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Part III

Environmental Protection Agency

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40 CFR Part 63

National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution (Stage I), Proposed Rule
ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[AD-FRL-4834-5]

National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution (Stage I)

AGENCY: Environmental Protection Agency (Agency).

ACTION: Proposed rule and notice of public hearing.

SUMMARY: The Agency is today proposing standards which would limit emissions of hazardous air pollutants (HAP's) from existing and new bulk gasoline terminals and pipeline breakout stations. These proposed national emission standards for hazardous air pollutants (NESHAP) implement section 112(d) of the Clean Air Act as amended in 1990 (1990 amendments), which requires the Administrator to regulate emissions of the HAP's listed in section 112(b) of the Clean Air Act (Act). Several of these pollutants are emitted from all gasoline distribution facilities (pipeline pumping stations, pipeline breakout stations, bulk terminals, bulk plants, and service stations). The intent of the proposed standards is to protect the public health by requiring new and existing major sources to control HAP emissions to the level attainable by the maximum achievable control technology (MACT). Pipeline breakout stations and bulk gasoline terminals are the only two subcategories within the gasoline distribution network that have been found to include major source facilities. Therefore, the proposed standards would apply only to major source pipeline breakout stations and bulk gasoline terminals.

A public hearing will be held, if requested, to provide interested persons an opportunity for oral presentation of data, views, or arguments concerning the proposed standards for gasoline distribution facilities.

DATES: Comments. Comments must be received on or before April 11, 1994.

Public Hearing. If anyone contacts the Agency requesting to speak at a public hearing by March 1, 1994 , a public hearing will be held on March 10, 1994 beginning at 9 a.m. Persons wishing to present oral

testimony must contact Ms. Lina Hanzely of EPA at (919) 541-5673 by March 1, 1994. Persons interested in attending the hearing should call Ms. Hanzely at the same number to verify that a hearing will be held.

ADDRESSES: Comments. Comments should be submitted (in duplicate, if possible) to: Air Docket Section (6102), ATTN: Docket No. A-92-38, Room M1500, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC 20460.

Background Information Document. The background information document (BID) may be obtained from the U.S. Environmental Protection Agency Library (MD-35), Research Triangle Park, North Carolina 27711, telephone number (919) 541-2777. Please refer to ``Gasoline Distribution (Stage I)--Background Information for Proposed Standards,''.

Docket. Docket No. A-92-38, containing supporting information used in developing the proposed standards, is available for public inspection and copying between 8:30 a.m. and 3:30 p.m., Monday through Friday, at the Agency's Air Docket Section, Waterside Mall, Room 1500, 1st Floor, 401 M Street, SW., Washington, DC 20460. A reasonable fee may be charged for copying.

FOR FURTHER INFORMATION CONTACT: For general or technical information concerning the proposed standards, contact Mr. Stephen Shedd at (919) 541-5397, Chemicals and Petroleum Branch, Emission Standards Division (MD-13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711. For general information or information regarding the economic effects of the proposed standards, contact Mr. Scott Mathias at (919) 541-5310, Standards Development Branch, Emission Standards Division (MD-13), also at the above address.

SUPPLEMENTARY INFORMATION: The information presented in this preamble is organized as follows:

I. Description of the Source Category and Subcategories

The 1990 amendments require, under Section 112, that the Agency evaluate and control emissions of HAP's. The control of HAP's is to be achieved through promulgation of emission standards under Sections 112(d) and (f) for categories of sources that emit HAP's. Pursuant to Section 112(c) of the Act, the Agency published in the Federal Register the initial list of source categories that emit HAP's on July 16, 1992 (57 FR 31576). This list includes major and area sources of HAP's that the Agency intends to regulate before November of the year 2000. The list reflects the Section 112(a) definition of major source as a source that emits 10 tons per year (tpy) or more of any individual HAP or 25 tpy or more of any combination of HAP's. Area sources are stationary sources that do not qualify as ``major.''

The initial list of major source categories includes the gasoline distribution source category. For purposes of the proposed standards, the gasoline distribution network refers to the storage and transfer of gasoline as it is moved from the production refinery process units to the service station storage tank. The gasoline distribution facility category is made up of several distinct facility types. During the analysis of this category, it was determined that this category should be subcategorized by facility type. Therefore, the following gasoline distribution subcategories were analyzed in the context of this proposed rulemaking:

--Pipeline pumping stations
--Pipeline breakout stations
--Bulk gasoline terminals

--Bulk plants
--Service stations

Gasoline is carried from production units at refineries to terminals by pipelines, which may span great distances, or be co-located or adjacent to refineries. The pipeline is made of sections of steel pipe, welded together, and usually buried underground. At the refinery, a pump sends the refined gasoline toward its destination. Since the primary pump is incapable of ``pushing'' the gasoline the entire distance, pumping stations are located along the pipeline to keep the gasoline flowing. Occasionally, flow may be interrupted as a quantity of gasoline is pumped out of the pipeline into storage tanks. These ``breakout'' stations usually are coincident with pumping stations.

Bulk gasoline terminals are facilities that receive gasoline from refineries via pipeline, ship, or barge and place it in storage tanks until it is distributed. Also, bulk terminals can be located onsite or adjacent to refineries. At these terminals, gasoline is loaded into railcars (which typically transport gasoline between terminals) or tank trucks. From the terminal, the tank trucks normally deliver gasoline to service stations or intermediate storage and handling facilities known as bulk plants.

Bulk plants, using smaller delivery tank trucks, primarily supply service stations and small accounts such as farms because they are long distances from terminals or are unable to accommodate the large terminal delivery tank trucks. At service stations, gasoline is transferred to storage tanks and ultimately to motor vehicles. Vehicle refueling (known as Stage II) and ship and barge handling of gasoline are being addressed by the Agency under separate programs.

II. Background

As noted above, section 112(b) of the 1990 amendments contains a list of HAP's to be regulated by Agency standards. Volatile organic compound (VOC) and HAP emission sources at gasoline distribution facilities have been studied and regulated by Federal, State, and local air pollution regulatory agencies for some time.

Beginning in the mid 1970's, the Agency issued control techniques guideline documents (CTGs) for the control of VOC from sources at several gasoline production and distribution facilities. These CTGs recommended control techniques for gasoline vapor emissions from service stations (November 1975), tank truck loading terminals (October 1977), bulk plants (December 1977), fixed-roof petroleum storage tanks (December 1977), external floating roof petroleum storage tanks (December 1978), and tank trucks (December 1978). The Agency also developed a general volatile organic liquid storage tank CTG (June 1984), and is in the process of revising this document (July 1992 draft). In addition, there is a CTG pertaining to the control of VOC from leaking equipment at petroleum refineries (issued in June 1978, and later superseded by a CTG issued in 1984). Most State and local agencies have implemented rules reflecting the CTG recommended control technologies in areas with ozone nonattainment problems.

The VOC emissions from sources at gasoline distribution facilities have also been addressed in Federal new source performance standards (NSPS). On March 8, 1974, the Agency promulgated an NSPS (subpart K of 40 CFR part 60) regulating VOC emissions from new petroleum liquid storage tanks. Subsequent updates (subparts Ka and Kb) require more

stringent control levels for new storage tanks. Subpart Ka was promulgated on April 4, 1980, and subpart Kb on April 8, 1987 (52 FR 11428). Tank truck loading racks at new bulk gasoline terminals are covered by subpart XX of 40 CFR part 60, which was adopted on August 18, 1983 (48 FR 37578). On May 30, 1984, 40 CFR part 60, subpart GGG (referencing subpart VV provisions) NSPS were promulgated covering equipment leaks of VOC at petroleum refineries. Additionally, national emission standards for hazardous air pollutants, 40 CFR part 61, subpart J (referencing subpart V provisions) were promulgated in June 6, 1984 covering equipment leaks from equipment in benzene service.

The regulatory emission limits applied in some areas are more stringent than either the CTG or NSPS level. For example, rules for the Bay Area and Sacramento Air Quality Management Districts in California have bulk gasoline terminal emission limits that are more stringent than the levels required under the NSPS.

Methods for control of HAP emissions from gasoline distribution facilities have also been evaluated in past studies. In 1978, the Agency studied benzene emissions from gasoline distribution facilities (not including vehicle refueling) and presented its findings to the National Air Pollution Control Techniques Advisory Committee (NAPCTAC). After this presentation, the Agency decided not to proceed with a benzene standard but rather to proceed with the NSPS development for bulk gasoline terminals. On August 8, 1984, the Agency published in the Federal Register (49 FR 31706) a notice of the availability of a document on regulatory strategies being considered for controlling air pollutants from bulk gasoline terminals, bulk plants, and service stations. After the public comment period on the regulatory strategies, a Federal regulation for controlling vehicle refueling (Stage II) emissions with on the vehicle controls (onboard) was proposed on August 19, 1987, but no control requirements were included for bulk gasoline terminals, bulk plants, or other sources at service stations.

On February 7, 1987, in response to a petition filed in 1984 by the Natural Resources Defense Council, et. al., the United States District Court for the District of Columbia ordered the Agency to publish either a notice of intent not to regulate or a notice of proposed regulation. This order covered several sources of benzene emissions, including bulk gasoline terminals, bulk plants, and gasoline service stations (including the filling of service station storage tanks by gasoline tank trucks, but not the refueling of motor vehicles). On September 14, 1989 (54 FR 38083), the Agency proposed regulations for the gasoline distribution facilities noted above. However, on March 7, 1990 (55 FR 8292), the Agency withdrew these proposed standards. The rationale for this withdrawal was that the baseline benzene emissions were found to be within a safe range with regard to health risk, and that additional controls were unnecessary to provide an ample margin of safety. This earlier decision not to regulate these three types of gasoline distribution facilities was based on the health effects from benzene alone and were under the provisions of the Act as amended in 1977.

The HAP list presented in the Act section 112(b), as amended in 1990, contains additional compounds normally contained in gasoline vapor, including, but not limited to benzene, toluene, hexane, ethylbenzene, naphthalene, cumene, xylenes, n-hexane, 2,2,4-trimethylpentane, and methyl tert-butyl ether (MTBE). Additionally, new provisions on how to develop NESHAP were provided in the 1990 amendments to the Act. Therefore, it became necessary to reevaluate emissions from gasoline distribution facilities to consider a combination of HAP's and the new provisions for setting NESHAPs.

There are other requirements and regulatory programs that will affect the HAP emissions from gasoline distribution facilities. These include the major and area source determination provisions for pipeline facilities covered in section 112(n)(4)(A) of the 1990 amendments, fuel volatility restrictions, and reformulated and oxygenated fuel requirements.

Section 112(n)(4)(A) stipulates that

``emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control to determine whether such units or stations are major sources''.

Consequently, these facilities were evaluated separately for major source determination.

The Agency has promulgated a program that requires the use of lower volatility blends of gasoline during the summer months, which will reduce HAP and VOC emissions from the gasoline distribution network.

Reformulated and oxygenated fuel requirements in Title II of the Act will affect gasoline composition and the resulting HAP emissions. Reformulated fuel requirements specify a reduced benzene content, a minimum oxygen content, and a likely reduction in aromatic components of the blend. Reformulated gasoline is required throughout the year in the nine worst ozone nonattainment areas in the United States to reduce ozone forming VOC emissions during the summer months and air toxic emissions (benzene, 1,3-butadiene, formaldehyde, acetaldehyde, POM) year-round from gasoline vehicles by 15 percent beginning in 1995 and 25 percent in 2000. Other areas may choose to implement the prohibition provision [Section 211(k)(5) of the 1990 amendments] and thus enter the program as well. Oxygenated fuels program requires the use of oxygenates in gasoline during the winter months in all carbon monoxide (CO) nonattainment areas to reduce CO emissions. While significantly decreasing VOC, CO, and air toxics emissions, both the reformulated and oxygenated fuels programs could lead to an increase in HAP emissions due to the fact that MTBE is listed as a HAP in the Act section 112(b) of the Act and is expected to be used in a large portion of the market to meet the oxygenate requirements of these programs.

This increase will come about because to meet minimum oxygen requirements under the reformulated gasoline and oxygenated fuels programs, approximately 11 percent and 15 percent by volume of MTBE is needed in liquid gasoline, respectively. Since MTBE is much more volatile than the aromatic compounds that it will replace in the blend, a much higher concentration of HAP's in the vapor phase of this fuel will result. Therefore, it is expected that the inclusion of MTBE may increase the HAP/VOC ratio in gasoline vapor from approximately 5 weight percent for normal gasoline to nearly 15 percent for oxygenated gasoline. The actual increase in HAPs at facilities distributing reformulated gasolines and oxygenated fuels will depend on the fraction of their fuel containing MTBE as opposed to other oxygenates such as ethanol or ETBE. Furthermore, while the weight percent of HAP's may increase due to the presence of MTBE, this will be offset to some extent under the reformulated gasoline program by reducing the toxic air pollutants required by the ACT and the deep volatility controls expected to result from the reformulated gasoline program during the summer months.

The above mentioned programs, guidelines, and standards (fuels programs, CTGs, NSPS) were considered, and their impacts on the

gasoline distribution network estimated, before the development of control alternatives for this proposed rulemaking began. As a consequence, all emission reductions, costs, and other impacts discussed in the forthcoming sections are incremental to existing control programs.

III. Summary of the Proposed Standards

A. Sources Covered

Sources in the gasoline distribution category are a combination of major sources and area sources. Some pipeline breakout stations and bulk gasoline terminals have been determined to be major sources, since larger breakout stations and terminals may emit either 10 tpy or greater of individual HAP's (i.e. hexane, MTBE) or 25 tpy or greater of a combination of HAP's. For purposes of this rulemaking, the Agency is proposing that major source pipeline breakout stations and bulk gasoline terminals in the gasoline distribution source category be regulated under maximum achievable control technology (MACT) standards. The following is a summary of the methods used to determine applicability of the proposed rule.

1. Applicability Determination

The proposed standard applies to all major source pipeline breakout stations and bulk gasoline terminals. Today's proposed standards provide two ways to determine if a facility is not a major source and not subject to the rule. They are: (1) The owner or operator provides documentation to the Administrator that the facility is not a major source as defined in section 112(a) by means of completion of an emissions audit at the facility, or (2) from the result of the following equations for estimating facility emissions.

The Agency has determined the following equations properly estimate if the facility is a major source. A bulk gasoline terminal is not considered a major source if the result of the calculation in equation (1), E<INF>T, is less than 1.

(1) E<INF>T = 0.63(T<INF>F) + 0.19(T<INF>E) + 0.092(T<INF>ES) + 0.03(T<INF>I) + 0.0012(V) + 0.024(P) + KQ

where:

E<INF>T = major source applicability factor for bulk gasoline terminals, E<INF>T <gr-thn-eq> 1 means bulk gasoline terminal is a major source,

T<INF>F = total number of fixed-roof gasoline storage tanks,

T<INF>E = total number of external floating roof gasoline storage tanks with only primary seals,

T<INF>ES = total number of external floating roof storage tanks with primary and secondary seals,

T<INF>I = total number of fixed-roof gasoline storage tanks with an internal floating roof,

V = number of valves in gasoline service,

P = number of pumps in gasoline service,

Q = gasoline throughput rate (liters/day),

K = 3.18 x 10<SUP>-6 for bulk gasoline terminals with uncontrolled loading racks (no vapor collection and processing

systems), OR
K = (4.5 x 10<SUP>-9)(EF + 70) for bulk gasoline terminals with controlled loading racks (loading racks that have vapor collection and processing systems installed on the emission stream), and
EF = the federally enforceable emission standard for the vapor processor (mg of total organic compounds per liter of gasoline loaded).

