ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[OAR–2002–0059; FRL—7417–9]

RIN 2060–AG–63

National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: This action proposes national emission standards for hazardous air pollutants (NESHAP) for stationary reciprocating internal combustion engines (RICE) with manufacturer's nameplate rating above 500 brake horsepower located at major sources of hazardous air pollutants (HAP). We have identified stationary RICE as a major source category of HAP emissions such as formaldehyde, acrolein, methanol, and acetaldehyde. The proposed rule would implement section 112(d) of the Clean Air Act (CAA) by requiring all major sources to meet HAP emission standards reflecting the application of the maximum achievable control technology (MACT) for RICE. We estimate that 40 percent of stationary RICE will be located at major sources and thus subject to the proposed rule. As a result, the environmental, energy, and economic impacts presented in this preamble reflect these estimates. We estimate that the proposed rule would reduce nationwide HAP emissions from major stationary RICE by approximately 5,000 tons/year in the 5th year after the standards are implemented. The emissions reductions achieved by these standards will provide protection to the public and achieve a primary goal of the CAA.

DATES: *Comments.* Submit comments on or before February 18, 2003, or by February 20, 2003 if a public hearing is held.

Public Hearing. If anyone contacts us requesting to speak at a public hearing by January 8, 2003, a public hearing will be held on January 21, 2003.

ADDRESSES: Comments may be submitted by mail (in duplicate, if possible) to EPA West (Air Docket), U.S. EPA (MD–6102T), Room B–108, 1200 Pennsylvania Avenue, NW., Washington, DC 20460, Attention Docket ID No. OAR–2002–0059. By hand delivery/courier, comments may be submitted (in duplicate, if possible) to EPA Docket Center (Air Docket), U.S. EPA, (MD–6102T), Room B–108, 1301 Constitution Avenue, NW., Washington, DC 20460, Attention Docket ID No. OAR–2002–0059. Also, comments may be submitted electronically according to the detailed instructions as provided in the **SUPPLEMENTARY INFORMATION** section.

Public Hearing. If a public hearing is held, it will be held at the new EPA facility complex in Research Triangle Park, North Carolina, or at an alternate site nearby.

Docket. Docket No. OAR–2002–0059 contains supporting information used in developing the standards. The docket is located at the U.S. EPA, 1301 Constitution Avenue, NW., Washington, DC 20460 in room B108, and may be inspected from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays.

FOR FURTHER INFORMATION CONTACT: Mr. Sims Roy, Combustion Group, Emission Standards Division, (MD–C439–01), U.S. EPA, Research Triangle Park, North Carolina 27711; telephone number (919) 541–5263; facsimile number (919) 541–5450; electronic mail address: roy.sims@epa.gov.

SUPPLEMENTARY INFORMATION: *Regulated Entities.* Categories and entities potentially regulated by this action include:

Category	SIC	NAICS	Examples of regulated entities
Any industry using a stationary RICE as defined in the proposed rule.	4911	2211	Electric power generation, transmission, or distribution.
	4922	48621	Natural gas transmission.
	1311	211111	Crude petroleum and natural gas production.
	1321	211112	Natural gas liquids producers.
	9711	92811	National security.

This table is not intended to be exhaustive, but rather a guide for readers regarding entities likely to be regulated by this action. To determine whether your facility is regulated by this action, you should examine the applicability criteria in § 63.6585 of the proposed rule. If you have any questions regarding the applicability of this action to a particular entity, consult the person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

Docket. The EPA has established an official public docket for this action under Docket ID No. OAR–2002–0059. The official public docket consists of the documents specifically referenced in this action, any public comments received, and other information related to this action. Although a part of the official docket, the public docket does not include Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. The official public docket is the collection of materials that is available for public viewing at the Air and Radiation Docket in the EPA Docket Center, (EPA/DC) EPA West, Room B108, 1301 Constitution Ave., NW., Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566–1744, and the telephone number for the Air and Radiation Docket is (202) 566–1742. A reasonable fee may be charged for copying docket materials.

Electronic Access. You may access this **Federal Register** document electronically through the EPA Internet under the ''**Federal Register**'' listings at *http://www.epa.gov/fedrgstr/.*

An electronic version of the public docket is available through EPA's electronic public docket and comment system, EPA Dockets. You may use EPA Dockets at *http://www.epa.gov/edocket/* to submit or view public comments, access the index listing of the contents of the official public docket, and to access those documents in the public docket that are available electronically. Once in the system, select ''search,'' then key in the appropriate docket identification number.

Certain types of information will not be placed in the EPA Dockets. Information claimed as CBI and other information whose disclosure is restricted by statute, which is not included in the official public docket, will not be available for public viewing in EPA's electronic public docket. The EPA's policy is that copyrighted material will not be placed in EPA's electronic public docket but will be available only in printed paper form in the official public docket. To the extent feasible, publicly available docket materials will be made available in EPA's electronic public docket. When a document is selected from the index list in EPA Dockets, the system will identify whether the document is available for viewing in EPA's electronic public docket. Although not all docket materials may be available electronically, you may still access any of the publicly available docket materials through the docket facility identified above. The EPA intends to work towards providing electronic access to all of the publicly available docket materials through EPA's electronic public docket.

For public commenters, it is important to note that EPA's policy is that public comments, whether submitted electronically or on paper, will be made available for public viewing in EPA's electronic public docket as EPA receives them and without change, unless the comment contains copyrighted material, CBI, or other information whose disclosure is restricted by statute. When EPA identifies a comment containing copyrighted material, EPA will provide a reference to that material in the version of the comment that is placed in EPA's electronic public docket. The entire printed comment, including the copyrighted material, will be available in the public docket.

Public comments submitted on computer disks that are mailed or delivered to the docket will be transferred to EPA's electronic public docket. Public comments that are mailed or delivered to the Docket will be scanned and placed in EPA's electronic public docket. Where practical, physical objects will be photographed, and the photograph will be placed in EPA's electronic public docket along with a brief description written by the docket staff.

For additional information about EPA's electronic public docket visit EPA Dockets online or see 67 FR 38102, May 31, 2002.

You may submit comments electronically, by mail, or through hand delivery/courier. To ensure proper receipt by EPA, identify the appropriate docket identification number in the subject line on the first page of your comment. Please ensure that your comments are submitted within the specified comment period. Comments received after the close of the comment period will be marked ''late.'' The EPA is not required to consider these late comments. However, late comments may be considered if time permits.

Electronically. If you submit an electronic comment as prescribed below, EPA recommends that you include your name, mailing address, and an e-mail address or other contact information in the body of your comment. Also include this contact information on the outside of any disk or CD ROM you submit, and in any cover letter accompanying the disk or CD ROM. This ensures that you can be identified as the submitter of the comment and allows EPA to contact you in case EPA cannot read your comment due to technical difficulties or needs further information on the substance of your comment. The EPA's policy is that EPA will not edit your comment, and any identifying or contact information provided in the body of a comment will be included as part of the comment that is placed in the official public docket and made available in EPA's electronic public docket. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment.

Your use of EPA's electronic public docket to submit comments to EPA electronically is EPA's preferred method for receiving comments. Go directly to EPA Dockets at *http://www.epa.gov/edocket,* and follow the online instructions for submitting comments. To access EPA's electronic public docket from the EPA Internet Home Page, select ''Information Sources,'' ''Dockets,'' and ''EPA Dockets.'' Once in the system, select ''search,'' and then key in Docket ID No. OAR–2002–0059. The system is an ''anonymous access'' system, which means EPA will not know your identity, e-mail address, or other contact information unless you provide it in the body of your comment.

Comments may be sent by electronic mail (e-mail) to *a-and-r-docket@epa.gov,* Attention Docket ID No. OAR–2002–0059. In contrast to EPA's electronic public docket, EPA's e-mail system is not an ''anonymous access'' system. If you send an e-mail comment directly to the Docket without going through EPA's electronic public docket, EPA's e-mail system automatically captures your e-mail address. E-mail addresses that are automatically captured by EPA's e-mail system are included as part of the comment that is placed in the official public docket and made available in EPA's electronic public docket.

You may submit comments on a disk or CD ROM that you mail to the mailing address identified below. These electronic submissions will be accepted in WordPerfect or ASCII file format. Avoid the use of special characters and any form of encryption.

By Mail. Send your comments (in duplicate if possible) to: Air and Radiation Docket and Information Center, U.S. EPA, Mailcode: 6102T, 1200 Pennsylvania Ave., NW., Washington, DC 20460, Attention Docket ID No. OAR–2002–0059. The EPA requests a separate copy also be sent to the contact person listed above (see **FOR FURTHER INFORMATION CONTACT**).

By Hand Delivery or Courier. Deliver your comments to: EPA Docket Center, Room B108, 1301 Constitution Ave., NW., Washington, DC 20460, Attention Docket ID No. OAR–2002–0059. Such deliveries are only accepted during the Docket's normal hours of operation as identified above.

Do not submit information that you consider to be CBI electronically through EPA's electronic public docket or by e-mail. Send or deliver information identified as CBI only to the following address: Mr. Sims Roy, c/o OAQPS Document Control Officer (Room C404–2), U.S. EPA, Research Triangle Park, 27711, Attention Docket ID No. OAR–2002–0059. You may claim information that you submit to EPA as CBI by marking any part or all of that information as CBI (if you submit CBI on disk or CD ROM, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is CBI). Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

In addition to one complete version of the comment that includes any information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket and EPA's electronic public docket. If you submit the copy that does not contain CBI on disk or CD ROM, mark the outside of the disk or CD ROM clearly that it does not contain CBI. Information not marked as CBI will be included in the public docket and EPA's electronic public docket without prior notice. If you have any questions about CBI or the procedures for claiming CBI, please consult the person identified in the **FOR FURTHER INFORMATION CONTACT** section.

You may find the following suggestions helpful for preparing your comments:

1. Explain your views as clearly as possible.
2. Describe any assumptions that you used.
3. Provide any technical information and/or data you used that support your views.
4. If you estimate potential burden or costs, explain how you arrived at your estimate.
5. Provide specific examples to illustrate your concerns.

6. Offer alternatives.

7. Make sure to submit your comments by the comment period deadline identified.

8. To ensure proper receipt by EPA, identify the appropriate docket identification number in the subject line on the first page of your response. It would also be helpful if you provided the name, date, and **Federal Register** citation related to your comments.

Public Hearing. Persons interested in presenting oral testimony or inquiring as to whether a hearing is to be held should contact Mrs. Kelly Hayes, Combustion Group, Emission Standards Division (MD–C439–01), U.S. EPA, Research Triangle Park, North Carolina 27711, (919) 541–5578 at least 2 days in advance of the public hearing. Persons interested in attending the public hearing must also call Mrs. Hayes to verify the time, date, and location of the hearing. The public hearing will provide interested parties the opportunity to present data, views, or arguments concerning the proposed rule. If a public hearing is requested and held, EPA will ask clarifying questions during the oral presentation but will not respond to the presentations or comments. Written statements and supporting information will be considered with equivalent weight as any oral statement and supporting information presented at a public hearing, if held.

