specified under paragraph (t)(3)(i)(A) of this section, the number of minor components by component type, and a description of the VOC service for each component or component type.

(ii) Inspection and Maintenance (I&M) Program. Any owner or operator of a facility subject to this section shall implement an I&M program that meets the requirements of paragraphs (t)(3)(ii)(A) through (C) of this section by May 15, 1996.

(A) Inspection requirements. The I&M program will be conducted in accordance with the following inspection requirements.

(1) Visual inspection requirements.

(i) All pumps, compressors, and pressure relief devices (PRDs) shall be visually inspected for leaks once during every operating shift, except for components located at oil and natural gas production fields.

(ii) All pumps, compressors, PRDs, and stuffing boxes located at manned oil and gas production fields shall be visually inspected for leaks once per day and the same components located at unmanned fields shall be inspected once per week.

(iii) Any vapor leak which is identified during the visual inspection of components under paragraphs

(t)(3)(ii)(A)(1)(i) and (ii) of this section shall be measured to quantify emission concentrations according to the test method specified in paragraph (t)(7)(i) of this section.

(2) All components, except as provided in paragraphs (t)(3)(ii)(1)(3), (4) and (5) of this section, shall be inspected quarterly according to the method prescribed in paragraph (t)(7)(i) of this section. The time between inspections shall not exceed 110 consecutive days.

(3) The components specified in paragraphs (t)(3)(ii)(A)(3)(i) and (ii) of this section shall be subject to other than quarterly inspection requirements.

(i) All inaccessible components shall be inspected annually according to the method prescribed in paragraph (t)(7)(i) of this section. The time between inspections shall not exceed 13 consecutive months.

(ii) All fittings, including threaded connections and flanges, shall be inspected for leaks according to the method prescribed in paragraph (t)(7)(i) of this section immediately after being placed into service and semi-annually, not to exceed 195 consecutive days between inspections, thereafter.

(4) Unsafe-to-monitor components shall be inspected in accordance with an inspection plan approved by the EPA.

(5) PRDs shall be inspected according to the method prescribed in paragraph (t)(7)(i) of this section within

three calendar days after every pressure relief event.

(6) The inspection frequency for all components except pump seals, compressor seals, PRDs, and stuffing boxes may be changed to annually, not to exceed 13 consecutive months between inspections, provided that all of the following conditions are met:

(i) All components at the facility, not including pump seals, compressor seals, PRDs, and stuffing boxes, have been successfully operated and maintained for a period of twelve consecutive months with no liquid or major gasleaks exceeding the thresholds listed in the table of leak thresholds in paragraph (t) of this section.

(ii) The requirements specified in paragraph (t)(3)(ii)(A)(6)(i) of this section are substantiated by documentation and written approval obtained from the EPA.

(7) Any annual inspection frequency approved in paragraph (t)(3)(ii)(A)(6)(ii) of this section, shall revert to the inspection frequencies specified in paragraphs (t)(3)(ii)(A)(2) and (3) of this section, should liquid leaks or major gas leaks from components other than pump seals, compressor seals, PRDs, and stuffing boxes exceed the thresholds listed in the table of leak thresholds in paragraph (t) of this section.

8) A brightly colored, weather-proof tag shall be affixed to all leaking components showing the date of leak detection and the hydrocarbon concentration determined according to

the method prescribed in paragraph (t)(7)(i) of this section.

(B) Repair and maintenance requirements. The I&M program shall be conducted in accordance with the following repair and maintenance requirements:

(1) All component leaks shall be immediately minimized following detection.

(2) All leaks from noncritical components shall be successfully repaired or replaced within the time period following detection of the leak, as specified in the table of repair periods in paragraph (t) of this section.

(3) For leaks from critical and unsafe-to-monitor components, the leaking component shall be replaced with Best Available Control Technology (BACT) equipment as determined by EPA within one year or during the next process turnaround, whichever occurs first.

(i) The percentage of valves in service and awaiting repair or replacement at any time shall not exceed the values below:

Effective Date	Percentage of Leaking Valves
May 15, 1997	2%
January 1, 1998	1%
January 1, 1999	0.5%

(ii) The percentage of pump and compressor seals in service and awaiting repair or replacement at any time shall not exceed the values below:

Effective Date	Percentage of Leaking Pumps and Compressors
May 15, 1997	10%
January 1, 1999	1%

(4) Any repaired or replaced component shall be re-inspected in accordance with the method prescribed in paragraph (t)(7)(i) of this section by the owner or operator within 30 days of the repair or replacement.

(5) A component or parts thereof which incur five repair actions for a major gas or liquid leak within a continuous twelve month period shall be replaced with BACT equipment as determined by EPA. Replacement with BACT equipment for all components except critical components shall take place within the time periods following the fifth repair action specified in the table of repair periods in paragraph (t) of this section. For critical components, replacement with BACT equipment shall take place within one year of the fifth repair action or at the next process turn around following the fifth repair action, whichever comes first.

(C) Leak control requirements. The owner or operator of any facility subject to this section shall comply with the following leak control requirements. The requirements of paragraphs (t)(3)(ii)(C)(1) and (2) of this section shall not apply to components being repaired or replaced within the specified repair or replacement period, as given in the table of repair periods or paragraph (t)(3)(ii)(B)(3) of this section, if the requirements for leak minimization under paragraph (t)(3)(ii)(B)(1) of this

section have been met.

(1) A liquid leak from any component detected during an inspection by EPA shall constitute a violation of this section.

(2) Any major gas leak detected during an inspection by EPA, within any continuous 24-hour period, and numbering in excess of the leak thresholds for that component listed in the table of leak thresholds, shall constitute a violation of this section.

(3) Any open-ended line or valve found to be leaking shall be sealed with a second valve, blind flange, cap, plug, or a second closed valve except during operations requiring process fluid flow through the open-ended line or valve.

(4) Hatches shall be closed at all times except during sampling, addition of process material, or attended maintenance operations.

(5) Effective May 15, 1997, control devices which are actuated more frequently than once every fifteen minutes shall be replaced or retrofitted so that a major leak shall not occur during valve actuation or at any other time.

(6) Effective May 15, 1997, any component leak that is vented through a stack or other confined air stream shall be transported in a closed-vent system with a collection efficiency of at least 95% to a vapor control system with a control efficiency of at least 95%. The determination of control efficiency shall be made in accordance with the test

method specified in paragraph (t)(7)(iv) of this section.

(7) Effective May 15, 1997, any venting of wellhead gases shall be done through a closed vent system to a control device with a VOC control efficiency of at least 95%.

(4) Exemptions. Unless otherwise specified, the provisions of paragraphs (t)(3)(i) and (ii) of this section shall not apply to the following components:

(i) Pressure relief devices, pump seals, and compressor seals that are equipped with a closed-vent system with a VOC collection efficiency of at least 95% that transports the VOC emissions to a vapor control system with a VOC control efficiency of at least 95%. The determination of control efficiency shall be made in accordance with the test method specified in paragraph (t)(7)(iv) of this section.

(ii) The following cases, where the person seeking the exemption shall supply proof of the applicable criteria to the satisfaction of the EPA:

(A) Components buried below ground.

(B) Components exclusively handling fluids with a VOC concentration, including ethane, of 10 percent by weight or less as determined by the test method specified in paragraph (t)(7)(ii) of this section; or components exclusively handling fluids, if the weight percent evaporated is 10 percent or less at 150 degrees Celsius as determined by the test method specified in paragraph (t)(7)(iii) of this section.

(C) Components at oil and gas production facilities or

conveying stations handling liquids of:

(1) Less than or equal to 20 degree API gravity after the point of primary separation.

(2) Between 20 and 30 degree API gravity which are located either:

(i) Downstream of a wellhead equipped with a casing vapor recovery system, provided that the vapor recovery is at a pressure of less than 10 psig; or

(ii) After the point of primary separation of oil and gas, provided the separation vessel is equipped with a vapor recovery system and is operated at a pressure less than 25 psig.

(3) Components qualifying for an exemption under paragraphs (t)(4)(ii)(C)(2)(i) or (ii) of this section shall be subject to the following requirements:

(i) Components shall be visually inspected on a quarterly basis. Upon detection of a visible leak, the leak shall be measured to quantify emission concentrations according to paragraph (t)(7)(i) of this section. The quarterly visual inspection can be changed to an annual inspection if the requirements of paragraph (t)(3)(ii)(A)(6) of this section are satisfied; and

(ii) Components shall either be subject to paragraph (t)(4)(ii)(C)(3)(i) of this section, or that any leak from components not subject to an inspection program that are detected by the EPA shall constitute a violation of this

section.

(4) Components qualifying for an exemption under paragraphs (t)(4)(ii)(C)(1) or (t)(4)(ii)(C)(2) shall still be subject to the provisions of paragraphs (t)(3)(ii)(B) and (C).

(iii) One-half inch and smaller stainless steel tube fittings which have been demonstrated to the EPA to be leak-free based on an initial inspection in accordance with paragraph (t)(7)(i) of this section.

(iv) Components in vacuum service.

(v) The provisions of paragraph (t) of this section shall not apply to natural gas utility operations which exclusively handle commercial natural gas.

(5) Reporting. Any owner or operator of a facility subject to paragraph (t) of this section shall comply with the following reporting requirements.

(i) A compliance plan shall be prepared and submitted to the EPA by May 15, 1997. The plan will include the following information:

(A) Component identification methodology to meet the requirements of paragraphs (t)(3)(i)(A) through (C) of this section.

(B) An inspection schedule for all unsafe-to-monitor components pursuant to paragraph (t)(3)(ii)(A)(4) of this section.

(C) A description of all components meeting the exemption requirements of paragraphs (t)(4)(i) through (iv) of this

section.

(ii) A certification of compliance shall be submitted to the EPA on or before January 1, 1998, and annually thereafter. The certification of compliance shall include:

(A) A declaration that the facility is in compliance with all of the requirements of paragraph (t) of this section.

(B) A summary of any changes that have been made to component identification in the original compliance plan.

(6) Recordkeeping.

(i) Each facility operator shall maintain an inspection log containing, at a minimum, the following:

(A) Name, location, type of components, and description of any unit where leaking components are found.

(B) Date of leak detection, emission level (ppmv) of leak, and method of leak detection.

(C) Date of leak repair and description of repair action.

(D) Date and emission level of re-check after leak is repaired.

(E) Identification of leaks from critical components that cannot be repaired until the next process turnaround.

(F) If necessary to demonstrate an exemption, the API gravity of petroleum process fluids.

(G) The VOC content of leaking process fluids or gases, if necessary to demonstrate an exemption.

(H) Total number of components inspected, and total number and percentage of leaking components found by component type.

(ii) Records of leaks detected by a quarterly or annual operator inspection and each subsequent repair and reinspection shall be submitted to the EPA upon request.

(iii) All records of operator inspection and repair shall be maintained at the facility for the previous two year period and be made available at the time of inspection by the EPA or immediately upon EPA request.

(7) Test Methods.

(i) Measurements of total gaseous organic compounds in leak concentrations shall be conducted according to EPA Reference Method 21. The analyzer shall be calibrated with methane.

(ii) The VOC content of fluids shall be determined using procedures that conform to ASTM Methods E 168, E 169, or E 260 (all incorporated by reference as specified at 40 CFR 52.3002) or any other procedure that conforms to the above ASTM methods and is approved by the EPA in writing.

(iii) Determination of the evaporated compounds of liquids shall be performed in accordance with ASTM Method D 86-90 (incorporated by reference as specified at 40 CFR 52.3002).

(iv) Determination of the control efficiency of any VOC control equipment shall be performed in accordance with 40 CFR part 60, appendix A, Method 25 or 25A; or South Coast Air Quality Management District Method 25.1 (incorporated by reference as specified at 40 CFR 52.3002).

(v) Determination of the API gravity of crude oil shall be performed in accordance with ASTM Method D 287 (incorporated by

reference as specified at 40 CFR 52.3002).

Table of Leak Thresholds

Component Type	Maximum Number of Leaks	
	200 or Less	More than 200
	Components Inspected	Components Inspected
Valves	1	0.5% of the number inspected
Pump seals	2	1% of the number inspected
Compressors	1	1
Pressure Relief Devices	1	1
Hatches	0	0
Open Ended Lines	0	0
Other Components	1	1

Table of Repair Periods

Type of Leak	Time Period (days)[a]	
	Onshore	Offshore
Minor Gas Leak	14	14
Major Gas Leak	5	5
Major Gas Leak over 50,000 ppmv	1[b,c]	5
Major Liquid Leak	1[b,c]	5
Minor Liquid Leak	2[b]	5

[a] Day means a 24 hour period from the time of leak detection.

[b] Unless prohibited by state safety standards or 29 CFR 1910.

[c] Components located at unmanned oil and gas production facilities or conveying stations shall be repaired within two days.

(u) Emissions of oxides of nitrogen from large institutional, commercial, and industrial boilers, steam generators, and process heaters.

(1) Applicability. For the purposes of this paragraph, the affected area includes the Sacramento Metro Area as described for ozone in 40 CFR 81.305.

(i) Any owner or operator of a boiler, steam generator, or process heater with a rated heat input capacity equal to or greater than 5 million British thermal units per hour (mmBtu/hr) shall comply with the applicable requirements standards of paragraphs (u)(1) through (u)(7) of this section.

(ii) Any owner or operator of a boiler, steam generator, or process heater with a rated heat input capacity equal to or greater than 5 million British thermal units per hour (mmBtu/hr) that claims an exemption from the standards of paragraph (u)(3) of this section because of the exemption criteria specified under paragraph (u)(4)(ii) of this section shall comply with the applicable requirements of paragraph (u)(6)(iii)(I) of this section.

(2) Definitions. For the purposes of paragraph (u)(1) through (u)(7) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Annual heat input means the actual amount of heat released by fuels burned in a unit during a 12 calendar month rolling period, based on the fuel's higher heating value. The annual

heat input shall be calculated as the sum of the previous 12 monthly fuel use rates multiplied by the fuel's higher heating value.

Boiler or steam generator means any combustion equipment used in any institutional, commercial, or industrial operation that is designed to burn gaseous and/or liquid fuel and used to produce steam, heat water and/or other fluids, and/or generate electricity. A boiler or steam generator does not include any waste heat recovery unit that is used to recover sensible heat from the exhaust of a combustion turbine or any unfired waste heat recovery boiler that is used to recover sensible heat from the exhaust of any combustion equipment.

British thermal unit (Btu) means the amount of heat required to raise the temperature of one pound of water from 59°F to 60°F at one atmosphere.

Heat input means the chemical heat released due to fuel combustion in a unit, using the higher heating value of the fuel. This does not include the sensible heat of incoming combustion air.

Higher heating value (HHV) means the total heat liberated per mass of fuel burned (Btu per pound), when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to their standard states at standard conditions. If certification of the HHV is not provided by the third party fuel supplier, it shall be determined by one of the following test methods: ASTM D2015-85 for solid fuels; ASTM

D240-87 or ASTM D2382-88 for liquid hydrocarbon fuels; or ASTM D1826-88 or ASTM D1945-81 in conjunction with ASTM D3588-89 for gaseous fuels. These methods are incorporated by reference as specified at 40 CFR 52.3002.

Malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

Non-gaseous fuel means any fuel which is not a gas at 68 °F and one atmosphere.

NO_x emissions means the sum of nitric oxide and nitrogen dioxide in the flue gas, collectively expressed as nitrogen dioxide.

Process heater means any combustion equipment used in any institutional, commercial, or industrial operation that is designed to burn gaseous and/or liquid fuel and which transfers heat from combustion gases to water, heat transfer medium, or process streams. Process heater does not include any kiln or oven used for drying, baking, cooking, calcining or vitrifying; any unfired waste heat recovery heater that is used to recover sensible heat from the exhaust of any combustion equipment; or any fuel-fired degreasing or metal finishing equipment.

Rated heat input capacity means the heat input capacity specified on the nameplate of the combustion unit. If the

combustion unit has been altered or modified such that its maximum heat input is different than the heat input capacity specified on the nameplate, the new maximum heat input shall be considered as the rated heat input capacity.

Shutdown means the period of time a unit is cooled from its normal operating temperature to cold or ambient temperature.

Stack gas oxygen trim system means the system of monitors that is used to measure stack excess combustion air, typically consisting of flue gas oxygen and/or carbon monoxide monitors that automatically provide a feedback signal to the combustion air controller that maintains the stack excess air at the desired level.

Startup means the period of time a unit is heated from cold or ambient temperature to its normal operating temperature as specified by the manufacturer.

Unit means any boiler, steam generator, or process heater as defined in this paragraph.

(3) Standards.

(i) Any owner or operator that operates a unit with an annual heat input rate equal to or greater than 9 billion British thermal units per year (10^9 Btu/yr) shall:

(A) Not cause to be discharged into the atmosphere any gases that contain NO_x emissions in excess of the following:

(1) For gaseous fuels, 30 parts per million (ppm) corrected to 3 percent volume stack gas O_2 on a dry basis averaged over a period of 15 consecutive minutes; or

(2) For liquid fuels, 40 ppm corrected to 3 percent volume stack gas O_2 on a dry basis averaged over a period of 15 consecutive minutes; and

(3) Demonstrate initial compliance with the NO_x emission standard in accordance with the requirements of paragraph (u)(7)(i) of this section.

(B) Establish a controlled ppm carbon monoxide (CO) emission limit that represents good operating and combustion practices. No owner or operator shall cause to be discharged into the atmosphere any gases that contain CO in excess of the lowest of one of the following limits:

(1) 120 percent of the CO ppm level established by an initial compliance test in accordance with the requirements of paragraph (u)(7) of this section, or

(2) 400 ppm.

The owner or operator shall subsequently comply with the limit once it is established. The ppm CO emissions shall be corrected to 3 percent volume stack gas O_2 on a dry basis averaged over a period of 15 consecutive minutes.

(C) Demonstrate initial compliance with the NOx and CO emission standards specified in paragraphs (u)(3)(i)(A) and (B) of this section in accordance with the requirements of paragraphs (u)(6)(i)(C) and (u)(7)(i) of this section.

(D) Units with a rated heat input capacity equal to or greater than 5 mmBtu/hr and less than 40 mmBtu/hr shall demonstrate compliance with the NO_x and CO emission standards

specified in paragraphs (u)(3)(i)(A) and (B) of this section in accordance with the requirements of paragraph (u)(7)(i) of this section not less than once every 24 months since the previous compliance test.

(E) Units with a rated heat input capacity greater than 40 mmBtu/hr and less than 100 mmBtu/hr shall demonstrate compliance with the NO_x and CO emission standards specified in paragraphs (u)(3)(i)(A) and (B) of this section in accordance with the requirements of paragraph (u)(7)(i) of this section not less than once every 12 months since the previous compliance test.

(F) Units with a rated heat input capacity equal to or greater than 100 mmBtu/hr shall demonstrate compliance with the NO_x and CO emission standards specified in paragraphs (u)(3)(i)(A) and (B) of this section in accordance with the requirements of paragraph (u)(6)(ii)(A) of this section.

(ii) Any owner or operator that operates a unit with an annual heat input rate less than 9×10^9 Btu/yr shall comply with one of the following:

(A) The unit shall be tuned once every 6 months or after 750 hours of operation since the previous tuneup, whichever occurs last, but in no case less than once per calendar year. The unit shall be tuned in accordance with the procedures described in paragraph (u)(7)(ii) of this section; or

(B) The unit shall be operated in a manner that maintains stack gas oxygen concentrations at less than or equal to 3

percent on a dry basis for any 15 consecutive minute averaging period; or

(C) The unit shall be operated using a stack gas oxygen trim system set at 3 percent oxygen. The tolerance of the setting shall be ±5 percent; or

(D) Demonstrate compliance with the NO_x and CO emission standards specified in paragraphs (u)(3)(i)(A) and (B) of this section in accordance with the applicable requirements of paragraphs (u)(3)(i)(D), (E), or (F) of this section.

(E) Any owner or operator of a unit subject to the requirements of paragraph (u)(3)(ii) of this section shall comply with the requirements of paragraph (u)(3)(i) of this section if the unit is ever operated during any rolling 12 calendar month period at a total annual heat input rate equal to or greater than 9×10^9 Btu/yr.

(4) Exemptions.

(i) The requirements of paragraphs (u)(3), (u)(5), (u)(6), and (u)(7) of this section shall not apply to any owner or operator of a unit with a rated heat input capacity of less than 5 mmBtu/hr.

(ii) The requirements of paragraph (u)(3)(i)(A)(1) of this section shall not apply to any owner or operator of a unit normally operated on gaseous fuel under the following conditions:

(A) Non-gaseous fuel use is required due to the curtailment of natural gas service to the individual unit by the natural gas supplier. Non-gaseous fuel use in this case shall not exceed the

period of natural gas curtailment.

(B) Non-gaseous fuel use is required to maintain the non-gaseous fuel system. Non-gaseous fuel use in this case shall not exceed 50 hours per year.

(C) Any owner or operator that claims an exemption under paragraph (u)(4)(ii) of this section shall comply with the recordkeeping requirements specified under paragraph (u)(6)(iii)(I) of this section.

(5) Compliance Schedule.

(i) Any owner or operator of a unit in existence prior to [Insert date of publication of the Federal Register] that does not need to retrofit the unit or install new control equipment to comply with the requirements of paragraph (u)(3) of this section shall demonstrate compliance with all of the applicable requirements of paragraph (u) of this section by May 15, 1997.

(ii) Any owner or operator of a unit in existence prior to [Insert date of publication of the Federal Register] that must retrofit the unit and/or install new control equipment to comply with the requirements of paragraph (u)(3) of this section shall demonstrate compliance with all of the applicable requirements of paragraph (u) of this section by May 15, 1998. Any owner or operator of a unit to which paragraph (u) of this section is applicable shall meet the following increments of progress:

(A) By May 1, 1997, apply for all authority-to-construct permits required by the local Air Pollution Control District for all retrofits and/or additions of new control equipment, and

(B) By January 1, 1998, commence construction of all retrofits and/or additions of new control equipment, as approved by the local Air Pollution Control District, to demonstrate compliance by May 15, 1998.

(iii) Any owner or operator of a new unit that is constructed on and after May 15, 1997, shall apply for, and receive approval of, all authority-to-construct permits required by the local Air Pollution Control District prior to beginning construction of the unit. The owner or operator shall demonstrate that the unit will be operated in compliance with all of the applicable requirements of paragraph (u) of this section within 60 days after the date of the initial startup of the unit.

(iv) On and after May 15, 1997, any owner or operator of a unit exempt from the requirements of paragraph (u)(3)(i) of this section that becomes subject to requirements of paragraph (u)(3)(i) of this section because the unit's rolling 12 calendar month annual heat input rate equals or exceeds 9×10^9 Btu/yr shall meet the following increments of progress:

(A) Within 7 months after the day that the unit is operated equal to or greater than 9×10^9 Btu/yr, apply for all authority-to-construct permits required by the local Air Pollution Control District for all retrofits and/or additions of new control equipment, and

(B) Within 19 months after the day that the unit is operated equal to or greater than 9×10^9 Btu/yr, commence construction of all retrofits and/or additions of new control

equipment, as approved by the local Air Pollution Control District, to demonstrate compliance within 24 months after the day that the unit is operated equal to or greater than 9×10^9 Btu/yr.

(6) Reporting, monitoring, and recordkeeping.

(i) Reporting requirements. Any owner or operator subject to the requirements of paragraph (u)(3) of this section shall comply with the applicable notification and reporting requirements of §60.7, and shall also comply with the following requirements:

(A) By May 15, 1997, submit to the Administrator the identification number and type of each unit subject to the section, the name and address of the plant where the unit is located, and the name and telephone number of the person responsible for demonstrating compliance with paragraph (u) of this section. For each unit identified, the following information shall be submitted to the Administrator:

(1) The rated heat input capacity, hours of operation during the previous one-year period, anticipated annual operating time and annual heat input for 1997, type of gaseous and/or liquid fuel(s) that will be burned in the unit, and age and manufacturer of the unit.

(2) Identification of the NOx standard in paragraph (u)(3)(i) or (u)(3)(ii) of this section with which the unit will comply, and the control and compliance method selected for demonstrating compliance.

(B) Any owner or operator subject to the compliance schedule specified in paragraph (u)(5)(ii), (iii), or (iv) of this section shall notify the Administrator in writing of the following:

(1) The date construction is commenced on all retrofits and/or additions of new control equipment to the unit.

(2) The anticipated date of initial startup of the unit after completing all retrofits and/or additions of new control equipment to the unit.