A pipeline breakout station is not considered a major source if the result of the calculation in equation (2), E<INF>p, is less than 1.

(2) E<INF>P = 2.4(T<INF>F) + 0.09(T<INF>E) + 0.043(T<INF>ES) + 0.027(T<INF>I) + 0.0009(V) + 0.009(P)
where:
E<INF>P = major source applicability factor for pipeline breakout stations, E<INF>P <gr-thn-eq> 1 means pipeline breakout station is a major source, and
T<INF>F, T<INF>E, T<INF>ES, T<INF>I, V, and P are the same as defined for bulk terminal equation (1).

The above equations are not allowed to be used if the bulk gasoline terminals or pipeline facilities are located within the contiguous area of and under common control with a major source petroleum refinery. For those facilities, they would demonstrate they are not a major source by providing an emission audit of all emission sources in the facility, including, but not limited to the refinery process units, wastewater systems, etc.

2. Emission Points Covered

Emission points affected at bulk gasoline terminals are storage tanks that contain or have the potential to contain gasoline, equipment leaks from the piping system that handles gasoline or gasoline vapors, loading racks that load gasoline into tank trucks or railcars, and gasoline vapor leakage from sealed tank trucks or railcars during loading. Emission points affected at pipeline breakout stations are individual storage tanks that contain or have the potential to contain gasoline, and equipment leaks from the entire breakout station piping system that handles gasoline.
There are two types of storage tanks found at bulk gasoline terminals and pipeline breakout stations, fixed-roof and floating roof tanks. The greatest portion of emissions occurring from fixed-roof tanks are those emitted through the breather (pressure-vacuum) valve as a result of tank breathing and filling. Floating roof tanks may have either external or internal floating roofs. The sources of greatest emissions associated with an external floating roof tank occur as a result of an improper fit between the seals and the tank shell, leaks associated with roof fittings, and withdrawal losses from evaporation when a wet portion of the tank wall is exposed. Losses from internal floating roof tanks occur mainly through vents in the metal shell of the tank.
Pumps and valves are used at pipeline breakout stations to move and route gasoline along the pipeline or to transfer gasoline to or from breakout station storage tanks. Pumps and valves at bulk gasoline terminals are used to transfer gasoline from storage tanks to tank trucks or railcars. In addition, other equipment at these facilities, such as compressors, pressure relief devices, sampling connection systems, flanges, or other connectors is in gasoline service.

Loading rack emissions from tank truck or railcar loading operations at bulk gasoline terminals occur when gasoline being loaded displaces vapors from the cargo tank of the truck or railcar to the atmosphere.

There is a potential for emissions due to vapor leakage even from controlled tank trucks or railcars during loading if their cargo tanks are not vapor-tight. Vapors may leak to the atmosphere from dome cover assemblies, pressure-vacuum (P-V) vents, and vapor collection piping and vents.

B. Standards for Sources

The Agency is proposing an equipment standard for storage tanks at new and existing major source bulk gasoline terminals and pipeline breakout stations. These proposed standards specify new and existing storage tanks comply with the equipment standards of the NSPS 40 CFR part 60, subpart Kb, they would require: (1) External floating roof tanks to have specified types of primary and secondary seals, and (2) fixed-roof tanks to have internal floating roofs with specific types of primary seals or secondary seals.

Additionally, the Agency is proposing an emission limit of 10 milligrams (mg) of total organic compounds (TOC) per liter of gasoline loaded (10 mg TOC/l) for the process stream outlet of control devices and continuous compliance monitoring of certain operating parameters of control devices installed at the loading racks of new and existing major source bulk gasoline terminals. Operating the control device in a manner that exceeds or fails to maintain, as appropriate, the monitored operating parameter value established during the emission performance test would be an exceedence of the emission limit. New major source bulk gasoline terminals would also be required to install vacuum assisted vapor collection equipment on their loading racks where gasoline tank trucks or railcars are loaded. This system would prevent vapor leakage from tank trucks that can occur due to the pressures normally developed in fuel compartments during loading.

The Agency is also proposing equipment and performance standards for all tank trucks and railcars loading at existing and new major source bulk gasoline terminals. Trucks and railcars loading at these facilities would be required to pass an annual vapor tightness test according to EPA Method 27. This requirement controls fugitive vapor losses at existing facilities and supplements the vacuum assist system at new facilities in providing the best control for vapor leakage during loading.

Pumps, valves and other equipment at new major source bulk gasoline terminals and pipeline breakout stations would all be subject to the same work practice and equipment standards specified by the leak detection and repair (LDAR) program in 40 CFR part 60, subpart VV. LDAR requirements at bulk gasoline terminals include components of the vapor collection and processing systems. Existing major source bulk gasoline terminals and pipeline breakout stations would be required to perform LDAR for pumps and valves four times per year (quarterly LDAR). New major source facilities would be required to implement a monthly LDAR program for pumps and valves, and follow the other equipment standards for other equipment under 40 CFR part 60, subpart VV. Provisions of these LDAR programs allow new and existing facilities with demonstrated low leak frequencies for valves to decrease the frequency of monitoring.

When promulgated, these standards will be codified under part 63 of

title 40 of the Code of Federal Regulations (CFR). Proposed General Provisions of part 63 (58 FR 42760, August 11, 1993) to be located in subpart A, will, when promulgated, codify procedures and criteria to implement emission standards for stationary sources that emit one or more HAP's, and will provide general information and requirements that apply under the section 112 NESHAP promulgated under the CAA amendments of 1990.

C. Effective Date for Compliance

Section 112(i)(3)(A) of the Act requires compliance by existing sources within 3 years after rule promulgation, notwithstanding the provisions of sections 112(i)(1) and (2). Today's proposed regulation requires compliance by all affected sources within 3 years after promulgation of the rule. Finally, major source facilities in the bulk gasoline terminal and pipeline breakout station subcategories must implement LDAR programs within 180 days after promulgation of this rule. New major source facilities must comply with all provisions of the standards upon startup.

D. Compliance Extensions

Section 112(i)(3)(B) allows the Administrator (or a State with a program approved under Title V) to grant existing sources an extension of compliance of up to 1 year, upon application by an owner or operator of an affected facility, if such time period is necessary for the installation of controls.

Additionally, under the early reduction provisions of section 112(i)(5), existing sources may be granted a 6-year extension of compliance with an otherwise applicable section 112(d) standard (MACT standard) upon demonstration by the owner or operator of the source that HAP emissions have been reduced by 90 percent or more prior to the date of this proposal, or the source makes an enforceable commitment to achieve such reduction prior to January 1, 1994. The general notice governing early reduction compliance extensions was published in the Federal Register on June 13, 1991 (56 FR 27338).

E. Compliance Testing and Monitoring

The tests required under the proposed standards include initial performance testing of the bulk terminal vapor processing system, vapor leak monitoring and repair of the vapor collection system before each performance test, and annual vapor tightness testing of gasoline tank trucks and railcars. Storage tanks at terminals and pipeline stations would require periodic visual and seal gap measurement tests. Continuous monitoring of an operating parameter would be required for vapor processing systems to ensure continuous compliance with today's proposed 10 mg TOC/l emission limit. At new bulk gasoline terminals, the vacuum achieved in the tank truck or railcar during loading would have to be monitored continuously to verify continuous compliance with maintaining the vacuum during truck and railcar loading operations.

The schedule for performance testing is provided in Sec. 63.7 of the proposed General Provisions. The initial performance test is required 120 days after the effective date of the standards or after initial startup for a new facility, or 120 days after the compliance date specified for an existing facility.

Methods 2A, 2B, 25A, and 25B in Appendix A of 40 CFR Part 60 are

specified for measurement of total organic compound emissions from the vapor collection and processing system. Due to the inherent inability to measure mass emissions from elevated flares (elevated flare's flame is open to atmosphere and therefore the emissions cannot be routed through stacks), these test methods are not applicable. Therefore, the Agency has established performance requirements for flares. These performance requirements, including a limitation on visible emissions, are provided in Sec. 63.11 of the proposed General Provisions, which specifies Method 22 for determining visible emissions from this hard to test type of flare.

Before each performance test, the owner or operator would be required to use Method 21 to monitor potential leak sources in the terminal's vapor collection system during the loading of a gasoline tank truck or railcar. Leaks from the vapor collection and processing system would have to be repaired before conducting the rest of the performance test.

Each gasoline tank truck and railcar loading at an affected bulk terminal would have to pass an annual vapor tightness test using Method 27. This will ensure that fugitive vapor leakage from loading cargo tanks is minimized.

Today's proposed emission standard includes continuous monitoring of an operating parameter as a requirement for vapor processing systems to ensure continuous compliance with the proposed 10 mg TOC/l emission limit. The vapor processing system's operating parameter ``value'' would be established during the initial performance test of the vapor processor. Exceeding or failures to maintain, as appropriate, that operating parameter value would be a violation of the emission limit requiring maintenance and repair and documentation in a quarterly report to the Administrator. The parameters that may be monitored include organic compounds concentration for carbon adsorption and refrigeration condenser systems, and combustion or condenser temperature for thermal oxidation and refrigeration condenser systems. An owner or operator may substitute an alternative parameter or vapor processor type upon the approval of the Administrator.

At new bulk gasoline terminals installing a vacuum assisted vapor collection system, the proposed standards require continuous monitoring of the pressure in the collection system, to ensure that a vacuum exists at all times during loading. No specific vacuum limits are being proposed. As with parameter monitoring of the vapor processing system, this vacuum monitoring will ensure that fugitive vapor leakage is effectively reduced through the continuous compliance for the proposed vacuum requirements for the vacuum assist system.

The pumps, valves, and other specified equipment in the gasoline liquid and vapor transfer lines at bulk gasoline terminals and pipeline breakout stations may be sources of fugitive HAP emissions. The proposed standards include a requirement for an LDAR program in which pumps and valves are manually monitored using a portable VOC detector on a periodic basis, and then repaired if a leak is found. Under the proposed standards, monitoring would initially be carried out monthly at new facilities and quarterly at existing facilities. Provisions are included to reduce monitoring frequencies for valves on the basis of demonstrated low leak rates. When a leak is detected (meter reading of 10,000 ppm on a portable organic monitor), the owner or operator would have 5 calendar days in which to make an initial repair attempt, and 15 calendar days in which to complete the repair. Other equipment in gasoline liquid or vapor service at new facilities are required to have specified equipment.

F. Recordkeeping and Reporting

The proposed standards require four types of reports: initial notification, notification of compliance status, periodic reports, and other reports. The initial notification report apprises the regulatory authority of applicability for existing sources or of construction for new sources. This report also includes a statement as to whether the facility can achieve compliance by the required compliance date. The notification of compliance status demonstrates that compliance has been achieved. This report contains the results of the initial performance test, which includes calculation of the monitored operating parameter value for the vapor processor, and a list of equipment subject to the standard. Periodic reports submitted quarterly would specify exceedences of the emission standards, such as when the monitored operating parameter of a vapor processor is outside the value established during the performance test. Other periodic reports, which are submitted semiannually, include LDAR program and annual storage vessel inspection results. Certain additional reporting is occasionally necessary because a short-term response may be needed from the reviewing authority. For example, the Administrator may request more frequent reports of monitored operating parameter or LDAR data if it is deemed necessary to ensure compliance with the standard.

Records required under the proposed standards must be kept at the facility for 5 years. These include records of tank truck and railcar vapor tightness test certifications, as well as monitoring data from the vapor processor and from the vacuum assist system at new bulk gasoline terminals. Records from the LDAR program and storage vessel inspections, and records of startups, shutdowns, and malfunctions of the vapor processor are required to ensure that the controls in place are continuing to be effective.

IV. Summary of Environmental, Energy, and Economic Impacts of the Proposed Standards

A. Number and Type of Affected Sources or Facilities

In 1998, the base year of the analysis, it is estimated that there will be approximately 403,600 facilities in the entire gasoline distribution network. However, only two subcategories within the network (pipeline breakout stations and bulk gasoline terminals), comprising a total of 1,300 facilities, are being addressed by this rulemaking. Of this total, it is estimated that about 20 pipeline breakout stations and about 280 bulk gasoline terminals qualify as major sources and therefore would be subject to today's proposed standards.

For the purpose of the analysis conducted in connection with these standards, all facilities built or reconstructed between today's proposal and the 1998 base year are considered ``new'' facilities in the base year analysis (see proposed General Provisions, subpart A of 40 CFR part 63). All other facilities prior to proposal were considered to be ``existing'' sources in this analysis. The estimated impacts of the levels of control specified by the proposed regulation within each subcategory are discussed below.

1. Existing Facilities

The base year population of existing pipeline breakout stations is estimated to be about 245 facilities (18 major source sites, 227 area

source sites). Sources of emissions at these facilities arise from gasoline storage and various equipment components in the process line piping. Under the proposed regulation, each existing major source pipeline breakout station would be required to implement a quarterly LDAR program for leaks from pumps and valves.

Additionally, the 18 major source facilities would be required to retrofit external floating roof tanks with primary and secondary seals and install internal floating roofs with primary seals on fixed-roof tanks. It is estimated that 35 external floating roof storage tanks and 11 fixed-roof storage tanks at these major source sites would need to be upgraded to meet these equipment standards.

It is estimated that in 1998, there will be 737 bulk gasoline terminals that qualify as ``existing'' sources. It is further estimated that nearly 200, or 27 percent, will qualify as major sources. Under the proposed standards, existing major sources would be required to meet a 10 mg TOC/liter of gasoline loaded limit on their loading rack emissions. It is estimated that 33 percent of the loading racks at existing bulk gasoline terminals will already be meeting this level of control. Therefore, 134 of these facilities (the remaining 67 percent) would need to newly install, replace, or otherwise upgrade their control devices to meet this proposed standard.

It is estimated that there are approximately 1,600 storage tanks at existing major source bulk gasoline terminals. Furthermore, it is estimated that 400 external floating roof tanks and 500 fixed-roof tanks already have controls that satisfy the proposed standards (i.e., primary and secondary seals on external floating roof tanks and internal floating roofs with primary seals installed in all fixed-roof tanks). Consequently, it is estimated that approximately 470 external floating roof tanks and 210 fixed-roof tanks would need to improve their control level to meet the proposed standards.

There are an estimated 31,600 tank trucks and approximately 400 railcars that load at existing bulk gasoline terminals. It is estimated that 22,400 tank trucks are already subject to annual vapor tightness testing and nearly all of the remaining 9,200 are not tested. The proposed regulation would require all tank trucks and railcars loading at major source facilities to be vapor tightness tested annually using Method 27.

Essentially no terminals have been determined to routinely use an instrument to detect leaks from equipment (pumps and valves). Under the proposed standards, all existing major source bulk gasoline terminals would be required to implement the quarterly LDAR program for pumps and valves discussed previously for pipeline breakout stations.

Additionally, the proposed standards requires monitoring of equipment, maintaining records, and providing reports to verify compliance with the control requirements discussed above.

2. New Facilities

It is estimated that there will be 10 storage tanks classified as new at the 2 new major source pipeline breakout stations through base year 1998. Although these tanks would be subject to these standards, they are also subject to the existing NSPS standard as defined in 40 CFR part 60, subpart Kb.