Outline. The information presented in this preamble is organized as follows:

I. Background

A. What Is the Regulatory Development Background of the Source Category?

In September 1996, we chartered the Industrial Combustion Coordinated Rulemaking (ICCR) advisory committee under the Federal Advisory Committee Act (FACA). The committee's objective was to develop recommendations for regulations for several combustion source categories under sections 112 and 129 of the CAA. The ICCR advisory committee, also known as the Coordinating Committee, formed Source Work Groups for the various combustor types covered under the ICCR. One work group, the RICE Work Group, was formed to research issues related to stationary RICE units. The RICE Work Group submitted recommendations, information, and data analyses to the Coordinating Committee, which in turn considered them and submitted recommendations and information to EPA. The Committee's 2-year charter expired in September 1998. We considered the Committee's recommendations in developing the proposed rule for stationary RICE.

B. What Is the Source of Authority for Development of NESHAP?

Section 112 of the CAA requires us to list categories and subcategories of major sources and area sources of HAP and to establish NESHAP for the listed source categories and subcategories. The stationary RICE source category was listed on July 16, 1992 (57 FR 31576). Major sources of HAP are those that have the potential to emit greater than 10 ton/yr of any one HAP or 25 ton/yr of any combination of HAP. Most RICE engines or groups of RICE engines are not major HAP emission sources by themselves but are major because they are co-located at major HAP sites.

C. What Criteria Are Used in the Development of NESHAP?

Section 112 of the CAA requires that we establish NESHAP for the control of HAP from both new and existing sources in regulated source categories. The CAA requires the NESHAP to reflect the maximum degree of reduction in emissions of HAP that is achievable. This level of control is commonly referred to as the MACT.

The MACT floor is the minimum control level allowed for NESHAP and is defined under section 112(d)(3) of the CAA. In essence, the MACT floor ensures that the standards are set at a level that assures that all major sources achieve the level of control at least as stringent as that already achieved by the better controlled and lower emitting sources in each source category or subcategory. For new sources, the MACT floor cannot be less stringent than the emission control that is achieved in practice by the best controlled similar source. The MACT standards for existing sources can be less stringent than standards for new sources, but they cannot be less stringent than the average emission limitation achieved by the best performing 12 percent of existing sources in the category or subcategory (or the best performing 5 sources for categories or subcategories with fewer than 30 sources).

In developing MACT, we also consider control options that are more stringent than the floor. We may establish standards more stringent than the floor based on the consideration of cost of achieving the emissions reductions, any nonair quality health and environmental impacts, and energy requirements.

D. What Are the Health Effects Associated With HAP From Stationary RICE?

Emission data collected during development of the proposed NESHAP show that several HAP are emitted from stationary RICE. These HAP emissions are formed during combustion or result from HAP compounds contained in the fuel burned.

Hazardous air pollutants which have been measured in emission tests conducted on natural gas fired and distillate oil fired RICE include: 1,1,2,2-tetrachloroethane, 1,3-butadiene, 2,2,4-trimethylpentane, acetaldehyde, acrolein, benzene, chlorobenzene, chloroethane, ethylbenzene, formaldehyde, methanol, methylene chloride, n-hexane, naphthalene, polycyclic aromatic hydrocarbons, polycyclic organic matter, styrene, tetrachloroethane, toluene, and xylene. Metallic HAP from distillate oil fired stationary RICE that have been measured are: Cadmium, chromium, lead, manganese, mercury, nickel, and selenium.

Although numerous HAP may be emitted from RICE, only a few account for essentially all of the mass of HAP emissions from stationary RICE. These HAP are: Formaldehyde, acrolein, methanol, and acetaldehyde.

The hazardous air pollutant emitted in the largest quantities from stationary RICE is formaldehyde. Formaldehyde is a probable human carcinogen and can cause irritation of the eyes and respiratory tract, coughing, dry throat, tightening of the chest, headache, and heart palpitations. Acute inhalation has caused bronchitis, pulmonary edema, pneumonitis, pneumonia, and death due to respiratory failure. Long-term exposure can cause dermatitis and sensitization of the skin and respiratory tract.

Acrolein is a cytotoxic agent, a powerful lacrimating agent, and a severe tissue irritant. Acute exposure to acrolein can cause severe irritation or corrosion of the eyes, nose, throat, and lungs, with tearing, pain in the chest, and delayed-onset pulmonary injury with depressed pulmonary function. Chronic exposure to acrolein can cause skin sensitization and contact dermatitis. Acrolein is not considered carcinogenic to humans.

Humans are very sensitive to the toxic effects of methanol including formic acidaemia, metabolic acidosis, ocular toxicity, nervous system depression, blindness, coma, and death. A majority of the available information on methanol toxicity in humans is based on acute rather than long-term exposure. However, recent animal studies also indicate potential reproductive and developmental health consequences following exposure to methanol in both mice and primates. Methanol has not been classified with respect to carcinogenicity.

The health effects for acetaldehyde are irritation of the eye mucous membranes, skin, and upper respiratory tract, and a central nervous system (CNS) depressant in humans. Chronic exposure can cause conjunctivitis, coughing, difficult breathing, and dermatitis. Chronic exposure may cause heart and kidney damage, embryotoxicity, and teratogenic effects. Acetaldehyde is a probable carcinogen in humans.

We recently reviewed health effects associated with emissions of particulates from diesel engines in the context of regulating heavy duty motor vehicles and engines (66 FR 5001, January 18, 2001). Diesel particulate matter is not currently listed as a hazardous air pollutant for stationary sources under section 112 of the CAA and was not specifically reviewed under the proposed rule, though constituent parts of diesel particulate matter are subject to the proposed rule. We are continuing to review this issue in the context of regulating stationary internal combustion engines.

II. Summary of the Proposed Rule

A. Am I Subject to the Proposed Rule?

The proposed rule applies to you if you own or operate stationary RICE which are located at a major source of HAP emissions, except if your stationary RICE are all rated at or under 500 brake horsepower. A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year.

Section 112(n)(4) of the CAA requires that the aggregation of HAP for purposes of determining whether an oil and gas production facility is major or nonmajor be done only with respect to particular sites within the source and not on a total aggregated site basis. We incorporated the requirements of section 112(n)(4) of the CAA into our NESHAP for Oil and Natural Gas Production Facilities in subpart HH of 40 CFR part 63. As in subpart HH, we plan to aggregate HAP emissions for the purposes of determining a major HAP source for RICE only with respect to particular sites within an oil and gas production facility. The sites are called surface sites and may include a combination of any of the following equipment: glycol dehydrators, tanks which have potential for flash emissions, RICE and combustion turbines.

The standards proposed in the rule have specific requirements for all new or reconstructed stationary RICE and for existing spark ignition 4 stroke rich burn (4SRB) stationary RICE located at a major source of HAP emissions, except that stationary RICE with a manufacturer's nameplate rating of 500 brake horsepower or less are not addressed in the proposed rule. Stationary RICE which operate exclusively as emergency power/limited use units or which combust landfill gas or digester gas as primary fuel are subject only to initial notification requirements.

An emergency power/limited use unit means any stationary RICE that operates as a mechanical or electrical power source during emergencies, when the primary power source for a facility has been rendered inoperable by an emergency situation. One example is when electric power from the local utility is interrupted. Another example is to pump water in the case of fire or flood. Emergency power/limited use units include units that operate less than 50 hours per year in non-emergency situations, including certain peaking units at electric facilities or stationary RICE at industrial facilities.

With the exception of existing spark ignition 4SRB stationary RICE, other types of existing stationary RICE (*i.e.*, spark ignition 2 stroke lean burn (2SLB), spark ignition 4 stroke lean burn (4SLB), and compression ignition (CI)) located at a major source of HAP emissions are not subject to any specific requirement under the proposed rule.

Finally, the proposed rule does not apply to stationary RICE test cells/stands since these facilities will be covered by another NESHAP, subpart PPPPP of 40 CFR part 63.

B. What Source Categories and Subcategories Are Affected by the Proposed Rule?

The proposed rule covers new or reconstructed stationary RICE and existing spark ignition 4SRB stationary RICE. A RICE is any spark ignition or compression ignition reciprocating internal combustion engine. A stationary RICE is any RICE which is not mobile.

Stationary RICE differ from mobile RICE in that stationary RICE are not self-propelled, are not intended to be propelled while performing their function, or are not portable or transportable as that term is identified in the definition of non-road engine at 40 CFR 89.2.

We divided the stationary RICE source category into four subcategories: (1) Emergency power/limited use units, (2) stationary RICE that combust landfill gas or digester gas as their primary fuel, (3) stationary RICE with a manufacturer's nameplate rating of 500 brake horsepower or less, and (4) other stationary RICE. We further divided the last subcategory into four subcategories: (1) 2SLB stationary RICE, (2) 4SLB stationary RICE, (3) 4SRB stationary RICE, and (4) CI stationary RICE.

We are specifically soliciting comments on creating a subcategory of limited use engines with a capacity utilization of 10 percent or less. This is further discussed in the ''Solicitation of Comments and Public Participation'' section of this preamble.

The proposed rule does not apply to stationary RICE test cells/stands since these facilities will be covered by another NESHAP, subpart PPPPP of 40 CFR part 63.

The proposed rule also does not apply to existing, new, or reconstructed stationary RICE located at an area source of HAP emissions. An area source of HAP emissions is a plant site that does not emit any single HAP at a rate of 10 tons (9.07 megagrams) or greater per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or greater per year. In addition, the proposed rule does not apply to stationary RICE with a manufacturer's nameplate rating of 500 brake horsepower or below. These engines have been discussed previously in this preamble.

C. What Are the Primary Sources of HAP Emissions and What Are the Emissions?

The primary sources of HAP emissions are exhaust gases from combustion of gaseous fuels and liquid fuels in stationary RICE. Formaldehyde, acrolein, methanol, and acetaldehyde are HAP that are present in significant quantities from stationary RICE.

D. What Are the Emission Limitations and Operating Limitations?

As the owner or operator of an affected source, you must do one of the following: (1) Each existing, new, or reconstructed 4SRB stationary RICE must comply with each emission limitation in Table 1(a) of proposed subpart ZZZZ, 40 CFR part 63, and each operating limitation in Table 1(b) of proposed subpart ZZZZ that apply, or (2) each new or reconstructed 2SLB or 4SLB stationary RICE or CI stationary RICE must comply with each emission limitation in Table 2(a) of proposed subpart ZZZZ and operating limitation in Table 2(b) of proposed subpart ZZZZ that apply.