(3) The actual date of initial startup of the unit after completing all retrofits and/or additions of new control equipment to the unit.

(C) By the applicable compliance date specified in paragraph (u)(5) of this section, any owner or operator of a unit subject to the requirements of paragraph (u)(3)(i) of this section shall submit to the Administrator certification that the unit is in compliance with the applicable standards in paragraph (u)(3)(i) of this section as demonstrated through the applicable requirements of paragraph (u)(6)(ii)(A) or (u)(7)(i) of this section. As a part of the certification, the owner or operator shall submit a written report of the results of the compliance method used. If an owner or operator demonstrates compliance by use of a compliance test in accordance with the requirements of paragraph (u)(7)(i) of this section, the owner or operator shall provide the Administrator at least 30 days prior notice of the compliance test to afford the Administrator the opportunity to

have an observer present.

(D) Any owner or operator that must or chooses to demonstrate compliance with paragraph (u)(3)(i) of this section shall submit to the Administrator a written report of the results of all compliance tests required under paragraph (u)(3)(i)(D) or (E) of this section within 60 days after completing each compliance test. The owner or operator shall provide the Administrator at least 30 days prior notice of the compliance test to afford the Administrator the opportunity to have an observer present.

(E) By the applicable compliance date specified in paragraph (u)(5) of this section, any owner or operator of a unit subject to the requirements of paragraph (u)(3)(ii) of this section shall submit to the Administrator a report that documents the compliance method selected for demonstrating compliance with the requirements of paragraph (u)(3)(ii) of this section. The report shall also contain documentation of the procedure used or the results of the compliance method to demonstrate that the unit is in compliance with the requirements of paragraph (u)(3)(ii) of this section.

(F) Any owner or operator subject to the requirements of paragraph (u)(3)(ii) of this section shall submit to the Administrator a report every 12 months after the initial compliance date that contains documentation of the procedure used and the results of the compliance method to demonstrate that the unit is in compliance with the requirements of paragraph

(u)(3)(ii) of this section.

(G) Any owner or operator subject to the monitoring requirements of paragraph (u)(6)(ii)(B) of this section shall notify the Administrator in writing within 30 days after the rolling 12 calendar month annual heat input rate of the unit equals or exceeds 9 x 10^9 Btu/yr. Any owner or operator that becomes subject to the requirements of paragraph (u)(3)(i) of this section as a result of the requirements of this paragraph shall be subject to the compliance schedule in paragraph (u)(5)(iv) of this section and the applicable requirements of paragraphs (u)(6) and (u)(7) of this section.

(ii) Monitoring requirements.

(A) Continuous Emissions Monitoring System (CEMS) Requirements. Owners or operators subject to the requirements of this paragraph because of paragraph (u)(3)(i)(F) of this section shall comply with the following:

(1) By the applicable compliance date specified in paragraph (u)(5) of this section, install, calibrate, operate, and maintain a CEMS in accordance with the applicable requirements of appendices B and F of 40 CFR part 60 to demonstrate continuous compliance with the requirements of paragraph (u)(3)(i)(A) and (B) of this section. The CEMS shall be installed and operational before conducting the initial compliance test required under paragraphs (u)(6)(i)(C) and (u)(7) of this section. The owner or operator shall submit to the Administrator documentation that the CEMS is in compliance with

the requirements of paragraph (u) of this section.

(2) Each owner or operator shall submit an excess emissions and monitoring systems performance report, in accordance with the requirements of §60.7(c) and (d) and §60.13, to the Administrator within 30 days after the end of each calendar quarter.

(B) Any owner or operator of a unit with an annual heat input rate of less than 9 x 10^9 Btu/yr and not complying with the requirements of paragraph (u)(3)(i) of this section shall install a totalizing fuel meter for each applicable unit and for each fuel. Meters shall be accurate to ± 1 percent, as certified by the manufacturer in writing. Fuel consumption for each unit shall be compiled monthly into a rolling 12 calendar month report.

(iii) Recordkeeping requirements. Any owner or operator of a unit subject to this section shall maintain all records necessary to demonstrate compliance with the section for a period of three calendar years at the plant where the subject unit is located. The records shall be made available to the Administrator upon request. The owner or operator shall maintain records of the following information for each day the unit is operated:

(A) Identification and location of each unit subject to the requirements of this section.

(B) Calendar date of record.

(C) The number of hours the unit is operated during each day.

(D) Boiler load, fuel type, actual time of startups and shutdowns, malfunctions, and the type and duration of maintenance and repairs.

(E) The results of all compliance tests and monitored stack gas oxygen concentrations.

(F) If a unit is equipped with a flue gas recirculation system, records of the percentage of the flue gas that is recirculated to the combustion chamber of the unit.

(G) If a unit is equipped with a CEMS:

(1) The NOx and CO emission concentrations measured, corrected to 3 percent volume stack gas O_2 on a dry basis averaged over a period of 15 consecutive minutes.

(2) Identification of time periods during which NO_x and CO standards are exceeded, the reason for the exceedance, and action taken to correct the exceedance and to prevent similar future exceedances.

(3) Identification of the time periods for which operating conditions and pollutant data were not obtained including reasons for not obtaining sufficient data and a description of corrective actions taken.

(H) For units with an annual heat input rate less than 9×10^9 Btu/yr, the monthly fuel consumption and the rolling 12 calendar month fuel consumption.

(I) Any owner or operator that uses a non-gaseous fuel in any unit, pursuant to the requirements of paragraph (u)(4)(ii) of this section, shall maintain daily records of each occurrence.

Each record shall specify the reason why non-gaseous fuel is used in a unit and shall include the type of fuel, the quantity of fuel, and the hours of operation during the use of non-gaseous fuel. If non-gaseous fuel is used during a natural gas curtailment, the owner or operator shall obtain information from the natural gas supplier to verify the period of curtailment. If non-gaseous fuel is used to maintain the non-gaseous fuel system, the owner or operator shall maintain records of the total hours during which the unit was operated on non-gaseous fuel during each calendar year.

(7) Test Methods.

(i) Any owner or operator of a unit that is required to perform a compliance test to demonstrate compliance with the standards specified in paragraph (u)(3(i) of this section, or chooses to perform a compliance test to demonstrate compliance with the requirements of paragraph (u)(3)(ii) of this section, shall comply with the requirements of §60.8 (c), (d), and (e). The test shall be performed and data reduced and reported as follows:

(A) Each emission test shall be conducted while the unit is operated at maximum capacity and operating under representative operating conditions.

(B) Each emission test shall be conducted in accordance with the appropriate test methods in 40 CFR part 60, appendix A. Except for the modifications in this paragraph and unless otherwise approved by the Administrator: NO_x shall be measured

in accordance with 40 CFR part 60, appendix A, Method 7E; CO shall be measured in accordance with 40 CFR part 60, appendix A, Method 10; and the diluent shall be measured using 40 CFR part 60, appendix A, Method 3A. Testing shall be conducted for twelve 15 minute testing periods. Compliance shall be evaluated for each 15 minute period. Data recorded during testing to determine the 15 minute average shall either be continuously integrated by the testing instrument and data recorder, or recorded manually at 30 second intervals during each 15 minute test period. Zero and calibration checks shall be conducted after each 15 minute test period.

(C) The ppm CO emission limit required by paragraph (u)(3)(i)(B) of this section shall be established during the initial compliance test for NO_x emissions to establish a ppm CO emission limit that represents good operating and combustion practices for fuel(s) burned in the unit. The CO emission limit established for determining subsequent compliance shall be documented in the applicable certification report required under paragraph (u)(6)(i)(C) of this section.

(ii) Any owner or operator that chooses to comply with the requirements of paragraph (u)(3)(ii) of this section by the compliance method specified in paragraph (u)(3)(ii)(A) of this section shall tune the unit using the equipment tuning procedure specified in this paragraph.[19] Nothing in the equipment tuning procedure shall be construed to require any act or omission that would result in unsafe conditions or would be in violation of any regulation or requirement established by Factory Mutual, Industrial Risk Insurers, National Fire Prevention Association, California Department of Industrial Relations (Occupational Safety and Health Division), Federal Occupational Safety and Health Administration, or other relevant regulations and requirements.

(A) Step 1. Operate the unit at the firing rate most typical of normal operation. If the unit experiences significant load variations during normal operation, operate it at its average firing rate.

(B) Step 2. At this firing rate, record stack gas temperature, oxygen concentration, and CO concentration (for gaseous fuels) or smoke-spot[20] number (for liquid fuels), and observe flame conditions after unit operation stabilizes at the firing rate selected. If the excess oxygen in the stack gas is

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[19] This tuning procedure is based on a tune-up procedure developed by KVD, Inc. for the USEPA.

[20] The smoke-spot number can be determined with ASTM Test Method D-2156 or with the Bacharach method.

at the lower end of the range of typical minimum values,[21] and if the CO emissions are low and there is no smoke, the unit is probably operating at near optimum efficiency at this particular firing rate. However, complete the remaining portion of this procedure to determine whether still lower oxygen levels are practical.

(C) Step 3. Increase combustion air flow to the furnace until stack gas oxygen levels increase by 1 to 2 percent over the level measured in Step 2. As in Step 2, record the stack gas temperature, CO concentration (for gaseous fuels) or smoke-spot number (for liquid fuels), and observe flame conditions for these higher oxygen levels after boiler operation stabilizes.

(D) Step 4. Decrease combustion air flow until the stack gas oxygen concentration is at the level measured in Step 2. From this level gradually reduce the combustion air flow, in small increments. After each increment, record the stack gas temperature, oxygen concentration, CO concentration (for gaseous fuels) and smoke-spot number (for liquid fuels). Also, observe the flame and record any changes in its condition.

(E) Step 5. Continue to reduce combustion air flow stepwise, until one of these limits is reached:

(1) Unacceptable flame conditions - such as flame impingement on furnace walls or burner parts, excessive flame carryover, or flame instability.

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[21] Typical minimum oxygen levels for boilers at high firing rates are: 0.5 to 3 percent for natural gas; and 2 to 4 percent for liquid fuels.

(2) Stack gas CO concentrations greater than 400 ppm.

(3) Smoking at the stack.

(4) Equipment-related limitations - such as low windbox / furnace pressure differential, built in air-flow limits, etc.

(F) Step 6. Develop an 0_2/CO curve (for gaseous fuels) or 0_2/smoke curve (for liquid fuels) similar to those shown in Figures 1 and 2 using the excess oxygen and CO or smoke-spot number data obtained at each combustion air flow setting.

(G) Step 7. From the curves prepared in Step 6, find the stack gas oxygen levels where the CO emissions or smoke-spot number equal the following values:

Fuel	Measurement	Value
Gaseous	CO Emissions	400 ppm
#1 & #2 oils	smoke-spot number	number 1
#4 oil	smoke-spot number	number 2
#5 oil	smoke-spot number	number 3
Other oils	smoke-spot number	number 4

The above conditions are referred to as CO or smoke threshold, or as the minimum excess oxygen level. Compare this minimum value of excess oxygen to the expected value provided by the combustion unit manufacturer. If the minimum level found is substantially higher than the value provided by the combustion unit manufacturer, burner adjustments can probably be made to improve fuel and air mixing, thereby allowing operation with less air.

(H) Step 8. Add 0.5 to 2.0 percent to the minimum excess oxygen level found in Step 7 and reset burner controls to operate

automatically at this higher stack gas oxygen level. This margin above the minimum oxygen level accounts for fuel variations, variations in atmospheric conditions, load changes, and nonrepeatability or play in automatic controls.

(I) Step 9. If the load of the combustion unit varies significantly during normal operation, repeat Steps 1-8 for firing rates that represent the upper and lower limits of the range of the load. Because control adjustments at one firing rate may affect conditions at other firing rates, it may not be possible to establish the optimum excess oxygen level at all firing rates. If this is the case, choose the burner control settings that give best performance over the range of firing rates. If one firing rate predominates, settings should optimize conditions at that rate.

(J) Step 10. Verify that the new settings can accommodate the sudden load changes that may occur in daily operation without adverse effects. Do this by increasing and decreasing load rapidly while observing the flame and stack. If any of the conditions in Step 5 result, reset the combustion controls to provide a slightly higher level of excess oxygen at the affected firing rates. Next, verify these new settings in a similar fashion. Then make sure that the final control settings are recorded at steady-state operating conditions.

(v) Emissions of oxides of nitrogen from small institutional, commercial, and industrial boilers, steam generators, and process heaters.

(1) Applicability. For the purposes of this paragraph, the affected area includes the Sacramento Metro Area as described for ozone in 40 CFR 81.305.

(i) Any owner or operator of a boiler, steam generator, or process heater with a rated heat input capacity equal to or greater than 1 million British thermal units per hour (mmBtu/hr) and less than 5 mmBtu/hr shall comply with the applicable requirements standards of paragraphs (v)(1) through (v)(7) of this section.

(ii) Any owner or operator of a boiler, steam generator, or process heater with a rated heat input capacity equal to or greater than 1 mmBtu/hr and less than 5 mmBtu/hr that claims an exemption from the standards of paragraph (v)(3) of this section because of the exemption criteria specified under paragraph (v)(4) of this section shall comply with the applicable requirements of paragraph (v)(6)(iii)(H) of this section.

(2) Definitions. For the purposes of paragraph (v) of this section, the following definitions shall apply. All terms not defined herein shall have the meaning given them in §52.2950.

Annual heat input means the actual amount of heat released by fuels burned in a unit during a 12 calendar month rolling period, based on the fuel's higher heating value. The annual heat input shall be calculated as the sum of the previous 12 monthly fuel use rates multiplied by the fuel's higher heating value.

Boiler or steam generator means any combustion equipment

used in any institutional, commercial, or industrial operation that is designed to burn gaseous and/or liquid fuel and used to produce steam, heat water and/or other fluids, and/or generate electricity. A boiler or steam generator does not include any waste heat recovery unit that is used to recover sensible heat from the exhaust of a combustion turbine or any unfired waste heat recovery boiler that is used to recover sensible heat from the exhaust of any combustion equipment.

British thermal unit (Btu) means the amount of heat required to raise the temperature of one pound of water from 59°F to 60°F at one atmosphere.

Heat input means the chemical heat released due to fuel combustion in a unit, using the higher heating value of the fuel. This does not include the sensible heat of incoming combustion air.

Higher heating value (HHV) means the total heat liberated per mass of fuel burned (Btu per pound), when fuel and dry air at standard conditions undergo complete combustion and all resultant products are brought to their standard states at standard conditions. If certification of the HHV is not provided by the third party fuel supplier, it shall be determined by one of the following test methods: ASTM D2015-85 for solid fuels; ASTM D240-87 or ASTM D2382-88 for liquid hydrocarbon fuels; or ASTM D1826-88 or ASTM D1945-81 in conjunction with ASTM D3588-89 for gaseous fuels. These methods are incorporated by reference as specified at 40 CFR 52.3002.

Malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

Non-gaseous fuel means any fuel which is not a gas at 68 °F and one atmosphere.

NO_x emissions means the sum of nitric oxide~~s~~ and nitrogen dioxide in the flue gas, collectively expressed as nitrogen dioxide.

Process heater means any combustion equipment used in any institutional, commercial, or industrial operation that is designed to burn gaseous and/or liquid fuel and which transfers heat from combustion gases to water, heat transfer medium, or process streams. Process heater does not include any kiln or oven used for drying, baking, cooking, calcining or vitrifying; any unfired waste heat recovery heater that is used to recover sensible heat from the exhaust of any combustion equipment; or any fuel-fired degreasing or metal finishing equipment.

Rated heat input capacity means the heat input capacity specified on the nameplate of the combustion unit. If the combustion unit has been altered or modified such that its maximum heat input is different than the heat input capacity specified on the nameplate, the new maximum heat input shall be considered as the rated heat input capacity. This alteration or

modification can be through either burner alteration or modification or installation of a fixed orifice. The new maximum heat input must be certified, in writing, by the manufacturer or installer and engineering calculations supporting the new maximum heat input rating must be submitted to the Administrator.

Shutdown means the period of time a unit is cooled from its normal operating temperature to cold or ambient temperature.

Stack gas oxygen trim system means the system of monitors that is used to measure stack excess combustion air, typically consisting of flue gas oxygen and/or carbon monoxide monitors that automatically provide a feedback signal to the combustion air controller that maintains the stack excess air at the desired level.

Startup means the period of time a unit is heated from cold or ambient temperature to its normal operating temperature as specified by the manufacturer.

Unit means any boiler, steam generator, or process heater as defined in paragraph (v) of this section.

(3) Standards.

(i) Any owner or operator that operates a unit with an annual heat input rate equal to or greater than 1.8 billion British thermal units per year (10^9 Btu/yr) shall:

(A) Not cause to be discharged into the atmosphere any gases that contain NO_x emissions in excess of 30 parts per million (ppm) corrected to 3 percent volume stack gas O_2 on a dry basis averaged over a period of 15 consecutive minutes.

(B) Establish a controlled ppm carbon monoxide (CO) emission limit that represents good operating and combustion practices. No owner or operator shall cause to be discharged into the atmosphere any gases that contain CO in excess of the lowest of one of the following limits:

(1) 120 percent of the CO ppm level established by an initial compliance test in accordance with the requirements of paragraph (v)(7) of this section, or

(2) 400 ppm.

The owner or operator shall subsequently comply with the limit once it is established. The ppm CO emissions shall be corrected to 3 percent volume stack gas O_2 on a dry basis averaged over a period of 15 consecutive minutes.

(C) Demonstrate initial compliance with the NO_x and CO emission standards specified in paragraphs (v)(3)(i)(A) and (B) of this section in accordance with the requirements of paragraphs (v)(6)(i)(C) and (v)(7)(i) of this section.

(D) Demonstrate compliance with the NO_x and CO emission standards specified in paragraphs (v)(3)(i)(A) and (B) of this section in accordance with the requirements of paragraph (v)(7)(i) of this section not less than once every 24 months since the previous compliance test.

(ii) Any owner or operator that operates a unit with an annual heat input rate equal to or greater than 0.3×10^9 Btu/yr and less than 1.8×10^9 Btu/yr shall comply with one of the following:

(A) The unit shall be tuned once every 6 months or after 750 hours of operation since the previous tuneup, whichever occurs last, but in no case less than once per calendar year. The unit shall be tuned in accordance with the procedures described in paragraph (v)(7)(ii) of this section; or

(B) The unit shall be operated in a manner that maintains stack gas oxygen concentrations at less than or equal to 3 percent on a dry basis for any 15 consecutive minute averaging period; or

(C) The unit shall be operated using a stack gas oxygen trim system set at 3 percent oxygen for any 15 consecutive minute averaging period. The tolerance of the setting shall be ±5 percent; or

(D) Demonstrate compliance with the NO_x and CO emission standards specified in paragraphs (v)(3)(i)(A) and (B) of this section in accordance with the requirements of paragraphs (v)(3)(i)(C) and (D) of this section.

(iii) Any owner or operator of a unit exempt from the requirements of paragraph (v)(3)(i) of this section shall demonstrate that the unit is exempt by complying with the applicable reporting, monitoring, and recordkeeping requirements of paragraphs (v)(6)(i)(H), (v)(6)(ii), and (v)(6)(iii) of this section, respectively. If the unit is ever operated during any rolling 12 calendar month period at a total annual heat input rate equal to or greater than 1.8×10^9 Btu/yr, the owner or operator shall comply with the requirements of

paragraph (v)(3)(i) of this section. If the unit is ever operated during any rolling 12 calendar month period at a total annual heat input rate equal to or greater than 0.3 x 10^9 Btu/yr and less than 1.8 x 10^9 Btu/yr, the owner or operator shall comply with the requirements of paragraph (v)(3)(ii) of this section.

(4) Exemptions. The requirements of paragraph (v)(3)(i) of this section shall not apply to any owner or operator of a unit operated on non-gaseous fuel under the following conditions:

(i) Non-gaseous fuel use is required due to the curtailment of natural gas service to the individual unit by the natural gas supplier. Non-gaseous fuel use in this case shall not exceed the period of natural gas curtailment.

(ii) Non-gaseous fuel use is required to maintain the non-gaseous fuel system. Non-gaseous fuel use in this case shall not exceed 50 hours per year.

(iii) Any owner or operator that claims an exemption under paragraph (v)(4) of this section shall comply with the recordkeeping requirements specified under paragraph (v)(6)(ii)(I) of this section.

(5) Compliance Schedule.

(i) Any owner or operator of a unit in existence prior to the [Insert date of publication of the Federal Register] that does not need to retrofit the unit or install new control equipment to comply with the requirements of paragraph (v)(3) of this section shall demonstrate compliance with all of the

applicable requirements of paragraph (v) of this section by May 15, 1997.

(ii) Any owner or operator of a unit in existence prior to [Insert date of publication of the Federal Register] that must retrofit the unit and/or install new control equipment to comply with the requirements of paragraph (v)(3) of this section shall demonstrate compliance with all of the applicable requirements of this paragraph (v) of this section by May 15, 1998. Any owner or operator of a unit to which paragraph (v) of this section is applicable shall meet the following increments of progress:

(A) By May 15, 1997, apply for all authority-to-construct permits required by the local Air Pollution Control District for all retrofits and/or additions of new control equipment, and

(B) By January 1, 1998, commence construction of all retrofits and/or additions of new control equipment, as approved by the local Air Pollution Control District, to demonstrate compliance by May 15, 1998.

(iii) Any owner or operator of a new unit that is constructed on and after May 15, 1997, shall apply for, and receive approval of, all authority-to-construct permits required by the local Air Pollution Control District prior to beginning construction of the unit. The owner or operator shall demonstrate that the unit will be operated in compliance with all of the applicable requirements of paragraph (v) of this section within 60 days after the date of the initial startup of the unit.

(iv) On and after May 15, 1997, any owner or operator of a

unit exempt from requirements of paragraph (v)(3)(i) of this section that becomes subject to requirements of paragraph (v)(3)(i) of this section because the unit's rolling 12 calendar month annual heat input rate equals or exceeds 1.8 x 10^9 Btu/yr shall meet the following increments of progress:

(A) Within 7 months after the day that the unit is operated equal to or greater than 1.8 x 10^9 Btu/yr, apply for all authority-to-construct permits required by the local Air Pollution Control District for all retrofits and/or additions of new control equipment, and

(B) Within 19 months after the day that the unit is operated equal to or greater than 1.8 x 10^9 Btu/yr, commence construction of all retrofits and/or additions of new control equipment, as approved by the local Air Pollution Control District, to demonstrate compliance within 24 months after the day that the unit is operated equal to or greater than 1.8 x 10^9 Btu/yr.

(v) On and after May 15, 1997, any owner or operator of a unit exempt from the requirements of paragraph (v)(3)(ii) of this section that becomes subject to requirements of paragraph (v)(3)(ii) of this section because the unit's rolling 12 calendar month annual heat input rate equals or exceeds 0.3 x 10^9 Btu/yr shall meet the following increments of progress:

(A) Within 7 months after the day that the unit is operated equal to or greater than 0.3 x 10^9 Btu/yr, apply for all authority-to-construct permits required by the local Air

Pollution Control District for all retrofits and/or additions of new control equipment, and

(B) Within 19 months after the day that the unit is operated equal to or greater than 0.3 x 10^9 Btu/yr, commence construction of all retrofits and/or additions of new control equipment, as approved by the local Air Pollution Control District, to demonstrate compliance within 24 months after the day that the unit is operated equal to or greater than 0.3 x 10^9 Btu/yr.

(6) Reporting, monitoring, and recordkeeping.

(i) Reporting requirements. Any owner or operator subject to the requirements of paragraph (v)(3) of this section shall comply with the applicable notification requirements of §60.7, and shall also comply with the following requirements:

(A) By May 15, 1997, submit to the Administrator the identification number and type of each unit subject to the section, the name and address of the plant where the unit is located, and the name and telephone number of the person responsible for demonstrating compliance with paragraph (v) of this section. For each unit identified, the following information shall be submitted to the Administrator:

(1) The rated heat input capacity, hours of operation during the previous one-year period, anticipated annual operating time and annual heat input for 1997, type of gaseous and/or liquid fuel(s) that will be burned in the unit, and age and manufacturer of the unit.

(2) Identification of the NOx standard in paragraph (v)(3)(i) or (v)(3)(ii) of this section with which the unit will comply, and the control and compliance method selected for demonstrating compliance.

(B) Any owner or operator subject to the compliance schedule specified in paragraph (v)(5)(ii), (iii), (iv), or (v) of this section shall notify the Administrator in writing of the following:

(1) The date construction is commenced on all retrofits and/or additions of new control equipment to the unit.