It is estimated that there will be nearly 80 major source bulk gasoline terminals subject to the new facility requirements of the proposed regulation (28 percent of the base year major source bulk gasoline terminals). The proposed standards would limit loading rack HAP emissions from these sources to 10 mg TOC/liter instead of 35 mg TOC/liter as under the NSPS standards.

As with pipeline breakout stations, the projected 600 storage tanks at new major source bulk gasoline terminals would be subject to this regulation (as well as the NSPS for storage tanks) with the same levels of control outlined previously.

All new major source bulk gasoline terminals and pipeline breakout stations would also be required to implement a monthly LDAR program to control equipment leaks from pumps and valves, as well as implement other 40 CFR part 60, subpart VV standards for other equipment. Lastly, new major source bulk gasoline terminals would be required to install, operate, and maintain a vacuum assist vapor collection system on their loading racks that fill gasoline tank trucks or railcars.

Additionally, the proposed standards require monitoring of equipment, maintaining records, and providing reports to verify compliance with the control requirements discussed above.

B. Air Emission Reductions

1. Existing Sources

For the existing gasoline distribution network (approximately 390,000 facilities in base year 1998), the nationwide baseline HAP emissions are estimated to be 46,000 Mg/yr. Of this total, 8 percent or 4,200 Mg/yr can be attributed to major source pipeline breakout stations and bulk gasoline terminals. Implementation of the proposed regulation would reduce these emissions to approximately 43,400 Mg/yr.

2. New Sources

For new sources through 1998, total nationwide HAP emissions from gasoline distribution facilities, approximately 13,000 total facilities, are estimated to be about 6,700 Mg/yr at baseline. The HAP emissions from pipeline breakout stations and bulk gasoline terminals account for 46 percent of this total (major sources contribute 12 percent of the total). The proposed regulation would reduce these emissions to a total of approximately 6,200 Mg/yr.

C. Secondary Environmental Impacts

Since implementation of the proposed regulation would encompass no additional water discharges, there would be no negative impact on water quality. There is a potential for a positive benefit to water quality, however, due to decreased amounts of gasoline entering drains, sewers, and waste sumps because of improved leakage control.

There is projected to be no significant solid waste or noise impact as a result of implementation of the proposed regulation. Neither flares, thermal oxidizers, nor refrigeration condenser systems generate any solid waste as a by-product of their operation. The only solid waste that may be generated is spent activated carbon if carbon adsorption is chosen by an owner or operator of a bulk gasoline terminal for loading rack emission control. It is estimated that, in this case, the total environmental impact would average about 680 kilograms of carbon per year for each bulk terminal choosing this option. Therefore, the solid waste impact can be considered to be small. This impact would be minimized if the carbon were reactivated and reused. The Agency has also tested the noise level from vapor processors, and found these levels to be moderate (less than 70 db at 7 meters).

D. Energy Impacts

The use of vapor recovery systems on loading racks at bulk gasoline terminals, and pollution prevention measures such as equipment standards for storage tanks and implementation of LDAR programs for equipment components will all keep gasoline in the system that would have escaped as emissions to the atmosphere. Nationwide annual gasoline savings are estimated to total 2.34 million gallons at pipeline breakout stations and 12 million gallons at bulk gasoline terminals.

E. Cost Impacts

Total capital and annualized control costs (third quarter 1990 dollars), including recovery credits, have been estimated for both existing and new sources. The control costs of the proposed regulation at existing facilities is estimated to require a total capital investment of $93 million, with an annualized cost of $8.4 million per year. The implementation costs of the proposed regulation will be lower for new facilities than for existing facilities primarily due to the smaller estimated number of new facilities (26 percent of the total number, encompassing both subcategories) and because new storage tanks are regulated by an existing NSPS standard and require no additional retrofit under the proposed standards. As a consequence, the control costs of the proposed regulation at new facilities is estimated to result in a total capital investment of $32 million, with annualized costs of approximately $7.4 million per year. Additional implementation costs for the reporting and recordkeeping requirements under the proposed rule are estimated to be 4 million.

F. Economic Impacts

The proposed standards were analyzed with regard to their impact on gasoline price and consumption, facility closures, and declines in employment. While the proposed standards require additional control only at bulk gasoline terminals and pipeline breakout stations, facilities downstream from terminals and breakout stations might be affected by the regulation due to higher gasoline wholesale prices and reduced consumption. The national average base year increase in the price of retail motor gasoline as a result of the proposed standards is estimated at $0.001 per gallon. The national base year decline in gasoline consumption is estimated at less than 100 million gallons (0.08 percent). The base year facility closure estimate is nearly 650, more than 90 percent of which is projected for the service station sector. While the number of service station closures is estimated to be in the hundreds, it should be noted that a total of over 380,000 stations is projected in the base year, so that the number of facilities that might close constitutes less than 0.2 percent. Furthermore, due to a consumption-spurred projection of modest industry growth from 1993 to 1998, some closures due to the regulation may be more accurately interpreted as reductions in new facility openings rather than closures of existing facilities. Employment reductions due to reduced consumption and facility closures are estimated at just over 1,100 jobs, 70 percent of which are projected for the service station sector. However, this constitutes only around 0.05 percent of the base year service station sector employment. For the same reason given for facility closures, some employment reductions may be more accurately interpreted as reductions in industry job opportunities rather than losses of existing jobs.

V. Decision Process for Setting the NESHAP

A. Authority for Development of the NESHAP

Title III of the 1990 amendments was enacted to help reduce the increasing amount of nationwide air toxics emissions. Under Title III, section 112 was amended to give the Agency the authority to establish national standards to reduce air toxic emissions from sources that emit one or more HAP's. Section 112(b) contains a list of HAP's, which are the specific air toxics to be regulated by the standards developed under section 112. Section 112(c) directs the Agency to use this pollutant list to develop and publish a list of source categories for which the NESHAP will be developed. The Agency must list all known categories and subcategories of ``major sources'' defined earlier as those sources that emit 10 tons/yr or greater of individual HAP's or 25 tons/yr or greater of any combination of HAP's. Area source categories selected by the Agency for the NESHAP development will be based on the Administrator's judgment that the sources in a category, individually or in aggregate, pose a ``threat of adverse effects to health and the environment.'' The initial list of source categories was published on July 16, 1992 (57 FR 31576).

B. Criteria for Development of the NESHAP

The NESHAP are to be developed to control HAP emissions from both new and existing sources pursuant to section 112(d) of the Act. The Act requires the standards to reflect the maximum degree of reduction in emissions of HAP's achievable for new or existing sources. Each NESHAP must reflect consideration of the cost of achieving the emission reduction, any non-air quality health and environmental impacts, and energy requirements. The emission reduction may be accomplished through application of measures, processes, methods, systems, or techniques including, but not limited to, measures that:

1. Reduce the volume of, or eliminate emissions of, HAP's through process changes, substitution of materials, or other modifications;
2. Enclose systems or processes to eliminate emissions;
3. Collect, capture, or treat these pollutants when released from a process, stack, storage, or fugitive emissions point;
4. Are design, equipment, work practice, or operational standards (including requirements for operator training or certification) as provided in Section 112(h); or
5. Are a combination of the above [Section 112(d)(2)].

C. Regulatory Development Process for the NESHAP

During development of a NESHAP, the Agency collects information about the industry, including information on emission source characteristics, control technologies, data from HAP emission tests at well-controlled facilities, and information on the cost, energy, and other environmental impacts of emission control techniques. The Agency uses this information in the development of possible regulatory approaches.

If the source category contains major sources, then a MACT standard is required. The level of control corresponding to the MACT ``floor'' needs to be determined as a boundary for developing the regulatory alternatives. (Procedures for determining MACT floors are discussed in part D of this section.)

Once the floor has been determined for new and existing sources for a category or subcategory, the Administrator must set MACT standards that are no less stringent than the floor level. Such standards must then be met by all sources within the category or subcategory. However, in establishing standards, the Administrator may distinguish among classes, types, and sizes of sources within a category or subcategory [Clean Air Act Section 112(d)(1)]. Thus, for example, the Administrator could establish two classes of sources within a category or subcategory based on size and establish a different emission standard for each class.

In addition, the Act provides the Administrator further flexibility in regulating area sources. Section 112(d)(5) provides that, in lieu of establishing MACT standards under Section 112(d), the Administrator may promulgate standards that provide for the use of ``generally available control technologies or management practices'' (GACT standards). Area source standards promulgated under this authority are not subject to the MACT ``floors'' described in part D of this section.

The next step in establishing a MACT or GACT standard is the development and analysis of regulatory alternatives. First, information about the industry is analyzed to develop model plant parameters and populations for the purpose of projecting national impacts, including HAP emission reduction levels, costs, and energy and secondary environmental impacts. Several regulatory alternative levels (which may be different levels of emission control, different applicability cutoffs, or both) are then evaluated to determine the most appropriate regulatory alternative to reflect the MACT or GACT level.

In addition, although the NESHAP are normally structured in terms of numerical emission limits, alternative approaches are sometimes necessary (e.g., source testing may be impossible or at least impractical due to technological and economic limitations). In these cases, work practice or equipment standards may be considered.

In the Agency's decision-making process, the regulatory alternatives considered for new versus existing sources may be different and each alternative must be technically achievable. In selecting a regulatory alternative to represent MACT or GACT, the Agency considers the achievable reduction in HAP emissions; the cost of control; and economic, energy, and other environmental impacts.

The selected regulatory alternative is then translated into a proposed regulation. The regulation implementing the MACT or GACT decision typically includes Sections addressing applicability, standards, test methods and compliance demonstration, monitoring, reporting, and recordkeeping. The preamble to the proposed regulation, published in the Federal Register, provides an explanation of the rationale for the decision. The public is invited to comment on the proposed regulation during the public comment period. Following an evaluation of these comments, the Agency reaches a decision and promulgates the final standards.

D. Determining Maximum Achievable Control Technology (MACT) ``Floors''

Once the Agency has identified the specific source categories or subcategories of major sources and area sources that it intends to regulate under section 112, MACT standards are set at a level at least as stringent as the ``floor'', unless the decision has been made to regulate area sources under section 112(d)(5). Congress has provided certain very specific directives to guide the Agency in the process of determining the regulatory floor.

Congress specified that the Agency must establish standards which require ``the maximum degree of reduction in emissions of the hazardous air pollutants * * * that the Administrator * * * determines is achievable * * *''

[Clean Air Act Section 112(d)(2)]. In addition, Congress limited the Agency's discretion by defining the minimum baseline (floor) at which standards may be set, as follows:

(1) For new sources, the standards for a source category or subcategory ``shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Administrator.''

(2) For existing sources, the standards ``may be less stringent than standards for new sources * * * but shall not be less stringent, and may be more stringent than: (A) The average emission limitation achieved by the best performing 12 percent of the existing sources (for which the Administrator has emissions information) * * * or (B) the average emission limitation achieved by the best performing 5 sources * * * for categories or subcategories * * * with fewer than 30 sources''

[Section 112(d)(3)].

VI. Selection Rationale

A. Selection of Source Category(s) Controlled

The gasoline distribution facility category is made up of several facility types, which taken together form the gasoline distribution network. The pollutants emitted at each of the facilities in the gasoline distribution network are essentially the same. These emissions consist of a mixture of organic compounds (essentially all of which qualify as VOC under the Agency's definition). Section 112(b) of the Act contains a list of HAP's for which the Agency has been directed to set national emission standards. A comparison of profiles of normal gasoline vapors to the HAP list reveals several compounds common to both. Benzene, toluene, hexane, ethylbenzene, naphthalene, cumene, all three chemical orientations of xylene (para, meta, and ortho), n-hexane, and 2,2,4-trimethylpentane (iso-octane) appear on both lists.

Section 211 of the Act contains provisions that will affect gasoline composition in the 1998 base year and, therefore, the HAP emissions from gasoline distribution sources. This section of the Act requires that fuels purchased and sold in nonattainment areas contain higher levels of oxygenates (reformulated and oxygenated fuel programs). While the focus of these fuels programs is the reduction of both tailpipe (combustion) and evaporative emissions of CO and air toxics (benzene, 1,3-butadiene, formaldehyde, acetaldehyde, and POM) emissions from gasoline vehicles, the intent of today's proposed rule is to reduce major stationary source evaporative HAP emissions from gasoline distribution facilities. Methyl tert-butyl ether (MTBE) is projected to be a major source of oxygen that will be added to gasoline to meet the oxygenate content requirements for the reformulated gasoline and oxygenated fuels programs. MTBE is also listed in Section 112(b) as a HAP.

On July 16, 1992 (57 FR 31576), the Agency published an initial list of source categories that emit HAP's, in response to Section 112(c) of the Act. In this listing, the gasoline distribution network

was included as a major source but was not listed as a category whose area source facilities were to be considered for regulation.

The Agency's subsequent analysis (summarized in the background information document (BID)) of HAP emissions from all subcategories of the gasoline distribution network concluded that only two of these subcategories, pipeline breakout stations and bulk gasoline terminals, contained major sources and should therefore be considered for regulation under Section 112(d). All the other subcategories of the network (pipeline pumping stations, bulk plants, and service stations) encompass only area sources and as a consequence were not included in the proposed standards. These sources will be studied and may be considered for regulation at a future date pursuant to the urban area source provisions of Section 112(c)(3) of the Act. Public comments and data are specifically requested on today's proposal to exclude area sources in this rulemaking and on the analysis contained in the BID to estimate emissions for determining area and major source facilities. Also, the Agency is specifically requesting any data that would document that any service station, bulk plant, or pipeline pumping station could be considered a major source of HAP's.

B. Selection of Emission Points Covered

The proposed standards would regulate all HAP emission points at major source pipeline breakout stations and bulk gasoline terminals.

As noted in Section III.A.2, there are two HAP emission source types at pipeline breakout stations. These sources are: (1) Equipment leaks from pumps, valves, and other components, and (2) losses from storage tanks. Both of these sources can be significant sources of emissions. Of the total of nearly 7,200 Mg/yr baseline HAP emissions from gasoline at pipeline breakout stations, it is estimated that 12 percent can be attributed to equipment leaks and 88 percent is emitted from storage tanks. Emissions from pumps arise from liquid gasoline leaking from packed or mechanical seals in the pumps used to move the product through the pipeline. Leaks also occur from seals around stems of valves and other equipment components that control or isolate gasoline from the environment such as connections, drain lines, and pressure relief devices.

Storage tanks at breakout stations may be of either fixed-roof, external floating roof, or fixed-roof with an internal floating roof construction. Emissions from fixed-roof tanks consist of breathing and working losses. Breathing loss is a vapor loss due to expansion or contraction of the vapor space in the tank above the liquid because of daily changes in temperature or barometric pressure. These emissions may occur in the absence of any liquid level change in the tank. Working losses consist of emptying and filling losses. Emptying losses occur during the expansion of air that is drawn into the tank during liquid removal. This air becomes saturated with hydrocarbon vapor and, when it expands due to changes in temperature or barometric pressure, exceeds the fixed capacity of the vapor space. Overflow then occurs through the pressure-vacuum valve. Filling losses occur when incoming gasoline displaces air and vapors through vents to the atmosphere.