Existing 2SLB or 4SLB stationary RICE or existing CI stationary RICE, stationary RICE that operate exclusively as emergency power/limited use units, or stationary RICE that combust digester gas or landfill gas as their primary fuel have an emission standard of no emission reduction, and will not be tested to meet any specific emission limitation or operating limitation. In addition, any stationary RICE located at an area source of HAP emissions, any stationary RICE that have a manufacturer's nameplate rating of 500 brake horsepower or less, or stationary RICE that are being tested at stationary RICE test cells/stands are not addressed in the proposed rule and, therefore, do not need to comply with any emission limitation or operating limitation.

E. What Are the Initial Compliance Requirements?

If your stationary RICE must meet specific emission limitations and operating limitations, then you must meet the following initial compliance requirements. The testing and initial compliance requirements are different, depending on whether you demonstrate compliance with the carbon monoxide (CO) emission reduction requirement, formaldehyde emission reduction requirement, or the requirement to limit the formaldehyde concentration in the stationary RICE exhaust.

1. If you own or operate a 2SLB or 4SLB stationary RICE, or a CI stationary RICE with a manufacturer's nameplate rating less than 5000 brake horsepower complying with the requirement to reduce CO emissions using a oxidation catalyst, you must install a continuous parameter monitoring system (CPMS) to continuously monitor the pressure drop across the catalyst and the catalyst inlet temperature. You must conduct an initial performance test to demonstrate that you are achieving the required CO percent reduction, corrected to 15 percent oxygen, dry basis. During the initial performance test, you must record the initial pressure drop across the catalyst and the catalyst inlet temperature.

2. If you own or operate a 2SLB or 4SLB stationary RICE, or a CI stationary RICE with a manufacturer's nameplate rating greater than or equal to 5000 brake horsepower complying with the requirement to reduce CO emissions using an oxidation catalyst, you must install a continuous emissions monitoring system (CEMS) to measure CO and either carbon dioxide or oxygen simultaneously at the inlet and outlet of the oxidation catalyst. To demonstrate initial compliance, you must conduct an initial performance evaluation using Performance Specifications (PS) 3 and 4A of 40 CFR part 60, appendix B. You must demonstrate that the reduction of CO emissions meets the required percent reduction using the first 4-hour average after a successful performance evaluation. Your measurements at the inlet and the outlet of the oxidation catalyst must be on a dry basis and corrected to 15 percent oxygen or equivalent carbon dioxide content.

3. If you own or operate a 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions using non-selective catalytic reduction (NSCR), you must install a CPMS to continuously monitor the pressure drop across the catalyst, the catalyst inlet temperature, and the temperature rise across the catalyst.

You must conduct an initial performance test to demonstrate that you are achieving the required formaldehyde percent reduction, corrected to 15 percent oxygen, dry basis. During the initial performance test, you must record the initial values of the pressure drop across the catalyst, the catalyst inlet temperature, and the temperature rise across the catalyst.

4. If you are complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust, you must conduct an initial performance test using Test Method 320 or 323 of 40 CFR part 63, appendix A, California Air Resources Board (CARB) Method 430, or EPA Solid Waste (SW)–846 Method 0011 to demonstrate that the concentration of formaldehyde in the stationary RICE exhaust is less than or equal to the emission limit, corrected to 15 percent oxygen, dry basis, that applies to you. To correct to 15 percent oxygen, dry basis, you must measure oxygen using Method 3A or 3B of 40 CFR part 60, appendix A, and measure moisture using Method 4 of 40 CFR part 60, appendix A. The initial performance test must be conducted at the lowest load at which you will operate your stationary RICE and at the typical load at which you will operate your stationary RICE. This initial performance test establishes the lowest load or the minimum fuel flow rate at which you may operate your stationary RICE.

To demonstrate initial compliance, you must also install a CPMS to continuously monitor stationary RICE load or fuel flow rate and other (if any) operating parameters approved by the Administrator.

If you choose to comply with the emission limitation to limit the concentration of formaldehyde, you must also petition the Administrator for approval of additional operating limitations or approval of no additional operating limitations. If the Administrator approves your petition for additional operating limitations, the operating limitations must also be established during the initial performance test.

If you petition the Administrator for approval of additional operating limitations, your petition must include the following: (1) Identification of the specific parameters you propose to use as additional operating limitations; (2) a discussion of the relationship between the parameters and HAP emissions, identifying how HAP emissions change with changes in the parameters, and how limitations on the parameters will serve to limit HAP emissions; (3) a discussion of how you will establish the upper and/or lower values for the parameters which will establish the limits on the parameters in the operating limitations; (4) a discussion identifying the methods you will use to measure and the instruments you will use to monitor the parameters, as well as the relative accuracy and precision of the methods and instruments; and (5) a discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring the parameters.

If you petition the Administrator for approval of no additional operating limitations, your petition must include the following: (1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.*, operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.*, wear and tear, error, etc.) on a routine basis or over time; (2) a discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions; (3) for those parameters with a relationship to HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions; (4) for those parameters with a relationship to HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on these parameters in operating limitations; (5) for the parameters with a relationship to HAP emissions, a discussion identifying the methods you could use to measure the parameters and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments; (6) for the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and (7) a discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

F. What Are the Continuous Compliance Provisions?

Several general continuous compliance requirements apply to all stationary RICE meeting various specified emission and operating limitations. If your stationary RICE is required to meet specific emission and operating limitations, then you are required to comply with the emission and operating limitations at all times, except during startup, shutdown, and malfunction of your stationary RICE. You must also operate and maintain your stationary RICE, air pollution control equipment, and monitoring equipment according to good air pollution control practices at all times, including startup, shutdown, and malfunction. You must conduct all monitoring at all times that the stationary RICE is operating, except during periods of malfunction of the monitoring equipment or necessary repairs or quality assurance or control activities, such as calibration checks.

1. For 2SLB and 4SLB stationary RICE and CI stationary RICE with a manufacturer's nameplate rating less than 5000 brake horsepower, complying with the requirement to reduce CO emissions using an oxidation catalyst, you must conduct quarterly performance tests for CO and oxygen using a portable CO monitor to demonstrate that the required CO percent reduction is achieved. To demonstrate continuous compliance with the CO percent reduction requirement, you must continuously monitor and record the pressure drop across the catalyst and the catalyst inlet temperature. The 4-hour rolling average of the valid data must be within the operating limitations. If you change your oxidation catalyst (*i.e.*, replace catalyst elements), you must reestablish your pressure drop and catalyst inlet temperature.

2. For 2SLB and 4SLB stationary RICE and CI stationary RICE with a manufacturer's nameplate rating greater than or equal to 5000 brake horsepower, complying with the CO percent reduction emission limitation using an oxidation catalyst, you must calibrate and operate your CEMS according to the requirements in 40 CFR 63.8. You must continuously monitor and record the CO concentration at the inlet and outlet of the oxidation catalyst and calculate the percent reduction of CO emissions hourly. The reduction of CO must be at least the required percent reduction, based on a rolling 4-hour average, averaged every hour. You must also conduct an annual relative accuracy test audit (RATA) of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

3. For existing, new, or reconstructed 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions using NSCR, you must demonstrate continuous compliance by continuously monitoring the pressure drop across the catalyst, the catalyst inlet temperature and the temperature rise across the catalyst.

The 4-hour rolling average of the valid data must be above and/or below the lower bounds and/or upper bounds of the operating parameters corresponding to compliance with the requirement to reduce formaldehyde emissions. If you change your NSCR (*i.e.*, replace catalyst elements), you must reestablish the values of the pressure drop across the catalyst, the catalyst inlet temperature and the temperature rise across the catalyst.

The 4SRB stationary RICE with a manufacturer's nameplate rating greater than or equal to 5000 brake horsepower must also conduct semiannual performance tests to demonstrate that the percent reduction for formaldehyde emissions is achieved. If you demonstrate compliance with the percent reduction requirement for two successive performance tests, you may reduce the frequency of performance testing to annually. However, if an annual performance test indicates a deviation from the percent reduction requirement, you must return to semiannual performance tests.

4. If you are complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust, the following requirements must be met:

a. Proper maintenance. At all times, the owner or operator shall maintain the monitoring equipment including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

b. Continued operation. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation at all times that the unit is operating. Data recorded during monitoring malfunctions, associated repairs, out-of-control periods, and required quality assurance or control activities shall not be used for purposes of calculating data averages. The owner or operator shall use all the data collected during all other periods in assessing compliance. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring equipment to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. Any period for which the monitoring system is out-of-control and data are not available for required calculations constitutes a deviation from the monitoring requirements.

To demonstrate continuous compliance with the operating limitations, you must continuously monitor and record the operating load or fuel flow rate of the stationary RICE, and the values of any other parameters which have been approved by the Administrator as operating limitations. The 4-hour rolling average of the operating load or fuel flow rate must be no lower than 5 percent below the operating limitations established during the initial performance test.

After completion of the initial performance test, you must demonstrate that formaldehyde emissions remain at or below the formaldehyde concentration limit by performing semiannual performance tests. If you demonstrate compliance with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust for two successive performance tests, you may reduce the frequency of performance testing to annually. However, if an annual performance test indicates a deviation of formaldehyde emissions from the formaldehyde concentration limit, you must return to semiannual performance tests. Also, if your stationary RICE will be operated at a load that is lower than the load at which you operated the stationary RICE during the initial performance test, you must conduct a performance test and reestablish the minimum values for the stationary RICE.

G. What Monitoring and Testing Methods Are Available To Measure These Low Concentrations of CO and Formaldehyde?

Continuous emissions monitoring systems are available which can accurately measure CO emissions at the low concentrations found in the exhaust of a stationary RICE following an oxidation catalyst emission control device. Our PS 4A of 40 CFR part 60, appendix B, for CO CEMS, however, has not been updated recently and does not reflect the performance capabilities of the systems. We are currently undertaking a review of PS 4 and 4A of 40 CFR part 60, appendix B, for CO CEMS, and in conjunction with this effort, we solicit comments on the performance capabilities of CO CEMS to accurately measure the low concentrations of CO experienced in the exhaust of a stationary RICE following an oxidation catalyst emission control device.

Similarly, our Fourier Transform Infrared (FTIR) test method, Method 320 of 40 CFR part 63, appendix A, CARB Method 430, as well as EPA SW–846 Method 0011 can be used to accurately measure formaldehyde concentrations in the exhaust of a stationary RICE as low as 350 parts per billion by volume, dry basis (ppbvd). Similar to our current performance specifications for CO CEMS, as both of these test methods are currently written, they do not provide for this level of accuracy. The methods must be used with some revisions to achieve such accuracy.

As a result, we are currently undertaking a review of our FTIR method, Method 320 of 40 CFR part 63, appendix A, to incorporate revisions to ensure it can be used to accurately measure formaldehyde concentrations as low as 8 ppbvd in the exhaust from a stationary RICE. In conjunction with this effort, we solicit comments on revisions to Method 320 of 40 CFR part 63, appendix A, to ensure accurate measurement of such low concentrations of formaldehyde.