(2) The anticipated date of initial startup of the unit after completing all retrofits and/or additions of new control equipment to the unit.

(3) The actual date of initial startup of the unit after completing all retrofits and/or additions of new control equipment to the unit.

(C) By the applicable compliance date specified in paragraph (v)(5) of this section, any owner or operator of a unit subject to the requirements of paragraph (v)(3)(i) of this section shall submit to the Administrator certification that the unit is in compliance with the applicable standards in paragraph (v)(3)(i) of this section as demonstrated through the applicable requirements of paragraph (v)(7)(i) of this section. As a part of the certification, the owner or operator shall submit a written report of the results of the compliance method used. If an owner or operator demonstrates compliance by use of a

compliance test in accordance with the requirements of paragraph (v)(7)(i) of this section, the owner or operator shall provide the Administrator at least 30 days prior notice of the compliance test to afford the Administrator the opportunity to have an observer present.

(D) Any owner or operator that must or chooses to demonstrate compliance with paragraph (v)(3)(i) of this section shall submit to the Administrator the a written report of the results of all compliance tests required under paragraph (v)(3)(i)(D) of this section within 60 days after completing each compliance test. The owner or operator shall provide the Administrator at least 30 days prior notice of the compliance test to afford the Administrator the opportunity to have an observer present.

(E) By the applicable compliance date specified in paragraph (v)(5) of this section, any owner or operator of a unit subject to the requirements of paragraph (v)(3)(ii) of this section shall submit to the Administrator a report that documents the compliance method selected for demonstrating compliance with the requirements of paragraph (v)(3)(ii) of this section. The report shall also contain documentation of the procedure used or the results of the compliance test to demonstrate that the unit is in compliance with the requirements of paragraph (v)(3)(ii) of this section.

(F) Any owner or operator subject to the requirements of paragraph (v)(3)(ii) of this section shall submit to the

Administrator a report every 12 months after the initial compliance date that contains documentation of the procedure used and the results of the compliance method to demonstrate that the unit is in compliance with the requirements of paragraph (v)(3)(ii) of this section.

(G) Any owner or operator subject to the monitoring requirements of paragraph (v)(6)(ii) of this section shall notify the Administrator in writing within 30 days after the rolling 12 calendar month annual heat input rate of the unit equals or exceeds 1.8×10^9 Btu/yr or 0.3×10^9 Btu/yr. Any owner or operator that becomes subject to the requirements of paragraph (v)(3)(i) or (v)(3)(ii) of this section as a result of the requirements of this paragraph shall be subject to the compliance schedule in paragraph (v)(5)(iv) or (v)(5)(v) of this section and the applicable requirements of paragraphs (v)(6) and (v)(7) of this section.

(ii) Monitoring requirements. Any owner or operator of a unit with an annual heat input rate of less than 1.8×10^9 Btu/yr and not complying with the requirements of paragraph (v)(3)(i) of this section shall install a totalizing fuel meter for each applicable unit and for each fuel. Meters shall be accurate to ± 1 percent, as certified by the manufacturer in writing. Fuel consumption for each unit shall be compiled monthly into a rolling 12 calendar month report.

(iii) Recordkeeping requirements. Any owner or operator of a unit subject to paragraph (v) of this section shall maintain

all records necessary to demonstrate compliance with the section for a period of three calendar years at the plant where the subject unit is located. The records shall be made available to the Administrator upon request. The owner or operator shall maintain records of the following information for each day the unit is operated:

(A) Identification and location of each unit subject to the requirements of this section.

(B) Calendar date of record;

(C) The number of hours the unit is operated during each day;

(D) Boiler load, fuel type, actual time of startups and shutdowns, malfunctions, and the type and duration of maintenance and repairs.

(E) The results of all compliance tests and monitored stack gas oxygen concentrations.

(F) If a unit is equipped with a flue gas recirculation system, records of the percentage of the flue gas that is recirculated to the combustion chamber of the unit.

(G) For units with an annual heat input rate less than 1.8 x 10^9 Btu/yr, the monthly fuel consumption and the rolling 12 calendar month fuel consumption.

(H) Any owner or operator that uses a non-gaseous fuel in any unit, pursuant to the requirements of paragraph (v)(4) of this section, shall maintain daily records of each occurrence. Each record shall specify the reason why non-gaseous fuel is used

in a unit and shall include the type of fuel, the quantity of fuel, and the hours of operation during the use of non-gaseous fuel. If non-gaseous fuel is used during a natural gas curtailment, the owner or operator shall obtain information from the natural gas supplier to verify the period of curtailment. If non-gaseous fuel is used to maintain the non-gaseous fuel system, the owner or operator shall maintain records of the total hours during which the unit was operated on non-gaseous fuel during each calendar year.

(7) Test Methods.

(i) Any owner or operator of a unit that is required to perform a compliance test to demonstrate compliance with the standards specified in paragraph (v)(3)(i) of this section, or chooses to perform a compliance test to demonstrate compliance with the requirements of paragraph (v)(3)(ii) of this section, shall comply with the requirements of §60.8 (c), (d), and (e). The test shall be performed and data reduced and reported as follows:

(A) Each emission test shall be conducted while the unit is operated at maximum capacity and operating under representative operating conditions.

(B) Each emission test shall be conducted in accordance with the appropriate test methods in 40 CFR part 60, appendix A. Except for the modifications in this paragraph and unless otherwise approved by the Administrator: NOx shall be measured in accordance with 40 CFR part 60, appendix A, Method 7E; CO

shall be measured in accordance with 40 CFR part 60, appendix A, Method 10; and the diluent shall be measured using 40 CFR part 60, appendix A, Method 3A. Testing shall be conducted for four 15 minute testing periods. Compliance shall be evaluated for each 15 minute period. Data recorded during testing to determine the 15 minute average shall either be continuously integrated by the testing instrument and data recorder, or recorded manually at 30 second intervals during each 15 minute test period. Zero and calibration checks shall be conducted after each 15 minute test period.

(C) The ppm CO emission limit required by paragraph (v)(3)(i)(B) of this section shall be established during the initial compliance test for NO_x emissions to establish a ppm CO emission limit that represents good operating and combustion practices for fuel(s) burned in the unit. The CO emission limit established for determining subsequent compliance shall be documented in the applicable certification report required under paragraph (v)(6)(i)(C) of this section.

(ii) Any owner or operator that chooses to comply with the requirements of paragraph (v)(3)(ii)(A) of this section shall tune the unit using the equipment tuning procedure specified in this paragraph.[22] Nothing in these equipment tuning procedure shall be construed to require any act or omission that would result in unsafe conditions or would be in violation of any

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[22] This tuning procedure is based on a tune-up procedure developed by KVD, Inc. for the USEPA.

regulation or requirement established by Factory Mutual, Industrial Risk Insurers, National Fire Prevention Association, California Department of Industrial Relations (Occupational Safety and Health Division), Federal Occupational Safety and Health Administration, or other relevant regulations and requirements.

(A) Step 1. Operate the unit at the firing rate most typical of normal operation. If the unit experiences significant load variations during normal operation, operate it at its average firing rate.

(B) Step 2. At this firing rate, record stack gas temperature, oxygen concentration, and CO concentration (for gaseous fuels) or smoke-spot[23] number (for liquid fuels), and observe flame conditions after unit operation stabilizes at the firing rate selected. If the excess oxygen in the stack gas is at the lower end of the range of typical minimum values,[24] and if the CO emissions are low and there is no smoke, the unit is probably operating at near optimum efficiency at this particular firing rate. However, complete the remaining portion of this procedure to determine whether still lower oxygen levels are practical.

(C) Step 3. Increase combustion air flow to the furnace

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[23] The smoke-spot number can be determined with ASTM Test Method D-2156 or with the Bacharach method.

[24] Typical minimum oxygen levels for boilers at high firing rates are: 0.5 to 3 percent for natural gas; and 2 to 4 percent for liquid fuels.

until stack gas oxygen levels increase by 1 to 2 percent over the level measured in Step 2. As in Step 2, record the stack gas temperature, CO concentration (for gaseous fuels) or smoke-spot number (for liquid fuels), and observe flame conditions for these higher oxygen levels after boiler operation stabilizes.

(D) Step 4. Decrease combustion air flow until the stack gas oxygen concentration is at the level measured in Step 2. From this level gradually reduce the combustion air flow, in small increments. After each increment, record the stack gas temperature, oxygen concentration, CO concentration (for gaseous fuels) and smoke-spot number (for liquid fuels). Also, observe the flame and record any changes in its condition.

(E) Step 5. Continue to reduce combustion air flow stepwise, until one of these limits is reached:

(1) Unacceptable flame conditions - such as flame impingement on furnace walls or burner parts, excessive flame carryover, or flame instability.

(2) Stack gas CO concentrations greater than 400 ppm.

(3) Smoking at the stack.

(4) Equipment-related limitations - such as low windbox/furnace pressure differential, built in air-flow limits, etc.

(F) Step 6. Develop an 0_2/CO curve (for gaseous fuels) or 0_2/smoke curve (for liquid fuels) similar to those shown in Figures 1 and 2 using the excess oxygen and CO or smoke-spot number data obtained at each combustion air flow setting.

(G) Step 7. From the curves prepared in Step 6, find the stack gas oxygen levels where the CO emissions or smoke-spot number equal the following values:

Fuel	Measurement	Value
Gaseous	CO Emissions	400 ppm
#1 & #2 oils	smoke-spot number	number 1
#4 oil	smoke-spot number	number 2
#5 oil	smoke-spot number	number 3
Other oils	smoke-spot number	number 4

The above conditions are referred to as CO or smoke threshold, or as the minimum excess oxygen level. Compare this minimum value of excess oxygen to the expected value provided by the combustion unit manufacturer. If the minimum level found is substantially higher than the value provided by the combustion unit manufacturer, burner adjustments can probably be made to improve fuel and air mixing, thereby allowing operation with less air.

(H) Step 8. Add 0.5 to 2.0 percent to the minimum excess oxygen level found in Step 7 and reset burner controls to operate automatically at this higher stack gas oxygen level. This margin above the minimum oxygen level accounts for fuel variations, variations in atmospheric conditions, load changes, and nonrepeatability or play in automatic controls.

(I) Step 9. If the load of the combustion unit varies significantly during normal operation, repeat Steps 1-8 for firing rates that represent the upper and lower limits of the range of the load. Because control adjustments at one firing

rate may affect conditions at other firing rates, it may not be possible to establish the optimum excess oxygen level at all firing rates. If this is the case, choose the burner control settings that give best performance over the range of firing rates. If one firing rate predominates, settings should optimize conditions at that rate.

(J) Step 10. Verify that the new settings can accommodate the sudden load changes that may occur in daily operation without adverse effects. Do this by increasing and decreasing load rapidly while observing the flame and stack. If any of the conditions in Step 5 result, reset the combustion controls to provide a slightly higher level of excess oxygen at the affected firing rates. Next, verify these new settings in a similar fashion. Then make sure that the final control settings are recorded at steady-state operating conditions.

§52.2962 Light-Duty and Medium-Duty Vehicle Program.

(a) General applicability.

(1) Every new 1998 and later model year medium-duty vehicle manufactured for sale, sold, offered for sale, introduced, or delivered for introduction to commerce, or imported into the State of California for sale or resale shall be covered by a certificate of conformity issued pursuant to paragraph (d) of this section.

(2) Any manufacturer, dealer, or other person who violates paragraph (a)(1) of this section shall be subject to a civil

penalty of not more than $25,000. Any such violation with respect to paragraph (a)(1) of this section shall constitute a separate offense with respect to each motor vehicle.

(3) Certain light-duty and medium-duty vehicle fleet operators, as defined in paragraph (e) of this section, are subject to the provisions contained in that paragraph.

(4) Exclusions or exemptions from the requirements of this section are permitted by EPA only as specified in §52.2972.

(b) Definitions and Abbreviations.

The definitions and abbreviations of 40 CFR Parts 86 and 88, §52.2963 of this subpart, and the definitions contained in the Clean Air Act apply to this section unless the term is also defined in this section.

Enhanced ILEV means a vehicle for which the Administrator has issued the manufacturer a certificate of conformity designating the vehicle as an ILEV under 40 CFR 88.311-93 and as complying with the provisions of paragraph (d) of this section.

Light-Duty Truck means any motor vehicle rated at 6000 pounds GVWR or less which is designed primarily for purposes of transportation of property or is a derivative of such vehicle, or is available with special features enabling off-street or off-highway operation and use.

Medium-Duty Vehicle means any heavy-duty vehicle having a GVW of 14,000 pounds or less, or any motor vehicle having a GVW greater than 6000 pounds but less than 14,000 pounds.

New, when applied to motor vehicles, means a motor vehicle,

the equitable or legal title to which has never been transferred to an ultimate purchaser. It is conclusively presumed that the equitable or legal title to a motor vehicle, other than a motorcycle, with an odometer reading of 7,500 miles or more, has been transferred to an ultimate purchaser, and that the equitable or legal title to a motor vehicle, other than a motorcycle, with an odometer reading of less than 7,500 miles has not been transferred to an ultimate purchaser.

(c) Emissions Standards and Design Specifications.

(1) Emission Standards: medium-duty vehicles.

(i) The Non-Methane Organic Gas (NMOG) and Oxides of Nitrogen (NOx) standards for 1998 and later model year medium-duty vehicle (MDV) LEVs and ULEVs are those set forth in paragraph (h)(2), Section 1960.1, Title 13 of the California Code of Regulations.

(ii) Manufacturers have the option of certifying engines used in incomplete and diesel MDVs to the composite Non-Methane Hydrocarbon (NMHC) plus NOx standards and test procedures set forth in section (h), Section 1956.8, Title 13 of the California Code of Regulations. Manufacturers certifying incomplete or diesel MDVs to the heavy-duty engine composite NMHC plus NOx standards and test procedures shall specify in the application for certification an in-use compliance procedure as provided in paragraph (c), Section 2139, Title 13 of the California Code of Regulations.

(iii) Beginning with the 1998 model year, manufacturers

shall certify a specific percent of their California certified MDVs produced and delivered for sale in California to the appropriate Non-Methane Organic Gas (NMOG) and Oxides of Nitrogen (NOx) standards for LEVs and ULEVs as noted in the following table:

Model Year	Minimum Percent of MDVs Required to Meet the Specified NMOG and NOx Standards	
	LEV	ULEV
1998	10	10
1999	25	25
2000	50	50
2001	25	75
2002 and later	0	100

(iv) Small volume manufacturers, as defined in paragraph (h)(2), Section 1960.1, Title 13 of the California Code of Regulations, shall not be required to certify, produce, or deliver LEVs and ULEVs for sale in California prior to 2002. In 2002 and subsequent model years, small volume manufacturers shall certify, produce, and deliver for sale in California MDVs meeting the NMOG and NOx ULEV standards in a quantity equivalent to 100 percent of their MDV fleet.

(v) The "Vehicle Equivalent Credits" provisions contained in paragraph (h)(2), Section 1960.1, Title 13 of the California Code of Regulations shall apply.

(2) Canister Access Requirement. All 1999 and later model

year LDV, LDTs, and MDVs (excluding those MDVs powered by engines certified under the heavy-duty engine emissions standards contained in paragraph (h), Section 1956.8, Title 13 of the California Code of Regulations) shall be designed and manufactured such that enhanced I/M evaporative pressure and purge functional tests can be readily conducted (i.e., the evaporative vapor storage canister(s) can be easily and quickly accessed and the pressure and purge test equipment (described in §52.2963(t) and (u)) can be easily and quickly attached without damaging the post-test integrity of the evaporative emission control system.

(d) Application for Certification.

(1) A separate application for a certificate of conformity shall be made for each set of standards and each class of new motor vehicles or new motor vehicle engines. Such application shall be made to the Administrator by the manufacturer and shall be updated and corrected by amendment. The application shall meet all of the requirements set forth in §86.094-21, unless otherwise provided in the California application specified in paragraph (2) of this paragraph.

(2) The application shall contain a copy of the application for certification specified in Section 1960.1 of Title 13 of the California Code of Regulations.

(3) The application shall also demonstrate that throughout all testing conducted by the manufacturer in fulfilling the application for certification specified in Section 1960.1 of

Title 13 of the California Code of Regulations, and such additional testing as may be necessary, that the vehicle(s) for which certification is being requested meet all the applicable emission standards and design specifications specified in paragraph (c) of this section.

(4) The application shall also state which set of standards the engine families will comply with in order to attain the required implementation schedule sales percentages specified in paragraph (c)(1)(iii) of this section.

(5) Additionally, manufacturers certifying vehicles shall submit for each model year 1998 through 2001 medium-duty vehicle engine family the information listed in paragraphs (c)(5)(i) and (ii) of this section.

(i) In the application for certification, the manufacturer shall include the projected number of medium-duty vehicles to be produced and delivered for sale in California for the engine families covered by the application.

(ii) End-of-the-year reports for each engine family.

(A) Manufacturers shall submit end-of-the-year reports within 90 days of the end of the model year to: Director, Manufacturers Operations Division (EN-340F), U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460.

(B) These reports shall indicate the model year, engine family, and the actual number of medium-duty vehicles produced and delivered for sale in California.

(C) Failure by a manufacturer to submit the end-of-the year

report within the specified time may result in certificate(s) for the engine family(ies) being voided ab initio plus any applicable civil penalties for failure to submit the required information to the Agency.

(D) The information shall be organized in such a way as to allow the Administrator to determine compliance with the required implementation schedule sales percentages specified in paragraph (c)(1)(iii) of this section.

(6) For all medium-duty vehicles certified to standards under paragraph (c)(1) of this section, the provisions of paragraphs (d)(6)(i) through (iii) of this section apply.

(i) All certificates issued are conditional upon the manufacturer complying with all provisions of paragraph (c) of this section.

(ii) Failure to meet the required implementation schedule sales percentages as specified in paragraph (c)(1)(iii) of this section will be considered to be a failure to satisfy the conditions upon which the certificate(s) was issued and the vehicles sold in violation of the implementation schedule shall not be covered by the certificate.

(iii) The manufacturer shall bear the burden of establishing to the satisfaction of the Administrator that the conditions upon which the certificate was issued were satisfied.

(e) <u>ILEV Fleet Program</u>.

(1) The definitions of 40 CFR 88.302-94 apply to the ILEV fleet program.

(2) Fleet operators which control 10 or more vehicles which operate at any time in the South Coast or Ventura ozone nonattainment areas as defined in 40 CFR 81.305 shall determine whether they are a covered fleet operator. This determination is to be made as follows:

(i) The fleet operator shall not count the following types of vehicles:

(A) Vehicles with a GVWR greater than 26,000 pounds;

(B) Law enforcement and other emergency vehicles;

(C) Nonroad vehicles;

(D) Vehicles garaged at a private residence that are not centrally fueled 100 percent of the time;

(E) Vehicles held for lease or rent to the general public;

(F) Vehicles held for sale by motor vehicle dealers (including demonstration vehicles);

(G) Vehicles used for motor vehicle manufacturer product demonstrations and tests; and

(H) Vehicles which the Department of Defense considers to be tactical vehicles, combat support vehicles, or combat vehicles.

(ii) Fleet operators identified under paragraph (e)(2) of this subsection shall determine the number of non-exempt vehicles that are centrally fueled 100 percent of the time (as defined in 40 CFR 88.302-94) or are capable of being centrally fueled 100 percent of the time (as defined in 40 CFR 88.302-94 and determined under paragraph (e)(8) of this subsection).

(iii) If a fleet operator determines under paragraph (e)(2)(ii) of this subsection that 10 or more non-exempt vehicles operated in the covered areas are centrally fueled 100 percent of the time or are capable of being centrally fueled 100 percent of the time, then the fleet operator shall be considered to be a covered fleet operator.

(3) Except as provided in the credit provisions of paragraph (e)(4) of this section, covered fleet operators acquiring vehicles to replace the vehicles identified under paragraph (e)(2)(ii) of this subsection, or acquiring additional vehicles which meet the criteria of that paragraph, shall include as a specified percentage of such acquisition vehicles which meet ILEV evaporative emissions requirements. The specified percentage of newly acquired vehicles that must meet ILEV evaporative emissions requirement shall be as follows:

(i) For model year 1999 light-duty vehicles and light-duty trucks: 50 percent;

(ii) For model year 2000 and later light-duty vehicles and light-duty trucks: 70 percent;

(iii) For model year 2000 and later medium-duty vehicles and heavy-duty vehicles: 50 percent.

(4) Acquisition credits. Covered fleet operators may satisfy the purchase requirements established in paragraph (e)(3) of this subsection wholly or in part by redeeming an appropriate number of acquisition credits.

(i) Acquisition credits may be generated as follows:

(A) A covered fleet operator which purchases vehicles meeting ILEV evaporative emissions requirements in excess of its acquisition requirement, as determined under paragraph (e)(3), may receive one acquisition credit for each excess vehicle, and

(B) A covered fleet operator which purchases vehicles meeting ILEV evaporative emissions requirements earlier than required, as determined under paragraph (e)(3), may receive one acquisition credit for each such vehicle, and

(C) A person other than a covered fleet operator which acquires vehicles meeting ILEV evaporative emissions requirements may receive one acquisition credit for each such vehicle.

(ii) The Administrator shall issue a credit document or documents of appropriate credit value to a covered fleet operator or other person which provides the Administrator evidence of compliance with the provisions of paragraph (e)(4)(i) of this subsection.

(iii) The Administrator shall approve a reduction in any covered fleet operator's acquisition requirement, as determined under paragraph (e)(3), by a number equal to the credit value of credit documents presented to the Administrator for redemption, subject to confirmation of the legitimacy of the credit documents so presented.

(5) Reporting. Fleet operators which control 10 or more vehicles which operate at any time in the South Coast or Ventura ozone nonattainment areas as defined in 40 CFR 81.305 shall submit the following information to the Administrator by January

1, 1999 and each January 1 thereafter:

(i) Total number of vehicles operated in the covered areas;

(ii) Numbers of vehicles acquired during the previous calendar year and operated in the covered areas, presented by class (i.e., LDV, LDT, MDV, or HDV) and by fueling characteristics (i.e., centrally fueled or capable of being centrally fueled);

(iii) Numbers of vehicles by class and fueling characteristics expected to be acquired in the coming calendar year;

(iv) Numbers of vehicles meeting ILEV evaporative emission requirements acquired during the previous calendar year and expected to be acquired during the coming calendar year;

(v) Vehicle Identification Numbers (VINs) and engine family designations (see 40 CFR 86.092-24) for each of the vehicles reported in paragraphs (e)(5)(ii) through (iv) of this subsection;

(vi) The identity of the responsible party which has control of vehicle acquisition decisions, including the current mailing address; and

(vii) For covered fleet operators, the calculated minimum acquisition requirement from paragraph (e)(3).

(6) Violations. The following shall be considered violations of the ILEV fleet program:

(i) Failure to submit timely and accurate reports under

paragraph (e)(5) of this subsection;

(ii) Failure to meet an acquisition requirement; or

(iii) Counterfeiting acquisition credit documents or participating in the transfer of such counterfeit documents.

(7) Penalties. Any person which the Administrator finds in violation of the provisions of paragraph (e)(6) of this subsection

shall be subject to a civil penalty of not more than $25,000.

(8) Determination of "Capable of Being Centrally Fueled." A fleet operator may consider all of its vehicles to be capable of being centrally fueled 100 percent of the time. Otherwise, a fleet operator shall calculate the number of vehicles in its fleet which are considered capable of being centrally fueled 100 percent of the time based on the experience of a sample fleet of vehicles in normal operation, as provided in this paragraph.

(i) The fleet operator shall choose a sample fleet to be monitored during each of a minimum of two, but not more than four, nonconsecutive weeks of seven consecutive days during the years 1997 and/or 1998.

(ii) Selection of Sample Fleet. A sample fleet shall consist of a subset of the vehicles in the fleet that are operated in the areas covered by this program and are not centrally fueled 100 percent of the time and are not exempted under paragraph (e)(2)(i) of this subsection. Vehicles selected for the sample fleet shall be representative of the entire fleet in terms of usage patterns and fuel type.

(A) For fleets with up to 20 vehicles that meet the criteria for sample fleet vehicles in paragraph (e)(8)(ii) of this subsection, the sample fleet shall be comprised of at least 5 of these vehicles.