Standing-storage losses, which result from causes other than a change in the liquid level, constitute the major source of emissions from external floating roof tanks. The largest potential source of these losses is an improper fit between the floating roof seal and the tank shell (seal loss). Withdrawal loss is another source of emissions from floating roof tanks. When liquid is withdrawn from a tank, the

floating roof is lowered and a wet portion of the tank wall is exposed. Withdrawal loss equals the amount of liquid vaporized from the wet tank wall.

Standing-storage losses from internal floating roof tanks arise through a somewhat different mechanism due to the enclosed design of the tanks. As ambient air flows over the exterior of the tank, it flows into the enclosed space between the fixed and floating roofs through some of the shell vents and flows out of the enclosed space through others. Any vapors that have evaporated from the exposed liquid surface and that have not been contained by the floating deck are swept out of the enclosed space. The withdrawal loss from an internal floating roof tank is similar to that discussed for tanks with external floating roofs.

There are four contributors to HAP emissions at bulk gasoline terminals, all of which contribute significantly to the overall totals: (1) From loading racks when gasoline is loaded into tank trucks or railcars (about 18 percent of the nationwide baseline total of 16,500 Mg/yr HAP emissions from bulk gasoline terminals), (2) fugitive leakage of vapors from tank trucks or railcars during loading of gasoline (23 percent of baseline total), (3) evaporation of gasoline from storage tanks (33 percent of the baseline total), and (4) equipment leaks from pumps, valves, and other components (26 percent of baseline values).

Emissions occur at loading racks when gasoline that is loaded into cargo tanks of trucks or railcars displaces vapors inside these containers. These emissions may occur either uncontrolled (when facilities are not using vapor collection and processing equipment) from tank truck or railcar cargo compartments, or from the outlet vents of control systems used to process these displaced vapors.

Even at controlled loading racks (ones equipped with vapor collection and processing systems), fugitive emissions from leaking truck transport tanks or railcars may occur through the dome covers, pressure-vacuum relief valves or vents, and several other potential sources. The dome or hatch cover designed to seal each cargo compartment during transport and during loading and unloading operations can develop leaks over time. Valves, which include the pressure-vacuum (P-V) vent under the dome plate assembly and the vent valve connected to the overturn rail on tank trucks, can leak if they become dirty or worn. Improperly installed or damaged hose couplings can also be sources of vapor emissions. The transport tank shell, if damaged, also can produce vapor emissions from cracks or failures in welds. This latter type of leak occurs less frequently than those at the dome cover and vents, but may be a large emission source for some transport tanks.

Storage tank and equipment component (pumps and valves) leak emissions at bulk gasoline terminals are identical in the manner of their occurrence to those described earlier for pipeline breakout stations. However, HAP emission reductions are not the same due to differences in turnover rates and storage tank sizes as well as differences in the numbers of estimated equipment components in the process line piping between the two facility types.

C. Selection of the Basis for the Proposed Standards for New and Existing Sources

At the present time, a majority of sources within the gasoline distribution network are being controlled under State regulations and Federal new source performance standards (approximately one-third of

the storage tanks at pipeline breakout stations; one-half of the storage tanks, nearly 70 percent of loading racks, and most of the tank trucks and railcars that load at bulk gasoline terminals). However, since the States are required to adopt regulations consistent with CTG recommendations only in areas not attaining the national ambient air quality standards (NAAQS) for ozone, many States have regulations that cover only those areas. Today's proposed standards will require more stringent emission control levels for major source facilities located in areas designated as ozone nonattainment, and will extend the same controls to major source facilities located in attainment areas.

1. Determination of Applicability

To determine which pipeline breakout stations or bulk gasoline terminals are to be regulated (i.e., which ones are classified as major sources), owners and operators of these facilities either may provide documentation to the Administrator that the facility is not a major source as defined in section 112(a) by means of completion of an emissions audit or may employ one of the equations discussed later in this section that have been developed for estimating facility emissions. However, regardless of the applicability criteria equation that is chosen, bulk gasoline terminals and pipeline breakout stations that are located within the contiguous area and under common control with a petroleum refinery are considered major sources if that petroleum refinery is a major source. This is because refinery process equipment in combination with bulk terminal and pipeline breakout station equipment is likely to emit more than the threshold levels for major source determination.

Initially, the Agency considered a throughput cutoff determination for distinguishing major source from area source facilities in each subcategory. However, for pipeline breakout stations, HAP emissions are a function of the number of individual emission sources (storage tanks, pumps, and valves), while emissions from bulk gasoline terminals occur from these sources as well as from sources which depend upon gasoline throughput (loading racks and tank truck or railcar leakage).

Since major source determinations are not based solely on throughput at each facility type, another approach was investigated for distinguishing between major and area sources. Equations were developed to estimate total HAP emissions from both bulk gasoline terminals and pipeline breakout stations. The equation approach allows a potential subject facility to input the type of equipment present at the facility and calculate emissions accordingly. These equations were developed to include all potential equipment; however, if a particular portion of the equation does not apply (e.g., no fixed-roof tanks), then that portion of the equation will equal zero and fall out of the calculation.

At first, several equations were developed to attempt to cover many different equipment combinations, different HAP contents in gasoline emissions, and the two major source criteria, 10 tons of a single HAP or 25 tons of combination of HAPs. One equation was developed for each subcategory that would handle normal gasoline (estimated HAP content of 4.8 percent), a second set of equations was developed for each facility handling reformulated or oxygenated fuels (estimated HAP emission content of 16 percent) and a third set of equations was developed for each facility handling the single-HAP (estimated to be gasoline vapor with MTBE with a HAP content of 12 percent).

The initial equations were simplified to match the desired approach to provide a simple and reasonable set of equations to distinguish between area and major sources. The initial equations were simplified

and narrowed through testing the equations against different model facility parameters and assumptions. Consequently, the original equations were reduced to a limited number of equipment parameter variables and reduced to one equation for bulk terminals and another for pipeline breakout stations. The resulting equations presented below are determined by the Agency to capture all major sources under the realistic mix of facility equipment and operating parameters.

A bulk gasoline terminal is not considered a major source if the result of the calculation in equation (1), E<INF>T, is less than 1.

(1)
E<INF>T=0.63(T<INF>F)+0.19(T<INF>E)+0.092(T<INF>ES)+0.03(T<INF>I)+0.0012(V)+0.024(P)+KQ

where:

E<INF>T=major source applicability factor for bulk gasoline terminals, E<INF>T<gr-thn-eq>1 means bulk gasoline terminal is estimated to be a major source.,

T<INF>F=total number of fixed-roof gasoline storage tanks,

T<INF>E=total number of external floating roof gasoline storage tanks with only primary seals,

T<INF>ES=total number of external floating roof storage tanks with primary and secondary seals,

T<INF>I=total number of fixed-roof gasoline storage tanks with an internal floating roof,

V=number of valves in gasoline service,

P=number of pumps in gasoline service,

Q=gasoline throughput rate (liters/day),

K=3.18 x 10<SUP>-6 for bulk gasoline terminals with uncontrolled loading racks (no vapor collection and processing systems), OR

K=(4.5 x 10<SUP>-9)(EF+70) for bulk gasoline terminals with controlled loading racks (loading racks that have vapor collection and processing systems installed on the emission stream), and

EF=the federally enforceable emission standard for the vapor processor (mg of total organic compounds per liter of gasoline loaded).

A pipeline breakout station is not considered a major source if the result of the calculation in equation (2), E<INF>P, is less than 1.

(2)
E<INF>P=2.4(T<INF>F)+0.09(T<INF>E)+0.043(T<INF>ES)+0.027(T<INF>I)+0.0009(V)+0.009(P)

where:

E<INF>P=major source applicability factor for pipeline breakout stations, E<INF>P<gr-thn-eq>1 means pipeline breakout station is estimated to be a major source., and

T<INF>F, T<INF>E, T<INF>ES, T<INF>I, V, and P are the same as defined for bulk terminal equation (1).

The Agency provides the above equations to simplify and reduce the implementation burden to affected and non-affected facilities. The Agency requests public comments on the utility, accuracy, and need for these equations.

2. Determination of Floor Control Levels

A boundary in the formulation of the regulatory alternatives is a

determination of the MACT floor for new and existing sources. The statutory requirements for determining these floors was previously discussed in section V.D of this preamble. Selection of floor levels of control using the statutory criteria is described in the following subsections.

a. Loading racks. In many of the areas where bulk terminal loading rack controls are mandated authorities have imposed control requirements more stringent than the limit of 80 mg TOC per liter of gasoline loaded recommended in the CTG for bulk gasoline terminals. A summary of State regulations pertaining to gasoline tank truck loading indicated that some terminals currently are operating under a 10 mg TOC per liter limitation in parts of California. In addition, the NSPS for tank truck loading at bulk gasoline terminals (subpart XX of 40 CFR part 60) limits emissions to 35 mg/liter. There are currently three types of vapor processor systems, refrigeration condensers, carbon adsorbers, and thermal oxidation systems, used to meet these three control requirement emission limits. Each type of control can be specifically designed to meet each limit.

To establish the control requirements for new sources the Agency is required to select controls not less stringent (floor) than the control achieved in practice by the best similar source. The best performing control systems at similar sources, or systems achieving the maximum degree of reduction in emissions, are those systems designed and operated to meet the 10 mg TOC per liter standard. Therefore, control systems achieving the 10 mg TOC per liter limit are considered the floor control level for new sources.

To establish the limit for existing sources the Agency is required to select a limitation no less stringent (floor) than the average emission limitation achieved by the best performing 12 percent of sources. To support setting the floor for existing sources the Agency collected information on the number of facilities under each control requirement and the results of the measured emission rates achieved during performance tests of vapor processors at over 100 bulk gasoline terminals.

It is estimated that 70 percent of the approximately 1,000 terminals nationwide are required to meet one of the three levels of control requirements, 10, 35, and 80 mg TOC per liter of gasoline loaded. Performance test data were collected for terminals subject to each of those three levels. Performance test data collected from vapor processors at terminals regulated by the 10 mg standard all met the 10 mg limit, but less than 3 percent of terminals are subject to a 10 mg emission limitation. The majority (about 70 percent) of performance test data collected from terminals under the 35 mg NSPS standard achieved less than 10 mg TOC per liter. This indicates that the 10 mg standard is achievable by processors designed to achieve the 35 mg standard. About 40 percent of the terminals are subject to the 35 mg standard. Therefore, the average emission limitation achieved by the best performing 12 percent of the existing sources is a 10 mg standard, thus 10 mg limit is the floor control level for existing bulk gasoline terminals.

b. Tank truck and railcar vapor leakage. The CTG detailing control of fugitive emissions from tank trucks recommends that cargo tanks be tested for vapor leakage on an annual basis, and repaired as necessary. Also, the bulk terminal tank truck loading NSPS (subpart XX of 40 CFR part 60) requires that tank trucks that load gasoline at bulk gasoline terminals be ``vapor-tight;'' that is, they must pass an annual vapor tightness test in accordance with Method 27 of 40 CFR part 60, appendix

A. A second form of leak testing is carried out by the Department of Transportation (DOT), whose required annual leak tightness testing specifies pressurization of the cargo tank to 80 percent of its maximum allowable working pressure. The DOT considers Method 27 to be an acceptable alternative to its own pressure test. However, since the relief vents on each fuel compartment (which have been found to be the major sources of vapor leakage) are capped off during the DOT test, this test is considered less stringent than Method 27 pressure test. Also, the DOT test does not include a vacuum test as specified in Method 27. The Agency estimates that over 70 percent of existing tank trucks are required to pass the annual vapor tightness testing using Method 27. It has also been determined that the same test can be applied to railcars.

Through contacts with one State control agency, the Agency discovered a system that provides additional control of vapor losses from cargo tanks. In this system, a negative pressure is created in the vapor collection system during loading, ensuring that vapors will not be forced out into the air through any leakage points. This ``vacuum assist'' system is in use at a few bulk gasoline terminals (in addition to Method 27 testing) in Texas, so it meets the Act requirement to consider the best controlled similar source in establishing the floor level of control for new terminals. Since less than 1 percent of terminals use this vacuum assist system it is not considered the floor for tank trucks at existing terminals. Annual vapor tightness testing using Method 27 is the next highest or best emission level and therefore represents the average emission limitation achieved by the best performing 12 percent of existing sources as specified in the Act. Therefore, annual vapor tightness testing using Method 27 is considered the floor for tank trucks loading at existing terminals.

Industry sources have expressed concerns regarding the operational reliability of a vacuum assist system, especially under extreme cold weather conditions. These commenters also believe that the system could present a safety hazard if excess negative pressures were developed within a tank truck fuel compartment. To the Agency's knowledge, the systems in operation have not experienced any significant problems, and one of the systems has been operating for over 2 years. These systems contain safety pressure relief devices in combination with the pressure-vacuum vents already installed on each tank truck compartment. However, safety concerns are important to the Agency. The Agency specifically requests comment, including technical documentation and data where available, on the reliability, effectiveness, safety aspects, and any other issue concerning vacuum producing equipment for bulk terminal vapor collection systems.

On the basis that this technology has been demonstrated, the Agency has selected the vacuum assist system for the loading of tank trucks and railcars at new bulk gasoline terminals (in combination with the 10 mg TOC/liter emission limit and continuous monitoring of the vapor processing system) as the floor level of control for fugitive cargo tank leakage at new facilities.

c. Equipment leaks. The control of emissions from equipment components leaking liquid or vapors at pipeline breakout stations and bulk gasoline terminals has never been specifically addressed by the Agency in a federal regulation or in a CTG. The Agency has determined, based on information obtained on site visits and from various industry contacts, that many facilities conduct periodic visual inspections to identify leaking components, and a few (less than one percent) perform leak detection and repair (LDAR) programs with a portable organic vapor

analyzer. Therefore, the existing facility floor for the control of emissions from leaking equipment components at both pipeline breakout stations and bulk gasoline terminals was determined to be periodic visual inspections, or no formal (federally enforceable) inspection procedure.

The control of emissions from leaking equipment components at other facilities with similarities to pipeline breakout stations and bulk gasoline terminals has been studied extensively. LDAR programs to conduct periodic monitoring of these components are in effect for many types of sources, including equipment in VOC service at petroleum refineries (40 CFR part 60, subparts GGG and VV) and equipment operated in volatile hazardous air pollutant (VHAP) service (40 CFR part 61, subparts J and V). These programs include monthly inspections of pumps and valves involving the use of a portable organic vapor analyzer to identify leaking components, a protocol for tagging leaking components, and a time limit for performing repairs.

In determining the frequency of monitoring that would reflect best control of these emission sources, the Agency found that some bulk gasoline terminals are already carrying out equipment leak monitoring with a portable organic analyzer. Some of these programs involve quarterly monitoring, while others involve monthly monitoring. Bulk gasoline terminals co-located with or within the contiguous area of refineries are performing LDAR under 40 CFR part 60, subparts GGG and VV and 40 CFR part 61, subparts J and V. Since these similar source control requirements are achieved in practice the Agency has selected an LDAR program based on 40 CFR part 60, subpart VV as the floor level of control for equipment leaks at new bulk gasoline terminals and breakout stations. The proposed standards require monthly leak monitoring of pumps, no detectible emissions from pressure relief valves (after overpressure release to insure proper reseating of valve), barrier fluid systems for compressors, closed-purge or closed-vent systems for sampling collection systems, and caps or plugs for open-ended valves or lines. Requirements for valves are that they be monitored monthly, with provisions allowing the monitoring frequency for valves that do not leak for 2 successive months to be relaxed from monthly to quarterly. Additionally, an alternative standard for valves allows for equal to or less than 2 percent of all valves to leak above the detection limit, and contains procedures that allow monitoring frequency to decrease from monthly to either quarterly or to annually.

d. Storage tanks. NSPS standards have been promulgated (40 CFR part 60, subparts K, Ka, and Kb) that cover new, modified, and reconstructed petroleum and volatile organic liquid (VOL) storage tanks, and CTG recommendations have been implemented for existing storage tanks in ozone nonattainment areas. The requirements specify that external floating roof tanks be equipped with certain primary and secondary seals and that fixed-roof tanks be equipped with internal floating roofs with certain types of seals.