In addition, we are also proposing another EPA method for measuring formaldehyde from natural gas-fired stationary RICE. This impinger-based method, EPA Method 323 of 40 CFR part 63, appendix A, Measurement of Formaldehyde Emissions From Natural Gas-fired Stationary Sources—Acetyl Acetone Derivitization Method, may be an acceptable method for measuring low concentrations as required by the proposed rule.

H. What Are the Notification, Recordkeeping and Reporting Requirements?

If you own or operate a stationary RICE which is located at a major source of HAP emissions, you must submit all of the applicable notifications as listed in the NESHAP General Provisions (40 CFR part 63, subpart A), including an initial notification, notification of performance test or evaluation, and a notification of compliance for each stationary RICE which must comply with the specified emission and operating limitations. In addition, you must submit an initial notification for each stationary RICE which operates exclusively as an emergency power/limited use unit or a stationary RICE which combusts digester gas or landfill gas as primary fuel.

You must record all of the data necessary to determine if you are in compliance with the emission limitations and operating limitations (if applicable) as required by the proposed rule. Your records must be in a form suitable and readily available for review. You must also keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Records must remain on site for at least 2 years and then can be maintained offsite for the remaining 3 years.

You must submit a compliance report semiannually. This report should contain information including company name and address, a statement by a responsible official that the report is accurate, and a statement of compliance or documentation of any deviation from the requirements of the proposed rule during the reporting period.

III. Rationale for Selecting the Proposed Standards

A. How Did We Select the Source Category and Any Subcategories?

Stationary RICE are listed as a major source category for regulatory development under section 112 of the CAA. The CAA allows us discretion in defining the appropriate scope of the category and subcategories. We considered several criteria associated with stationary RICE which could lead to establishment of subcategories including differences in emission characteristics, fuel, mode of operation, size of source, and type of source.

We identified four subcategories of stationary RICE located at major sources: (1) Emergency power/limited use units, (2) stationary RICE which combust landfill gas or digester gas as their primary fuel, (3) stationary RICE with a manufacturer's rating of 500 brake horsepower or less, and (4) other stationary RICE.

We identified emergency power/limited use units as a subcategory. Emergency power/limited use units operate only in emergencies, such as a loss of power provided by another source. These types of stationary RICE operate infrequently and, when called upon to operate, must respond without failure and without lengthy periods of startup. These conditions limit the applicability of HAP emission control technology to emergency power/limited use units.

Similarly, stationary RICE which combust landfill gas or digester gas as their primary fuel were identified as a subcategory. Landfill and digester gases contain a family of chemicals referred to as siloxanes, which limits the application of HAP emission control technology.

Stationary RICE with a manufacturer's nameplate rating of 500 brake horsepower or less were also identified as a subcategory. We know very little about these stationary RICE and without further knowledge have concerns about the applicability of HAP emission control technology to them. As discussed above, we have not addressed these stationary RICE in the proposed rule.

Finally, in considering the fourth subcategory (*i.e.*, other stationary RICE located at major sources of HAP emissions), we identified four additional subcategories of stationary RICE within this fourth subcategory: (1) 2SLB stationary RICE, (2) 4SLB stationary RICE, (3) 4SRB stationary RICE, and (4) CI stationary RICE. The further subcategorization is necessary because engine design characteristics, HAP emissions, and the application of HAP emission control technology differ among the subcategories. For further information on our rationale for subcategorization, see the memorandum entitled ''Subcategorization of Stationary Reciprocating Internal Combustion Engines for the Purpose of NESHAP'' in the docket.

Stationary RICE being tested at stationary RICE test cells/stands are not covered by the proposed rule since they will be covered by a separate NESHAP, subpart PPPPP of 40 CFR part 63.

B. What Is the Affected Source?

The affected source for the proposed rule is any stationary RICE located at a major source of HAP emissions with a manufacturer's nameplate rating above 500 brake horsepower and not being tested at a stationary RICE test cell/stand.

C. How Did We Determine the Basis and Level of the Proposed Emission Limitations and Operating Limitations?

1. Overview

As established in section 112(d) of the CAA, the emission standards must be no less stringent than the MACT floor, which for existing sources is the average emission limitation achieved by the best performing 12 percent of existing sources. The MACT floor for new sources must be no less stringent than the level of emission control that is achieved in practice by the best controlled similar source. As outlined below, the MACT floors and MACT for existing and new stationary RICE were developed primarily through analyses of the population database and the emissions database.

The population database provides population information on operating stationary RICE in the United States and was constructed to support the proposed rule. The population database contains information from available databases, such as the Aerometric Information Retrieval System, the Ozone Transport and Assessment Group, and State and local agencies' databases. The first version of the database was released in 1997. Subsequent versions have been released reflecting additional or updated data. The most recent release of the database is version 4, released in November 1998.

The population database contains information on approximately 28,000 stationary RICE. We believe the current stationary RICE population is about 37,000, including those under 500 horsepower and those at area sources, therefore, we believe the population database represents about 75 percent of the stationary RICE in the United States. As a result, we believe the information in the population database is representative of the stationary RICE industry subject to the proposed rule.

The emissions database is a compilation of available HAP emission test reports created to support the proposed rule. The majority of HAP emission test reports were conducted in the State of California as part of the Air Toxics ''Hot Spots'' Information Assessment Act of 1987 program. Complete copies of HAP emission test reports for stationary RICE were gathered from air districts in California and taken from a previous EPA effort referred to as the Source Test Information Retrieval System. Other States and trade associations such as Western States Petroleum Association and Gas Research Institute (GRI) were contacted for available HAP emission test reports. Finally, the emissions database also includes preliminary results from a joint EPA-industry HAP emission testing program on stationary RICE at the Engines and Energy Conversion Laboratory at Colorado State University (CSU).

2. General

We considered several approaches to identify MACT floors for stationary RICE. One approach was to review State regulations and permits for stationary RICE. We found no State regulations or State permits which specifically limit HAP emissions from stationary RICE.

Another approach we considered to identify MACT floors for stationary RICE was that of good combustion practices. We tried to identify specific practices which might be considered improved maintenance or operation, such as frequent checks or tune ups, which serve to maintain a stationary RICE in good operating condition. We thought the use of such practices might prevent increases in HAP emissions which could arise from poor operation or failure of a stationary RICE.

Toward that end, we contacted State and local permitting authorities, as well as the manufacturers and the owners and operators of stationary RICE. A more detailed discussion is presented in ''Pollution Prevention for Reciprocating Internal Combustion Engines'' in the docket. We were unable to identify any specific good combustion practices from these efforts which we could relate directly to reduced HAP emissions.

As mentioned above, the primary approach we ultimately used to identify MACT floors and MACT was to review information in the population and emissions databases. We reviewed the information in the databases to identify stationary RICE operating with emission control systems and then to identify the level of performance, in terms of HAP emissions reductions, associated with the use of the emission control systems.

We reviewed MACT floors and MACT for the four subcategories separately. The MACT for emergency power/limited use units and landfill/digester gas units are discussed later in this preamble. As discussed above, we did not address engines with manufacturer's nameplate ratings at or below 500 brake horsepower in the proposed rule nor do we address stationary RICE that are tested at stationary RICE test cells/stands. The MACT for other stationary RICE are discussed below.

We found several stationary RICE operating with oxidation catalyst systems and several operating with NSCR systems. Oxidation catalyst systems have been installed primarily to reduce CO emissions and, to some extent, volatile organic compounds (VOC) emissions, from 2SLB and 4SLB stationary RICE and CI stationary RICE. Non-selective catalytic reduction systems, on the other hand, have been installed primarily to reduce nitrogen oxides (NO_X) emissions from 4SRB stationary RICE.

Examination of HAP emission data from the emissions database, as well as preliminary emission data from HAP emission testing at CSU leads us to conclude that oxidation catalyst systems will reduce HAP emissions from 2SLB and 4SLB stationary RICE and CI stationary RICE, as discussed further below. Similarly, examination of HAP emission data leads us to conclude that NSCR will reduce HAP emissions from 4SRB stationary RICE.

3. Existing Source MACT Floor for Other Stationary RICE Subcategory

As mentioned in the previous section, MACT floors for existing RICE could not be established based on State and local permit information because there are no State or local regulations for RICE regarding HAP and the use of good operating practices because no operating practices could be specifically linked to HAP emissions reductions.

Review of the population database indicates that few existing 2SLB and 4SLB stationary RICE or CI stationary RICE use oxidation catalyst systems. The number is less than 1 percent for 2SLB stationary RICE, about 3 percent for 4SLB stationary RICE, and less than 1 percent for CI stationary RICE. In addition, less than 1 percent of existing CI stationary RICE use a catalyzed diesel particulate filter (C–DPF), which is believed to reduce HAP emissions to some extent. However, all of these percentages are well below the criteria for a MACT floor that would require emissions reductions for existing sources (average emission limitation achieved by the best performing 12 percent of existing sources). We have interpreted average emission limitation of the best performing 12 percent to refer to either the numerical mean or the numerical median. In this case, EPA has used the median value, that is, the level of control at the 6th (best performing) percentile to determine the average. Thus, we conclude the MACT floor for existing 2SLB, 4SLB, and CI stationary RICE is no emissions reductions.

Unlike the situation outlined above, more than 6 percent of existing 4SRB stationary RICE use NSCR systems. Therefore, we conclude the MACT floor for 4SRB existing stationary RICE is the level of HAP emissions reductions achieved by the use of NSCR systems. We discuss this in more detail below.

4. Existing Source MACT

To determine MACT for the subcategories of existing 2SLB and 4SLB stationary RICE and existing CI stationary RICE, we evaluated two regulatory alternatives more stringent than the MACT floor. Specifically, we considered the use of oxidation catalyst systems as a beyond-the-floor regulatory alternative and fuel switching. With one exception noted below, these are the only options we know of which could serve as the basis for MACT to reduce HAP emissions from the subcategories of stationary RICE.

In our review of oxidation catalyst systems, we concluded that this alternative would be inappropriate given the cost per ton of HAP removed. Non-air quality health, environmental impacts, and energy effects were not significant factors.

The second option considered was to switch fuels in existing RICE from fuels which result in higher HAP emissions to fuels that result in lower HAP emissions. When we compared the CAA section 112 HAP emissions factors of the various fuels from RICE, using the July 2000 revision of Chapter 3.2 (Natural Gas Fired Reciprocating Internal Combustion Engines) and the October 1996 revision of Chapter 3.3 (Gasoline and Diesel Industrial Engines) of ‘‘Compilation of Air Pollutant Emission Factors AP–42, Fifth Edition, Volume 1: Stationary Point and Area Sources,’’ we could not find a fuel that was clearly less HAP emitting. The summation of emission factors for various HAP when using natural gas (usually considered the cleanest fuel) or diesel fuel were comparable based on the emission factor information that is available. Therefore, we could find no basis to consider fuel switching as a beyond-the-floor HAP emissions reductions option.