(B) For fleets of more than 20 vehicles that meet the criteria for sample fleet vehicles in paragraph (e)(8)(ii) of this subsection, the sample fleet shall be comprised of at least 30 percent of these vehicles, rounded to the next highest whole integer value.

(iii) Sampling procedure. The fleet operator shall monitor each sample fleet during each of the weeks chosen for sampling.

(A) Operation of vehicles during each of these sample weeks shall be representative of normal business patterns of the fleet.

(B) The first day of the first week and the last day of the last week shall not be more than 365 days apart.

(C) For purposes of the sample fleet vehicles, a trip is considered to be all travel of the vehicle between departure from the originating point to its return to the location of the originating point, including all trip segments to intermediate destinations.

(1) If a sample fleet vehicle in normal operation typically refuels at a central refueling facility controlled by the fleet operator, the originating point for a sample fleet vehicle shall be considered to be that fueling facility. A refueling facility is considered to be controlled by a fleet operator if the

facility is owned, operated, or controlled by the fleet operator or if the fleet operator has arranged by contract to refuel all or part of the fleet's vehicles at a single location.

(2) If a sample fleet vehicle in normal operation does not typically refuel at a central refueling facility controlled by the fleet operator according to (C)(1) above, the originating point of a sample fleet vehicle shall be considered to be the location at which the vehicle is typically garaged.

(D) The fleet operator shall determine the miles traveled during each trip during the sample week. The operator may either log odometer readings or calculate miles traveled through a reasonable algorithm based on known destinations and distances. Miles traveled shall be determined for each trip segment beginning at the originating point and continuing until the vehicle reaches a point at which returning to the originating point by the normal route would exceed the operational range of the vehicle.

(1) In general, a vehicle's operational range is considered to be the average distance a vehicle is able to travel with a single refueling.

(2) The operational range for a sample fleet vehicle shall not be considered to be less than 50 percent of the average range of all vehicles in the existing fleet.

(3) The operational range for a sample fleet vehicle shall not be considered to be less than 300 miles.

(E) Calculation procedure. Based on the determination of

miles traveled from paragraph (e)(8)(D) above, the fleet operator shall calculate for each vehicle the ratio of miles from trips within the vehicle's operational range to the total miles from all trips during the survey week.

(1) The fleet operator shall average the ratios determined for each vehicle during a sample week to generate an average ratio for the sample week. The fleet operator shall then average the weekly ratios for all sample weeks during the year to generate an overall ratio for the fleet.

(2) The fleet operator shall apply this overall ratio for the fleet to the number of vehicles in the fleet that are not centrally fueled 100 percent of the time and are not exempted under paragraph (e)(2)(i) of this subsection. The result of this calculation equals the number of vehicles considered to be capable of being centrally fueled 100 percent of the time and shall be used in paragraph (e)(2) to determine whether a fleet operator is subject to the requirements of the ILEV fleet program.

§52.2963 Enhanced inspection/maintenance program.

(a) Applicability of 40 CFR part 51, subpart S. For the purposes of this section, except as otherwise provided, the definitions and requirements of 40 CFR part 51, subpart S (Inspection/Maintenance Program Requirements) apply.

(b) Additional definitions.

Centralized inspection network means a network of vehicle

inspection facilities owned and operated by a single, identifiable entity, such as a state or other governmental entity, or an agreed upon agent of a state or other governmental entity.

Certificate of compliance means a serially numbered instrument (either paper-based or electronic) indicating that a vehicle has met the requirements of this section, either by passing all applicable emission tests, or by being granted a waiver (see "Waiver" in paragraph (b) of this section).

Certified emission inspector means a person who has successfully completed all necessary training and who is certified by the Administrator or his/her designee as qualified to perform emission inspections on subject vehicles. Such certification must be periodically renewed, and is subject to suspension and permanent revocation as a result of violating the requirements of this section.

Emission inspection means the full range of emission-related inspections a vehicle is subject to as a result of participating in an I/M program, including the sampling and analysis of tailpipe exhaust, purge and pressure testing of the evaporative system, and any visual inspections for the presence and proper connection of specific emission control devices.

Emission inspection test report means an automated report of a vehicle's emission inspection results, coded to a specific vehicle through the use of unambiguous vehicle identifiers, such as the license plate number and vehicle identification number

(VIN). The emission inspection test report is a separate document and distinguished from the certificate of compliance by virtue of the fact that a test report shall not be accepted as valid for registration purposes.

Enhanced I/M program means a program meeting the enhanced I/M performance standard as established under EPA's I/M rule (40 CFR 51.351).

Farm equipment means a vehicle designed or adapted and determined by the Administrator to be used exclusively for agricultural operations and only incidentally operated or moved upon highways.

Gross vehicle weight rating (GVWR) means the value specified by the manufacturer on the Federal weight certification label as the loaded weight of a single vehicle. For the purposes of the FIP's I/M program, California-certified vehicles shall be considered to fall under the same gross vehicle weight ratings as comparable, 49-state vehicles.

Heavy-duty vehicles means trucks weighing more than 8,500 pounds GVWR.

Light-duty trucks 1 (LDT1) means trucks weighing less than 6,000 pounds GVWR.

Light-duty trucks 2 (LDT2) means trucks weighing from 6,000 to 8,500 pounds GVWR.

Light-duty vehicles means passenger cars or multi-purpose vehicles weighing less than 6,000 pounds GVWR.

Onboard diagnostic device (OBD) means a system for

monitoring the in-use emission performance of a vehicle which provides feedback to the driver concerning actual or potential malfunctions through the illumination of a malfunction indicator light (MIL). The event triggering MIL illumination is also stored on the OBD computer as a trouble code which can be downloaded at a vehicle testing or repair facility.

Oversight contractor(s) means a contractor or contractors who have been awarded a contract by the Administrator to conduct and report the results of overt and covert audits of the test provider(s) sites and personnel. The information generated by the oversight contractor shall be used by the Administrator to substantiate enforcement actions taken by EPA against the test provider and its employees.

Qualifying repairs means those vehicle repairs necessary to correct the deficiencies which resulted in a vehicle's failure of an emissions inspection and which count toward the minimum dollar amount required before a waiver may be issued. For those repairs where repair or replacement of emission-related parts requires replacement of other non-emission related equipment constructed as one indivisible unit by the manufacturer, the total replacement costs or repair costs may be counted toward qualifying repairs.

Recognized repair facility means a business engaged in the diagnosis and repair of automotive engines and related systems.

Recognized repair technician means a person who has received and has proof of formal training in the diagnosis and repair of

automotive engines and related systems, or holds a valid license issued by the California Bureau of Automotive Repair, or is employed by a recognized repair facility primarily for the purpose of diagnosing and repairing automotive engines and their related systems.

Remote Sensing Devices (RSD) means a transportable system of devices designed for the remote gathering of vehicle emissions and identification data while vehicles are being operated on public roads.

Special mobile equipment means vehicles not designed or used primarily for the transportation of persons or property and only incidentally operated or moved over a highway, including ditch digging apparatus; well boring apparatus; earth moving and road construction and maintenance machinery, such as asphalt spreaders, bituminous mixers, bucket loaders, ditchers, graders, finishing machines, road rollers, scarifiers, earth moving carryalls, scrapers, power shovels and draglines; and self-propelled cranes and tractors, other than truck tractors. The term does not include house trailers; dump trucks; truck-mounted transit mixers, cranes or shovels; or other vehicles designed for the transportation of persons or property to which machinery has been attached.

Test provider(s) means one or more entities with whom the Administrator has entered into a legal agreement, for the purposes of providing vehicle emission testing and other FIP I/M program activities except those activities which would clearly

constitute a conflict of interest or are otherwise impractical, such as overt and covert auditing of the testing element, program effectiveness evaluation, and enforcement. As part of this legal agreement, the test provider(s) would be reimbursed for operating expenses and allowed a reasonable profit by way of a test fee to be collected directly from motorists at the time of testing.

Transient test means a vehicle emission test in which exhaust emissions are sampled and analyzed under conditions simulating actual on-road driving conditions, including the use of loaded operation simulation, and a standardized driving cycle. For the purposes of the FIP I/M program, a transient test known as the IM240 shall be used for vehicle exhaust emissions testing.

Unsafe condition means a defect, malfunction or other condition of a vehicle which may expose an emission inspector to harm in the performance of an emission inspection of that vehicle. A vehicle which is presented for testing in an unsafe condition may be rejected from testing until such time as the factors contributing to the vehicle's unsafe condition have been corrected.

Vehicle model year means the date of manufacture of a vehicle as specified by the vehicle identification number (VIN), or, if this number is not available or cannot be interpreted for the year, the annual production period of the vehicle as designated by the manufacturer.

Waiver means a notation on the emission inspection certificate of compliance indicating that the requirement of

passing the otherwise required reinspection test has been waived.

(c) Subject vehicles. Subject vehicles include all model year 1966 to 1998 gasoline-fueled vehicles of all weight classes (including vehicles with engine-based certification), and all model year 1999 and newer vehicles of all fuel types and all weight classes (excluding vehicles with engine-based certification) which are:

(1) Registered in or required to be registered in a FIP I/M program area.

(2) Leased vehicles with registration or titling in the name of an equity owner other than the lessee or user where the motor vehicle is registered or required to be registered in a FIP I/M program area.

(3) Available for rent in a FIP I/M program area or used in a FIP I/M program area, regardless of where the vehicles are registered.

(4) Part of a fleet registered in and/or primarily operated within a FIP I/M program area.

(5) Vehicles which are operated on Federal installations located within an I/M program area shall be tested, regardless of whether the vehicles are registered in the state or local I/M area. This requirement applies to all employee-owned or leased vehicles (including vehicles owned, leased, or operated by civilian and military personnel on Federal installations) as well as agency-owned or operated vehicles, except tactical military vehicles, operated on the installation. This requirement shall

not apply to visiting agency, employee, or military personnel vehicles as long as such visits do not exceed 60 calendar days per year.

(d) Exempted vehicles. Exempted vehicles shall include vehicles operated or registered as one of the following:

(1) Special mobile equipment.

(2) Farm equipment.

(3) Motorcycles.

(4) Motorized pedalcycles.

(5) Vehicles repossessed by a financier or debt collector through the use of miscellaneous motor vehicle business registration plates. This vehicle exemption will no longer hold once a repossessed vehicle has been resold or leased or is otherwise being operated on a routine basis in the FIP I/M program area.

(e) Prohibitions. (1) The Secretary of State of California, the California Department of Motor Vehicles, its employees, and any other persons representing the State of California are prohibited from reregistering any subject vehicle registered in the name of an owner or lessee whose primary residence is located within one of the FIP I/M areas unless evidence is presented that the EPA Administrator or his/her designee has issued such a vehicle a certificate of compliance with or a waiver from the applicable requirements of this section.

(2) Operators of subject motor vehicles registered in the

FIP I/M areas are prohibited from obtaining vehicle registration without first meeting all applicable FIP I/M program requirements.

(3) The test provider(s) and its employees, as part of an agreement with the Administrator, shall be prohibited from the intentional improper testing or retesting of vehicles subject to the FIP I/M program.

(f) Commencement date. The enhanced I/M program, as described in this section, will commence with vehicle testing on all subject light-duty, medium duty, and heavy-duty vehicles up to and including 19,500 pounds GVWR on July 1, 1997. Given the lateness of this starting date, no phase-in of vehicle coverage shall be assumed, contrary to the provisions of 40 CFR 51.373. I/M testing on all subject heavy-duty trucks greater than 19,500 GVWR will commence on July 1, 1999.

(g) Vehicle emission inspection cycle.

(1) Biennial inspection. Vehicles subject to the current California I/M program which are registered in the FIP I/M areas shall be subject to the FIP I/M program and will be tested on the same biennial schedule as is currently used, with the exception that such vehicles shall go to official FIP I/M program test provider(s) for valid testing. New vehicles which are registered in the FIP I/M areas shall be tested in the next even numbered calendar year after the initial titling if the model year is even, or in the next odd numbered calendar year after the initial titling if the model year is odd, and shall be subject to regular

FIP I/M testing every two years thereafter. Once a vehicle has been tested as part of the FIP I/M program, it will remain on the same biennial testing schedule until such time as the FIP I/M program is discontinued. The sale of a vehicle shall not change that vehicle's regularly scheduled testing date. Vehicles previously registered in California but outside the FIP I/M areas which move into a FIP I/M area shall be tested in time to meet the I/M requirement for their first registration as residents of a FIP I/M area, and shall be tested every two years thereafter.

(2) Out-of-cycle inspection. Vehicles otherwise subject to the FIP I/M program's requirements which are targeted as potential high emitters as a result of RSD detection must be presented for an enhanced I/M inspection within 30 days of notification of the failure (or sooner, if the regularly scheduled inspection deadline occurs first). If the vehicle fails this confirmatory test, it shall be subject at that time to the same repair, retest, and waiver requirements as apply to vehicles which fail the regularly scheduled biennial inspection. Failure to comply with this out-of-cycle testing requirement shall result in the assessment of a late fee to be collected prior to testing whenever the vehicle is next presented for regular testing. A late fee of $10 will be assessed for each full week past the testing deadline. Being subject to an out-of-cycle inspection does not change the deadline for the vehicle's regularly scheduled biennial inspection, unless it occurs within 30 days of the out-of-cycle test.

(h) Notification of requirement for emission inspection. A letter of notification shall be sent to subject vehicle owners or lessees such that the letter shall have been received by the individual owner or lessee no later than 45 days prior to the regularly scheduled test deadline and no later than 30 days prior to an out-of-cycle confirmatory test deadline. In the case of the out-of-cycle inspection requirement, the notification shall be sent by registered mail to ensure documentation of the owner or lessee's receipt of notification.

(i) Emission inspection period. The period during which a subject vehicle may be presented for an I/M inspection shall be stated on the emission inspection notification form along with the deadline for completing the inspection process. Subject vehicles presented for an initial inspection or reinspection after the time period shown on the emission inspection notification shall be charged a late fee of $10 for each full week that a vehicle is late. This late fee shall be collected prior to the initiation of testing.

(j) Inspection failure.

(1) If a subject vehicle fails any phase of the enhanced emission inspection, the vehicle owner shall have the vehicle repaired and submit the vehicle for retesting along with a repair form supplied by the test provider (to be completed by the vehicle repair provider). No reinspection shall occur without a completed repair form.

(2) If the subject vehicle fails the retest, and it

otherwise meets the waiver requirements for enhanced I/M programs addressed under 40 CFR 51.360(a), the vehicle owner may apply for a waiver.

(k) Enhanced I/M program requirements. The FIP I/M program design shall include the following program elements:

(1) Network type. Testing shall be performed through a centralized system of official emission inspection stations which shall be operated by one or more test provider(s) under agreement with the Administrator.

(2) Test-only. Official emission inspection stations shall conduct vehicle emission testing only and shall not perform vehicle repairs, except to restore the vehicle to the as-received condition after testing (including the reattachment of hoses disconnected for the evaporative system check). Official emission inspection stations shall meet all the requirements for test-only stations established in 40 CFR 51.353.

(3) Geographic coverage. The FIP I/M program shall cover the same geographic areas within the Sacramento, Ventura and South Coast FIP areas as are covered by the existing California Smog Check program as of [*Insert date of publication of the final rule*]. (See 40 CFR part 52, subpart GGG, appendix A for a detailed listing of I/M FIP area coverage by zip code.)

(4) Exhaust emission test type. All 1966 and newer subject vehicles shall be tested using the IM240 transient mass emission test as specified by EPA guidance and regulation. Model year 2002 and later heavy-duty trucks greater than 8,500 pounds GVWR

shall be exempt from the exhaust emission test specified in this section.

(5) Emission control device visual inspection. All 1971 and newer subject vehicles shall be visually inspected for the presence and proper connection of the air pump and positive crankcase ventilation (PCV) systems. The visual inspection of these components shall be conducted in compliance with procedures established by EPA guidance and regulation. Model year 2002 and later heavy-duty trucks greater than 8,500 pounds GVWR may receive a waiver from the evaporative emissions tests specified in this section if they are certified to have inherently low evaporative emissions. Waivers for such vehicles shall be issued by the I/M test provider(s).

(6) Evaporative system tests. All 1971 and newer subject vehicles shall be subject to an evaporative system pressure test and an evaporative system purge test conducted as specified by EPA guidance and regulation. Model year 2002 and later heavy-duty trucks greater than 8,500 pounds GVWR may receive a waiver from the evaporative emissions tests specified in this section if they are certified to have inherently low evaporative emissions. Waivers for such vehicles shall be issued by the I/M test provider(s).

(7) Onroad testing. Onroad testing shall be conducted on approximately 10 percent of the subject fleet using RSD on an annual basis. Subject vehicles have been targeted by RSD as potential high-emitters shall be subject to out-of-cycle testing

requirements as specified in paragraph (t) of this section.

(l) Documentation of compliance for vehicles operated on Federal installations. Federal installations located within the FIP I/M program area shall provide annual documentation of proof of compliance with paragraphs (c)(5) and (c)(6) of this section to EPA. This documentation shall be updated periodically, but at least once per inspection cycle. The installation shall use one of the following methods to establish proof of compliance:

(1) Presentation of a valid certificate of compliance with or waiver from the FIP I/M program or a comparable I/M program (i.e., one meeting the enhanced I/M performance standard as set forth in 40 CFR 51.351). In the event the FIP I/M program adopts an electronic-based instrument for certifying vehicle compliance, the test provider(s) shall make arrangements for issuing a special "Federal vehicle," paper-based certificate of compliance. Such a certificate of compliance shall clearly read "Not Valid for Vehicle Registration in the State of California" in a point size and location which will make it impossible to remove this message without destroying the certificate.

(2) Presentation of proof of vehicle registration for each vehicle operating on the grounds of the Federal installation which is already registered within the geographic area covered by the FIP I/M program.

(m) Emission inspection criteria for vehicles operated with miscellaneous motor vehicle business registration plates or dealer registration plates. A subject vehicle which displays a

miscellaneous motor vehicle business registration plate or a dealer registration plate shall be exempt from the requirements for emission inspection until it reaches two years of age (based on model year) at which that time it shall be subject to emission inspection.

(n) Repair technician training. Repair technician training shall be provided to all qualified applicants. This training will include, at a minimum:

(1) Diagnosis and repair of malfunctions in computer controlled close-loop vehicles.

(2) Application of emission control theory and diagnostic data to the diagnosis and repair of failures of the transient emission test and the evaporative system function tests.

(3) Utilization of diagnostic information on systematic or repeated failures observed in the transient emission test and the evaporative system function tests.

(4) Generalized training on the various subsystems related to emission control.

(o) Emission test procedures. Emission tests and functional tests shall be subject to the following requirements:

(1) Flexibly fueled vehicles (i.e., those capable of operating both on gasoline and other fuels) shall at a minimum be subject to testing and shall be tested while operating in the gasoline mode unless the vehicle is never operated with gasoline.

(2) An initial test is the emission test that occurs the first time in a test cycle. The initial test shall be performed

without repair or adjustment at the emission inspection station prior to the test, except as provided for in the evaporative system integrity test. An emission inspection performed after failure of the initial test in a test cycle shall be considered a retest.

(3) An official test, once initiated, shall be performed in its entirety regardless of intermediate outcomes except in the case of an invalid test condition or unsafe conditions.

(4) Tests involving measurements shall be performed with approved equipment that has been calibrated according to the quality control procedures contained in EPA guidance or regulation.

(5) Vehicles shall not be tested if the exhaust system is missing or leaking, or if the vehicle is in an unsafe condition.

(6) The vehicle owner or driver shall have access to an area in the inspection station which permits observation of the entire official inspection procedure. This access may be limited but it may not prevent full observation.

(7) In the inspection process, vehicles that have been altered from their original certified configuration shall be tested in the same manner as other subject vehicles, in accordance with the following:

(i) Vehicles with engines other than the engine originally installed by the manufacturer, or an identical replacement engine, shall be subject to the test procedures and standards for the chassis type and model year, regardless of the engine

replacement, including visual equipment inspections for parts that are part of the original certified configuration and part of the normal inspection for such configuration. An exception may be made if the vehicle meets new certification standards for that chassis and model year.

(ii) Vehicles which are switched to a fuel type for which there is no certified configuration shall be tested according to the emission standards established for that vehicle type and model year. Emission control device requirements may be waived if the Administrator determines that the alternatively fueled vehicle configuration would meet the new vehicle standards for that model year without these devices.

(p) Emission standards. Subject vehicles shall be tested and passed or failed according to the IM240 cutpoints provided in appendix B of subpart GGG.

(q) Emission inspection test report. The test provider(s) shall provide the vehicle owner or driver with a computer-generated emission inspection test report which includes the following:

(1) A vehicle description, including license plate number, vehicle title number, VIN, vehicle make and model and odometer reading.

(2) The date and time of the test.

(3) The name or identification number of the individuals performing the tests and the location of the test station and lane number.

(4) The type of tests performed, including emission tests, visual checks for the presence of emission control components, and functional, evaporative system checks.

(5) The applicable test standards.

(6) The test results, including exhaust concentrations and pass/fail results for each mode measured, pass/fail results for evaporative system checks, and which emission control devices inspected were passed, failed or not applicable.

(7) A statement indicating the availability of warranty coverage as required in section 207 of the Clean Air Act (42 U.S.C. 7525).

(8) A certification that tests were performed in accordance with this section.

(9) For vehicles that fail the tailpipe emission test, any available information on the possible causes of the specific pattern of high emission levels found during the test.

(10) For vehicles that fail the enhanced I/M test, a description of the consumer complaint procedure, including a statement indicating that any administrative challenge regarding the performance or results of the test must be made by the vehicle owner or operator within 10 days of the failure of the emission inspection.

(r) Retest.

(1) Procedure. Vehicles that fail the initial test or a retest shall be retested after repair to determine if the repairs were effective for any portion of the inspection that was failed

on the previous test. To the extent that repair to correct a previous failure could lead to failure of another portion of the test, that portion shall also be retested. Evaporative system repairs performed as a result of the vehicle's failing either the evaporative system purge or pressure test shall be cause for a complete retest covering all of the initial test requirements.

(2) Prerequisites. For a retest, the vehicle owner or driver shall present to the inspection station the emission inspection test report and a completed repair data form. If the repairs were performed by the owner or someone other than a recognized repair technician, the repair data form shall be completed by the person performing the repair. If the repairs were performed at a recognized repair facility, the repair data form completed by the repair facility shall be presented to the emission inspection station.

(3) Content of repair data form. The repair data form shall include the following:

(i) The repairs performed.

(ii) The cost of repairs.

(iii) The repair technician's number or name if the person who made the repairs does not have a license number issued by the California Bureau of Automotive Repair.

(iv) Any repairs recommended by the repair facility that were not performed.

(v) The name, address and telephone number of the repair facility.

(s) Issuance of a waiver. The emission inspection station shall issue a certificate of emission inspection with an indicator to show that the vehicle has received a waiver if all of the following are complied with:

(1) The subject vehicle has failed the initial emission inspection, qualifying repairs have been completed and the subject vehicle has failed the retest.

(2) Emission control devices, as originally equipped, are installed. Vehicles with emission devices which are obsolete and cannot be obtained through the original equipment manufacturer, aftermarket manufacturers or suppliers of used parts are exempt from this paragraph.

(3) The amount spent on qualifying repairs shall:

(i) Be at least $450 adjusted annually in January by the percentage by which the Consumer Price Index for the current year differs from the 1989 Consumer Price Index.

(ii) Include parts costs and labor costs paid for qualifying emission repair services performed on the vehicle if paid by the vehicle owner and if the qualifying repairs were performed by a recognized repair technician. For qualifying emission repair services performed on pre-1980 vehicles, by someone other than a recognized repair technician, parts costs but not labor costs shall be counted toward the minimum cost limit. For qualifying emission repair services performed on 1980 and newer vehicles, by someone other than a recognized repair technician, neither parts costs nor labor costs may be counted

toward the minimum cost limit.

(iii) Be considered qualifying if they are appropriate to the cause of the test failure.

(iv) Exclude expenses which are incurred in the repair of emission control devices which are found to be tampered with, rendered inoperative, or not installed.

(v) Exclude costs recoverable under an emission warranty, insurance policy or prepaid maintenance agreement. These recoverable cost repairs shall be completed before necessary repair costs can be applied toward the waiver cost limitations. The operator of a vehicle within the statutory age and mileage coverage under section 207(b) of the Clean Air Act (42 U.S.C. 7525(b)) shall present a written denial of warranty coverage from the manufacturer or authorized dealer for this provision to be waived.