Following an analysis of State regulations, the Agency estimated that approximately 76 percent of the storage tanks at pipeline breakout stations are of external floating roof design, while 24 percent are of fixed-roof construction. The corresponding numbers for storage tanks at bulk gasoline terminals are 53 and 47 percent, respectively. Further analysis showed that of the external floating roof tanks at pipeline breakout stations, 36 percent have the NSPS and CTG required primary and secondary seals, while 64 percent have only primary seals. At bulk gasoline terminals, the numbers are 43 and 57 percent for the respective seal types. Similarly, of the fixed-roof tanks at pipeline

breakout stations, it was estimated that 38 percent have internal floating roofs (72 percent at bulk gasoline terminals) as required by NSPS and recommended by the CTG, while 62 percent are uncontrolled at pipeline breakout stations (28 percent at bulk gasoline terminals).

Based on the above analysis, the most recent NSPS standard (40 CFR part 60, subpart Kb) represents the average emission limitation achieved by the best performing 12 percent of existing sources. Thus the floor level of control for storage tanks at both existing pipeline breakout stations and existing bulk gasoline terminals has been determined to be the control level defined in subpart Kb. Since it has not been demonstrated that, in practice, there are any better controls than this level for storage tanks, the level of control defined by 40 CFR part 60, subpart Kb was also selected as the floor level of control for storage tanks at new pipeline breakout stations and bulk gasoline terminals.

Degassing and cleaning of tank bottom sediments are necessary to safely retrofit the different or additional seals on existing tanks to meet the floor level of control (subpart Kb requirements). Degassing and cleaning of the bottom of the tank are routine maintenance practices that have been reported to occur at least every ten years. Degassing and cleaning also results in air emissions. As discussed earlier in this preamble, section 112(i)(3) in the Act allows for up to three years to comply with this standard and an additional one-year permit extension. Also there is the additional time between proposal and promulgation. During this three to five year period, it is logical to assume that many of the tanks requiring the retrofit of controls will be experiencing their routine maintenance cleaning and degassing; these tanks could be retrofitted during this time. Thus, for these tanks the retrofitting required by this proposal would not result in earlier degassing and cleaning emissions than would otherwise occur. For those tanks that would not be degassed or cleaned during that period, degassing and cleaning emissions would be required by this proposed rule to occur earlier than normal. This early emissions increase is estimated to be more than off-set by the emission reductions achieved from the required improved seals. Comments and data are requested on any situations where estimated emissions increase will not be off-set by the emission reduction achieved by the controls; for these situation, the data should include the number and description of tanks in this atypical situation, their existing equipment and maintenance history, determinations of the emissions and costs for tank degassing and cleaning, and the basis for any calculations.

The floor level of control for existing storage tanks was discussed earlier and was determined to be the level of control achieved under the NSPS subpart Kb. Gasoline storage tanks meeting the control level in subpart Kb were determined to represent the average emission limitation achieved by the best performing 12 percent of the existing sources. Comments and data are specifically requested on the number of gasoline storage tanks at these facilities with seal types meeting subpart Kb.

3. Formulation of Regulatory Alternatives

After establishing the MACT floor control levels, the Agency developed regulatory alternatives for the affected subcategories. The first alternative developed was one that specified control levels at the floor for all new and existing major sources. This alternative was designated Alternative IV. Next, various combinations of control options were examined, ranging in stringency from the floor level controls specified in Alternative IV to the most stringent controls for

each subcategory. A cost-effectiveness analysis was then performed to eliminate the alternatives with higher costs for the same or lesser emission reductions. A final set of three regulatory alternatives (Alternatives IV, IV-Q, and IV-M) was then evaluated as the potential basis for the proposed standards. Alternatives IV-Q and IV-M are similar to Alternative IV except, they contain increasingly stringent levels of equipment leak control at existing facilities. The following paragraphs and Table 1 describe these alternatives.

Table 1.--Major Source Regulatory Alternatives IV, IV-Q, IV-M

Emission source and controls for major sources	Bulk terminals		Pipeline breakout stations	
	New	Existing	New	Existing
REGULATORY ALTERNATIVE IV				
Storage Tanks:				
--External Floating Roof Tanks Install Primary and Secondary Seals.	X	X	X	X
--Fixed Roof Tanks Install Internal Floating Roofs with Primary Seals.	X	X	X	X
Tank Truck Loading:				
Collect and Process Vapors to 10 milligrams TOC per liter of Gasoline Loaded.	X	X		
Tank Truck Leaks:				
--Vacuum Assist Loading.....	X			
-- Annual Vapor Tightness Testing...	X	X	.....	.....
Equipment Leaks:				
--Leak Detection and Repair Program:	X		X	
REGULATORY ALTERNATIVE IV-Q (ALTERNATIVE IV PLUS THE FOLLOWING)				
Equipment Leaks:				
Quarterly LDAR for pumps and valves.		X		X
REGULATORY ALTERNATIVE IV-M (ALTERNATIVE IV PLUS THE FOLLOWING)				
Equipment Leaks:				
--Monthly LDAR for pumps and valves.		X		X

At pipeline breakout stations, Alternative IV requires that secondary seals be installed on both new and existing external floating roof storage tanks and that fixed-roof tanks be retrofitted with internal floating roofs with primary seals. The control level for storage tanks is the same as 40 CFR part 60, subpart Kb. It also requires that an LDAR program equivalent to 40 CFR part 60, subpart VV be implemented for equipment leaks at new facilities.

At new and existing bulk gasoline terminals, Alternative IV specifies a 10 mg TOC/liter emission limit for vapor processors at loading racks, and requires the same storage tank requirements

discussed above for pipeline breakout stations. Also, new facilities must use vacuum assist vapor collection for loading of gasoline tank trucks and railcars, and an LDAR (40 CFR part 60, subpart VV) program. Also, at existing bulk gasoline terminals, Alternative IV requires tank trucks and railcars to undergo an annual vapor tightness test. Under this alternative, no LDAR program is required for equipment leaks at existing bulk gasoline terminals.

Alternatives IV-Q and IV-M specify controls identical to those of Alternative IV, with the addition of a pollution prevention LDAR program for both pumps and valves at existing bulk gasoline terminals and pipeline breakout stations. Alternative IV-Q adds a quarterly LDAR program for pumps and valves at existing facilities, and Alternative IV-M adds a monthly LDAR program for pumps and valves at these same sources. LDAR programs at existing sources achieve emission reduction at little additional annual cost to each facility, and are in use at facilities with similar equipment.

During the development of today's proposal, EPA considered including an emissions averaging approach but did not identify any viable alternatives. EPA would be interested in pursuing the development of an averaging alternative if such an alternative would be protective of the environment and, as expected, lower the cost of achieving any particular emission reduction. A possible benefit of an averaging approach is that it may provide sources greater flexibility in achieving emissions reductions that may also translate into cost savings for the source. EPA is interested and requests data and comments that could be used to develop an emissions averaging alternative in the final rule.

4. Consideration of Environmental Impacts

For the entire gasoline distribution network, total nationwide HAP emissions are estimated to be 52,440 Mg/yr at baseline. Of these emissions, approximately 23,750 Mg/yr (45 percent of the total) can be attributed to the two subcategories of the network subject to today's proposed regulation; nearly 7,250 Mg/yr of HAP's are emitted by pipeline breakout stations, while about 16,500 Mg/yr are associated with bulk gasoline terminals.

All individual sources of emissions at facilities in these two subcategories are significant contributors to total facility emissions, with equipment leaks at pipeline breakout stations being the smallest (12 percent of the baseline subcategory total, due to the relatively small number of equipment components in the process piping at these facilities). Storage tanks at pipeline breakout stations contribute the remaining 88 percent of the total for this subcategory. At bulk gasoline terminals, HAP emissions are more evenly distributed: loading racks account for 18 percent of the baseline subcategory total, storage tanks contribute 33 percent, fugitive leaks from cargo tanks of trucks or railcars account for 23 percent of the subcategory total, and it is estimated that leaking pumps and valves in the process line piping account for the remaining 26 percent.

It is estimated that implementation of Alternative IV would reduce these HAP emissions from pipeline breakout stations and bulk gasoline terminals by 11 percent, implementation of Alternative IV-Q would reduce them by a little less than 13 percent, and Alternative IV-M by slightly more than 14 percent. All of these are significant amounts in view of the fact that these reductions are incremental to existing programs, and that only an estimated 23 percent of the total subcategory facilities are major sources. (The analysis estimates that 7.4 percent of pipeline breakout stations and 27 percent of bulk

gasoline terminals qualify as major sources.) If only major source pipeline breakout stations and bulk gasoline terminals are considered at baseline, implementation of Alternative IV reduces these emissions by 48 percent, Alternative IV-Q by 55 percent, and Alternative IV-M by 59 percent.

Data directly from bulk gasoline terminals or pipeline facilities was not available to analyze the equipment leak potential emissions and reductions. The Agency used the emissions data that had been previously collected at petroleum refineries, including the Agency's published AP-42 emission factors. Subsequent to the Agency's analysis, new data specific to leaking components at bulk gasoline terminals was released in a published report. This data appeared to indicate lower emissions than those derived from the refinery data, and industry commenters urged the Agency to reconsider leak detection and repair standards for this subcategory. These commenters also stated that equipment components in use at gasoline production and distribution facilities are quite different, so the assumption that the leakage characteristics of components at these two types of facilities are similar may not be valid. To address this latter comment first, the Agency believes that the magnitude and frequency of leaks from components at these facilities are similar. This conclusion is based on several years of gathering and analyzing data on all configurations and uses of equipment at refineries and chemical production facilities. The Agency, in these data gathering efforts, found no correlation between temperature, pressure, or component size and the magnitude or frequency of leaks.

The Agency performed a thorough review of the new data collected at bulk gasoline terminals. It was determined that, while acceptable test protocols were used, the quantity of data (which were for only a few terminals) were insufficient to warrant a change in the emission calculations for these components. Therefore, the Agency's conclusion that a periodic equipment monitoring program would be a cost-effective means of ensuring maximum HAP emission reductions is unchanged. The data discussed above indicates potentially lower equipment leak emissions rates than those found in testing refineries. It should be noted that any facilities where this may be the case, could qualify for the less frequent monitoring requirements in today's proposed standards, as provided for in 40 CFR part 60, subpart VV.

The Agency is open to receiving additional data that could be used to quantify emissions and control levels of leaking equipment at bulk gasoline terminals and pipeline breakout stations. This includes leak frequency data, leak correlation data, and information on programs that may be in place to reduce equipment leaks. Such data should include specifics on test procedures, applicable rules, control methods, etc. The Agency will review all data received in developing and assessing the final control requirements. The full range of control options presented here will be included in the consideration.

5. Consideration of Cost

Implementation of Alternative IV, IV-Q, or IV-M is estimated to result in identical capital costs, approximately $125 million. This cost is primarily associated with retrofit or installation of vapor collection piping and vapor processors for loading racks at bulk gasoline terminals. However, there is a difference in annualized cost among these three alternatives due to annual costs and recovery credits associated with implementing LDAR programs at existing sources. Recovery credits are calculated based on the value and the amount of gasoline not allowed to evaporate or collected under each control

alternative. Alternative IV-Q requires the smallest annualized cost, $15.8 million/yr, due to having the largest recovery credit per dollar spent on implementation of the program. Alternative IV-M is slightly more costly at $16.3 million/yr (recovery credits per dollar spent are not quite as large as IV-Q). Alternative IV has similar annualized cost as Alternative IV-M.

6. Consideration of Economic Impacts

The implementation of either Regulatory Alternative IV, IV-Q, or IV-M is projected to result in gasoline price and consumption impacts, facility closures, and declines in employment. The national average base year increase in the retail price of motor gasoline as a result of these alternatives is estimated at $0.001 per gallon. The national base year decline in gasoline consumption is estimated at less than 100 million gallons (0.08 percent). There are a limited number of facility closures estimated to result from the regulatory alternatives. The base year facility closure estimate is nearly 650, of which more than 90 percent are projected for the service station sector. While the estimated number of service station closures is estimated to be in the hundreds, it should be noted that a total of over 380,000 stations are projected being in operation during the base year, so that the number of facilities closing would constitute less than two-tenths of one percent. Furthermore, due to a consumption-spurred projection of modest industry growth from 1993 to 1998, some closures due to the regulation may be more accurately interpreted as reductions in new facility openings rather than closures of existing facilities. Employment reductions due to reduced consumption and facility closure are estimated at just over 1,100 jobs, of which 70 percent are projected for the service station sector. However, this job loss constitutes only about 0.05 percent of the total employment attributed to the service station sector in the base year. For the same reason given for facility closures, some employment reductions may be more accurately interpreted as reductions in industry job opportunities rather than losses of existing jobs.

7. Consideration of Secondary Impacts

As discussed earlier, there is projected to be no adverse secondary air pollution or water pollution impacts associated with standards based on implementation of any of the alternatives. In fact, there is likely to be some benefits. For example, implementation of any of the alternatives would be based in major part on an LDAR program. LDAR programs at most facilities should actually reduce the water pollution impact through detection and repair of faulty equipment in a shorter timeframe than in the past. Additional benefits may be realized through decreased intrusion of rainwater into storage tanks at both facility types.

The small amount of water condensed from the air-vapor stream by refrigeration condenser systems installed at loading racks should pose no threat to the environment because the gasoline is recovered (typically in an oil-water separator) and the gasoline-water portion is collected and stored for processing off-site.

The only potential secondary impact involves solid waste disposal, which may result in cases where carbon adsorbers are used to comply with the emission standards at bulk terminal loading racks. Spent activated carbon from these units is normally reclaimed for reuse during the carbon's useful life, and then discarded when it is no longer effective (usually 10 years) or reactivated in a furnace. If the average annual solid waste impact of this disposal (assuming no reactivation) is spread over the estimated life of the carbon, an

overall environmental impact of about 230 megagrams per year (0.7 megagrams per terminal) results. Consequently, the magnitude of the adverse solid waste disposal impact occurring from the implementation of any of these alternatives is considered small.

8. Consideration of Energy Impacts

There is a beneficial nationwide energy impact associated with implementation of each of the alternatives. Implementation of LDAR programs and installation of secondary seals on storage tanks both result in energy savings, since additional gasoline is kept in the tanks and lines, and remains available for sale rather than being allowed to escape to the atmosphere. Only a small amount of electrical energy would be required for most flares that may be installed at bulk terminal loading racks for emission control; however, assist gas may be necessary for some systems. Where thermal oxidation, refrigeration condenser, or carbon adsorption systems are installed to achieve compliance for loading racks, however, a moderate amount of electrical energy will be required.