For existing compression ignition stationary RICE, we also considered another beyond-the-floor regulatory alternative, the use of C–DPF. Some believe the use of such filters will reduce HAP emissions; however, there are no data available to quantify what the level of the reduction might be. Most speculate that it is less than that achieved through the use of oxidation catalyst systems. The cost of C–DPF, however, is greater than that of oxidation catalyst systems and, for that reason, we consider the alternative to also be inappropriate as well. Non-air quality health, environmental impacts, and energy effects were not significant factors.

We conclude, therefore, that MACT for existing 2SLB and 4SLB stationary RICE and existing CI stationary RICE is the MACT floor (*i.e.*, no emissions reductions). As a result, we propose no requirements for emissions testing for existing 2SLB and 4SLB stationary RICE and existing CI stationary RICE. For further information on the determination of MACT, refer to the Regulatory Impact Analysis for the proposed rule and memoranda entitled ‘‘Regulatory Alternatives and MACT for Stationary Reciprocating Internal Combustion Engines’’ and ‘‘National Impacts Associated with Reciprocating Internal Combustion Engines’’ in the docket.

For 4SRB stationary RICE, we know of no other HAP emission control technology other than the use of NSCR systems. The fuel switching analysis presented previously also applies to existing 4SRB RICE. Therefore, we are unable to identify any beyond-the-floor regulatory alternative for this subcategory of stationary RICE. Consequently, we conclude that MACT for existing 4SRB stationary RICE is also equivalent to the MACT floor (*i.e.,* the level of HAP emission control achieved through the use of NSCR systems).

To determine the level of performance associated with the use of NSCR systems on 4SRB stationary RICE, we examined HAP emission data from the emissions database. We also examined a recent industry sponsored formaldehyde emission test conducted on two 4SRB stationary RICE equipped with NSCR.

Emission testing to measure HAP emitted from stationary RICE is very expensive, and we know of no CEMS which could be used to continuously monitor all HAP emissions. As a result, we first examined the emission data mentioned above to determine if a single pollutant could serve as a surrogate for HAP emissions.

We focused on CO emissions initially because CO is easy to measure. In addition, CEMS for CO emissions are readily available and, in most cases, the costs associated with their use are considered reasonable. Unfortunately, there is not a good relationship between CO emission concentration or CO emissions reductions and HAP emissions concentrations or HAP emissions reductions from 4SRB stationary RICE equipped with NSCR. Thus, CO emission concentration and CO emission reduction cannot serve as surrogates for HAP emissions for 4SRB stationary RICE.

Next, we considered the use of formaldehyde concentration as a surrogate for all HAP emissions. Formaldehyde is the hazardous air pollutant present in the highest concentrations in emissions from 4SRB stationary RICE and, more importantly, the level of formaldehyde emissions are related to the level of other HAP emissions. When formaldehyde emissions are reduced through the use of NSCR systems, HAP emissions are reduced as well. Consequently, we conclude that reductions in formaldehyde emissions can serve as a surrogate for reductions in HAP emissions for 4SRB stationary RICE operating with NSCR systems.

The emissions database contains several emission test reports that measured formaldehyde emissions from 4SRB stationary RICE equipped with NSCR, but no tests measure the emissions both before and after the control device, so the control efficiency of NSCR systems could not be determined from the emissions database. Moreover, the test reports in the emissions database provide single snapshot emission readings from stationary RICE, which does not account for variability of emissions that may occur as engines are operated in actual use. The data, for example, provided little or no information regarding variable parameters such as timing and load. As a result, we examined data from an industry sponsored formaldehyde emission test conducted on two 4SRB stationary RICE equipped with NSCR to determine the level of performance of NSCR systems. These test reports were reviewed, and we concluded that the engines and control devices were operated correctly during the tests and the tests were conducted properly. We considered several factors, such as load, which could have an effect on the efficiency of the control device, but could find no reason for the variability of the test results between the two engines.

We selected the best performing engine based on the highest average formaldehyde percent reduction. The average reduction was 79 percent for that engine; however, to establish variability, we looked at each of the 12 individual test runs performed on that engine. The percent reduction varied from 75 percent to 81 percent. We selected 75 percent for the MACT floor, which takes into account the variability of the best performing engine. The HAP emission data outlined above show that the use of NSCR systems on 4SRB stationary RICE will reduce formaldehyde emissions by 75 percent or more. As a result, we propose a 75 percent or more reduction in formaldehyde emissions as the emission limitation for existing 4SRB stationary RICE.

For existing 4SRB engines that choose to use a control or reduction technology that is not an NSCR system, an alternative standard was developed based on a formaldehyde concentration limit. For existing 4SRB engines the alternative emission limitation is 350 ppbvd corrected to 15 percent oxygen. The alternative formaldehyde concentration limit standard is discussed in more detail below.

5. New Source MACT Floor

Several existing 2SLB and 4SLB stationary RICE and existing CI stationary RICE currently operate with oxidation catalyst systems. No technology achieving greater emissions reductions was found. Thus, we conclude the MACT floor for new 2SLB and 4SLB stationary RICE and new CI stationary RICE is the level of HAP emission control achieved through the use of oxidation catalyst systems. The level of HAP reductions achieved through oxidation catalysts differs for each of the subcategories as discussed in more detail below.

Again, for new compression ignition stationary RICE, we considered whether the use of C–DPF might be the basis for the MACT floor. However, since oxidation catalyst systems achieve greater HAP emissions reductions, we concluded that oxidation catalyst systems, not C–DPF, are the basis for the MACT floor for new compression ignition stationary RICE.

As mentioned earlier, a number of existing 4SRB stationary RICE use NSCR systems. As a result, the use of NSCR systems is the best performing technology identified for use by 4SRB stationary RICE. Consequently, we conclude the MACT floor for new 4SRB stationary RICE is the level of HAP emissions reductions achieved through the use of NSCR systems.

6. New Source MACT

For 2SLB and 4SLB stationary RICE and CI stationary RICE, we know of no other HAP emission control technology than the use of oxidation catalyst systems (other than possibly the use of C–DPF on compression ignition stationary RICE, as discussed earlier). The fuel switching analysis presented previously also applies to new 2SLB, 4SLB, and CI RICE. Therefore, we were unable to identify any beyond-the-floor regulatory alternative for these subcategories of stationary RICE. Consequently, we conclude that MACT for new 2SLB and 4SLB stationary RICE and new CI stationary RICE is equivalent to the MACT floor (*i.e.*, the level of HAP emission control achieved through the use of oxidation catalyst systems).

Although the basis for MACT for each of these subcategories of stationary RICE is the same, as outlined below, HAP emission data from the emissions database and preliminary emission data from the HAP emission testing program at CSU indicate that the level of performance achieved by oxidation catalyst systems on each of these subcategories of stationary RICE differ. As a result, we propose different emission limitations for each of these subcategories of new stationary RICE.

As mentioned above, emission testing to measure HAP emissions is expensive, and we know of no CEMS which could be used to continuously monitor all HAP emissions. As a result, we first examined the emission data to determine if a single pollutant could serve as a surrogate for HAP emissions.

Again, we focused on CO emission concentration and CO emissions reductions initially. In this case, we found that there is a good relationship between CO emissions reductions and HAP emissions reductions from 2SLB and 4SLB stationary RICE and CI stationary RICE equipped with oxidation catalyst systems. When CO emissions are reduced, HAP emissions are reduced in a relatively proportional manner. As a result, CO emissions reductions can serve as a surrogate for HAP emissions reductions for 2SLB and 4SLB stationary RICE and CI stationary RICE operating with oxidation catalyst systems.

A joint EPA-industry HAP emission testing program at CSU provided HAP and CO emissions data which form the basis for the MACT floor and MACT for 2SLB, 4SLB, and CI stationary RICE. A single engine of each type equipped with an oxidation catalyst control system was tested. The engines were all overhauled before the testing and were expected to operate as well as new engines. The oxidation catalyst control systems represented the best HAP emission control known for each type of engine. All catalyst systems were new but were operated for a number of hours until the CO percent reduction stabilized. This assured that the performance would be not overestimated by the use of a new catalyst. Prior to the testing, EPA and industry developed a list of engine operating parameters that were known to vary throughout the U.S. for each type of engine. The engines and control devices were tested at typical engine conditions in which these operating parameters were varied. The variations in the emission reduction results for each engine type are due to the variability of the engine and control system and include a representation of the performance of the best controlled source for new engines. The fluctuations in HAP emission control represent the variability inherent in operating the engine and control device combination under various conditions. Some parameters such as the exhaust temperature are an important determinate of the catalytic activity and resulting emissions reductions but cannot be controlled by the operator because they are a result of factors such as engine design, ambient temperature, and designed air-to-fuel ratio. These result in a significant source of variability that cannot be controlled.

The HAP emission data mentioned above show that the use of oxidation catalyst systems on 2SLB and 4SLB stationary RICE and CI stationary RICE will reduce uncontrolled CO emissions by 60 percent or more, 93 percent or more, and 70 percent or more, respectively, taking into account the variability of results achieved when tested under various operating parameters. As a result, we propose: (1) A 60 percent or more reduction in CO uncontrolled emissions as the emission limitation for new 2SLB stationary RICE, (2) a 93 percent or more reduction in CO emissions as the emission limitation for new 4SLB stationary RICE, and (3) a 70 percent or more reduction in CO emissions as the emission limitation for new CI stationary RICE. The variation in percent reduction of CO achieved between 2SLB stationary RICE and 4SLB stationary RICE is a result of the higher exhaust temperatures for 4SLB stationary RICE. The 2SLB stationary RICE tested at CSU had an average exhaust temperature of 530 degrees Fahrenheit, while the 4SLB stationary RICE had an average exhaust temperature of 691 degrees Fahrenheit. In general, higher exhaust temperatures lead to better catalyst performance. This difference in temperatures is a function of the inherent design of these engine types and cannot be controlled by the operator.

For 4SRB stationary RICE, we know of no other HAP emission control technology than the use of NSCR systems. The fuel switching analysis presented previously also applies to new 4SRB RICE. As a result, we were unable to identify any beyond-the-floor regulatory alternative. Consequently, we conclude that MACT for new 4SRB stationary RICE is equivalent to the MACT floor (*i.e.,* the level of HAP emission control achieved through the use of NSCR systems).

The basis for MACT for new 4SRB stationary RICE, therefore, is the same as that for existing 4SRB stationary RICE. We believe NSCR systems will achieve the same level of performance on existing as well as new 4SRB stationary RICE. Consequently, we propose the same emission limitation for both existing and new 4SRB stationary RICE (*i.e.,* 75 percent or more reduction in formaldehyde emissions).