(vi) Exclude the fee for emission inspection.

(vii) Exclude charges for giving a written estimate of needed repairs.

(viii) Exclude charges for checking for the presence of emission control devices.

(ix) Exclude costs for repairs performed on the vehicle before the initial test failure.

(4) The vehicle owner or driver shall present the original of repair bills to the inspection station to demonstrate compliance with the qualifying dollar amount for that year. The bills shall:

(i) Include the name, address and phone number of the repair facility.

(ii) Describe the repairs that were performed.

(iii) State the labor and parts costs separately for each repair.

(5) Upon completion of waiver requirements and a visual check to determine that repairs were actually made, a certification of emission inspection, with a waiver indicator, shall be made for the subject vehicle.

(t) Onroad testing. Onroad testing of subject vehicles shall be conducted using RSD in each FIP I/M program area using a carbon monoxide (CO) cutpoint of 4 percent to screen for potential gross emitters. The onroad testing program will be aimed at identifying 10 percent of the subject fleet for follow-up, out-of-cycle confirmatory testing.

(1) Failure of onroad emission test. The owner or operator of a subject vehicle that fails an onroad emission test shall be notified by registered mail to report for an out-of-cycle confirmatory test. The notification of the need for confirmatory testing shall be received by the vehicle owner or lessee no later than 30 days prior to the confirmatory test deadline. If the subject vehicle does not have a valid emissions test waiver and fails the confirmatory test, the owner or operator shall have 30 days following the initial confirmatory test failure in which to have the failed vehicle repaired and retested. The vehicle owner or operator shall be notified of this obligation as part of the

initial RSD-failure notification process.

(2) Failure to produce proof of correction of onroad emission test failure. If the owner of the subject vehicle fails to comply with a notice of RSD failure within 30 days of receiving the notice by registered mail, a late penalty will be assessed at the time the vehicle is presented for confirmatory testing, or at the time of the next regularly scheduled test, whichever comes first. The late penalty is a $10 fee for each full week beyond the 30-day deadline after initial notification of the need for confirmatory testing.

(3) Failure to procure repairs and retest after initial confirmatory test failure. If a subject vehicle fails an initial confirmatory test and the owner or lessee fails to procure the necessary repairs and retest within 30 days of the initial confirmatory test failure, a late penalty shall be assessed at the time the vehicle is presented for retesting, or at the time of the next regularly scheduled test, whichever comes first. The late penalty is a $10 fee for each full week beyond the 30-day deadline for receiving a passing retest or waiver after the initial confirmatory test failure.

(u) Certified emission inspectors.

(1) General. Personnel who perform emission inspections at each emission inspection station operated by the test provider(s) shall be certified by the Administrator as emission inspectors. The emission inspection shall only be performed by certified emission inspectors.

(2) Certified emission inspector requirements. An inspector desiring to be certified shall:

(i) Be at least 18 years of age.

(ii) Have completed an emission inspection training course, approved by the Administrator, that includes, at a minimum, information on the following:

(A) The air pollution problem, including its cause and effects.

(B) The purpose, function and goal of the inspection program.

(C) Emission inspection regulations and procedures.

(D) Technical details of the test procedures and the rationale for their design.

(E) Emission control device function, configuration and inspection.

(F) Test equipment operation, calibration and maintenance.

(G) Quality control procedures and their purpose.

(H) Public relations.

(I) Safety and health issues related to the inspection process.

(iii) Passed a required written test addressing the above elements with a minimum of 80 percent correct test responses.

(iv) Demonstrated the ability to properly utilize test equipment and to follow other required procedures by means of a hands-on test addressing the complete emission inspection. The inability to properly conduct the test procedures shall

constitute failure of the test.

(v) Renew the certification every 2 years under procedures established by the Administrator.

(3) Identification. While conducting inspections, a certified emission inspector shall have in his/her possession a currently valid inspector certification card issued by the Administrator.

(v) Test provider(s) obligations and responsibilities.

(1) Personal liability. The test provider(s) or those acting as agents of the test providers(s) shall assume full responsibility for:

(i) Conducting the business of the official emission inspection station honestly and in a manner consistent with this section, and making every reasonable effort to inspect all vehicles upon request.

(ii) Making official emission inspection regulations and supplements available for the use of certified emission inspectors and other employees involved in the emission inspection process.

(iii) Notifying EPA and the oversight contractor when a certified emission inspector is hired, resigns or is dismissed.

(iv) Maintaining emission inspection records for examination by EPA or the oversight contractor.

(v) Providing the vehicle emission inspection test report to motorists after testing and having the repair requirements stated on a form provided to the vehicle owner or operator.

(vi) Insuring full compliance with this section with respect to:

(A) Every emission inspection conducted at the emission inspection station.

(B) Every emission inspection waiver issued at the emission inspection station.

(C) Every certification of emission inspection made to and by each emission inspection station.

(D) Every provision of this section related to emission inspections performed by an employee of the emission inspection station.

(E) Assuring the proper maintenance and calibration of emission inspection equipment according to procedures established in EPA's high-tech procedures guidance.

(F) Completing and retaining emission equipment maintenance and calibration records as required by EPA.

(G) Placing emission equipment out of service when calibration cannot be performed.

(H) Maintaining computer records of each inspection.

(I) Making records available to EPA or the oversight contractor during periodic station audits.

(2) Emission test data. The requirements for data collection and transmission shall be as specified in the agreement between the Administrator and the test provider(s).

(3) Repair performance monitoring. The test provider(s) shall be responsible for collecting and maintaining emission

repair information concerning subject vehicles that have failed the emission inspection and have been returned for a retest. The particulars of this requirement will be detailed in the agreement between the EPA Administrator and the test provider(s).

(w) Quality control.

(1) Quality control requirements for test provider(s). Quality control measures shall be implemented by the test provider(s) and shall ensure that emission measurement equipment is calibrated and maintained according to the procedures in this section and in the agreement between the EPA Administrator and the test provider(s). Inspection, calibration records and control charts shall be accurately created and recorded and maintained as prescribed in this section and in the agreement between the Administrator and the test provider(s).

(2) General requirements. General requirements for quality control practices for test equipment shall be as follows:

(i) The practices described in this section, in the agreement and in 40 CFR part 51, subpart S, appendix A (relating to calibrations, adjustments and quality control), and EPA's high-tech procedures document shall be followed.

(ii) Preventive maintenance on inspection equipment shall be performed on a periodic basis, as provided by in the agreement between the Administrator and the test provider(s) consistent with the equipment manufacturer's requirements.

(iii) To assure quality control, computerized analyzers shall automatically record quality control check information,

lockouts, attempted tampering with test equipment and circumstances which require a service representative to work on the equipment.

(iv) To assure test accuracy, equipment shall be maintained according to demonstrated good engineering practices.

(v) Computer control of quality assurance checks and quality control charts shall be used whenever possible.

(3) Requirements for transient exhaust emission testing equipment. Calibration and maintenance procedures for transient exhaust emission testing equipment shall be conducted as specified in EPA guidance and regulation.

(4) Requirements for the purge analysis system. Calibration and maintenance procedures for the purge analysis system shall be conducted as specified in EPA guidance and regulation.

(5) Requirements for evaporative system pressure test equipment. Calibration and maintenance procedures for evaporative system pressure test equipment shall be conducted as specified in EPA guidance and regulation.

(x) Quality assurance.

(1) Performance audits. The oversight contractor(s) will conduct performance audits on a periodic basis to determine whether inspectors are correctly performing the tests and other required functions.

(i) Performance audits shall be of two types:

(A) Overt performance audits which shall include the

following:

(1) A check for appropriate document security.

(2) A check to see that required recordkeeping practices are being followed.

(3) A check for licenses or certificates and other required display information.

(4) Observation and written evaluation of each inspector's ability to properly perform an inspection.

(B) Covert performance audits which shall include the following:

(1) Remote visual observation of inspector and inspection station personnel performance, which may include the use of binoculars or video cameras.

(2) Site visits using covert vehicles presented for inspection.

(3) Other activities deemed appropriate by the EPA Administrator.

(ii) The test provider(s) and the employees of the test provider(s) shall make available information requested by the oversight contractor(s) and shall fully cooperate with the oversight contractor's personnel who conduct the audits and other authorized EPA representatives or agents.

(2) Document security. Measures shall be taken to maintain the security of documents and/or instrumentation by which compliance with the inspection requirements is established.

(y) Penalties for test provider(s). The test provider(s)

shall assume full responsibility, with or without actual knowledge, for the complete operation of an official emission inspection station, including the actions of emission inspectors. Failure to comply with the appropriate provisions of this section or the provisions prescribed in the agreement between the Administrator and the test provider(s) will be considered sufficient cause for imposing civil penalties for violation of the applicable implementation plan or damages under the contract, as applicable. In addition thereto, intentional violations may be subject to criminal prosecution where they meet the grounds for prosecution under any federal criminal statute.

(z) Penalties for emission inspectors.

(1) An emission inspector shall assume full responsibility for his/her acts as an emission inspector. Failure to comply with the appropriate provisions of this section will be considered sufficient cause for suspension of an emission inspector's certification. In addition, intentional violations may also be subject to criminal prosecution where they meet the grounds for prosecution under any federal criminal statute. After providing the emission inspector with an opportunity for a hearing, the Administrator may impose suspensions or penalties upon the emission inspector for the following categories of offenses:

(i) Category 1.

(A) Issuance or possession of altered, forged, stolen or counterfeit certificates of emission inspection.

(B) Furnishing, lending, giving, selling or receiving a certificate of emission inspection without inspection.

(C) Fraudulent recordkeeping.

(D) Fraudulent inspection.

(ii) Category 2.

(A) Improper recordkeeping.

(B) Improper inspection.

(C) Improper assigning of certificate of emission inspection.

(2) Duration of Suspension.

(i) Category 1.

(A) First offense: 1 year.

(B) Second offense: permanent.

(ii) Category 2.

(A) First offense: 3 months.

(B) Second offense: 6 months.

(C) Third offense: 1 year.

(3) Multiple violations. Violations affecting more than one vehicle will be treated as separate violations.

(4) Opportunity for an EPA hearing. Except for a penalty or sanction imposed directly under the terms of the agreement between the EPA Administrator and the test provider(s), a person charged with a violation of this section shall have the right to request a hearing regarding the charges.

§52.2964 Importation of light-duty and medium-duty vehicles into

California.

(a) The State of California may not permit California residents (including corporations, companies, partnerships, etc.) to register for the first time in California any vehicle that was previously registered in another state, unless that vehicle was originally certified to applicable standards contained in §52.2962 for medium-duty vehicles or the California LEV program for light-duty vehicles.

(b) California residents may not own and keep a vehicle in California that is currently registered in another state.

(c) Operators of government fleets based in California, including those on military installations, shall not procure for use in California or import for the first time vehicles that are not certified to applicable standards contained in §52.2962 for medium-duty vehicles or to the California LEV standards.

(d) As exceptions to paragraphs (a), (b), and (c) of this section;

(1) The State of California may allow new residents to California (defined as residents of California for less than three months) to register a vehicle, over 7500 miles, that they had previously registered for at least three months in another state while a resident of that state.

(2) This section does not apply to any vehicle owned by any person who, pursuant to military orders or within three years following the date of discharge from or release from active duty in the armed forces of the United States, enters California for

the purpose of establishing or reestablishing residence or accepting gainful employment, if the vehicle was acquired by the owner in another jurisdiction where those military orders required the owner's presence.

(3) The State of California may allow law enforcement agencies to register court-awarded vehicles which have not been certified to California standards for the purpose of conducting undercover operations.

(4) The State of California may allow California residents to register vehicles which are operated or moved over the highway primarily for the purpose of historical exhibition or other similar purpose.

(5) Military fleet vehicles brought into California for military training for not more than 180 calendar days within a one-year period commencing on the date of first importation and military vehicles brought into California as part of the Prepositioned War Reserve Material Stock are excluded from the requirements of this section.

(6) State and local emergency vehicles, and vehicles required for public safety, civil unrest, or national security emergencies are excluded from this section;

(7) Vehicles that are otherwise excluded from or granted a national security exemption from federal emission standards are excluded from the requirements of this section.

(8) This section does not apply to any commercial vehicle registered for interstate travel unless such vehicle is operated

exclusively in California.

(e) Implementation Date. This program shall be implemented on January 1, 1998 for medium-duty vehicles and January 1, 1999 for light-duty vehicles.

§52.2965 Engine Recertification Program.

(a) General Applicability. Heavy-duty on-highway engines subject to the standards and requirements contained in § 52.2966 shall be subject to the requirements contained in this section.

(b) Definitions and abbreviations. The definitions and abbreviations of parts 86 and 89 of this chapter, the definitions contained in § 52.2966(b), and the definitions contained in the Clean Air Act apply to this section unless a term is also defined in this section.

Engine recertifier means a person(s) that certifies to EPA that the engine configuration that results from performing a set of engine restoration procedures will meet applicable original engine emissions standards for the useful life renewal period.

Engine restoration procedures means actions deemed necessary by an engine recertifier to ensure that the engine meets the original emissions standards for that engine over the useful life renewal period. Actions include but are not limited to engine and emissions control system parts or components inspections and/or replacements, specifications checks, and calibration checks and/or adjustments.

MOD Director means Director of Manufacturers Operations

Division, Office of Mobile Sources, Office of Air and Radiation of the Environmental Protection Agency.

Office Director means Director of Office of Mobile Sources, Office of Air and Radiation of the Environmental Protection Agency.

Original emissions standards means the exhaust and evaporative emissions standards (or family emissions limits as appropriate) that were applicable to the engine when it was first produced and sold.

Useful life renewal period means the period in years and miles specified by the engine recertifier over which the engine recertifier assumes emissions recall liability for those engines for which the recertifier issues a useful life renewal certificate.

(c) Owner Requirements. An owner of a vehicle equipped with an engine subject to the provisions of this section, at all times must be able to demonstrate that such engine is within:

(1) its original useful life, or

(2) the useful life renewal period as defined by the engine recertifier pursuant to paragraph (d) of this section. For on-highway engines past the end of their original useful life, the owner shall make this latter demonstration at time of vehicle registration by presenting the useful life renewal certificate furnished by the engine recertifier pursuant to paragraph (e) of this section to the California Department of Motor Vehicles. Failure to provide such certificate shall result in the denial of

vehicle registration.

(d) Useful Life Renewal Period. The engine recertifier shall define the useful life renewal period in years and miles over which the engine recertifier accepts liability for an engine(s) that does not conform to the engine's original emissions standards.

(e) Useful Life Renewal Certificate.

(1) The engine recertifier shall provide to the owner a certificate with each engine that is restored by the engine recertifier or his/her designee to the certified engine configuration using the engine restoration procedures specified pursuant to paragraph (f)(1) of this section. The certificate shall contain the following:

(i) the useful life renewal period,

(ii) the effective date and the odometer mileage of the useful life renewal period; and

(iii) the vehicle and engine identification numbers.

(2) The engine recertifier shall designate an office or officer to receive a copy of completed certificates. The certificates shall be stored in an organized and indexed file or the information required by paragraph (e)(1) of this section shall be entered into a computerized database completely and stored. The certificate or information in the database shall be stored for a period not less than the useful life renewal period measured from the date of engine restoration.

(f) Engine Recertification. Before the issuance of a useful

life renewal certificate for any engine within an engine family, the engine recertifier shall demonstrate for the engine family, compliance as follows:

(1) Engine Restoration Procedures. The engine recertifier shall establish a complete set of engine restoration procedures for the engine family as follows:

(i) List and describe all engine restoration procedures that will be applied to every engine before the issuance of a useful life renewal certificate for that engine;

(ii) List and describe all engine restoration procedures that will be applied to an engine if objective criteria indicates that the procedures are necessary. Describe the objective criteria for each procedure and provide data or engineering rationale that demonstrates that the objective criteria provides reasonable certainty of emissions control over the useful life renewal period;

(iii) List and describe all emissions related components not being replaced and rationale as to why their replacement is unnecessary;

(2) Emissions testing and results. Emissions testing shall be conducted using the new engine certification testing procedures specified in § 52.2966 (d). Emissions testing must be carried out using representative production equipment as provided in paragraph (f)(3) of this section. Such testing shall be designed and conducted in accordance with good engineering practices. The test results shall ensure that engines for which

useful life renewal certificates are issued will comply with the original emissions standards applicable to the engine family over the useful life renewal period.

(3) Emissions test engine. The test engine shall be an engine that is a member of the engine family and that is at or beyond the end of its original useful life. The test engine shall be subject to the engine restoration procedures specified by the engine recertifier pursuant to paragraph (f)(1) of this section before testing. No other maintenance or adjustments shall be performed on the test engine.

(4) Test fuel. All emissions testing shall be performed using the same fuel used for new engine certification as specified in § 52.2966(e).

(5) Component selection. All replacement components used to restore a certification test engine to the configuration being certified shall be representative production parts and components selected in a random manner.

(6) Replacing original equipment parts. Changes to an engine shall not result in the permanent removal or rendering inoperative of any original equipment emission related part other than the part(s) being replaced. Furthermore, engine changes shall not cause or contribute to an unreasonable risk to the public health, welfare or safety, or result in any additional range of parameter adjustability or accessibility to adjustment than that of the manufacturer's emission related part.

(7) Effects on engine on-board diagnostic system. Changes

to an engine shall not alter or render inoperative any feature of the on-board diagnostic system incorporated by the engine manufacturer. The engine configuration being certified may integrate with the existing diagnostic system if it does not alter or render inoperative any features of the system.

(g) In-use Recall. Engines restored to an engine configuration certified pursuant to paragraph (f) of this section within its useful life renewal period, shall be subject to the recall provisions contained in 40 CFR part 85, subpart S. EPA may conduct recall testing throughout the useful life renewal period.

(h) Request for certification.

(1) Prior to the issuance of any useful life renewal certificate, the engine recertifier's request for certification must be approved by the MOD Director.

(2) All requests shall include:

(i) Identification of the engine family including make(s), engine model(s), model year(s), engine size(s) and all other specific configuration characteristics;

(ii) A complete set of the engine restoration procedures established by the engine recertifier pursuant to paragraph (f)(1) of this section;

(iii) All results and documentation of emissions tests and procedures used by the engine recertifier as evidence of compliance with the requirements of paragraph (f)(2) and (f)(4) of this section;

(iv) A description of the test engine selection criteria used, and rationale that supports the technical judgment of the engine recertifier that the engine meets the requirements of paragraph (f)(3) of this section. A list of the engine restoration procedures performed on the test engine pursuant to paragraph (f)(3) of this section;

(v) A description of the test replacement part selection criteria used, and a statement that the replacement parts used for certification testing is representative production equipment consistent with paragraph (f)(5) of this section;

(vi) Results of emissions testing and an engineering analysis showing that engines can be expected to remain in compliance with their original emissions standards over the useful life renewal period;

(vii) A copy of the warranty to be provided to the owner;

(viii) A copy of the written instructions for proper maintenance and use of the engine during the useful life renewal period;

(ix) A copy of the useful life renewal certificate to be provided to the owner pursuant to paragraph (e) of this section;

(x) A statement of commitment and willingness to comply with all the relevant terms and conditions of this section;

(xi) A statement by the engine recertifier that the engine restoration procedures will not cause a substantial increase to engine emissions in any normal operating mode not represented during certification testing; and

(xii) The office or officer of the engine recertifier authorized to receive correspondence regarding certification requirements pursuant to this subpart.

(3) The request for certification shall be signed by an officer of the engine recertifier attesting to the accuracy and completeness of the information supplied in the request.

(4) Requests for certification shall be by certified mail or another method by which date of receipt can be established.

(5) Two complete and identical copies of the request for certification and any subsequent industry comments on any such request shall be submitted by the engine recertifier to: Director, MOD (6405J), Attention: Engine Recertification, 401 "M" Street SW, Washington, DC 20460.

(i) [Reserved].

(j) Objections to certification.

(1) At any time prior to certification, the MOD Director may notify the engine recertifier that its application for certification shall not be approved pending further investigation. The basis upon which this notification shall be made may include, but not be limited to, information or test results submitted by the engine recertifier including:

(i) The test procedure used to demonstrate compliance with the applicable emissions standards does not meet the requirements of paragraph (f) of this section;

(ii) Use of the candidate engine configuration could cause or contribute to an unreasonable risk to public health, welfare

or safety in its operation or function;

(iii) Installation of the candidate replacement parts requires procedures or materials which would likely cause such parts to be improperly installed under normal conditions or would likely result in an engine being misadjusted; or

(iv) Information and/or data required to be in the Request for Certification as provided by paragraph (h) of this section have not been provided or may be inadequate.

(2) The engine recertifier must respond in writing to the statements made in the notification by the MOD Director, or the MOD Director shall deny the request for certification.

(3) The MOD Director may, at his or her discretion, allow oral presentations by the engine recertifier.

(4) If notification has been provided to an engine recertifier pursuant to paragraph (j) of this section, the MOD Director shall, after reviewing all pertinent data and information, render a decision and inform the engine recertifier in writing as to whether such engine configuration may be certified and, if so, under what conditions the engine configuration may be certified. The written decision shall include an explanation of the reasons therefor.

(i) The decision by the MOD Director shall be provided to the engine recertifier after receipt of all necessary information by the recertifier or interested parties, or of the date of any oral presentation regarding the certification, whichever occurs second.

(ii) Within 20 days of receipt of a decision made pursuant to paragraph (j)(4)(i) of this section, any party may file a written appeal to the Office Director. The Office Director may, in his or her discretion, allow additional oral or written submissions, prior to rendering a final decision.

(iii) If no party files an appeal with the Office Director within 20 days, then the decision of the MOD Director shall be final.

(iv) The Office Director shall make a final decision regarding the certification of engine configuration after receipt of all necessary information by the engine recertifier or from the date of any oral presentation, whichever occurs later.

(k) Changes after certification. The engine recertifier shall submit another request for certification if any modifications are made to the engine restoration procedures that affects the emissions or the capability of the resultant engine configuration to meet any other requirement of this section.

(l) Labeling requirements.

(1) After engine restoration procedures are performed, the engine recertifier or his/her designee shall affix a label to the resultant engines which states, "Recertified to EPA Emissions Standards," and contains:

(i) identification of the engine configuration;

(ii) the useful life renewal period provided by the certifier pursuant to paragraph (d) of this section; and

(iii) a place to record the date and the mileage (or hours)

of the useful life renewal period. The label containing the information must be made durable and readable for at least the useful life renewal period.

(2) The recertifier or his/her designee shall ensure that the label is filled in completely, that all of the information entered on the label is accurate and complete, and that the label is securely affixed to the engine after engine restoration procedures are completed.

(m) Maintenance and submittal of records by engine recertifiers.

(1) For each certified engine configuration, the engine recertifier must establish, maintain and retain for 3 years from the date of certification the following adequately organized and indexed records:

(i) Detailed production drawings showing all dimensions, tolerances, performance requirements and material specifications and any other information necessary to completely describe the engine configuration;

(ii) All data obtained during testing of the engine configuration and subsequent analyses based on that data, including the mileage and the vehicle or engine configuration determinants;

(iii) A description of the quality control plan used to monitor engine restoration and ensure the compliance of in-use engines with the applicable requirements;

(iv) All data taken in implementing the quality control

plan, and any subsequent analyses of that data; and

(v) All in-service data, analyses performed by the engine recertifier and correspondence with rebuilders, vendors, distributors, consumers, retail outlets or engine manufacturers regarding any design, production or in-service problems associated with 25 or more engines of the same engine configuration.

(2) The records required to be maintained in paragraph (m)(1) of this section shall be made available to the Agency upon the written request of the MOD Director.

(n) Decertification.

(1) The MOD Director may notify an engine recertifier that the Agency has made a preliminary determination to decertify a certain engine configuration.

(i) Such a preliminary determination may be made if there is reason to believe that the engine configuration has failed to comply with the requirements of this section. Information upon which such a determination will be made includes but is not limited to the following:

(A) The engine configuration was certified on the basis of emissions tests, and the procedures used in such tests were not in substantial compliance with a portion or portions of the test procedures required to be used pursuant to paragraph (f)(2) of this section; or

(B) Use of the certified engine configuration is causing emissions to exceed any in-use emission standard; or

(C) Use of the engine configuration causes or contributes to an unreasonable risk to public health, welfare or safety or severely degrades driveability operation or function; or

(D) The engine configuration has been modified in a manner requiring its recertification pursuant to paragraph (k) of this section; or

(E) The engine recertifier has not established, maintained or retained the records required pursuant to paragraph (m)(1) of this section or fails to make the records available to the MOD Director upon written request pursuant to paragraph (m)(2) of this section.