As mentioned earlier, vapor recovery (noncombustion) systems would recover gasoline from vapors collected at bulk terminal loading racks; LDAR programs, storage tank monitoring, and vacuum assist vapor collection all operate to reduce evaporation and improve leak prevention, so they result in gasoline savings. Assuming that 25 percent of the emission reduction at bulk terminal loading racks would be accomplished using recovery devices (the remainder would be the result of combustion devices) and subtracting the energy used by the recovery devices from the energy in the recovered product, the savings resulting from implementation of each of the alternatives are as follows: Alternative IV results in recovery of approximately 16 million gallons of gasoline per year, Alternative IV-Q saves almost 18 million gallons per year, and Alternative IV-M recovers slightly more than 19 million gallons per year.

9. Selection of the Proposed Standards

In accordance with Clean Air Act section 112(d), the Administrator is required to set emission standards for new and existing sources of HAP's from source categories listed pursuant to section 112(c) [see the source category list proposal of July 16, 1992 (57 FR 31576)]. In doing so, the Administrator must require the maximum degree of reduction in emissions of HAP's that is achievable, taking into consideration the cost of achieving the emission reduction, any nonair quality health and environmental impacts, and energy requirements. Having given full consideration to these directives, the Administrator has selected Alternative IV-Q as the basis for the proposed standards for gasoline distribution major sources.

All three alternatives discussed earlier (IV, IV-Q, and IV-M) satisfy the Act's criteria. Alternative IV achieves the least HAP emission reduction and is the least stringent possible alternative allowed by the Act statutory language. However, the Act provides for setting standards above the floor. As a result, Alternatives IV-M and IV-Q contain control levels more stringent than the floor for existing sources (monthly and quarterly leak detection and repair of pumps and valves, respectively). Results of emission reduction calculations show that Alternative IV-M achieves greater HAP emission reductions than IV-Q or the floor Alternative IV. Additionally, analysis shows that Alternative IV-Q and IV-M would have minor economic and nonair quality environmental impacts, and beneficial energy impacts.

Although Alternative IV-M would achieve the maximum reduction in HAP emissions, there is uncertainty in the calculation of emission

reductions for leak detection and repair (as discussed in section 4). Due to this uncertainty in emissions and the increased cost of Alternative IV-M, Alternative IV-Q was chosen over the more stringent Alternative IV-M.

D. Selection of the Format of the Proposed Standards

Section 112(h) of the Act requires that standards be promulgated in terms of a numerical emission standard except when it is not feasible for the pollutants to be emitted through a conveyance or it is not practicable to apply measurement methodology due to technological or economic limitations. In these cases, the Administrator may promulgate a design, equipment, work practice, or operational standard that is consistent with the intent of section 112.

As discussed under Section B above, there are four distinct categories of emission sources at bulk gasoline terminals: (1) Displacement losses when gasoline tank trucks or railcars are loaded at loading racks, (2) fugitive vapor losses from leaking tank trucks or railcars during controlled loading operations, (3) losses from storage tanks, and (4) vapor leaks from equipment components. The latter two emission sources also occur at pipeline breakout stations.

To set a numerical emission limit for tank truck loading operations, the total HAP emissions would have to be measurable, so that a comparison with this emission limit could be made. Since the small portion of the displaced vapors which may leak from the tank trucks cannot be quantitatively measured, accurate measurements of total HAP emissions from tank truck loading are not possible. However, the major portion of the displaced vapors can be measured after the vapors are collected at the loading rack. Vapor collection systems typically include the equipment at the loading rack used to contain and route emissions, and generally consist of hoses or arms, manifolding, piping, and check valves. This type of system is consistent with the current state-of-the-art collection systems in use at many existing bulk gasoline terminals. Because of its demonstrated control effectiveness, and because it is not possible to set a standard of performance for the total emissions from the loading operation, an equipment standard requiring a vapor collection system at each loading rack was selected by the Administrator as the format for controlling HAP emissions at the loading racks.

Since emissions from the vapor collection system can be measured, standards of performance in the form of a numerical emission limit can be applied to emissions from the vapor collection system. Several formats for these standards of performance are possible. Three formats considered for limiting emissions from the vapor collection system include a concentration standard, a control efficiency standard, and a mass emissions standard. A vapor processing system would be necessary under any of these formats to achieve the required emission limit.

A format expressed in terms of concentration would limit the HAP concentration in the exhaust from the vapor processing system. However, test data from these systems indicate a variation in exhaust gas flow rates and concentrations among the various types of systems. Separate concentration limits might be required for each type of control system at each affected terminal if a concentration format were selected.

Information from the manufacturers and test results indicate that the control efficiencies of the processing systems are dependent on the inlet concentration to the processor. The data further indicate that concentrations at the inlet of the processor vary considerably from

terminal to terminal. It would be difficult to adjust the calculations to account for these variations. Also, control efficiency testing would require two separate measurements of pollutant concentration instead of just one measurement as required in the concentration or mass approaches.

A mass standard based upon the vapor processor outlet emissions would involve a simpler, less expensive, and more straightforward test procedure. This testing would require measurement of mass emissions at the processor outlet only. In addition, the affected industry has over 15 years experience in conducting this type of testing at bulk gasoline terminals and, in fact, this is the type of test data analyzed to determine the MACT control levels for the facilities to be regulated in this source category. Due to these considerations, a mass emission format, based on measurements at the outlet of the vapor processor only, was selected for the standard to be applied to bulk terminal tank truck and railcar loading emissions. This mass emission format is the same type analyzed to determine the MACT control levels for vapor processors.

The test methods that have proved to be acceptable for measuring pollutant emissions from bulk terminal control systems measure the total organic compounds content of the exhaust stream. To analyze the stream specifically for HAP content, more complex testing would have to be carried out. The emission reduction processes utilized in vapor processing systems have been found to reduce HAP's in proportion to the reduction of total organics. Therefore, the emission limit for loading rack vapor collection systems is expressed in terms of mass (milligrams) of total organic compounds emitted per volume (liter) of gasoline loaded into tank trucks and railcars.

Even at loading racks controlled through installation of vapor collection and processing systems, gasoline vapor emissions may occur from the loading operation due to vapor leakage from closed gasoline tank trucks or railcars during loading. These leakage emissions originate from pressure-vacuum vents and defective hatch covers and seals. Due to the fugitive nature of these emissions, it is not feasible to collect the escaping vapors and route them through a conveyance. Since cargo tank leakage measurements at the loading racks do not provide a quantitative measurement of total organic concentration, flow rate, or mass emissions, an enclosure around a loading tank truck or railcar would be necessary in to trap emissions for measurement. An enclosure or conveyance to accomplish this is not technologically or economically practicable. Due to these considerations, the Administrator determined that a standard of performance, in the form of a numerical emission limit, could not be set, and that a work practice standard would be appropriate for controlling cargo tank vapor leakage emissions.

One method for monitoring fugitive tank truck or railcar emissions would involve the use of a portable hydrocarbon analyzer to detect emissions during loadings. However, such a requirement is considered to represent an excessive burden, especially at unmanned terminals where entry is gained through a cardlock system. Another method for exercising control over leaking tank trucks would consist of a work practice standard. The work practice standard format would consist of a requirement that the owner or operator of the terminal restrict loadings of gasoline tank trucks to those for which documentation was on file that the tank had passed an appropriate vapor tightness test within the last year. This type of requirement is in effect in many areas of the country under current State rules and is the basis for

setting the MACT control level. Since it is the most practical and effective means of controlling tank truck or railcar fugitive emissions at loading racks with vapor control systems, this work practice standard was selected by the Administrator as the requirement for fugitive tank truck leakage control.

Emissions from gasoline storage tanks at bulk gasoline terminals and pipeline breakout stations consist of a combination of standing and working losses. These emissions consist of vapors that escape through rim seals on the circumference of the tank (internal and external floating roof tanks), and for fixed-roof tanks, through several vents and other openings necessary to relieve built up internal tank pressures. The large number of emission points makes testing these sources excessively expensive and burdensome. Based on the best industry practice in use for controlling these emissions, an equipment and work practice standard is being proposed for the control of these storage tanks, which is identical to the national standards in practice for new storage tanks, 40 CFR part 60, subpart Kb. For fixed-roof tanks, an internal floating roof would be added, and for existing external floating roof tanks, a secondary seal would have to be added for those tanks with only a primary seal on the floating roof. Periodic visual inspections and seal gap measurements would be necessary to ensure that the seals are continuing to maintain the required control.

Both bulk gasoline terminals and pipeline breakout stations utilize pumps, valves, and other liquid and vapor transfer equipment components that may develop leaks over time. Due to the large number of sources, testing each to quantify emissions would be expensive. Thus, an equipment leak LDAR program and specific equipment standards similar to those currently being practiced at petroleum refineries, chemical manufacturing facilities, and a few terminals could be used to identify leaking components so that timely repair could be carried out. It is proposed that monthly monitoring of components and specific equipment standards at new facilities and quarterly monitoring of pumps seals and valves only at existing facilities, with the described provisions to modify these frequencies on the basis of monitoring results, be carried out.

E. Equivalent Systems of Emission Reduction

The Administrator does not preclude selection of alternative means of compliance to those described above in part D of this section, provided that the owner or operator provides proof of compliance as specified under section 112(h)(3) of the Act. If, after notice and opportunity for comment, the owner or operator of any source establishes to the satisfaction of the Administrator that an alternative means of emission limitation will reduce emissions of any air pollutant at least as much as would be achieved under the design, equipment, work practice, or operational standard, or combination thereof, the Administrator shall permit the use of the alternative means.

F. Selection of Emission Test Methods and Continuous Monitoring Requirements

The proposed standards require several types of performance tests, as well as both periodic and continuous monitoring to ensure that the intent of the standards to achieve maximum emission reductions is realized. The tests include performance testing of the bulk terminal

control system, vapor leak monitoring and repair of the vapor collection system before each performance test, and annual vapor tightness testing of tank trucks and railcars that will load at the affected terminals. All of these procedures have been used with acceptable results and are consistent with Sec. 63.7 of the proposed General Provisions for performance testing. Storage tanks at terminals and pipeline stations would require periodic visual and seal gap measurement tests (consistent with 40 CFR part 60, subpart Kb). Equipment components would have to be monitored and repaired as necessary in accordance with the applicable LDAR program (requirements are detailed in 40 CFR part 60, subpart VV).

Continuous monitoring of an operating parameter would be required for vapor processing systems. At new bulk gasoline terminals, the vacuum achieved in the tank truck or railcar during vacuum assist loading would have to be monitored continuously. These monitoring requirements are required to verify that the control systems continue to provide the control level required by the proposed standards.

1. Emission Test Methods

Performance tests ensure that a vapor control system at a bulk gasoline terminal is in initial compliance with the required control level, and they also establish operating conditions under which the system should continue to meet the required standard. An initial performance test would be required, in accordance with the schedule in Sec. 63.7 of the proposed General Provisions. This initial test is required 120 days after the effective date of the standards or after initial startup for a new facility, or 120 days after the compliance date specified for an existing facility. In accordance with Sec. 63.7(a)(2) of the proposed General Provisions, the Administrator may require a performance test at any other time it is authorized by section 114 of the Act.

The proposed standards require the use of approved test methods to ensure consistent and verifiable results for the initial performance test and for demonstration of continuous compliance. Methods 2A, 2B, 25A, and 25B of 40 CFR part 60, appendix A are specified for measurement of total organic compound emissions from the vapor collection and processing system. These methods have been used routinely for many years at bulk gasoline terminals. Due to the difficulties involved in measuring mass emissions from flares without an outlet stack (which can be used to control loading rack emissions), the above test methods will not be applicable. In these cases, flares must comply with Sec. 63.11 of the proposed General Provisions which includes a compliance determination according to Method 22 of 40 CFR Part 60, Appendix A, and design specifications for exit velocity and heat content.

Before each performance test, the owner or operator would be required to monitor potential leak sources in the terminal's vapor collection and processing system during the loading of a gasoline tank truck or railcar. Leaks (defined as a meter reading of 500 ppm or greater calibrated with methane) would have to be repaired before conducting the performance test. This leak definition is consistent with the definition in other equipment leak monitoring regulations; i.e., 40 CFR part 60, subparts VV and GGG.

The proposed standards would require each gasoline tank truck and railcar loaded at an affected bulk terminal to be certified as vapor-tight through an annual vapor tightness test according to Method 27 of 40 CFR part 60, appendix A. This test verifies that the tank compartments will not emit fugitive vapors or admit fresh air into the

tank truck during loading. The pressure-vacuum test of Method 27 is presently required annually for gasoline tank trucks operating at terminals subject to the bulk gasoline terminals NSPS.

2. Continuous Monitoring Requirements

In addition to the initial performance test required for bulk terminal vapor processing systems, continuous monitoring of the operation of these systems is also part of the proposed standards. Selection of the format for this monitoring and the rationale for the selection are discussed in the following paragraphs.

Continuous monitoring systems that monitor vapor processor exhaust organic emissions in the units of the proposed standard (mg/liter) would require measuring not only total organics concentration in the system exhaust, but also exhaust gas flow rate, volume of product dispensed, temperature, and pressure. Such systems are not currently in use at bulk gasoline terminals. However, monitoring equipment is available and in use for monitoring the operational variables associated with the operation of the processing systems.

Today's proposed standards (40 CFR part 63, subpart R) require continuous monitoring of operating parameters of vapor processing systems, and reports of periods when the monitored value exceeds or there is a failure to maintain, as appropriate, the parameter value established by monitoring data recorded during the performance test. The Agency is requiring each source to establish a site-specific monitoring parameter value and if exceeded or not maintained, as appropriate, it would be an enforceable violation of the emission limit. System-specific values for monitored parameters would account for deviations in the design, installation, and operational characteristics of individual control systems.

Under the NSPS and the earlier NESHAP programs, parameter monitoring has traditionally been used as a tool in determining whether control devices are being maintained and operated properly. However, section 114(a)(3) of the Act and Sec. 70.6(c) of the operating permit rule (57 FR 32251, July 21, 1992) require the submission of ``compliance certifications'' from sources subject to the operating permit program. Sources must certify whether compliance was continuous or intermittent, as well as their compliance status at the end of the reporting period. In light of these requirements, the Agency has considered how sources subject to this rule would demonstrate compliance. The Agency has found that operating parameter monitoring is already being used successfully at some bulk gasoline terminals and can be applied for this purpose. The Agency considers that each exceedence or failure to maintain, as appropriate, of a operating parameter value would constitute a violation of the emission limit.

Organic compounds concentration at the processor outlet is the best indication of system operation and corresponding emission reduction. A monitor to measure this parameter would be appropriate for carbon adsorption and possibly refrigeration condenser systems. To achieve representative organic concentration measurements at the processor outlet, the concentration monitoring device should be installed in the exhaust vent of the vapor processor: (1) At least two equivalent diameters downstream from the nearest control device, the point of pollutant generation, or other point at which a change in the pollutant concentration or emission rate may occur and (2) at least a half equivalent diameter upstream from the effluent exhaust.

For some vapor processing systems, monitoring of the exhaust organics concentration may be impracticable and monitoring a process parameter may be an equally accurate measure of system performance. For

example, temperature monitoring of the combustion section of a thermal oxidation system or the temperature of the air-vapor mixture on the outlet side of a refrigeration condenser system establish performance of the system. If a flare is used to control loading rack emissions, a heat-sensing device such as an ultraviolet beam sensor or a thermocouple to indicate the presence of a flame during the loading operation is required.