For new 4SRB engines that choose to use a control or reduction technology that is not an NSCR system, and for new 2SLB, 4SLB, and CI engines that choose a control or reduction technology that is not an oxidation catalyst system, an alternative standard was developed based on formaldehyde concentration limits. The alternative emission limits for new RICE sources are: 17 parts per million by volume dry basis (ppmvd) formaldehyde for 2SLB engines, 14 ppmvd formaldehyde for 4SLB engines, 350 ppbvd formaldehyde for 4SRB engines, and 580 ppbvd formaldehyde for CI engines, all corrected to 15 percent oxygen. The alternative formaldehyde concentration limit standard is discussed in more detail below.

7. MACT Floor and MACT for Other Subcategories

Although the proposed rule applies to all stationary RICE with a manufacturer's nameplate rating above 500 brake horsepower located at major sources excluding stationary RICE being tested at stationary RICE test cells/stands, there are two subcategories of stationary RICE for which the appropriate emission standard is no emissions reductions; therefore, they would not be required to comply with any emissions limitations or operating limitations under the proposed rule. These subcategories are stationary RICE which combust digester or landfill gas as the primary fuel and emergency power/limited use stationary RICE.

a. Stationary RICE Combusting Digester or Landfill Gas

Examination of the population database shows that there are no stationary RICE burning digester gas or landfill gas as the primary fuel operating with emission control technologies which reduce HAP emissions. Therefore, we conclude the MACT floor for the subcategory is no emissions reductions for both existing as well as new stationary RICE.

We considered the applicability of HAP emission control technology, such as the use of an oxidation catalyst system for example, to this subcategory of stationary RICE for beyond-the-floor controls. However, digester gases and landfill gases contain a family of silicon based compounds called siloxanes. Combustion of siloxanes can foul post combustion catalysts, rendering them inoperable within a short period of time. We considered pretreatment systems to remove siloxanes from the gases prior to combustion; however, we found no pretreatment systems in use and the long-term effectiveness is unknown. As a result, we know of no emission control technology which could be applied to the subcategory of stationary RICE to reduce HAP emissions.

We also considered fuel switching for this subcategory of RICE. Switching to a different fuel such as natural gas or diesel would potentially allow the RICE to apply the MACT controls. However, fuel switching would defeat the purpose of these units, which are intended to use this type of fuel. Fuel switching would also cause the landfill/digester gas either to escape uncontrolled or to be burned in a flare with no energy recovery. We believe that switching landfill or digester gas to another fuel is inappropriate and is an environmentally inferior option.

For that reason, we were unable to identify a beyond-the-floor regulatory alternative for either existing or new stationary RICE combusting digester gases or landfill gases as the primary fuel. Consequently, we conclude that MACT for the subcategory of stationary RICE is the MACT floor (*i.e.*, no emissions reductions). Thus, we propose no requirements for emissions testing for stationary RICE which combust landfill gases or digester gases as the primary fuels.

b. Emergency Power/Limited Use Stationary RICE

Emergency power/limited use stationary RICE operate only in emergencies when the normal source of power at a facility fails. Based on our review of the population database, there are no emergency power/limited use stationary RICE which operate with HAP emission control technology. Thus, we conclude the MACT floor for the subcategory is no emissions reductions for both existing as well as new stationary RICE.

As with stationary RICE burning digester gases or landfill gases, we also have a number of concerns regarding the applicability of HAP emission control technology to emergency power/limited use stationary RICE. Emergency power/limited use stationary RICE operate infrequently but when called upon to operate, they must respond immediately without fail and without lengthy startup periods. Under such conditions, we have doubts whether HAP emission control technology, such as the use of oxidation catalyst systems, would effectively reduce HAP emissions.

Despite the concerns, we examined the cost per ton of HAP removed for emergency power/limited use stationary RICE as a beyond-the-floor regulatory alternative. Whether our concerns are warranted or not, we consider the cost per ton of HAP removed for the alternative unreasonable, primarily because of the very small reductions in

HAP emissions which might be achieved. Non-air quality health, environmental impacts, nor energy effects were significant factors.

For all of the reasons listed above, we conclude that MACT for both existing as well as new emergency power/limited use stationary RICE is the MACT floor (*i.e.*, no emissions reductions). Consequently, we propose no requirements for emissions testing for emergency power/limited use stationary RICE.

D. Why Does the Proposed Rule Not Apply to Stationary RICE of 500 Brake Horsepower or Less?

In reviewing the population database to identify stationary RICE with a manufacturer's nameplate rating of 500 brake horsepower or less, we found extremely little information. In discussions with State and local permitting officials, the manufacturers, and some of the owners and operators of stationary RICE, we found that such small stationary RICE have generally not been regarded as significant sources of air pollutant emissions. As a result, the small stationary RICE have not been subjected to the same level of scrutiny, examination, or review as larger stationary RICE. Little information has been gathered or compiled by anyone for this subcategory of stationary RICE.

Thus, at this point, we know very little about stationary RICE with a manufacturer's nameplate rating of 500 brake horsepower or less. For example, we do not know how many of the small stationary RICE exist. In addition, we know little about the operating characteristics and emissions, the current use of, as well as the applicability of, emission control technologies, the costs of emission control for the small stationary RICE, or the economic impacts and benefits associated with regulation. In the absence of such information, we have concerns with the applicability of HAP emission control technology to these stationary RICE. As a result, we believe it is appropriate to defer a decision on regulation of stationary RICE with a manufacturer's nameplate rating of 500 brake horsepower or less until further information on the engines can be obtained and analyzed.

We believe this subcategory of stationary RICE is likely to be more similar to stationary RICE located at area sources than to stationary RICE located at major sources. Thus, we plan to include this subcategory of stationary RICE in our considerations to develop regulations for stationary RICE located at area sources.

E. Why Does the Proposed Rule Not Apply to Stationary RICE Located at Area Sources?

The proposed rule does not apply to stationary RICE located at area sources. In developing our Urban Air Toxics Strategy (64 FR 38706, July 19, 1999), we identified stationary RICE at area sources as a category which would be subject to standards to protect the environment and the public health and satisfy the statutory requirements in section 112 of the CAA pertaining to area sources.

We are not setting standards at this time, because of insufficient information regarding the operating characteristics and the emissions, the current use of, as well as the applicability of, emission control technologies to stationary RICE at area sources, the costs of emission control for such stationary RICE, and the economic impacts and benefits associated with regulation of the stationary RICE.

F. How Did We Select the Format of the Standards?

1. CO Percent Reduction Standard

We are proposing a CO percent reduction standard if you use an oxidation catalyst to reduce HAP emissions from new or reconstructed 2SLB and 4SLB stationary RICE and CI stationary RICE. A control efficiency for CO was chosen because CO control is a surrogate for HAP control for 2SLB and 4SLB stationary RICE and CI stationary RICE, and because it is easier to monitor CO than several HAP.

2. Formaldehyde Percent Reduction Standard

We are proposing a formaldehyde percent reduction standard if you use NSCR to reduce HAP emissions from existing, new, and reconstructed 4SRB stationary RICE. A control efficiency for formaldehyde was chosen because formaldehyde control is a surrogate for HAP control for 4SRB stationary RICE, and because a good relationship was not found between CO emissions reductions and HAP emissions reductions for 4SRB stationary RICE.

3. Formaldehyde Concentration Limit

We are also proposing alternative emission limitations to limit the concentration of formaldehyde in the stationary RICE exhaust for new 2SLB, 4SLB, and CI engines not using oxidation catalyst control systems and for existing and new 4SRB engines not using NSCR control systems.

If you own or operate a 2SLB or 4SLB stationary RICE or a CI stationary RICE using an oxidation catalyst, you must comply with the CO percentage emission limitation. If you use some means other than an oxidation catalyst, you must comply with the alternative emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust.

If you own or operate a 4SRB stationary RICE using NSCR, you must comply with the formaldehyde percentage emission limitation. If you use some means other than NSCR, you must comply with the alternative emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust.

As mentioned earlier, we know of no other emission control technology other than oxidation catalyst and NSCR systems which can be used to reduce HAP emissions from stationary RICE. However, we would like to promote the development and eventual use of alternative emission control technologies to reduce HAP emissions, and we believe alternative emission limitations written as formaldehyde concentration limits will serve to do so.

For the alternative emission limitation, we propose to use formaldehyde concentration as a surrogate for all HAP. Formaldehyde is the hazardous air pollutant emitted in the highest concentrations from stationary RICE. In addition, the emission data show that formaldehyde emission levels and other HAP emission levels are related, in the sense that when emissions of one are lowered, emissions of the other are lowered. That leads us to conclude that emission control technologies which lead to reductions in formaldehyde emissions will lead to reductions in other HAP emissions.

The alternative emission limitation is in units of parts per billion by volume or parts per million by volume, and all measurements are corrected to 15 percent oxygen, dry basis, to provide a common basis. A volume concentration was chosen for these emission limitations to limit the concentration of formaldehyde in the stationary RICE exhaust because it can be measured directly.

We utilized the same data used to establish the percent reduction requirements to determine the alternative emission limitation for each subcategory. As with the control efficiencies discussed previously, the concentrations for the formaldehyde emission limitations are based on the minimum level of control achieved by the best controlled source for each type of engine. This approach takes into account the variability of the best performing engine. For the 2SLB engine tested at CSU, the controlled formaldehyde emissions ranged from 7.5 parts per million (ppm) to 17 ppm; therefore, we selected 17 ppm for the emission limitation. The controlled formaldehyde emissions for the 4SLB engine tested at CSU ranged from 6.4 ppm to 14 ppm. We chose the highest controlled level of 14 ppm for the alternative standard for the 4SLB subcategory. Similarly, for the CI engine tested at CSU, the controlled formaldehyde emissions ranged from 130 to 580 parts per billion (ppb), and we, therefore, set an emission limitation of 580 ppb for the CI subcategory. For 4SRB engines, we chose the best performing engine from the industry testing. The controlled formaldehyde emissions for this engine ranged from 330 to 350 ppb.

In summary, the alternative emission limitations are: 17 ppmvd for 2SLB stationary RICE; 14 ppmvd for 4SLB stationary RICE; 350 ppbvd for 4SRB stationary RICE; and 580 ppbvd for CI stationary RICE, all corrected to 15 percent oxygen.

G. How Did We Select the Initial Compliance Requirements?

The tests which formed the basis of the proposed emission limitations were conducted following EPA or CARB test methods. The proposed rule requires the use of EPA or CARB test methods to determine compliance. This ensures that the same analytical methods that were followed to collect the emission data upon which the emission limitations are based will be followed for compliance testing. By using the same methods, we eliminate the possibility of measurement bias influencing determinations of compliance.

In an effort to identify the most feasible testing and compliance requirements for stationary RICE, we considered the applicability of several compliance and monitoring options. The results of these considerations lead us to propose different compliance and monitoring requirements for stationary RICE with manufacturer's nameplate ratings less than 5000 brake horsepower, and stationary RICE with manufacturer's nameplate ratings greater than or equal to 5000 brake horsepower.