(ii) Notice of a preliminary determination to decertify shall contain:

(A) A description of the noncomplying engine configuration;

(B) The basis for the MOD Director's preliminary decision; and

(C) The date by which the certifier must:

(1) Terminate the issuance of useful life renewals; or

(2) Make the necessary change (if so recommended by the Agency); or

(3) Request an opportunity in writing to dispute the allegations of the preliminary decertification.

(2) If the engine recertifier requests an opportunity to respond to the preliminary determination, the manufacturer and other parties interested in the MOD Director's decision whether to decertify the engine configuration shall, within 15 days of

the date of the request, submit written presentations, including the relevant information and data, to the MOD Director. The MOD Director, in his or her discretion, may provide an opportunity for oral presentations.

(i) Any interested party may request additional time to respond to the information submitted by the engine recertifier. The MOD Director upon a showing of good cause by the interested party may grant an extension of time to reply up to 30 days.

(ii) The engine recertifier may have an extension of up to 30 days to reply to information submitted by interested parties. Notification of intent to reply shall be submitted to the MOD Director within 10 days of the date information from interested parties is submitted to the MOD Director.

(3) If a engine recertifier has disputed the allegations of the preliminary decisions, the MOD Director shall, after reviewing any additional information, notify the engine recertifier of his or her decision whether the engine configuration may continue to be sold as certified. This notification shall include an explanation upon which the decision was made and the effective date for decertification, where appropriate.

(4) Within 20 days from the date of a decision made pursuant to paragraph (n)(3) of this section, any adversely affected party may appeal the decision to the Office Director.

(i) A petition for appeal to the Office Director must state all of the reasons why the decision of the MOD Director should be

reversed.

(ii) The Office Director may, in his or her discretion, allow additional oral or written testimony.

(iii) If no appeal is filed with the Office Director within the permitted time period, the decision of the MOD Director shall be final.

(5) If a final decision is made to decertify an engine configuration under paragraph (n)(4) of this section, the engine recertifier shall notify his or her immediate customers that, as of the date of the final determination, the engine configuration in question has been decertified. The engine recertifier shall offer to replace engines of the decertified engine configurations in the customer's inventory with certified replacement engines or, if unable to do so, shall at the customer's request repurchase such inventory at a reasonable price.

(6) Notwithstanding the requirements of paragraph (n)(5) of this section, an engine restored prior to decertification, shall be considered certified pursuant to this section.

§52.2966 Heavy-duty on-highway engine and vehicle program.

(a) General applicability. New 2002 and later model year engines used in heavy-duty vehicles that are registered exclusively in California or that are offered for sale in California shall meet applicable standards and requirements specified in 40 CFR part 86 subpart A except where otherwise provided in paragraphs (c) and (d) of this section. Exclusions

or exemptions from the requirements of this section and §52.2965 are permitted by EPA only as specified in §52.2972.

(b) Definitions and abbreviations.

The definitions and abbreviations of parts 86 and 88 of this chapter and the definitions contained in the Clean Air Act apply to this section unless a term is also defined in this section.

Heavy-duty vehicle means a vehicle with a gross vehicle weight rating above 14,000 pounds.

New, when applied to motor vehicles, means a motor vehicle, the equitable or legal title to which has never been transferred to an ultimate purchaser. It is conclusively presumed that the equitable or legal title to a motor vehicle, other than a motorcycle, with an odometer reading of 7,500 miles or more, has been transferred to an ultimate purchaser, and that the equitable or legal title to a motor vehicle, other than a motorcycle, with an odometer reading of less than 7,500 miles has not been transferred to an ultimate purchaser.

(c) Emission standards. For the purposes of certification, selective enforcement audit, and recall testing, emissions shall not exceed the following:

(1) Exhaust nonmethane hydrocarbons. 0.4 grams per brake horsepower-hour.

(2) Oxides of nitrogen. 2.0 grams per brake horsepower-hour.

(d) Test procedures.

(1) The exhaust emission standards refer to the exhaust

emissions collected under the conditions and measured in accordance with the procedures set forth in 40 CFR part 86, subpart N, except as specified in paragraph (e) of this section.

(2) Evaporative emissions standards refer to evaporative emissions collected under the conditions and measured in accordance with the procedures set forth in 40 CFR part 86, supbart M, except as specified in paragraph (e) of this section.

(e) Test fuels and temperatures.

(1) All certification, assembly line, and recall testing performed on vehicles and engines covered under this section shall use the test fuels specified in California test procedures as referenced in §1956.8 of Title 13 of the California Code of Regulations. Assembly line and recall testing shall use the same type of fuel as used in certification testing.

(2) The test procedure shall be run with the following modifications to temperature specifications. The diurnal emission testing described in 86.1233-96 shall be run by stabilizing the vehicle at 65° F and cycling ambient temperatures between 65° and 105°F over 24-hour cycles. Running loss tests described in 86.1234-96 shall be run by stabilizing the ambient and fuel temperatures at 105° F. Ambient temperatures shall be held at 105° F throughout the running loss test. Fuel temperatures shall be controlled to match the vehicle's fuel temperature profile (see 40 CFR 86.1229-85), adjusted for a 105° F starting temperature.

(f) Recall and assembly line testing. Engines certified to

the standards set forth in this section shall be subject to the recall provisions described in 40 CFR part 85 subpart S and the assembly line testing procedures set forth in 40 CFR part 86, subpart K, except as specified in paragraph (e) of this section.

§52.2967 Importation of Heavy-Duty Vehicles into California.

(a) The State of California may not permit California residents (including corporations, companies, partnerships, government entities, including military installations, etc.) or new residents to register for the first time in California any 2002-2003 model year heavy-duty vehicle unless the engine complies with the emissions standards specified in §52.2966. Any commercial vehicle which is registered for interstate travel is exempt from this paragraph.

(b) California residents may not operate a model year 2002 or 2003 heavy-duty vehicle exclusively in California if that vehicle is currently registered for interstate travel, unless the vehicle meets the emissions standards contained in §52.2966.

(c) Operators of government fleets based in California, including those on military installations, shall not procure for use in California or import for the first time vehicles that do not meet the emissions standards contained in §52.2966.

(d) As exceptions to paragraphs (a),(b), and (c) of this section;

(1) The State of California may allow a new resident of California (defined as a resident of California for less than

three months) to register a heavy-duty vehicle (one vehicle per person), with over 7500 miles, which was previously registered in another state for at least one year while the owner was a resident of that state;

(2) Military fleet heavy-duty vehicles brought into California for military training for not more than 180 calendar days within a one-year period commencing on the date of first importation and military vehicles brought into California as part of the Prepositioned War Reserve Material Stock are excluded from this section;

(3) State and local emergency heavy-duty vehicles, and vehicles required for public safety, civil unrest, or national security emergencies are excluded from this section;

(4) Vehicles that are otherwise excluded from or granted a national security exemption from federal emission standards are excluded from this section.

(e) Implementation date. This program shall be implemented on January 1, 2002, and shall terminate on January 1, 2004.

§52.2968 [Reserved]

§52.2969 [Reserved]

§52.2970 Commercial Aircraft Operations.

(a) Definitions.

Aircraft docking location means the location at which a commercial aircraft is parked, either at a gate or on the apron, to load or unload passengers and/or cargo, to service the

aircraft, or for overnight parking at a civil airport.

APU operating time means the docking time registered on the APU hour meter, or the total time the APU operates, from the moment the aircraft parks at a docking location until the aircraft departs from the docking location.

Auxiliary power unit (APU) means the small turbine engine installed on an aircraft to provide a backup system that supplies electrical, hydraulic, and/or pneumatic power for the aircraft's operating systems and to start the aircraft's main engines.

Brake horsepower (BHP) means the maximum continuous power delivered at the crankshaft of a GSE engine.

Commercial aircraft means an aircraft which is operated by a person with an FAA Certificate to operate pursuant to 14 CFR Parts 121, 125, 127, 129, or 135 and offers its services, for compensation or hire, engages in the carriage by aircraft in air commerce of persons or property, and is responsible for the operations of a particular fleet of aircraft that operates into and out of a civil airport of the FIP areas; and

Commercial aircraft operator means a person who operates a commercial aircraft.

Civil airport means an airport in the FIP areas operated under an airport operating certificate issued by the Administrator of the Federal Aviation Administration under 14 CFR Part 139.

Civil airport operator means an individual or organization who operates a civil airport.

Emergency back-up means equipment reserved for an unexpected, non-routine situation that requires prompt action.

Emergency response means reaction to an unexpected, non-routine event or situation that requires prompt action to prevent or remedy an unsafe condition.

Ground service equipment (GSE) means any on-airport mobile equipment that services commercial aircraft during passenger and cargo loading and unloading or during aircraft maintenance, or provides other services at the airport, including but not limited to:

Aircraft Tugs - Tow aircraft in the terminal gate area. They also tow aircraft to and from hangers for maintenance.

Air-Conditioning Units - Provide conditioned air to ventilate and cool parked aircraft.

Air Start Units - Provide large volumes of compressed air to an aircraft's main engines for starting.

Baggage Tugs - Haul baggage between aircraft, between the aircraft and the terminal or between the aircraft and a cargo or freight holding area.

Belt Loaders - Mobile conveyor belts used to move baggage between the ground and the aircraft hold.

Bobtail Tractors - truck bodies that have been specially modified to tow trailers and equipment.

Buses - Vehicles used to transfer personnel around the airport and could include crew buses and buses that service parking lots.

Cargo Loaders - Equipment employed to load large packages, containers, and other cargo into the aircraft.

Cars - Conventional automobiles used to transport maintenance, administrative, and security personnel around the airport.

Carts - Small vehicles used to shuttle personnel and small loads around the airport.

Deicers - Vehicles used to transport, heat, or spray deicing fluid.

Forklifts - Vehicles with a pronged platform used to lift and carry heavy loads.

Fuel Trucks - Vehicles used to provide fueling service to aircraft. At larger airports these are generally hydrant trucks, which include filters and hoses to hook up to the airport central fueling hydrant. At other airports, this category could include trucks with fuel tanks.

Ground Power Unit (GPU) - Mobile ground-based generator units that supply aircraft with electricity while they are parked at the airport.

Lav Carts - Small vehicles used to service aircraft lavatories. Lav carts, which do not have engines that provide propulsion, include engines to operate the on-board pumps.

Lav Trucks - Trucks with tanks used to service aircraft lavatories. The engine used for propulsion commonly is used to power other truck auxiliaries.

Lifts - Equipment employed to lift baggage, containers,

cargo, and other heavy loads onto and off of aircraft. This category includes aerial lifts.

Maintenance Trucks - Conventional pick up-style trucks modified to carry maintenance equipment and tools for servicing aircraft and other vehicles on the airport.

Other - This is a category that includes small miscellaneous types of equipment commonly found on airports such as compressors, scrubbers, sweepers, and specialized units.

Pickup Trucks - Conventional trucks used for miscellaneous transportation service around airports.

Service Trucks - This is a category of larger equipment, generally specially modified trucks, used to service aircraft at airports. This category includes cabin service and food service vehicles.

Vans - Conventional vans used to transfer personnel around the airport and could include crew buses and buses that service parking lots. This category could include minitrams and some specialty maintenance vehicles.

Water Trucks - These are trucks that transfer water onto the aircraft.

GSE operator means any owner or person responsible for the operation of GSE that operates at the civil airports in the FIP areas.

Heavy-duty GSE vehicle for the purposes of this regulation means a heavy-duty vehicle as defined in 40 CFR 52.2966.

Light-duty GSE vehicle for the purposes of this regulation

means a light-duty vehicle as defined in 40 CFR 52.2963.

Maintenance position means any aircraft docking location where aircraft are serviced, other than docking locations used for loading and unloading passengers and/or cargo.

Medium-duty GSE vehicle for the purposes of this regulation means a medium-duty vehicle as defined in 40 CFR 52.2962.

Ozone season for the purposes of this section means:

March 1 through October 31 for the South Coast control area as defined in 40 CFR 81.305;

April 1 through October 31 for the Ventura control area as defined in 40 CFR 81.305; and

May 1 through October 31 for the Sacramento control area as defined in 40 CFR 81.305.

Permanent airport terminal means a fixed enclosed structure, on a foundation, used to deliver services to customers of an airport.

Remote gate means any regular aircraft docking location used to load or unload passengers and/or cargo that is not immediately adjacent to or contiguous with a permanent airport terminal.

(b) Civil Aviation Control Measures.

(1) Applicability.

(i) The provisions of this section shall apply to all commercial aircraft operators, GSE operators, and civil airport operators with operations in the South Coast, Ventura, and Sacramento control areas as defined in 40 CFR 81.305.

(2) Specific Provisions.

(i) Electricity Supply Infrastructure. Each civil airport operator shall insure that the electricity supply requirements necessary for recharging electrically operated GSE and operating fixed 400 Hz power and preconditioned air (PCA) units are available at a point of custody transfer to GSE operators and commercial aircraft operators as necessary to meet the requirements of paragraphs (b)(2)(ii) and (b)(2)(iii) of this section.

(ii) Conversion of Ground Service Equipment. Each GSE operator shall ensure that the following minimum percentages of its GSE fleet is powered solely by zero-emission engines on the following schedule:

(A) For non-exempt GSE other than those subject to paragraph (b)(ii)(B) of this section:

(1) By May 15, 1997, 44 percent of the GSE operator's total non-exempt GSE shall be powered solely by zero-emission engines;

(2) By January 1, 2000, 62 percent of the GSE operator's total non-exempt GSE shall be powered solely by zero-emission engines;

(3) By January 1, 2005, 90 percent of the GSE operator's total non-exempt GSE shall be powered solely by zero-emission engines; and

(4) By January 1, 2010, 100 percent of the GSE operator's total non-exempt GSE shall be powered solely by zero-emission engines.

(5) For the purposes of this section, zero-emission engines

have a standard of zero emissions for nonmethane hydrocarbons, oxides of nitrogen, carbon monoxide, formaldehyde, and particulates.

(6) GSE subject to the provisions of this section shall be certified as being powered by a zero-emission engine if it is determined by engineering analysis that the vehicle satisfies the following conditions:

(i) The vehicle fuel system(s) must not contain either carbon or nitrogen compounds (including air) that, when burned, form nonmethane hydrocarbons, oxides of nitrogen, carbon monoxide, formaldehyde, or particulates as exhaust emissions.

(ii) All primary and auxiliary equipment and engines must have no emissions of nonmethane hydrocarbons, oxides of nitrogen, carbon monoxide, formaldehyde, and particulates.

(iii) The vehicle fuel system(s) and any auxiliary engine(s) must have no evaporative emissions.

(iv) Any auxiliary heater must not operate at ambient temperatures above 40 degrees Fahrenheit.

(B) For GSE powered by engines between 120 hp and 230 hp that are certified for onroad use, such vehicles must meet the following schedule:

(1) By January 1, 1999, 50 percent of the GSE operator's non-exempt light-duty GSE vehicles must meet ILEV evaporative emissions requirements pursuant to 40 CFR Part 52.2962(e);

(2) By January 1, 2000, 30 percent of the GSE operator's non-exempt medium- and heavy-duty GSE vehicles must meet ILEV

evaporative emissions requirements pursuant to 40 CFR Parts 52.2962(e) and §52.2966, as applicable; and

(3) By January 1, 2005, 100 percent of the GSE operator's non-exempt light-duty GSE vehicles and 100 percent of the GSE operator's non-exempt medium- and heavy-duty GSE vehicles must meet ILEV evaporative emissions requirements pursuant to 40 CFR Parts 52.2962(e) and §52.2966, as applicable.

(4) All other applicable state or federal fuel or anti-tampering provisions apply to GSE vehicles subject to paragraph (b)(2)(ii)(B)of this section.

(iii) APU Usage.

(A) As set forth herein, each commercial aircraft operator shall limit usage of APUs so that these units will not be operated at aircraft docking locations except for the following periods:

(1) Thirty seconds after docking upon arrival, signified by the earliest of the following events:

(i) pilot-in-command turning off the cabin seat belt sign;

(ii) aircraft door being opened;

(iii) parking brake being set;

(iv) "IN" reported via Aircraft Communications Addressing and Reporting Systems (ACARS); or

(v) in the absence of passengers, aircraft coming to a complete stop at an aircraft docking location; and

(2) Five minutes prior to aircraft departure and taxi to runway, signified by the latter of the following events:

(i) aircraft door being closed;

(ii) parking brake being released;

(iii) "OUT" reported via Aircraft Communications Addressing and Reporting Systems (ACARS); or

(iv) in the absence of passengers, aircraft initiating movement from an aircraft docking location.

(3) The provisions of paragraph (b)(2)(iii)(A) of this section shall apply only during the applicable ozone season.

(4) The provisions of paragraph (b)(2)(iii)(A) of this section shall become effective on the following schedule, but in no case earlier than May 15, 1997:

(i) May 15, 1997 for all aircraft docking locations at permanent airport terminals that are supplied with 400 Hz ground power and preconditioned air;

(ii) The first day of the first applicable ozone season following installation of 400 Hz ground power and preconditioned air pursuant to paragraph (b)(2)(iii)(B)(1) of this section, but no later than the first day of the applicable 1999 ozone season, for all aircraft docking locations at permanent airport terminals; and

(iii) The first day of the first applicable ozone season following installation of 400 Hz ground power and preconditioned air pursuant to paragraph (b)(2)(iii)(B)(2)of this section, but no later than the first day of the applicable 2002 ozone season, for all other aircraft docking locations including remote gates and maintenance positions.

(B) Each civil airport operator, or commercial aircraft operator with responsibility for maintenance of the physical structures of an aircraft docking location, subject to the provisions of this section shall provide fixed supplies of 400 Hz ground power and preconditioned air at all aircraft docking locations no earlier than May 15, 1997, but no later than the following:

(1) By the first day of the applicable 1999 ozone season, all aircraft docking locations at permanent airport terminals must be supplied with 400 Hz ground power and preconditioned air; and

(2) By the first day of the applicable 2002 ozone season, all other aircraft docking locations including remote gates and maintenance positions must be supplied with 400 Hz ground power, and all aircraft docking locations including remote gates and maintenance positions where passengers may be present must be supplied with preconditioned air.

(iv) Reporting.

(A) Recordkeeping. Each commercial aircraft operator and GSE operator subject to the provisions of this section shall maintain the following records of its operations:

(1) With respect to GSE operations, the operator shall maintain an inventory record of all of its ground service equipment and for each piece of equipment it shall record:

(i) equipment type and model;

(ii) chassis or vehicle ID number;

(iii) date when first put into operation in the FIP area for zero-emission units;

(iv) brake horsepower;

(v) fuel type (including electricity); and

(vi) if the equipment was converted, modified, or replaced, then provide the date of conversion, modification, or replacement for zero-emission units.

(2) With respect to APU usage, a commercial aircraft operator shall maintain a daily record during the ozone season of:

(i) aircraft registration and flight number;

(ii) APU hour meter time, or time recorded by aircraft crew, upon arrival at aircraft docking location as specified in paragraph (B)(2)(iii)(A)(1) of this section;

(iii) APU hour meter time, or time recorded by aircraft crew, when operations cease after aircraft docking as specified in paragraph (B)(2)(iii)(A)(1) of this section;

(iv) APU hour meter time, or time recorded by aircraft crew, when APU is first operated prior to departure from aircraft docking location as specified in paragraph (B)(2)(iii)(A)(2) of this section; and

(v) APU hour meter time, or time recorded by aircraft crew, at the time of departure from the aircraft docking location as specified in paragraph (B)(2)(iii)(A)(2) of this section.

(B) Reporting. Each commercial aircraft operator and GSE operator subject to the provisions of this section shall submit

annual reports to the Administrator on the covered activities. These reports shall include the following information:

(1) With respect to conversion of GSE under paragraph (b)(2)(ii) of this section, a GSE operator shall report, beginning in 1998, for each vehicle of its ground service equipment fleet:

(i) equipment type and model;

(ii) chassis (vehicle) ID number;

(iii) brake horsepower;

(iv) fuel type (including electricity); and

(v) the total number of non-exempt vehicles in its ground service equipment fleet and the percentage of the fleet's vehicles that are powered by zero-emission engines.

(2) With respect to APU usage during the ozone season under paragraph (b)(2)(iii)(A) of this section, a commercial aircraft operator shall report, beginning in 1998:

(i) the flight and registration number for the aircraft;

(ii) the date for the flight;

(iii) APU operating time upon arrival at airport docking location as specified in paragraph (B)(2)(iii)(A)(1) of this section; and

(iv) APU operating time prior to departure from aircraft docking location as specified in paragraph (B)(2)(iii)(A)(2) of this section.

(3) With respect to APU usage during the ozone season under paragraph (b)(2)(iii)(B) of this section, a civil airport

operator or commercial aircraft operator subject to paragraph (b)(2)(iii)(B) of this section shall report, beginning in 1998:

(i) a description of each aircraft docking location at the airport, including the following information:

the position of the docking location on the airport property (e.g., permanent terminal including gate number, apron, maintenance hangar, etc.);

the nature of activity at the docking location; and

the presence or absence of passengers commonly at the docking location.

(ii) the availability of 400 Hz ground power at each docking location;

(iii) the availability of preconditioned air at each docking location.

(4) Annual reports submitted pursuant to paragraph (b)(2)(iv)(B) of this section shall be submitted no later than March 1 of each calendar year describing covered activity during the control period of the preceding calendar year.

(5) The accuracy of all information submitted pursuant to this section shall be certified according to the requirements of paragraphs (b)(2)(iv)(C)(1)-(4) of this section.

(C) Certification.

(1) All annual reports submitted pursuant to this regulation shall be signed as follows:

(i) For a corporation by a responsible corporate officer. For the purposes of this regulation, a responsible vice-president

of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

(ii) For a partnership or sole proprietorship by a general partner or the proprietor, respectively.

(2) All annual reports and other supplemental information submitted pursuant to this regulation shall be signed by a person described in paragraph (C)(1) of this section, or by a duly authorized representative of that person. For the purposes of this regulation, a person is a duly authorized representative if:

(i) The authorization is made in writing by a person described in paragraph (D)(1) of this section;

(ii) The authorization specifies an individual or a position having responsibility for the overall operation of the regulated sources, or an individual or a position having overall responsibility for environmental matters for the company; and

(iii) The written authorization is submitted to the Administrator.

(3) If an authorization submitted under paragraph (C)(2) of this section is no longer accurate because of personnel changes or changes in authority, a new authorization satisfying the requirements of paragraph (C)(2) of this section must be submitted to the Administrator prior to or together with any reports or supplemental information signed by an authorized representative.

(4) Any person signing a document under paragraph (C)(1) or

(C)(2) of this section shall make the following certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(D) Commercial aircraft operators, GSE operators, and civil airport operators subject to the provisions of this section shall collect and record all information necessary to demonstrate compliance with the requirements of this section and maintain the information for a period of three (3) years.

(v) Compliance Determination.

(A) Compliance with paragraphs (b)(2)(i), (b)(2)(ii), and (b)(2)(iii) of this section shall be determined annually, using information provided in the annual report submitted pursuant to paragraph (b)(2)(iv)(B) of this section, by comparing the reported GSE and APU data to the performance standards set forth in paragraphs (b)(2)(i), (b)(2)(ii), and (b)(2)(iii) of this section.

(vi) Exemptions.

(A) Ground power units and air start units are exempt from

the provisions of paragraph (b)(2)(ii) of this section, but GSE operators shall use such equipment for emergency back-up requirements only.

(B) GSE powered by an engine of 20 BHP or less are exempt from the provisions of paragraph (b)(2)(ii) of this section, except for auxiliary engines on GSE otherwise subject to paragraph (b)(2)(ii) of this section.

(C) GSE used exclusively for emergency response actions are exempt from the provisions of paragraph (b)(2)(ii) of this section, but are subject to the requirements of §52.2963, §52.2965, §52.2966, and §52.2975, as applicable.

(D) APU use for requirements deemed critical to safe aircraft operation by the pilot-in-command while the aircraft is underway or away from the gate in the process of being dispatched shall be exempt from the provisions of paragraph (b)(2)(iii)(A) of this section.

(vii) Waivers.