The Agency is requesting comment, including data and other supporting technical information, on whether the proposed approach on continuous monitoring and types of monitoring parameters ensure continuous compliance of vapor control systems that would be installed at affected bulk gasoline terminals to meet today's proposed emission standard. Additionally, comments and data are requested on how representative the control equipment parameters are of actual performance of the control equipment and in determining compliance. Also, comments and data are requested on alternative methods to those proposed today that can be used to ensure continuous compliance with the emission standard. The proposed regulation also allows for substituting an alternative vapor processing system for those mentioned above or the monitoring of some other parameter if it can be demonstrated to the Administrator's satisfaction that the processing system achieves the emission limit, and the value of the alternative monitoring parameter ensures continuous compliance with the emission standard.

The operating parameter value would be established during the initial performance test. During the test, the operating parameter would be continuously recorded during all the times a gasoline tank truck or railcar was being loaded. Only monitoring data from performance tests in which the system shows compliance with the 10 mg TOC/liter emission limit are valid for the determination of the monitored operating parameter value. The operating parameter value would be the average of the values recorded during which loadings of gasoline tank trucks occur over the six-hour performance test. Today's proposal requires facilities to monitor this operating parameter value continuously, calculate and record a rolling six-hour average valve, and report exceedences or failures to maintain, as appropriate, the average value.

New bulk gasoline terminals must install a vacuum assist vapor collection system to ensure that loading tank trucks and railcars do not emit fugitive HAP vapors. The vapor collection system must be continuously monitored to verify that a vacuum always exists in the system while loading is taking place. The monitoring location must be within 0.3 meter (1 foot) of the tank truck/vapor return line interface. The Agency is not proposing any specific vacuum levels that must be maintained (although the vacuum must never exceed the level at which the system's or transport tank's safety vents automatically begin to open). Therefore, the monitoring device need not be highly precise. However, a continuous record indicating that a vacuum is being maintained for the duration of all loadings must be created and maintained at the facility.

Comments on the proposed approaches to monitoring the vacuum assist system, or vapor collection and processing systems, and any other suggested approaches are requested. In particular, the Agency requests that commenters submit data on parameters or values of parameters that might be used to better establish performance of these devices and continuous compliance with the emission standards.

G. Selection of Recordkeeping and Reporting Requirements

The proposed standards would require an owner or operator to submit the following four types of reports:

1. Initial Notification,
2. Notification of Compliance Status,
3. Periodic Reports, and
4. Other reports.

The purpose and contents of each of these reports are described in this section. The proposed rule requires all reports to be submitted to the ``Administrator.'' The term Administrator refers either to the Administrator of the Agency, an Agency regional office, a State agency, or other entity that has been delegated the authority to implement this rule. In most cases, reports will be sent to State agencies. Addresses are provided in the proposed General Provisions (subpart A) of 40 CFR part 63.

Records of reported information and other information necessary to document compliance with the regulation are generally required to be kept for 5 years. Records pertaining to the design and operation of the control and monitoring equipment must be kept for the life of the equipment.

1. Initial Notification

The proposed standards would require owners or operators who are subject to today's proposed standards under 40 CFR part 63, subpart R to submit an Initial Notification. This report notifies the agency of applicability for existing facilities or of construction for new facilities as outlined in Sec. 63.5 of the proposed General Provisions, whichever is applicable. A respondent must also report any facility modifications as defined in Sec. 63.5 of the proposed General Provisions. This report will establish an early dialogue between the source and the regulatory agency, allowing both to plan for compliance activities. The notice is due within 45 days after the date of promulgation for existing sources. For new sources, it is due 180 days before commencement of construction or reconstruction, or 45 days after promulgation of today's proposed rules, whichever is later.

The Initial Notification must include a statement as to whether the source can achieve compliance by the specified compliance date. If an existing source anticipates a delay that is beyond its control, it is important for the owner or operator to discuss the problem with the regulatory authority as early as possible. This report will also include a description of the parameter monitoring system intended to be used in conjunction with the vapor processing system. Pursuant to section 112(d) of the Act, the proposed standards contain provisions for a 1-year compliance extension to be granted by the Administrator on a case-by-case basis. Further discussion of compliance issues is included in section VI.H of this notice.

2. Notification of Compliance Status

The Notification of Compliance Status (NCS) would be submitted no later than 30 days after the facility's initial performance test. It contains the information necessary to demonstrate that compliance has been achieved, such as the results of the initial performance test on the vapor processing system and results of the LDAR monitoring program. The submission of the performance test report will allow the regulatory authority to verify that the source has followed the correct sampling and analytical procedures, and has performed all calculations correctly.

Included in the performance test report submitted with the NCS would be the calculation of the operating parameter value for the selected operating parameter to be monitored in the vapor processing system. The notification must include the data and rationale to support this parameter value as ensuring continuous compliance with the emission limit.

3. Periodic Reports

Periodic Reports are required to ensure that the standards continue to be met and that vapor control systems are operated and maintained properly. Generally, periodic reports would be submitted semiannually or quarterly. However, if monitoring results show that the parameter values for the vapor processing system exceed or fail to maintain, as appropriate, the operating parameter value for more than 1 percent of the operating time in a quarterly reporting period, or the monitor is out of service for more than 5 percent of the time, the Administrator may request that the owner or operator submit more frequent reports. After 1 year, the facility may return to quarterly reporting if approved by the regulatory authority.

The Agency has established this reporting system to provide an incentive (less frequent reporting) for good performance. Due to uncertainty about the periods of time over which sources are likely to experience exceedences or failures to maintain, as appropriate, the operating parameter value or monitoring system failures, the Agency is seeking comment on the 1 percent and 5 percent criteria triggering the potential for more frequent reporting. In particular, data are requested on both the frequency of exceedences and monitoring system downtime. As discussed in section VI.F.2, records must be kept of the parameter value.

Owners and operators are also required to keep records of monthly or quarterly leak detection and repair, and to furnish reports on program results, as specified in Sec. 63.428(f). These reports can be made a part of the Periodic Report, unless the frequency of the reports exceeds that of the Periodic Report. Facilities must also retain records and submit reports of annual inspections of storage vessels, in accordance with Sec. 63.428(e). These reports may also be included in the appropriate Periodic Report.

4. Other Reports

There are also a limited number of other reports required under the proposed standards. Where possible, subpart R is structured to allow information to be reported in the semiannual (or quarterly) Periodic Report. However, in a few cases, it is necessary for the facility to provide information to the regulatory authority shortly before or after a specific event. For example, notification before a performance test or a storage vessel inspection is required to allow the regulatory authority the opportunity to have an observer present (as specified in the proposed General Provisions). This type of reporting must be done separately from the Periodic Reports because some situations require a shorter term response from the reviewing authority.

Reports of start of construction, anticipated and actual startup dates, and modifications, as required under Sec. 63.5 and Sec. 63.9 of the proposed General Provisions, are entered into the Agency's Aerometric Information Retrieval System (AIRS) and are used to determine whether emission limits are being met.

Records required under the proposed standards are generally required to be kept for 5 years. General recordkeeping requirements are contained in the proposed General Provisions under Sec. 63.10(b). These requirements include records of malfunctions and maintenance performed

on the vapor processing system and the parameter monitoring system. At bulk gasoline terminals, vapor tightness (annual test) documentation for each gasoline tank truck and railcar using the terminal is required. Continuous monitoring data from the parameter monitor on the vapor processor and the pressure monitor on the vacuum assist vapor collection system will provide a record of continuous compliance with the emission standards. Records of storage vessel inspections, operating plans, and other details of controlled storage vessels at terminals and pipeline stations are to be kept as specified under Sec. 60.115b. Records documenting the LDAR program at subject facilities must be kept in accordance with Sec. 60.486 (b) through (j).

H. Selection of Compliance Deadlines

The Agency proposes to allow affected sources the following time periods after promulgation for compliance, as provided for in Clean Air Act section 112(i). All sources, whether uncontrolled or having in place control systems or measures requiring upgrading to meet the new standards, would be required to reach full compliance within 3 years after promulgation of the standards. All sources must implement an LDAR program as soon as practical, but not later than 180 days after promulgation of this rule. These compliance deadlines allow a reasonable time for replacement of operating equipment at existing sources, for construction and installation of vapor control devices and piping, and for retrofit of storage tanks.

I. Solicitation of Comments

The Administrator welcomes comments from interested persons on any aspect of the proposed standards, and on any statement in the preamble or the referenced supporting documents.

The proposed standards were developed on the basis of information available. The Administrator is specifically requesting factual information that may support either the approach taken in the proposed standards or an alternate approach. To receive proper consideration, documentation or data should be provided.

VII. Administrative Requirements

A. Public Hearing

A public hearing will be held, if requested, to discuss the proposed standards in accordance with Section 307(d)(5) of the Act. Persons wishing to make an oral presentation on the proposed standards for gasoline distribution should contact the Agency at the address given in the Addresses section of this preamble. Oral presentations will be limited to 15 minutes each. Any member of the public may file a written statement before, during, or within 30 days after the hearing. Written statements should be addressed to the Air Docket section address given in the Addresses section of this preamble, and should refer to Docket No. A-92-38.

A verbatim transcript of the hearing and any written statements will be available for public inspection and copying during normal working hours at the Agency's Air Docket Section in Washington, DC (see Addresses section of this preamble).

B. Docket

The docket is an organized and complete file of all the information submitted to or otherwise considered by the Agency in the development of this proposed rulemaking. The principal purposes of the docket are: (1) To allow interested parties to readily identify and locate documents so that they can intelligently and effectively participate in the rulemaking process, and (2) to serve as the record in case of judicial review (except for interagency review materials) [Section 307(d)(7)(A) of the Act].

C. Executive Order 12866

Under Executive Order 12866, (58 FR 51735 (October 4, 1993)) the Agency must determine whether the regulatory action is ``significant'' and therefore subject to OMB review and the requirements of the Executive Order. The Order defines ``significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Pursuant to the terms of Executive Order 12866, it has been determined to treat this action as a ``significant regulatory action'' within the meaning of the Executive Order. As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations will be documented in the docket listed at the beginning of today's notice under ADDRESSES. The docket is available for public inspection at the Agency's Air Docket Section, which is listed in the Addresses section of this preamble.

D. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. An Information Collection Request (ICR) document has been prepared by the Agency (ICR No. 1659.01) and a copy may be obtained from Ms. Sandy Farmer, Information Policy Branch, Environmental Protection Agency, 401 M St., SW., (2136), Washington, DC 20460 or by calling (202) 260-2740.

The public reporting burden for this collection of information is estimated to average 400 hours per respondent for the first year after the date of promulgation of the rule, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The cost for this additional burden per respondent is estimated to be about 14,000 dollars during the first year.

Send comments regarding the burden estimate or any other aspect of

this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, (2136), U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 10460; and to the Office of Management and Budget, Washington, DC 20503, marked ``Attention: Desk Officer for the EPA.'' The final rule will respond to the OMB or public comments on the information collection requirements contained in this proposal.

E. Regulatory Flexibility Act

The Regulatory Flexibility Act (5 U.S.C. 601 et seq.) requires EPA to consider potential impacts of proposed regulations on small business ``entities.'' If a preliminary analysis indicates that a proposed regulation would have a significant economic impact on a substantial number of small entities, a regulatory flexibility analysis must be prepared. However, regulatory alternatives that would alleviate the potential impact of the proposed standards on directly affected companies were not selected because the CAA requires all facilities that are members of a category or subcategory of major sources to meet, at a minimum, the requirements of the MACT floor.

For the affected industry sectors, the Small Business Administration's definition of small business is independently owned companies with less than 100 employees. The proposed standards directly impact small companies owning gasoline bulk terminals and pipeline breakout stations. Due to downstream wholesale gasoline price increases, the proposed standards would indirectly impact small companies owning gasoline bulk plants and gasoline service stations.

A definitive estimate of the number of small businesses that would be directly and indirectly affected by the proposed standards could not be feasibly obtained because of the lack of data related to the extent of vertical integration in the gasoline distribution chain. However, the EPA believes that a maximum of 56 percent of all gasoline bulk terminals are owned by small companies. Potentially, up to 99 percent of the indirectly affected gasoline bulk plants and service stations are owned by small companies. The percentage of actual small companies in these sectors, especially the gasoline bulk terminal sector, is projected to be much smaller due to vertical integration with petroleum refiners. No estimate has been made of the percentage of pipeline breakout stations owned by small companies, but since they are typically affiliated with petroleum refiners, the percentage is projected to be small.

A preliminary assessment indicates that the proposed regulations would not result in financial impacts that would significantly or differentially stress affected small companies. The compliance costs for all but the smallest throughput facilities in directly affected industry segments are a minute fraction of production costs and revenues. Even so, the per unit compliance cost differential between large throughput and small throughput facilities are minor. Small facilities are likely to be serving small or specialized markets, which makes it unlikely that the differential in unit control costs between large throughput and small throughput facilities will seriously affect the competitive position of small companies, even assuming that small companies own small facilities.

Pursuant to the provisions of 5 U.S.C. 605(b), I hereby certify that this proposed rule, if promulgated, will not have a significant impact on small companies, even though a substantial number of small companies may be affected.

F. Clean Air Act Section 117

In accordance with section 117 of the Act, publication of this proposal was preceded by consultation with appropriate advisory committees, independent experts, and Federal departments and agencies. The Administrator welcomes comment on all aspects of the proposed regulation, including health, economic, technological, or other aspects.

G. Regulatory Review

In accordance with Clean Air Act sections 112(d)(6) and 112(f)(2), this regulation will be reviewed within 8 years from the date of promulgation. This review may include an assessment of such factors as evaluation of the residual health risk, any overlap with other programs, the existence of alternative methods, enforceability, improvements in emission control technology and health data, and the recordkeeping and reporting requirements.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements, Petroleum bulk stations and terminals.

Dated: January 31, 1994.
Carol M. Browner,
Administrator.

For reasons set out in the preamble, title 40, chapter I, part 63 of the Code of Federal Regulations is proposed to be amended as follows:

PART 63--NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES

1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401, et seq.

2. It is proposed that part 63 be amended by adding subpart R, consisting of Secs. 63.420-63.429, to read as follows:

Subpart R--National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)

Sec.

Subpart R--National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)

Sec. 63.420 Applicability.

(a) The provisions of this subpart apply to each bulk gasoline terminal, except those facilities:

(1) For which the result, E<INF>T, of the following equation is less than 1:

E<INF>T=0.63(T<INF>F)+0.19(T<INF>E)+0.092(T<INF>ES)+0.03(T<INF>I)+0.0012(V)+0.024(P)+KQ

where:

E<INF>T=major source applicability factor for bulk gasoline terminals, E<INF>T<gr-thn-eq>1 means bulk gasoline terminal is a major source,
T<INF>F=total number of fixed-roof gasoline storage tanks,
T<INF>E=total number of external floating roof gasoline storage tanks with only primary seals,
T<INF>ES=total number of external floating roof storage tanks with primary and secondary seals,
T<INF>I=total number of fixed-roof gasoline storage tanks with an internal floating roof,
V=number of valves in gasoline service,
P=number of pumps in gasoline service,
Q=gasoline throughput rate (liters/day),
K=3.18x10<SUP>-6 for bulk gasoline terminals with uncontrolled loading racks (no vapor collection and processing systems), OR
K=(4.5 x 10<SUP>-9) (EF+70) for bulk gasoline terminals with controlled loading racks (loading racks that have vapor collection and processing systems installed on the emission stream), and
EF=the federally enforceable emission standard for the vapor processor (mg of total organic compounds per liter of gasoline loaded).

or

(2) For which the owner or operator has documented to the Administrator's satisfaction that the facility is not a major source as defined in section 112(a)(1) of the Clean Air Act.