We selected less burdensome compliance requirements for smaller size stationary RICE considering the ratio of total control and monitoring costs to the equipment cost. For smaller size stationary RICE, we considered the ratio excessive.

For 2SLB and 4SLB stationary RICE and CI stationary RICE with manufacturer's nameplate ratings less than 5000 brake horsepower complying with the requirement to reduce CO emissions using an oxidation catalyst, we decided to require an initial performance test for CO. The purpose of the initial performance test is to demonstrate initial compliance with the CO percent reduction emission limitation; to establish the initial pressure drop across the catalyst, which will serve as the reference point for continuous monitoring of the pressure drop across the catalyst; and also to demonstrate that the catalyst inlet temperature is within the specified operating limitations.

For 2SLB and 4SLB stationary RICE and CI stationary RICE with manufacturer's nameplate ratings greater than or equal to 5000 brake horsepower complying with the requirement to reduce CO emissions using an oxidation catalyst, an initial performance evaluation is required to validate the performance of the CEMS for continuous monitoring of CO emissions. Initial compliance with the CO emission limitation must then be demonstrated by using CO emission measurements from the first 4-hour period following a successful performance evaluation of the CO CEMS.

For all 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 75 percent using NSCR, an initial performance test is required. The purpose of the initial performance test is to demonstrate compliance with the formaldehyde percent reduction emission limitation and to establish the initial values of the operating parameters that will be continuously monitored (*i.e.*, pressure drop across the catalyst, the catalyst inlet temperature and the initial temperature rise across the catalyst).

For all stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust, an initial performance test is required. The purpose of the initial performance test is to demonstrate initial compliance with the formaldehyde concentration limit and also to establish the values of the operating limitations (*i.e.*, either operating load or fuel flow rate and any other parameters which are approved by the Administrator as operating limitations), which will be continuously monitored.

H. How Did We Select the Continuous Compliance Requirements?

Continuous compliance is required at all times except during startup, shutdown, and malfunction of your stationary RICE.

As mentioned above, we considered the applicability of several compliance and monitoring options for stationary RICE. The results of these considerations lead us to propose different compliance and monitoring requirements for stationary RICE with manufacturer's nameplate ratings less than 5000 brake horsepower and stationary RICE with manufacturer's nameplate ratings greater than or equal to 5000 brake horsepower.

For 2SLB and 4SLB stationary RICE and CI RICE with manufacturer's nameplate ratings less than 5000 brake horsepower complying with the requirement to reduce CO emissions using an oxidation catalyst, we considered several options: (1) A CEMS for CO; (2) semiannual stack testing for CO using Method 10A of 40 CFR part 60, appendix A, and continuous parametric monitoring of the pressure drop across the catalyst and the catalyst inlet temperature; (3) quarterly stack testing with a portable CO monitor using American Society for Testing and Materials (ASTM) D6522–00, and continuous parametric monitoring of the pressure drop across the catalyst and the catalyst inlet temperature; and (4) initial stack testing for CO with a portable CO monitor using ASTM D6522–00 and continuous parametric monitoring of the pressure drop across the catalyst and the catalyst inlet temperature.

We consider the control and monitoring costs for the first two options excessive, but consider the control and monitoring costs associated with the third option reasonable. As a result, 2SLB and 4SLB stationary RICE and CI stationary RICE with a manufacturer's nameplate ratings less than 5000 brake horsepower complying with the CO percent reduction emission limitation must perform quarterly stack testing for CO using a portable CO monitor. The quarterly testing will ensure, on an ongoing basis, that the source is meeting the CO percent reduction requirement.

In addition to quarterly stack testing for CO, the stationary RICE are required to continuously monitor pressure drop across the catalyst and catalyst inlet temperature. The parameters serve as surrogates of the oxidation catalyst performance.

The pressure drop across the catalyst can indicate if the oxidation catalyst is damaged or fouled, in which case, catalyst performance would decrease. If the pressure drop across the catalyst deviates by more than two inches of water from the pressure drop across the catalyst measured during the initial performance test, the oxidation catalyst might be damaged or fouled. If you change the oxidation catalyst (*i.e.*, replace catalyst elements), you must reestablish the pressure drop across the catalyst.

The catalyst inlet temperature is a requirement for proper performance of the oxidation catalyst. In general, the oxidation catalyst performance will decrease as the catalyst inlet temperature decreases. In addition, if the catalyst inlet temperature is too high (above 1,250 degrees Fahrenheit), it might be an indication of ignition misfiring, poisoning, or fouling, which would decrease oxidation catalyst performance. In addition, the oxidation catalyst requires inlet temperatures to be greater than or equal to 500 degrees Fahrenheit for the reduction of HAP emissions.

For 2SLB and 4SLB stationary RICE and CI RICE with a manufacturer's nameplate rating greater than or equal to 5000 brake horsepower complying with the requirement to reduce CO emissions using an oxidation catalyst, we considered the same four monitoring options. For these larger size stationary RICE, however, we consider the control and monitoring costs for a CO CEMS reasonable.

We consider the use of CEMS to be the best means of ensuring continuous compliance with emission limitations. Consequently, the large 2SLB and 4SLB stationary RICE and CI stationary RICE are required to use a CO CEMS. An annual RATA and daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1, are also required to ensure that performance of the CEMS does not deteriorate over time. There are no operating limitations for the larger size stationary RICE in the subcategories since the CEMS continuously measures CO and will indicate any deviation from the emission limitations.

For 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions using NSCR, we also considered three monitoring options: (1) A CEMS for formaldehyde; (2) stack testing for formaldehyde using Test Method 320 or 323 of 40 CFR part 60, appendix A, CARB Method 430, or EPA SW–846 Method 0011 with an initial frequency of semiannually which, following two consecutive stack tests demonstrating compliance, could decrease to annual stack testing and continuous parametric monitoring; and (3) initial stack testing for formaldehyde using Test Method 320 or 323 of 40 CFR part 60, appendix A, CARB Method 430, or EPA SW–846 Method 0011 and continuous parametric monitoring.

We consider the control and monitoring costs associated with the first option excessive for all 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions using NSCR. For 4SRB stationary RICE with a manufacturer's nameplate rating of more than 5000 brake horsepower, we consider the control and monitoring costs of the second option reasonable. Consequently, we chose that option for the larger size 4SRB stationary RICE.

For 4SRB stationary RICE with a manufacturer's nameplate ratings less than 5000 brake horsepower, we also consider the control and monitoring costs of the second option excessive. We consider the control and monitoring costs of the third option reasonable, and we chose that option for the smaller 4SRB stationary RICE.

For all 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions using NSCR, monitoring the pressure drop across the catalyst, the catalyst inlet temperature and the temperature rise across the catalyst with a CPMS is also required. The operating parameters serve as surrogates of the NSCR system performance.

As with oxidation catalyst systems for lean burn and CI stationary RICE, the pressure drop across an NSCR system is an indication of catalyst performance on 4SRB stationary RICE. The operating limitations are also the same—maintain the pressure drop across the catalyst within two inches of water from the pressure drop measured during the initial performance test. If you change your NSCR (*i.e.*, replace catalyst elements), you must reestablish your pressure drop across the catalyst, the catalyst inlet temperature and the temperature rise across the catalyst.

As for oxidation catalyst control devices, the performance of NSCR is also dependent on catalyst inlet temperature. Catalyst inlet temperature should be maintained between 750 degrees Fahrenheit and 1250 degrees Fahrenheit for proper activation of the catalyst. Temperatures lower than that fail to activate the catalyst to its full potential, while temperatures higher than that can sinter and damage the active sites of the catalyst.

In addition, the temperature rise across the catalyst is also an indication of NSCR performance. If the temperature rise across the catalyst is more than 5 percent different from the temperature rise across the catalyst measured during the initial performance test, that might be an indication that the NSCR is being damaged or fouled. In that case, catalyst performance would decrease, lowering HAP reductions.

For stationary RICE complying with the requirement to limit the concentration of formaldehyde in the exhaust of the stationary RICE, we also considered requiring a CEMS. However, we consider the costs of a formaldehyde CEMS to be excessive. A reasonable alternative to a formaldehyde CEMS, however, is a CPMS (supplemented by periodic compliance tests).

Hazardous air pollutant emissions from stationary RICE correlate with operating load; HAP emissions increase as load decreases. As a result, if a stationary RICE operates at loads greater than that at which compliance has been demonstrated through a performance test, there is a reasonable assurance that the stationary RICE remains in compliance. An alternative to monitoring operating load is monitoring the stationary RICE's fuel flow rate. Fuel flow rate is an indicator of operating load. As a result, we propose that stationary RICE which comply with the concentration of formaldehyde in the stationary RICE exhaust monitor continuously operating load or fuel flow rate as operating limitations.

The intention is to measure formaldehyde at the lowest load at which the stationary RICE will be operated to establish compliance at that load level. By monitoring operating load or fuel flow rate, sources can ensure that they do not operate at load or fuel flow rate conditions (within 5 percent) below which compliance has not been demonstrated.

In addition, sources complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust are required to conduct semiannual performance tests. Semiannual performance testing will ensure, on an ongoing basis, that the source is meeting the formaldehyde concentration limit.

To reduce the cost burden of performance testing, sources that show compliance for two successive performance tests may reduce performance testing frequency. We believe that a reduction to one performance test per year will provide sufficient assurance of stationary RICE performance while reducing the performance testing costs for the affected source. However, if a subsequent annual performance test indicates a deviation from the formaldehyde concentration limit, the source must resume semiannual performance testing. The source must include a notification to the Administrator in their semiannual compliance report stating that they will be reducing the frequency of performance testing.

I. What Monitoring and Testing Methods are Available to Measure These Low Concentrations of CO and Formaldehyde?

We believe CEMS are available which can measure CO emissions at the low concentrations found in the exhaust from a stationary RICE following an oxidation catalyst control system. Our PS 4 and 4A for CO CEMS of 40 CFR part 60, appendix B, however, have not been updated recently and do not reflect the performance capabilities of such systems at these low CO concentration levels.

As a result, we solicit comments on the performance capabilities of state-of-the-art CO CEMS and their ability to accurately measure the low concentrations of CO experienced in the exhaust of a stationary RICE following an oxidation catalyst control system. We also solicit comments with specific recommendations on the changes we should make to our PS 4 and 4A for CO CEMS of 40 CFR part 60, appendix B, to ensure the installation and use of CEMS which can be used to determine compliance with the proposed emission limitation for CO emissions. In addition, we solicit comments on the availability of instruments capable of meeting the changes they recommend to our performance specifications for CO CEMS.