(A) Civil airport operators or commercial aircraft operators subject to the provisions of paragraph (b)(2)(iii)(B) of this section who have secured funding for a major permanent airport terminal modification that conflicts with the requirements of that paragraph may request a waiver of compliance from that standard. Any waiver request shall be in writing to the Administrator and shall include the following information:

(1) A description of the nature and substance of the conflict between the major terminal modification and the

provisions of paragraph (b)(2)(iii)(B) of this section;

(2) A compliance schedule, including the date each step toward compliance will be reached; and

(3) Any other information the Administrator deems necessary for evaluation of the request.

(B) Based on the information provided in any request submitted in accordance with paragraph (b)(2)(vii)(A) of this section, the Administrator may grant a waiver of compliance.

(1) The waiver will be in writing and will --

(i) Identify the civil airport operator or commercial aircraft operator covered by the waiver;

(ii) Specify the termination date of the waiver;

(iii) Specify dates by which steps toward compliance are to be taken; and

(iv) Specify any additional conditions that the Administrator deems necessary to ensure compliance by the end of the waiver period.

(2) The Administrator will issue an acceptance or denial notice for a waiver request within 6 months of receiving the request.

(3) The Administrator may terminate the waiver at an earlier date than specified if any specification under paragraphs (b)(2)(vii)(B)(1)(iii) and (b)(2)(vii)(B)(1)(iv) of this section are not met.

§52.2971 Locomotives.

(a) National Rule.

(1) Freshly Manufactured Locomotives. EPA will finalize national rules for freshly manufactured locomotives and locomotive engines by December 1995. The national regulations shall consist of two tiers. The Tier I standards will take effect in 2000 and will achieve approximately a 50 percent NOx emission reduction relative to current locomotives and locomotive engines. The Tier II standards will take effect in 2005 and will achieve approximately a 65 percent NOx emission reduction relative to current locomotives and locomotive engines.

(2) Remanufactured Locomotives. EPA will finalize national rules for remanufactured locomotives and locomotive engines by December 1995 which will take effect in 2000 for locomotives and locomotive engines remanufactured after that date. For locomotives and locomotive engines originally manufactured between January 1, 1973 and December 31, 1999, the remanufacturing standards will result in an average NOx emission reduction of approximately 33 percent. For locomotives and locomotive engines which are originally manufactured in compliance with the Tier 1 and Tier 2 standards described in paragraph (a)(1) of this section, the remanufacturing standards will assure that those locomotives and locomotive engines will remain in compliance with those standards throughout their total service life.

(3) Definitions. (i) EPA will include in the national rule described in paragraphs (a)(1) and (a)(2) of this

section, definitions for locomotive, locomotive engine, operational level, railroad company and other terms whose definition is required for the purposes of compliance with the provisions of this section.

(ii) Traffic average means the arithmetic average of either the sum of the tons of freight moved in each of the two years preceding the year under analysis, or the sum of the passenger cars moved in each of the two years preceding the year under analysis.

(b) South Coast Fleet Emission Limit/Averaging Program.

(1) Growth. Each railroad company operating in the South Coast shall determine for each calendar year whether any growth has occurred in the freight traffic, measured as tons, or passenger traffic, measured as passenger cars, it moved into and out of the South Coast relative to its 1990 levels.

(i) If the average of the traffic moved in the two years prior to the year for which the calculation is performed is greater than the traffic moved in 1990, then growth will have been shown to have occurred, and the railroad may choose to comply under either paragraphs (b)(2) or (b)(3) of this section.

(ii) If the average of the traffic moved in the two years prior to the year for which the calculation is performed is equal to, or less than, the traffic moved in 1990, then no growth will have been shown to have occurred, and the railroad must comply under paragraph (b)(2) of this section.

(2) General Provisions - Railroad Companies Showing No

Growth.

(i) Except as contained in paragraph (b)(2)(ii) of this section, all railroads which show no growth, as defined in paragraph (b)(1), or two or more railroads which each perform the same function; *i.e.*, movement of freight, or intrastate passenger service beginning or ending in the South Coast, or interstate passenger service beginning or ending in the South Coast, which each individually show no growth and which choose to combine their operations for purposes of demonstrating compliance, must demonstrate a fleet average reduction in annual tons of NOx emissions, compared to the 1990 annual level, of:

(A) 50% for each of the years 2007, 2008 and 2009 if no growth is present in the traffic averages applicable to 2007, and no growth continues to be present in the traffic averages applicable to 2008 and/or 2009, and

(B) 60% in 2010, and later years, if no growth is present in the traffic averages applicable to 2010, and continues to be present in the traffic averages applicable to subsequent years.

(ii) Passenger Railroads. (A) The applicable dates and fleet average standards contained in paragraph (b)(2)(i) of this section shall apply to passenger railroads operating on intrastate routes (*i.e.*, routes which lie completely within California, and which also originate or terminate in the South Coast).

(B) Passenger railroads operating on interstate routes (*i.e.*, routes which originate or terminate in the South Coast but

which do not lie completely within California) must demonstrate a fleet average reduction in annual tons of NOx emissions, compared to the 1990 annual level, of:

(1) 50% for each of the years 2012, 2013 and 2014 if no growth is present in the traffic averages applicable to 2012, and no growth continues to be present in the traffic averages applicable to 2013 and/or 2014, and

(2) 60% in 2015, and later years, if no growth is present in the traffic averages applicable to 2015, and continues to be present in the traffic averages applicable to subsequent years.

(iii) Compliance. For purposes of showing compliance with paragraphs (b)(2)(i) and (b)(2)(ii) of this section, tons of NOx emissions shall be calculated as follows:

$$Tons_{NOx} = \sum_{i=1}^{n} (EL_i \times T_i \times P_i)$$

Where:

$Tons_{NOx}$ = Railroad Company total annual NOx emissions, in tons

EL_i = Emission level of each locomotive (i) owned or operated by the railroad company in g/bhp-hr, as determined by testing done for the national rule described in paragraph (a) of this section

T_i = Total time, in hours during the year, that each locomotive (i), owned or operated, by

the railroad company is operated in the South Coast

P_i = Locomotive rated power times percentage of rated power for the applicable service as determined from the applicable duty cycle established in the national rule described in paragraph (a) of this section

n = Number of locomotives that the railroad company operates in the South Coast

i = The ith locomotive in a railroad company's fleet

(3) General Provisions - Railroad Companies Showing Growth.

(i) Except as contained in paragraph (b)(3)(ii) of this section, all railroads which show growth, as defined in paragraph (b)(1), or two or more railroads which each perform the same function; *i.e.*, movement of freight, or intrastate passenger service beginning or ending in the South Coast, or interstate passenger service beginning or ending in the South Coast, which each individually show growth and which choose to combine their operations for purposes of demonstrating compliance, may choose to demonstrate a fleet average NOx emissions level, of:

(A) In 2007, 2008 and 2009, the operational level of locomotives which comply with the Tier I emission standard in the national rule described in paragraph (a)(1) of this section, and

(B) In 2010 and later years, the operational level of locomotives which comply with the Tier II emission standard in the national rule described in paragraph (a)(1) of this section.

(ii) Passenger Railroads.

(A) The applicable dates and fleet average standards contained in paragraph (b)(3)(i) of this section shall apply to passenger railroads operating on intrastate routes (*i.e.*, routes which lie completely within California, and which also originate or terminate in the South Coast).

(B) Passenger railroads operating on interstate routes (*i.e.*, routes which originate or terminate in the South Coast but which do not lie completely within California) may choose to demonstrate a fleet average NOx emissions level, of:

(1) In 2012, 2013, and 2014, the operational level of locomotives which comply with the Tier I emission standard in the national rule described in paragraph (a)(1) of this section, and

(2) In 2015 and later years, the operational level of locomotives which comply with the Tier II emission standard in the national rule described in paragraph (a)(1) of this section.

(iii) Compliance.

(A) For purposes of showing compliance with paragraphs (b)(3)(i) and (b)(3)(ii) of this section, fleet average NOx emissions shall be calculated as follows:

$$EL_{avg} = \frac{\sum_{i=1}^{n} (EL_i \times T_i)}{\sum_{i=1}^{n} T_i}$$

Where:

EL_{avg}	=	Railroad Company fleet average annual NOx emissions level, in g/bhp-hr
EL_i	=	Emission level of each locomotive (i), owned or operated, by the railroad company in g/bhp-hr, as determined by testing done for the national rule described in paragraph (a) of this section
T_i	=	Total time, in hours during the year, that each locomotive (i) owned or operated by the railroad company is operated in the South Coast
n	=	Number of locomotives that the railroad company operates in the South Coast
i	=	The ith locomotive in a railroad company's fleet

(B) For railroads showing growth, but which choose not to demonstrate compliance under paragraphs (b)(3)(i) or (b)(3)(ii) of this section, compliance shall be demonstrated under the requirements of paragraph (b)(2) of this section.

(4) <u>Fees and Noncompliance Penalties</u>.

(i) Any locomotive that EPA finds operating in the South Coast which is not on the list of locomotives expected to operate in the South Coast as required in paragraph (c)(1)(ii) of this section, or the emissions performance of which can not be established under the national rule as identified in paragraph (a) of this section shall be fined an amount not to exceed $25,000 per day, or part of a day, of improper operation in the South Coast.

(ii) A noncompliance penalty for each ton of emissions produced by a railroad company above its emission limit as provided for in paragraph (b)(2) of this section; *i.e. the no growth provisions*, shall be assessed at a rate of $10,000 per ton of emissions.

(c) Reporting and Record Keeping.

(1) Each owner or operator of a locomotive emission source which is subject to the provisions of paragraph (b) of this section, shall submit to the Administrator by October 1, of each calendar year, beginning in 2006 in the case of freight railroads and intrastate passenger railroads, and in 2011 in the case of interstate passenger railroads, a statement of the strategy it intends to use to comply with the provisions of paragraph (b) of this section for the following year. The statement shall include at a minimum:

(i) The calculation of growth contained in paragraph (b)(1) of this section, and

(ii) A list of all locomotives expected to operate in the

South Coast, their emission levels, and their estimated hours of operation in the South Coast.

(2) Each owner or operator of a locomotive emission source which is subject to the limitations of paragraph (b) of this section, shall submit to the Administrator by April 1, of each calendar year, beginning in 2008, in the case of freight railroads and intrastate passenger railroads, and in 2013 in the case of interstate passenger railroads, a certification of compliance with this rule for the previous calendar year. This certification shall include:

(i) A declaration that the company is in compliance with all the requirements of this section, and

(ii) Documentation of the methods used to meet the fleet emission limit/average NOx emission standards contained in paragraph (b) of this section.

(3) Each owner or operator of locomotive emission sources which is subject to the limitations of paragraph (b) of this section shall collect and record all information necessary to demonstrate compliance with this section. These records shall be maintained for a period of three years. The information shall be collected and recorded for each year starting in 2007, in the case of freight railroads and intrastate passenger railroads, and in 2012 in the case of interstate passenger railroads, and shall include the following:

(i) A list of all locomotives operated or operating in the South Coast, and their locomotive numbers,

(ii) The emission levels of all locomotives in paragraph (c)(3)(i), as determined under testing done in compliance with the national rule described above in paragraph (a) of this section,

(iii) The date of original manufacture, and remanufacture as appropriate, as well as any other pertinent information, of all locomotives in paragraph (c)(3)(i) of this section, and

(iv) Information on the time, in hours, each locomotive in paragraph (c)(3)(i) of this section was operated in the South Coast.

(d) Enforcement.

(1) Inspections. All sources subject to the provisions of this section shall be subject to unannounced inspections by representatives of EPA pursuant to §114 of the Clean Air Act.

(2) Information Requests. Documentation maintained by all sources, facilities, and persons subject to paragraph (c) of this section must be sufficient to demonstrate compliance with all the requirements of paragraph (b) of this section and must be provided to representatives of EPA in response to information requests pursuant to §114 of the Clean Air Act.

(3) Testing. All sources subject to the provisions of this section shall be subject to testing by representatives of EPA pursuant to §114 of the Clean Air Act.

§52.2972 Exclusion and Exemption of Motor Vehicles and Motor Vehicle Engines.

(a) General applicability. Motor vehicles and motor vehicle engines subject to the provisions of this subpart may be excluded or exempted from the requirements of this subpart as provided in this section.

(b) Specific provisions.

(1) The exclusion provisions of subpart R of Part 85 of this chapter apply to motor vehicles covered by this subpart.

(2) The exemption provisions of subpart R of Part 85 of this chapter apply to motor vehicles covered by this subpart.

(3) If a manufacturer receives a national security exemption for a motor vehicle class or motor vehicle engine class under subpart R of Part 85, §85.1708, this national security exemption will automatically apply to this same motor vehicle class or motor vehicle engine class when it is used in areas covered by the FIP, and no separate exemption request under this Subpart is necessary.

§52.2973 Ships and ports.

(a) Definitions.

Coast Guard Vessel means those marine vessels owned and operated by the United States Coast Guard used primarily for emergency search and rescue or other safety-related operations.

Cold ironing means that a marine vessel, while it is moored at port, uses electric power generated by on shore facilities instead of electric power generated by its main engine(s) or auxiliary engine(s), or auxiliary electric generators.

Engine used in a marine vessel means either --

(1) an engine mounted on a marine vessel used to propel it in the water, or

(2) an engine mounted on a marine vessel used to provide auxiliary power for the generation of electricity for onboard activities.

Exempted Vessel means Coast Guard Vessels and Military Vessels.

IMO NOx Standards means the oxides of nitrogen emission standards for marine vessels promulgated by the International Maritime Organization, Bulk Chemicals Handling committee or, if those standards have not been promulgated by 1999, standards that would require a 30 percent reduction in NOx emissions from marine vessel engines.

Marine Vessel means any vessel --

(1) designed for moving any combination of other equipment, freight, liquid, hazardous materials, or passenger traffic, including, but not limited to, a crude oil tanker, fishing vessel, fish processing vessel, fish tender vessel, freight vessel, passenger vessel, product carrier, recreational vessel, seagoing barge, tanker, tank vessel, or towing vessel; and

(2) that calls on the Port of Los Angeles and/or Port of Long Beach for the purposes of unloading or loading cargo, for refueling, or for obtaining repairs to its structure and/or onboard equipment; and

(3) with 400 or more tons gross displacement.

Military Vessel means any warship, naval auxiliary, or other vessel that is owned or operated by or for the United States or a foreign government, and that is engaged in noncommercial service involving training or support of operations, units or personnel of the armed forces.

Operator means the person who is in control or in charge of a vessel while it is in use. For the purposes of this section, the operator is considered to be an agent of the owner.

Owner means a person who claims lawful possession of a marine vessel by virtue of legal title or equitable interest therein which entitles him to such possession.

Person means and includes an individual; receiver; trustee; copartnership; joint venture; firm; unincorporated association; syndicate; club; society; trust; private, public, or municipal corporation; county, state, or national government; municipal, county, state, or federal agency, board or commission; water or utility district; political subdivision; or drainage, irrigation levee, reclamation, flood control, or water conservation district; whether such entity is acting for himself or itself or in any representative capacity.

Port or Ports, whenever used in a generic sense in this section, shall mean the Port of Los Angeles and/or the Port of Long Beach.

Port of Long Beach means all the navigable waters within the Long Beach Harbor District, which is bounded: on the west by the coterminous boundary of the Cities of Long Beach and Los Angeles;

on the north by Anaheim Street; on the east along the easterly side of the Los Angeles River, then to the westerly side of the Los Angeles River at the proximity of the Queensway Bridge, then southeasterly along the center line of said river to the mouth of Queensway Bay, then southerly to the west end of the Long Beach Breakwater, then southerly outside of the Long Beach Breakwater, encompassing the Long Beach Pilot Cruising Area at Queen's Gate; and on the south approximately 500 feet beyond and generally running parallel with the Middle Breakwater; all of which is located in the southwest corner of the City of Long Beach, in the County of Los Angeles.

Port of Los Angeles means all the navigable waters within the City of Los Angeles included within, or northerly of, the Los Angeles Harbor Breakwater and the easterly prolongation thereof in a straight line to its intersection with the easterly boundary line of the City of Los Angeles.

Ship has the same meaning as marine vessel, defined above.

Recommended speed reduction area means those navigable waters in the area delimited by the circle with Center point at the intersection of the Los Angeles Harbor Breakwater and the easterly boundary line of the City of Los Angeles and radius of 10 nautical miles.

Vessel has the same meaning as marine vessel, defined above.

Vessel trip means each time a marine vessel travels through the speed limit area without changing the direction it is heading. For example, a vessel travelling through the

recommended speed reduction area as it approaches the Ports counts as one vessel trip; the same vessel travelling through the same area as it leaves the Ports counts as another vessel trip.

VTIS means Vessel Traffic Information System operated by the Marine Exchange at the Ports of Los Angeles and Long Beach.

(b) Recommended Speed Program.

(1) Applicability. The provisions of this subsection 52.2973(b) shall apply to all marine vessels that enter the confines of the Port of Los Angeles and/or Port of Long Beach.

(2) Recommended Speed. Each vessel that calls on the Port of Los Angeles and/or the Port of Long Beach should operate at a speed of 15 knots or less when navigating in the recommended speed reduction area.

(3) Monitoring Plan.

(i) The Merchant Exchange, or their designated agent(s), will develop by January 1, 2000, and the Administrator will approve within six months thereafter, a plan to monitor ship movements.

(ii) The monitoring plan required in paragraph (b)(3)(i) of this section will contain at least the following elements:

(A) A method to identify each vessel travelling through the recommended speed reduction area;

(B) A method to determine whether each vessel identified in (A) is exempt from the operational measures pursuant to (b)(2)(iii) or is nonexempt;

(C) A method to determine the location of each vessel

travelling between the South Bay Ports and areas north when it is at the same latitude as Port Hueneme and to collect the information; and

(D) A method to determine whether each vessel travelling through the recommended speed reduction area complies with the speed reduction operational measure.

(iii) The following vessels are partially or totally exempted from the recommended operational measures, in that they are not expected to adopt the recommended measures:

(A) Marine vessels that are equipped with engines that meet or exceed the IMO standards for NOx emissions; and

(B) Exempted vessels.

(4) Adoption of Recommended Speed.

(i) Beginning June 1, 2001, the Marine Exchange shall submit to EPA, by no later than the 15th day of each month, a report that contains the following information about vessel trips to and from the Port, taken from information obtained from the monitoring plan described in paragraph (b)(3) of this section:

(A) The number of vessel trips through the recommended speed reduction area made during the past 6 calendar months (total vessel trips), categorized by exempt and nonexempt vessels;

(B) The number of vessel trips through the recommended speed reduction area during those 6 calendar months in which the recommended speed was not followed, categorized by exempt and nonexempt vessels;

(C) The ratio of vessel trips in which the recommended speed was not followed to total vessel trips during the 6-calendar-month period, for nonexempt vessels.

(c) Cold Ironing for Tugs.

(1) Cold Ironing Requirement.

(i) Beginning January 1, 2001, every tug that operates within the confines of the Port of Los Angeles and/or the Port of Long Beach must comply with the cold ironing requirements set forth in paragraphs (c)(1)(ii) and (iii) of this section.

(ii) (A) Any tug that has a home base located within the confines of the Ports should cold iron when it is anticipated that it will remain moored at that home base for four or more hours.

(B) Any tug that is anticipated to be moored within the Ports for four or more hours at a place other than its home base should cold iron or, when cold ironing is not possible, shut off all nonessential engines.

(2) Compliance with Tug Operational Requirements.

(i) To demonstrate compliance with the cold ironing requirements described in (d)(1), the owner/operator or captain of each tug that operates within the Port of Los Angeles and/or the Port of Long Beach is required to furnish to the Administrator, by January 1 of each year beginning in 2002, a sworn affidavit that contains the information described in paragraphs (c)(2)(i)(A) through (C) of this section.

(A) A description of the operational pattern of that tug

over the past six months.

(B) an attestation that the cold ironing requirements were followed each time the tug was moored for four or more hours.

(C) the following attestation:

I certify under penalty of perjury that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(ii) The Administrator may, at the Administrator's discretion, perform spot checks of moored tugs and examine any relevant records kept by the Port, the tug captain, or any other relevant person to ascertain whether the required operational procedures were followed by any tug operating in or calling on the Port of Los Angeles and/or Port of Long Beach.

(3) Penalty for noncompliance. The penalty for not complying with the cold ironing requirements is $25,000 per instance.

(d) Reductions from vessels in coastal waters.

(1) Amount of mandated reductions. The Administrator

shall, after consultation with the Department of the Navy and the Coast Guard, prescribe such measures as shall be necessary, in combination with the other requirements of this section, to assure that, not later than January 1, 2005, the total daily emissions of nitrogen oxides from marine vessels operating within 25 miles of the shoreline of any portion of Ventura County shall not exceed four tons and that the emissions from vessels operating within 25 miles of the South Coast Air Quality Management District shall be reduced by 30 percent. The Administrator may modify the four ton per day requirement and/or the area subject to control measures based upon a finding, supported by the study required by paragraph (d)(2) of this section, that different requirements, in combination with the other requirements of this Subpart, will be sufficient to attain the ambient standard for ozone in Ventura County by the deadline fixed in the Act.

(2) Study of shipping emissions and control measures. The Administrator, with the assistance of the Department of the Navy and in consultation with the Coast Guard, the California Air Resources Board, the Ventura Air Quality Management District, South Coast Air Quality Management District and affected industries, shall study the effect of shipping emissions on Ventura County and the measures that may be necessary to meet the requirements of paragraph (d)(1) of this section, and shall publish such study not later than August 14, 1997. Such study shall consider:

(i) the extent to which emissions from marine vessels affect Ventura County air quality, an assessment of current and alternative vessel routing patterns, including any current travel through the Point Mugu Sea Range, the distribution of emissions across the vessel population, and appropriate geographic definition of the area subject to control measures;

(ii) methods of reducing emissions from vessels necessary to comply with paragraph (d)(1) of this section; and

(iii) regulatory and other mechanisms to encourage or require the use of such methods.

(3) Timetable for adopted measures. Within six months following the completion of the study mandated by paragraph (d)(2) of this section, and upon consideration of the study, the Administrator, after consultation with the Secretary of the Navy and the Commandant of the Coast Guard, shall propose such measures as are necessary to comply with paragraph (d)(1) of this section. Such measures shall be adopted in final form not later than one year after the date of proposal.

§52.2974 [Reserved]

§52.2975 Standards for nonroad engines over 37 kw.

(a) General applicability. (1) The requirements of this section apply to all nonroad engines that are purchased or offered for sale in California, except those exempted in paragraph (a)(2) of this section, with the following gross power

output and manufactured after the following dates:

(i) Greater than or equal to 37 kw but less than 75 kw and manufactured on or after January 1, 2004;

(ii) Greater than or equal to 75 kw but less than 130 kw and manufactured on or after January 1, 2003;

(iii) Greater than or equal to 130 kw but less than or equal to 560 kw and manufactured on or after January 1, 2002;

(iv) Greater than 560 kw and manufactured on or after January 1, 2005.

(2) Excluded and exempted nonroad engines. Any exclusion and exemption provisions of subpart J of Part 89 of this chapter apply to the requirements of this section. The following nonroad engines are also excluded from the requirements of this section:

(i) Engines used in aircraft as defined in §87.1(a) of this chapter;

(ii) Engines used in underground mining or engines used in underground mining equipment and regulated by the Mining Safety and Health Administration (MSHA) in 30 CFR parts 7, 31, 32, 36, 56, 70, and 75;

(iii) Engines used to propel a locomotive, as defined in §89.2 of this chapter; and

(iv) Engines used in marine vessels as defined in the General Provisions of the United States Code, 1 U.S.C. 3 (1992).

(3) If a manufacturer receives a national security exemption for a nonroad engine class under Subpart J of Part 89, section 89.908, that national security exemption will

automatically apply to this same nonroad engine class for engines that would otherwise be covered by this section, and no separate exemption request under this part is necessary.

(4) Other state and federal requirements may also apply to these engines, including the requirements in part 89 of this chapter, except as specified in this section.

(b) Definitions and abbreviations. The definitions and abbreviations of part 89 of this chapter apply to this section.

(c) Exhaust emission standards. For the purposes of certification, assembly line, and recall testing, exhaust emissions from nonroad engines to which these requirements apply shall not exceed the following:

(1) Non-methane hydrocarbons. 1.6 grams per kilowatt hour (g/kw-hr), as measured under steady-state operating conditions. This standard does not apply to compression-ignition engines of gross power output greater than or equal to 130 kw.

(2) Oxides of nitrogen. 5.4 g/kw-hr, as measured under steady-state operating conditions.