(b) The provisions of this subpart apply to each pipeline breakout station, except those facilities:

(1) For which the result, E<INF>P, of the following equation is less than 1:

E<INF>P=2.4(T<INF>F)+0.09(T<INF>E)+0.043(T<INF>ES)+0.027(T<INF>I)+0.0009(V)+0.009(P)

where:

E<INF>P=major source applicability factor for pipeline breakout stations, E<INF>P<gr-thn-eq>1 means pipeline breakout station is a major source, and

the definitions for T<INF>F, T<INF>E, T<INF>ES, T<INF>I, V, and P are the same as provided in paragraph (a) of this section; or

(2) For which the owner or operator has documented to the Administrator's satisfaction that the facility is not a major source as defined in section 112(a)(1) of the Act.

(c) The provisions of paragraphs (a)(1), (a)(2), (b)(1), and (b)(2) of this section, do not apply to bulk gasoline terminals or pipeline breakout stations located within a contiguous area and under common control of a petroleum refinery if the petroleum refinery is a major source under section 112(a)(1) of the Act.

(d) The owner or operator of a bulk gasoline terminal or pipeline breakout station subject to the provisions of this subpart that is also subject to applicable provisions of 40 CFR part 60, subparts K, Ka, Kb, VV, XX, and GGG of this chapter, or 40 CFR part 61, subparts J and V of this chapter, shall comply only with the provisions in each subpart that contain the most stringent control requirements for that facility.

Sec. 63.421 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act; in subparts A, K, Ka, Kb, VV, XX, and GGG of part 60 of this chapter; in subparts A, J, and V of part 61 of this chapter; or in subpart A of this part. All terms defined in both subpart A of part 60 of this chapter and subpart A of this part shall have the meaning given in subpart A of this part. For purposes of this subpart, definitions in this section supersede definitions in other parts or subparts.

Controlled loading rack means a loading rack equipped with vapor collection and processing systems that reduce displaced vapor emissions to no more than 80 milligrams of total organic compounds per liter of gasoline loaded, as measured using the test methods and procedures in Sec. 60.503 (a) through (c) of this chapter.

Equipment means each valve, pump, pressure relief device, sampling connection system, open-ended valve or line, and flange or other connector in the gasoline liquid transfer and vapor collection systems. This definition also includes the entire vapor processing system except the exhaust port(s) or stack(s).

Gasoline tank truck means a delivery tank truck or railcar used at bulk gasoline terminals which is loading gasoline or which has loaded gasoline on the immediately previous load.

In gasoline service means that a piece of equipment is used in a system that transfers gasoline or gasoline vapors.

In VHAP service or In VOC service means, for the purposes of this subpart, in gasoline service.

Operating parameter value means an established value for control equipment or operating condition, which, if achieved by itself or combination with one or more other operating parameter values, determines that and owner or operator has complied with an applicable emission limit or standard.

Pipeline breakout station means a facility along a pipeline containing storage vessels used to temporarily store gasoline from the pipeline.

Uncontrolled loading rack means a loading rack used to load gasoline tank trucks that is not a controlled loading rack.

Vapor-tight gasoline tank truck means a gasoline tank truck which has demonstrated within the 12 preceding months that its product delivery tank will sustain a pressure change of not more than 750 pascals (75 mm of water) within 5 minutes after it is pressurized to 4,500 pascals (450 mm of water) or evacuated to 1,500 pascals (150 mm of water). This capability is to be demonstrated using the pressure and vacuum test procedures specified in 40 CFR part 60 of this chapter, appendix A, Reference Method 27.

Volatile organic liquid (VOL) means, for the purposes of this subpart, gasoline.

Sec. 63.422 Standards: Loading racks.

(a) Each owner or operator of loading racks at a bulk gasoline terminal subject to the provisions of this subpart shall comply with the requirements in Sec. 60.502 of 40 CFR part 60, subpart XX, of this chapter except for paragraphs (b) and (c) of that section. For purposes of this section, the term ``affected facility'' used in Sec. 60.502 of this chapter means the loading racks that load gasoline tank trucks at the bulk gasoline terminals subject to the provisions of this subpart.

(b) Emissions to the atmosphere from the loading racks and the vapor collection and processing system due to the loading of gasoline tank trucks shall not exceed 10 milligrams of total organic compounds per liter of gasoline loaded. Each owner or operator shall comply as expeditiously as practicable, but no later than February 8, 1997 at existing facilities and upon startup for new facilities.

(c) Owners or operators of new bulk gasoline terminals shall install a system at the loading racks used to load gasoline tank trucks that will maintain a vacuum in each gasoline tank truck during loading. The system shall satisfy the following requirements:

(1) During loading, a continuous vacuum shall be maintained in the vapor collection system as measured no more than 0.3 meter from the interface between the vapor collection system coupler and the gasoline tank truck vapor collection adapter; and

(2) An interlock system shall prevent loading from beginning until a vacuum has been achieved, and shall shut down the loading process if the vacuum is lost.

Sec. 63.423 Standards: Storage vessels.

The owner or operator of each storage vessel greater than or equal to 75 cubic meters used to store gasoline shall equip each storage vessel according to the requirements in Sec. 60.112b(a)(1) through (4) of this chapter. At new bulk gasoline terminals and pipeline breakout stations, compliance shall be achieved upon startup. Existing bulk gasoline terminals and pipeline breakout stations shall be in compliance as expeditiously as practicable, but no later than February 8, 1997

Sec. 63.424 Standards: Equipment leaks.

(a) Each owner or operator of a new bulk gasoline terminal or new pipeline breakout station subject to the provisions of this subpart shall comply with the requirements of Sec. 60.482-1 to 60.482-10 of this chapter, except as specified in paragraph (c) of this section. At new bulk gasoline terminals and pipeline breakout stations, initial compliance shall be achieved upon startup.

(b) Each owner or operator of an existing bulk gasoline terminal or pipeline breakout station subject to the provisions of this subpart shall:

(1) monitor pump seals in accordance with Sec. 60.482-2 of this chapter, except the frequency of monitoring specified in Sec. 60.482-2(a)(1) of this chapter shall be on a quarterly basis; and

(2) monitor valves in accordance with Sec. 60.482-7 of this chapter, except the frequency of initial monitoring specified in

Sec. 60.482-7(a) of this chapter shall be on a quarterly basis. The provisions of Sec. 60.482-7(c) of this chapter do not apply. At existing bulk gasoline terminals or pipeline breakout stations, initial compliance shall be achieved as expeditiously as practicable, but no later than August 8, 1994.

(c) An owner or operator may elect to comply with the alternative standards for valves in Sec. 60.483-1 and Sec. 60.483-2 of this chapter.

(d) Owners or operators of bulk gasoline terminals and pipeline breakout stations subject to the provisions of this subpart shall not cause or allow gasoline to be spilled, discarded in sewers, stored in open containers, or handled in any other manner that would result in vapor release to the atmosphere.

Sec. 63.425 Test methods and procedures.

(a) Each owner or operator subject to the emission standard for loading racks in Sec. 63.422(b) shall conduct a performance test on the vapor processing system according to the test methods and procedures in Sec. 60.503 of this chapter, except a reading of 500 ppm shall be used to determine the level of leaks under Sec. 60.503(b) of this chapter to be repaired. If a flare is used to control loading rack emissions, and emissions from this device cannot be measured using these methods and procedures, the provisions of Sec. 63.11(b) shall apply.

(b) For each performance test conducted under paragraph (a) of this section, a monitored operating parameter value for the vapor processing system shall be determined using the following procedure:

(1) During the performance test, continuously record the appropriate operating parameter as determined under Sec. 63.427(a);

(2) The monitored operating parameter value is the average of values recorded during loadings of gasoline tank trucks that occur during performance test period in which the source has demonstrated compliance with the emission standard.

(c) For performance tests performed after the initial test, the owner or operator shall document the reasons for any change in the value for the operating parameter since the previous performance test.

(d) Each owner or operator of a bulk gasoline terminal or pipeline breakout station subject to the equipment leak provisions of Sec. 63.424 (a), (b), or (c) shall comply with the test methods and procedures in Sec. 60.485 (b) through (g) of this chapter.

(e) The owner or operator of each storage vessel subject to the provisions of Sec. 63.423 shall comply with the testing requirements in Sec. 60.113b of this chapter, and with the requirements in paragraph (b) of this section when electing to comply with Sec. 60.112b(a)(3) of this chapter.

Sec. 63.426 Alternative means of emission limitation.

(a) For determining the acceptability of alternative means of emission limitation for storage vessels under Sec. 63.423, the provisions of Sec. 60.114b of this chapter apply.

(b) For determining the acceptability of alternative means of emission limitation for equipment leaks under Sec. 63.424, the provisions of Sec. 60.484 of this chapter apply.

Sec. 63.427 Continuous monitoring.

(a) Each owner or operator of a bulk gasoline terminal subject to the provisions of this subpart shall install, calibrate, certify, operate, and maintain, according to the manufacturer's specifications, the monitoring equipment specified in paragraph (a)(1), (a)(2), (a)(3), or (a)(4) of this section, as appropriate. All monitoring equipment shall be equipped with a continuous recorder for continuously recording and calculating 6 hour average values of the information required in this paragraph.

(1) Where a carbon adsorption system is used, an organic concentration monitoring device shall be installed in the exhaust air stream.

(2) Where a refrigeration condenser system is used, a temperature monitoring device shall be installed immediately downstream from the outlet to the condenser section. Alternatively, an organic concentration monitoring device may be installed in the exhaust air stream.

(3) Where a thermal oxidation system is used, a temperature monitoring device shall be installed in the firebox or in the ductwork immediately downstream from the firebox in a position before any substantial heat exchange occurs.

(4) Where a flare is used, a heat-sensing device, such as an ultraviolet beam sensor or a thermocouple, shall be installed in proximity to the pilot light to indicate the presence of a flame.

(5) Monitoring an alternative operating parameter other than those listed this paragraph shall be allowed upon demonstrating to the Administrator's satisfaction that the alternative parameter provides continuous compliance with Sec. 63.422(b).

(b) Each owner or operator of a bulk gasoline terminal subject to the provisions of this subpart shall operate the vapor processor in a manner not to exceed the operating parameter value at Sec. 63.427(a)(1) and (2), or below the operating parameter value at Sec. 63.427(a)(3), and established using the procedure in Sec. 63.425(b). In cases where an alternative pursuant to Sec. 63.427(a)(5) is approved, each owner or operator shall operate the vapor processor in a manner not to exceed or not to maintain, as appropriate, the alternative operating parameter value. Operation of the vapor processor in a manner exceeding or below the appropriate operating parameter value, as specified above, shall constitute violation of the emission limit in Sec. 63.422(b).

(c) Owners and operators subject to the provisions of Sec. 63.422(c) shall continuously monitor the pressure achieved in each gasoline tank truck during loading to ensure no exceedences in maintaining a negative pressure.

(d) Owners and operators of storage vessels subject to the provisions of Sec. 63.423 shall comply with the monitoring requirements in Sec. 60.116b of this chapter, and in paragraph (a) of this section when electing to comply with Sec. 60.112b(a)(3) of this chapter.

Sec. 63.428 Reporting and recordkeeping.

(a) Each owner or operator of a bulk gasoline terminal or pipeline breakout station subject to the provisions of this subpart shall comply with the general recordkeeping and reporting requirements of Sec. 63.10.

(b) Each owner or operator of a bulk gasoline terminal subject to the provisions of this subpart shall keep records and furnish reports as specified in Sec. 60.505 (a) and (b) of this chapter.

(c) Each owner or operator of a bulk gasoline terminal subject to the provisions of this subpart shall:

(1) Keep an up-to-date, readily accessible record of the continuous monitoring data values and the calculated 6 hour rolling average values required under Sec. 63.427(a);

(2) Include the performance test data specified in Sec. 63.425(b) in the Notification of Compliance Status report required under Sec. 63.9(h) of the General Provisions; and

(3) Record and report the following information when using a flare to comply with Sec. 63.422(b):

(i) Flare design (i.e., steam-assisted, air-assisted, or non-assisted); and

(ii) All visible emissions readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required under Sec. 63.425(a).

(d) If an owner or operator requests approval to use a vapor processing system or monitor a parameter other than those specified in Sec. 63.427(a), the owner or operator shall submit a description of planned reporting and recordkeeping procedures. The Administrator will specify appropriate reporting and recordkeeping requirements as part of the review of the permit application.

(e) Each owner or operator of a bulk gasoline terminal subject to the provisions of this subpart shall submit to the Administrator a quarterly report of exceedences or failures to maintain, as appropriate, the monitored operating parameter value required under Sec. 63.427 (a) and (b). Owners and operators of new bulk gasoline terminals subject to provisions of this subpart shall submit to the Administrator a quarterly report of all instances in which a vacuum are not maintained in a gasoline tank truck during loading. These quarterly reports shall contain the monitored operating parameter value readings for the days on which exceedences or failures to maintain have occurred, and a description and timing of the steps taken to repair or perform maintenance on the vapor collection system or parameter monitoring system. A report is not required for those quarters where there were no exceedences or failures to maintain, as appropriate, the operating parameter and no instances in which a vacuum was not maintained.

(f) Owners and operators complying with Sec. 63.427(a) shall maintain a record of the monitored operating parameter data at the facility for 5 years. This record shall indicate the time intervals during which loadings of gasoline tank trucks have occurred or, alternatively, shall record the operating parameter only during such loadings. The date and time of day shall also be indicated on this record.

(g) Owners and operators complying with Sec. 63.427(c) shall maintain a record of the gasoline tank truck pressure data at the facility for 5 years.

(h) Each owner or operator of storage vessels subject to the provisions of this subpart shall keep records for 5 years and furnish reports as specified in Sec. 60.115b of this chapter.

(i) Each owner or operator of equipment subject to the provisions of this subpart shall keep records as specified in Sec. 60.486 (b) through (j) of this chapter, and shall furnish reports as specified in Sec. 60.487 of this chapter.

(j) The reports required under all paragraphs of this section shall be consolidated into a Periodic Report and submitted to the Administrator on a semiannual basis. The additional Periodic Reports

required under paragraph (e) of this section that fall between the semiannual reports shall be submitted separately. Each owner or operator shall certify in the Periodic Report that no excess emissions occurred during the quarters in which no excess report was filed under paragraph (e) of this section.

(k) The Administrator may request more frequent reporting of monitored operating parameter data if:

(1) Monitored parameter values demonstrating the source is out of compliance more than 1 percent of the operating days in the previous reporting period, or

(2) The monitoring system is out of service more than 5 percent of the operating time in the previous reporting period.

After 1 year of more frequent reporting, the owner or operator may request a return to quarterly reporting.

Sec. 63.429 Delegation of authority.

(a) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authority contained in paragraph (b) of this section shall be retained by the Administrator and not transferred to a State.

(b) The authority conferred in Sec. 63.426, and Sec. 63.427(a)(5) will not be delegated to any State.

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