(d) Test procedures. The exhaust standards set forth in paragraph (c) of this section refer to the exhaust emitted over the engine test cycle set forth in §89.410-96, and measured and calculated in accordance with the procedures set forth in subpart E of part 89 of this chapter. Assembly line testing procedures are those set forth in subpart F of part 89 of this chapter, except as specified in paragraph (e) of this section. Recall testing procedures are those set forth in subpart H of part 89 of

this chapter, except as specified in paragraph (e) of this section.

(e) Test fuels. All certification, assembly line, and recall testing performed as described in paragraph (d) of this section shall use the fuels provided for by California as found in the California nonroad regulations. Assembly line and recall testing shall use the same type of fuel as used in certification testing.

§52.2976 - §52.3001 [Reserved]

§52.3002 Incorporation by reference. The materials listed below are incorporated by reference in the corresponding sections noted. The incorporation by reference was approved by the Director of the Office of Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of approval, and a notice of any change in these materials will be published in the Federal Register. The materials are available from the sources listed below.

(a) The following material is available for purchase from the American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, Pennsylvania, 19103.

(1) ASTM D3925-91 Standard Practice for Sampling Liquid Paints and Related Pigmented Coating (September 15, 1991), for §52.2954(a)(4)(i)(A)(1).

(2) ASTM E300-86 Standard Practice for Sampling Industrial Chemicals (October 31, 1986), for §52.2954(a)(4)(i)(A)(2).

(3) ASTM D1475-90 Standard Test Method for Density of Paint, Varnish, Lacquer and Related Products (October 26, 1990), for §52.2954(a)(4)(i)(B)(3)(*i*).

(4) ASTM 2369-92 Standard Test Method for Volatile Content of a Coating (May 15, 1992), for §52.2954(a)(4)(i)(B)(3)(*ii*).

(5) ASTM D3792-91 Standard Test Method for Water Content of Water-Reducible Paints by Direct Injection into a Gas Chromatograph (May 15, 1991), for §52.2954(a)(4)(i)(B)(3)(*iii*).

(6) ASTM D4017-90 (1987) Standard Test Method for Water Content in Paints and Paint Materials by Karl Fischer Method (May 25, 1990), for §52.2954(a)(4)(i)(B)(3)(*iv*).

(7) ASTM D4457-85 Standard Test Method for Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings by Direct Injection into a Gas Chromatograph, for §52.2954(a)(4)(i)(B)(3)(*v*), §52.2959(e)(2), §52.2961(b)(6)(i)(B), §52.2961(c)(6)(i)(C), §52.2961(d)(6)(i)(E) and §52.2961(s)(4)(ii).

(8) ASTM 4082-89 Standard Test Method for Effects of Gamma Radiation on Coatings for Use in Light-Water Nuclear Power Plants (February 24, 1989), for §52.2959(b).

(9) ASTM E180-85 Standard Practice for Determining the Precision Data of ASTM Methods for Analysis and Testing of Industrial Chemicals for §52.2954(a)(4)(i)(B)(3)(*vii*).

(10) ASTM D2879-86 Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope (October 31, 1986), for

§52.2954(a)(4)(ix)(A), §52.2954(a)(4)(ix)(B), §52.2954(a)(4)(x)(A), §52.2954(a)(4)(x)(B), §52.2954(a)(4)(xi)(A), §52.2954(a)(4)(xi)(C), §52.2954(a)(4)(x)(C) and §52.2961(a)(6)(v).

(11) ASTM Method 5043-90 Standard Test Methods for Field Identification of Coatings (April 27, 1990), for §52.2958(f)(6).

(12) ASTM D 5325-92, Standard Test Method for Determination of Weight Percent Volatile Content of Water-Borne Aerosol Paints, November 15, 1992, for §52.2958(f)(1), §52.2958(f)(2)(ii) and §52.2958(f)(3).

(13) ASTM Method D 523-89 Standard Test Method for Specular Gloss, March 31, 1989, for §52.2958(f)(4), §52.2959(e)(6) and §52.2961(c)(6)(v).

(14) ASTM Test Method D-1613-91 Standard Test Method for Acidity in Volatile Solvents and Chemical Intermediates Used in Paint, Varnish, Lacquer, and Related Products (May 15. 1991), for §52.2958(f)(5), §52.2959(e)(5) and §52.2961(c)(6)(iii).

(15) ASTM Method E260-91 Standard Practice for Packed Column Gas Chromatography (January 25, 1991), for §52.2961(d)(2) and §52.2961(d)(6)(iv).

(16) ASTM Methods E 168-88 Standard Practices for General Techniques of Infrared Quantitative Analysis (May 27, 1988), E 169-87 Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis (February 1, 1987), and E 260-91 Standard Practice for Packed Column Gas Chromatography (January 25, 1991) for §52.2961(i)(7)(ii) and §52.2961(t)(7)(ii).

(17) ASTM Method D 86-90 Standard Test Method for Distillation of Petroleum Products (September 28, 1990), for §52.2961(i)(7)(iii) and §52.2961(t)(7)(iii).

(18) ASTM D2015-91 Standard Test Method for Gross Caloric Value of Coal and Coke by the Adiabatic Bomb Calorimeter (February 22, 1991), for §52.2961(m)(2), §52.2961(n)(2), §52.2961(o)(2), §52.2961(u)(2) and §52.2961(v)(2).

(19) ASTM D240-87 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter (March 27, 1987) or ASTM D2382-88 Standard Test Method for Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method) (October 31, 1988) for §52.2961(m)(2), §52.2961(n)(2), §52.2961(o)(2), §52.2961(u)(2) and §52.2961(v)(2).

(20) ASTM D1826-88 Standard Test Method for Caloric (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter (March 25, 1988) or ASTM D1945-81 Standard Method for Analysis of Natural Gas by Gas Chromatography (June 26, 1981) in conjunction with ASTM D3588-89 Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density (Specific Gravity) of Gaseous Fuels (January 4, 1991) for §52.2961(g)(6)(vi)(C), §52.2961(l)(2), §52.2961(m)(2), §52.2961(n)(2), §52.2961(o)(2), §52.2961(u)(2) and §52.2961(v)(2).

(21) ASTM Method D 287 Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)

(August 27, 1982), for §52.2961(i)(7)(v) and §52.2961(t)(7)(v).

(22) ASTM 4256-89 Standard Test Method for Determination of the Decontaminability of Coatings Used in Light-Water Nuclear Power Plants (February 24, 1989), for §52.2959(b).

(23) ASTM 3912-80 Standard Test Method for Chemical Resistance of Coatings Used in Light-Water Nuclear Power Plants (May 30, 1980), for §52.2959(b).

(24) ASTM 323-90 Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method) (October 26, 1990), for 52.2961(j)(2).

(25) ASTM E 84-91a Standard Test Method for Surface Burning Characteristics of Building Materials (August 15, 1991), for §52.2959(b).

(26) ASTM D 1640-89 Standard Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature for §52.2959(e)(3).

(b) The following material is available from the U.S. EPA Region IX, Air and Toxics Division, 75 Hawthorne Street, San Francisco, California (415) 744-1219 and at the South Coast Air Quality Management District, 21865 E. Copley Drive, Diamond Bar, California (909) 396-2000.

(1) SCAQMD Method 311-91 Analysis of Percent Metal in Metallic Coatings by Spectrographic Method, June 1, 1991, for §52.2958(f)(3), §52.2959(e)(5) and §52.2961(c)(6)(ii).

(2) South Coast Air Quality Management District, Spray Equipment Transfer Efficiency Test Procedure for Equipment User,

May 24, 1989, for §52.2961(b)(6)(ii)(C) and §52.2961(c)(6)(vi).

(3) SCAQMD Method 305-91, Determination of Volatile Organic Compounds (VOC) in Aerosol Applications (June 1993), for §52.2961(d)(6)(i)(B).

(4) South Coast Air Quality Management District, General Test Method for Determining Solvent Losses from Spray Gun Cleaning Systems, October 3, 1989, for §52.2961(d)(6)(iii).

(5) South Coast Air Quality Management District Method 25.1, Determination of Total Gaseous Non-methane Organic Emissions as Carbon (amended February 26, 1991), for §52.2961(i)(7)(iv) and §52.2961(t)(7)(iv).

(6) South Coast Air Quality Management District Interim Protocol for Rule 1121 Nitrogen Oxides Emissions Compliance Testing for Natural Gas-Fired Water Heaters and Small Boilers (September 16, 1992), for §52.2961(l)(6)(iii).

(c) The following material is available from the U.S. EPA Region IX, Air and Toxics Division, 75 Hawthorne Street, San Francisco, California (415) 744-1219 and the Bay Area Air Quality Management District, 939 Ellis Street, San Francisco, California 1(415) 771-6000.

(1) Bay Area Air Quality Manangement District Source Test Procedure ST-30, Static Pressure Integrity Test Underground Storage Tanks (revised 12/21/94), for §52.2961(j)(6)(i)(A), §52.2961(j)(6)(iv)(A) and §52.2961(j)(6)(iv)(B).

(2) Bay Area Air Quality Management District Source Test Procedure ST-27, Gasoline Dispensing Facility Dynamic Back

Pressure (revised 12/21/94), for §52.2961(j)(6)(i)(B) and §52.2961(j)(6)(iv)(C).

(3) Bay Area Air Quality Management District Method 35, Determination of Volatile Organic Compounds (VOC) in Solvent Based Aerosol Paints and Adhesives, as amended January 19, 1994 for §52.2958(f)(1) and §52.2958(f)(2)(ii).

(4) Bay Area Air Quality Management District Source Test ST-37 Gasoline Dispensing Facility Liquid Removal Devices (adopted 12/21/94), for §52.2961(j)(6)(i)(C).

(5) Bay Area Air Quality Management District Source Test Procedure ST-36 Gasoline Dispensing Facility Phase I Volumetric Efficiency (adopted 10/17/90) for §52.2961(j)(6)(ii).

(d) The following material is available from U.S. EPA Region IX, Air and Toxics Division, 75 Hawthorne Street, San Francisco, California (415) 744-1219 and the California Air Resources Board, Monitoring and Laboratory Division, (916) 445-0674.

(1) ARB Method 432 Determination of Dichloromethane and 1,1,1-Trichloroethane in Paints and Coatings (adopted September 12, 1989) for §52.2958(f)(2)(ii).

(e) The following material is available from U.S. EPA, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina (919) 541-5616 and from U.S. EPA Region IX, Air and Toxics Division, 75 Hawthorne Street, San Francisco, California (415) 744-1219.

(1) Thermogravimetric Analysis (TGA). "American Standard Test Method for Compositional Analysis by Thermogravimetry" (ASTM

E-1131-86) as modified in EPA's alternative control technology document (ACT) for pesticides ("Alternative Control Technology Document; Control of VOC Emissions from the Application of Agricultural Pesticides," EPA-453/R-92-011, March 1993, appendix C) for §52.2960(f)(1)(i).

(2) Volatile Organics in Pesticides (VOP). The purge and trap procedure as described in EPA's ACT (EPA-453/R-92-011, appendix C) for §52.2960(f)(1)(ii).

(f) The Standard Industrial Classification Manual, 1987, for §52.2956(a)(3) is available for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Appendix A to subpart GGG of Part 52 -- Counties, Partial counties, and ZIP Codes for Partial Counties included in the I/M Program.

(I) Counties in which the entire county is in the program: Los Angeles, Orange, Sacramento, Solano, Sutter, Ventura and Yolo.

(II) Counties in which a portion of the county is in the program:

El Dorado, Placer, Riverside, and San Bernardino.

(III) ZIP Codes for partial counties in the program:

EL DORADO COUNTY

95613-95614	95651	95684
95619	95656	95709
95623	95664	95720-95721

95630	95667	95725-95727
95633-95636	95672	95735
95643	95682	

PLACER COUNTY

95603-95604	95663	95713-95715
95631	95677-95678	95717
95648	95681	95722
95650	96701	95736
95658	95703-95704	95746
95661		

RIVERSIDE COUNTY

91718-91720	92282	92562
91752	92320	92563
91760	92340	92564
92201	92501-92523	92567
92202	92530	92570
92210	92532	92571
92220	92536	92572
92223	92539	92581
92230	92543	92582
92234	92544	92583
92236	92545	92585
92240	92546	92588
92253-92254	92548	92590

92257-92258	92549	92591
92260-92264	92553	92592
92270	92555	92595
92274	92557	92596
92276	92561	

SAN BERNARDINO COUNTY

91701	92304-92305	92368-92369
91708-91710	92307-92312	92371-92378
91729-91730	92314-92319	92382
91739	92321-92322	92385-92386
91743	92324-92327	92391-92392
91759	92329	92394
91761-91764	92333-92336	92397-92399
91785-91786	92338-92339	92401-92418
92252	92341-92342	92423
92256	92345-92347	92427
92268	92352	93516
92277-92278	92354	93558
92284-92286	92356-92359	93562
92301	92365	

Appendix B to subpart GGG of Part 52 -- Start-up and Final IM240 Cutpoints for Light- and Heavy-duty Vehicles for the California FIP

Start-up Standards. The following standards shall be used during calendar years 1997 and 1998:

Light Duty Vehicles

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2
All LEVs	0.80	0.50	15.0	12.0	2.0	(Reserved)
1994+ Tier 1	0.80	0.50	15.0	12.0	2.0	(Reserved)
1991-95 Tier 0	1.20	0.75	20.0	16.0	2.5	(Reserved)
1983-90	2.00	1.25	30.0	24.0	3.0	(Reserved)
1981-82	2.00	1.25	60.0	48.0	3.0	(Reserved)
1980	2.00	1.25	60.0	48.0	6.0	(Reserved)
1977-79	7.50	5.00	90.0	72.0	6.0	(Reserved)
1975-76	7.50	5.00	90.0	72.0	9.0	(Reserved)
1973-74	10.00	6.00	150.0	120.0	9.0	(Reserved)
1968-72	10.00	6.00	150.0	120.0	10.0	(Reserved)

Light Duty Trucks 1 (less than 6000 pounds GVWR)

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2
1994+ Tier 1 and all LEVs						
(≤3750 LVW)	0.80	0.50	15.0	12.0	2.0	(Reserved)
(>3750 LVW)	1.00	0.63	20.0	16.0	2.5	(Reserved)

1991-95 Tier 0	2.40	1.50	60.0	48.0	3.0	(Reserved)
1988-90	3.20	2.00	80.0	64.0	3.5	(Reserved)
1984-87	3.20	2.00	80.0	64.0	7.0	(Reserved)
1979-83	7.50	5.00	100.0	80.0	7.0	(Reserved)
1975-78	8.00	5.00	120.0	96.0	9.0	(Reserved)
1973-74	10.00	6.00	150.0	120.0	9.0	(Reserved)
1968-72	10.00	6.00	150.0	120.0	10.0	(Reserved)

Light Duty Trucks 2 (greater than 6000 pounds GVWR)

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2
1994+ Tier 1 and all LEVs						
(≤5750 LVW)	1.00	0.63	20.0	16.0	2.5	(Reserved)
(>5750 LVW)	2.40	1.50	60.0	48.0	4.0	(Reserved)
1991-95 Tier 0	2.40	1.50	60.0	48.0	4.5	(Reserved)
1988-90	3.20	2.00	80.0	64.0	5.0	(Reserved)
1984-87	3.20	2.00	80.0	64.0	7.0	(Reserved)
1979-83	7.50	5.00	100.0	80.0	7.0	(Reserved)
1975-78	8.00	5.00	120.0	96.0	9.0	(Reserved)
1973-74	10.00	6.00	150.0	120.0	9.0	(Reserved)
1968-72	10.00	6.00	150.0	120.0	10.0	(Reserved)

Heavy-Duty Trucks (less than or equal to 10,000 pounds GVWR)

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2
1998+	2.00	1.30	30.0	24.0	4.0	(Reserved)
1991-1997	3.00	1.90	60.0	48.0	6.0	(Reserved)
1987-1990	3.00	1.90	60.0	48.0	8.0	(Reserved)
1985-1986	5.00	3.10	75.0	60.0	8.0	(Reserved)
1979-1984	6.00	3.80	100.0	80.0	8.0	(Reserved)
1974-1978	10.00	6.30	150.0	120.0	10.0	(Reserved)
1970-1973	10.00	6.30	175.0	140.0	10.0	(Reserved)
pre-1970	20.00	12.50	200.0	160.0	15.0	(Reserved)

Heavy-Duty Trucks (Greater than 10,000 pounds GVWR)

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2
1998+	8.50	5.50	170.0	135.0	11.0	(Reserved)
1991-1997	8.50	5.50	170.0	135.0	14.0	(Reserved)
1990	8.50	5.50	170.0	135.0	16.0	(Reserved)
1987-1989	8.50	5.50	170.0	135.0	30.0	(Reserved)
1979-1986	11.50	7.00	180.0	145.0	30.0	(Reserved)
Pre-1979	13.00	8.00	200.0	160.0	50.0	
(Reserved)						

Second-Cycle Standards. The following exhaust emissions standards, in grams per mile, shall be used for vehicles tested in calendar years 1999 nd 2000:

Light Duty Vehicles

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2
All LEVs	0.60	0.40	10.0	8.0	1.5	(Reserved)
1994+ Tier 1	0.60	0.40	10.0	8.0	1.5	(Reserved)
1983-95 Tier 0	0.80	0.50	15.0	12.0	2.0	(Reserved)
1981-82	0.80	0.50	30.0	24.0	2.0	(Reserved)
1980	0.80	0.50	30.0	24.0	4.0	(Reserved)
1977-79	3.00	2.00	65.0	52.0	4.0	(Reserved)
1975-76	3.00	2.00	65.0	52.0	6.0	(Reserved)
1973-74	7.00	4.50	120.0	96.0	6.0	(Reserved)
1968-72	7.00	4.50	120.0	96.0	7.0	(Reserved)

Light Duty Trucks 1 (less than 6000 pounds GVWR)

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2
1994+ Tier 1 and all LEVs						
(≤3750 LVW)	0.60	0.40	10.0	8.0	1.5	(Reserved)
(>3750 LVW)	0.80	0.50	13.0	10.0	1.8	(Reserved)
1988-95 Tier 0	1.60	1.00	40.0	32.0	2.5	(Reserved)
1984-87	1.60	1.00	40.0	32.0	4.5	(Reserved)
1979-83	3.40	2.00	70.0	56.0	4.5	(Reserved)
1975-78	4.00	2.50	80.0	64.0	6.0	(Reserved)

1973-74	7.00	4.50	120.0	96.0	6.0	(Reserved)
1968-72	7.00	4.50	120.0	96.0	7.0	(Reserved)

Light Duty Trucks 2 (greater than 6000 pounds GVWR)

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2
1994+ Tier 1 and all LEVs						
(≤5750 LVW)	0.80	0.50	13.0	10.0	1.8	(Reserved)
(>5750 LVW)	0.80	0.50	15.0	12.0	2.0	(Reserved)
1988-95 Tier 0	1.60	1.00	40.0	32.0	3.5	(Reserved)
1984-87	1.60	1.00	40.0	32.0	4.5	(Reserved)
1979-83	3.40	2.00	70.0	56.0	4.5	(Reserved)
1975-78	4.00	2.50	80.0	64.0	6.0	(Reserved)
1973-74	7.00	4.50	120.0	96.0	6.0	(Reserved)
1968-72	7.00	4.50	120.0	96.0	7.0	(Reserved)

Heavy-Duty Trucks (less than or equal to 10,000 pounds GVWR)

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2
1998+	2.00	1.30	30.0	24.0	4.0	(Reserved)
1991-97	2.00	1.30	40.0	32.0	5.0	(Reserved)
1987-90	2.00	1.30	40.0	32.0	6.0	(Reserved)
1985-86	3.00	1.90	50.0	40.0	6.0	(Reserved)

1979-84	5.00	3.10	75.0	60.0	6.0	(Reserved)
1974-78	10.00	6.30	150.0	120.0	10.0	(Reserved)
1970-73	10.00	6.30	175.0	140.0	10.0	(Reserved)
pre-1970	20.00	12.50	200.0	160.0	15.0	(Reserved)

Heavy-Duty Trucks (greater than 10,000 pounds GVWR)

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2
1998+	3.50	2.00	70.0	55.0	7.0	
(Reserved)						
1991-1997	3.50	2.00	70.0	55.0	9.0	
(Reserved)						
1990	3.50	2.00	70.0	55.0	11.0	
(Reserved)						
1987-1989	3.50	2.00	70.0	55.0	20.0	(Reserved)
1979-1986	5.00	3.00	75.0	60.0	20.0	(Reserved)
Pre-1979	13.00	8.00	80.0	65.0	32.0	(Reserved)

Final Standards. The following exhaust emissions standards, in grams per mile, shall be used for vehicles tested in calendar years 2001 and later:

Light Duty Vehicles

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2

All LEVs	0.60	0.40	10.0	8.0	1.5	(Reserved)
1994+ Tier 1	0.60	0.40	10.0	8.0	1.5	(Reserved)
1983-95 Tier 0	0.60	0.40	10.0	8.0	1.5	(Reserved)
1981-82	0.60	0.40	10.0	8.0	1.5	(Reserved)
1980	0.80	0.50	30.0	24.0	4.0	(Reserved)
1977-79	3.0	2.0	65.0	52.0	4.0	(Reserved)
1975-76	3.0	2.0	65.0	52.0	6.0	(Reserved)
1973-74	7.0	4.5	120.0	96.0	6.0	(Reserved)
1968-72	7.0	4.5	120.0	96.0	7.0	(Reserved)

Light Duty Trucks 1 (less than 6000 pounds GVWR)[a]

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2
1994+ Tier 1 and all LEVs						
(≤3750 LVW)	0.60	0.40	10.0	8.0	1.5	(Reserved)
(>3750 LVW)	0.80	0.50	13.0	10.0	1.8	(Reserved)
1988-95 Tier 0	1.60	1.00	40.0	32.0	2.5	(Reserved)
1984-87	1.60	1.00	40.0	32.0	4.5	(Reserved)
1979-83	3.40	2.00	70.0	56.0	4.5	(Reserved)
1975-78	4.00	2.50	80.0	64.0	6.0	(Reserved)
1973-74	7.00	4.50	120.0	96.0	6.0	(Reserved)
1968-72	7.00	4.50	120.0	96.0	7.0	(Reserved)

[a] The final cutpoints for LDT1, LDT2, and Heavy-duty trucks have not been modified from the second-cycle for those vehicles.

Light Duty Trucks 2 (greater than 6000 pounds GVWR)

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2
1994+ Tier 1						
and all LEVs						
(≤5750 LVW)	0.80	0.50	13.0	10.0	1.8	(Reserved)
(>5750 LVW)	0.80	0.50	15.0	12.0	2.0	(Reserved)
1988-95 Tier 0	1.60	1.00	40.0	32.0	3.5	(Reserved)
1984-87	1.60	1.00	40.0	32.0	4.5	(Reserved)
1979-83	3.40	2.00	70.0	56.0	4.5	(Reserved)
1975-78	4.00	2.50	80.0	64.0	6.0	(Reserved)
1973-74	7.00	4.50	120.0	96.0	6.0	(Reserved)
1968-72	7.00	4.50	120.0	96.0	7.0	(Reserved)

Heavy-Duty Trucks (less than or equal to 10,000 pounds GVWR)

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2
1998+	2.00	1.30	30.0	24.0	4.0	(Reserved)
1991-97	2.00	1.30	40.0	32.0	5.0	(Reserved)
1987-90	2.00	1.30	40.0	32.0	6.0	(Reserved)
1985-86	3.00	1.90	50.0	40.0	6.0	(Reserved)
1979-84	5.00	3.10	75.0	60.0	6.0	(Reserved)
1974-78	10.00	6.30	150.0	120.0	10.0	(Reserved)
1970-73	10.00	6.30	175.0	140.0	10.0	(Reserved)

pre-1970	20.00	12.50	200.0	160.0	15.0	(Reserved)

Heavy-Duty Trucks (greater than 10,000 pounds GVWR)

Model Years	HC		CO		NOx	
	Composite	Phase2	Composite	Phase2	Composite	Phase2
1998+	3.5	2.0	70.0	55.0	7.0	(Reserved)
1991-1997	3.5	2.0	70.0	55.0	9.0	(Reserved)
1990	3.5	2.0	70.0	55.0	11.0	(Reserved)
1987-1989	3.5	2.0	70.0	55.0	20.0	(Reserved)
1979-1986	5.0	3.0	75.0	60.0	20.0	(Reserved)
Pre-1979	13.0	8.0	80.0	65.0	32.0	(Reserved)