The proposed rule specifies the use of Method 10 of 40 CFR part 60, appendix A, as the reference method to certify the performance of the CO CEMS. We also believe Method 10 of 40 CFR part 60, appendix A, is capable of measuring CO concentrations as low as those experienced in the exhaust of a stationary RICE following an oxidation catalyst control system. However, the performance criteria in addenda A of Method 10 of 40 CFR part 60, appendix A, have not been revised recently and are not suitable for certifying the performance of a CO CEMS at the low CO concentrations. Specifically, we believe the range and minimum detectable sensitivity should be changed to reflect target concentrations as low as 5 ppm CO in some cases. We also expect that dual range instruments will be necessary to measure CO concentrations at the inlet and at the outlet of an oxidation catalyst emission control device.

As a result, we solicit comments with specific recommendations on the changes we should make to Method 10 of 40 CFR part 60, appendix A, and the performance criteria in addenda A. We also solicit comments on the availability of instruments capable of meeting the changes they recommend to Method 10 of 40 CFR part 60, appendix A, and the performance criteria in addenda A, while also meeting the remaining addenda A performance criteria.

With regard to formaldehyde, we believe systems meeting the requirements of Method 320 of 40 CFR part 63, appendix A, a self-validating FTIR method, can be used to attain detection limits for formaldehyde concentrations below 350 ppbvd. Method 320 of 40 CFR part 60, appendix A, also includes formaldehyde spike recovery criteria which require spike recoveries of 70 to 130 percent.

While we believe FTIR systems can meet Method 320 of 40 CFR part 63, appendix A, and measure formaldehyde concentrations at the low levels, we have limited experience with their use. As a result, we solicit comments on the ability and use of FTIR systems to meet the validation and quality assurance requirements of Method 320 of 40 CFR part 63, appendix A, for the purpose of determining compliance with the emission limitation for formaldehyde emissions.

We also believe EPA Method 323 of 40 CFR part 63, appendix A and CARB Method 430 are capable of measuring formaldehyde concentrations at the low levels from 4SRB engines. Accordingly, we solicit comments on the use of EPA Method 323, CARB 430, and EPA SW–846 Method 0011 to determine compliance with the emission limitations for formaldehyde for 4SRB engines.

Based on the comments we receive on CO CEMS, we anticipate revising Method 10 of 40 CFR part 60, appendix A, and our PS 4 and 4A of 40 CFR part 60, appendix B, for CO CEMS to ensure the installation and use of CEMS suitable for determining compliance with the emission limitation for CO emissions. Similarly, based on the comments we receive on FTIR systems and Method 320 of 40 CFR part 63, appendix A, we may develop additional or revised criteria for the use of FTIR systems and/or Method 320 of 40 CFR part 63, appendix A, to determine compliance with the emission limitation for formaldehyde.

On the other hand, if the comments we receive lead us to conclude that CO CEMS are not capable of being used to determine compliance with the emission limitation for CO emissions, there are several alternatives we may consider. One alternative would be to delete the proposed percent reduction emission limitation for CO and require compliance with a comparable formaldehyde percent reduction limitation. That alternative would require periodic stack emission testing before and after the control device and would also require owners and operators to petition the Administrator for additional operating limitations as proposed for those choosing to comply with the emission limitation for formaldehyde. Another alternative would be to delete the proposed emission limitation for CO emissions and require compliance with the proposed emission limitation for formaldehyde. That alternative could also require more frequent emission testing and could also require owners and operators to petition the Administrator for additional operating limitations.

Another alternative would be to require the use of Method 320 of 40 CFR part 60, appendix A, (*i.e.*, FTIR systems) to determine compliance with the emission limitation for CO emissions. That alternative could also require more frequent emission testing and require owners and operators to petition the Administrator for additional operating limitations, as proposed for those choosing to comply with the emission limitation for formaldehyde.

Yet another alternative would be to delete the emission limitations for both CO emissions and formaldehyde emissions and adopt an emission limitation consisting of an equipment and work practice requirement. That alternative would require the use of oxidation catalyst control systems for 2SLB and 4SLB stationary RICE and CI stationary RICE, and NSCR systems for 4SRB stationary RICE which meet specific and narrow design and operating criteria.

We believe the emission limitations we are proposing for CO emissions and formaldehyde emissions are superior to these alternatives for a number of reasons. However, we solicit comments on the alternatives should we conclude that the proposed emission limitations for CO emissions and formaldehyde emissions are inappropriate because of difficulties in monitoring or measuring CO emissions or formaldehyde emissions to determine compliance. We also solicit suggestions and recommendations for other alternatives should we conclude the proposed emission limitations are inappropriate because of monitoring or measurement difficulties.

J. How Did We Select the Notification, Recordkeeping and Reporting Requirements?

The proposed notification, recordkeeping, and reporting requirements are based on the NESHAP General Provisions of 40 CFR part 63.

IV. Summary of Environmental, Energy and Economic Impacts

A. What Are the Air Quality Impacts?

The proposed rule will reduce total HAP emissions from stationary RICE by an estimated 5,000 tons/year in the 5th year after the standards are implemented. We believe approximately 1,800 existing 4SRB stationary RICE will be affected by the proposed rule. In addition, we believe that approximately 1,600 new 2SLB, 4SLB and 4SRB stationary RICE, and CI stationary RICE will be affected by the proposed rule each year for the next 5 years. At the end of the 5th year, it is estimated that 8,100 new stationary RICE will be subject to the proposed rule.

To estimate air impacts, HAP emissions from stationary RICE were estimated using average emission factors from the emissions database. It was also assumed that each stationary RICE is operated for 6,500 hours annually. The total national HAP emissions reductions are the sum of formaldehyde, acetaldehyde, acrolein, and methanol emissions reductions.

In addition to HAP emissions reductions, the proposed rule will reduce criteria pollutant emissions, including CO, VOC, NO_X, and particulate matter (PM). The application of NSCR controls to 4SRB engines (the technology on which MACT for 4SRB engines is based) will also reduce NO_X emissions by 90 percent. It is possible that oxidation catalyst controls could be used to meet the 4SRB emission standards, but it is expected that the costs of controls will be similar for both systems. Assuming that 60 percent of the 4SRB (new and existing) engines that are covered by the emission standards will use NSCR, the cumulative emissions reductions of NO_X by the end of the 5th year after promulgation are calculated to be about 167,900 tons per year. We are specifically soliciting comments on the percentage of 4SRB engines that would choose to install NSCR HAP controls rather than other HAP controls.

B. What Are the Cost Impacts?

A list of 26 model stationary RICE was developed to represent the range of existing stationary RICE. Information was obtained from catalyst vendors on equipment costs for oxidation catalyst and NSCR. This information was then used to estimate the costs of the proposed rule for each model stationary RICE following methodologies from the Office of Air Quality Planning and Standards (OAQPS) Control Cost Manual. These cost estimates for model stationary RICE were extrapolated to the national population of stationary RICE in the United States, and national impacts were determined.

The total national capital cost for the proposed rule for existing stationary RICE is estimated to be approximately $68 million, with a total national annual cost of $38 million in the 5th year. The total national capital cost for the proposed rule for new stationary RICE by the 5th year is estimated to be approximately $372 million, with a total national annual cost of $216 million in the 5th year.

C. What Are the Economic Impacts?

We prepared an economic impact analysis to evaluate the primary and secondary impacts the proposed rule would have on the producers and consumers of RICE, and society as a whole. The affected engines operate in over 30 different manufacturing markets, but a large portion are located in the oil and gas exploration industry, the oil and gas pipeline (transmission) industry, the mining and quarrying of non-metallic minerals industry, the chemicals and allied products industry, and the electricity and gas services industry. Taken together, these industries can have an influence on the price and demand for fuels used in the energy market (*i.e.*, petroleum, natural gas, electricity, and coal). Therefore, our analysis evaluates the impacts on each of the 30 different manufacturing markets affected by the proposed rule, as well as the combined effect on the market for energy. The total annualized social cost (in 1998 dollars) of the proposed rule is $254 million but this cost is spread across all 30 markets and the fuel markets. Overall, our analysis indicates a minimal change in prices and quantity produced in most of the fuel markets. The distribution of impacts on the fuel markets and the specific manufacturing market segments evaluated are summarized in Table 1 of this preamble.

TABLE 1.—ECONOMIC IMPACT OF PROPOSED RICE RULE ON AFFECTED MARKET SECTORS

Market sector	Change in price (%)	Change in market output (%)	Total social cost (millions of 1998$)
Fuel Markets: [a]			
Petroleum	0.005	−0.001	−6.0
Natural Gas	0.101	−0.014	−35.2
Electricity	0.022	0.001	3.2
Coal	0.001	0.001	0.3
Subtotal	....	....	−38.3
Sectors of Energy Consumption: [b]			
Commercial Sector	....	....	−68.4
Residential Sector	....	....	−40.0
Transportation Sector	....	....	−16.2
Mining and Quarrying	0.020	−0.006	−21.0
Food Products	0.001	−0.001	−5.9
Paper Products	0.001	−0.001	−5.2
Chemical Products	0.001	−0.002	−17.8
Primary Metals	0.001	−0.001	−6.7
Fabricated Metal Products	0.001	−0.000	−1.8
Nonmetallic Mineral Products	0.002	−0.002	−3.5
Construction Sector	0.001	−0.001	−11.1

TABLE 1.—ECONOMIC IMPACT OF PROPOSED RICE RULE ON AFFECTED MARKET SECTORS—Continued

Market sector	Change in price (%)	Change in market output (%)	Total social cost (millions of 1998$)
Other Manufacturing Markets	0.000	0.0–0.001	−17.7

[a] Only changes in producer surplus (*i.e.*, producer's share of regulatory costs) are reported for the Fuel Markets which represent the producers of energy. Sectors of energy consumption—commercial, residential, and transportation—have reported changes in consumer surplus only, and thus do not have reported changes in price and output. A combination of these costs will represent total social costs for the energy market in the economy.

Because the engines affected by the proposed rule are those that use natural gas as a fuel source, it is not surprising to see the natural gas fuel market with the largest portion of the social costs. Although the natural gas market has a greater share of the regulatory burden, the overall impact on prices is about one-tenth of 1 percent, which is considered to be a minor economic impact on this industry. The change in the price of natural gas is not expected to influence the purchase decisions for new engines. Our analysis indicates that at most, less than 5 fewer engines out of over 20,000 engines will be purchased as a result of economic impacts associated with the proposed rule. The electricity and coal markets may experience a slight gain in revenues due to some fuel switching from natural gas to coal or electricity.

The total social welfare loss for the manufacturing industries affected by the proposed rule is estimated to be approximately $39.9 million for consumers and $44.7 million for producers in the aggregate. In comparison to the energy expenditures of these industries (estimated to be $101.2 billion), the cost of the proposed rule to producers as a percentage of their fuel expenditures is 0.04 percent. For consumers, the total value of shipments for the affected industries is $3.95 trillion in 1998, so the cost to consumers as a percentage of spending on the outputs from these industries is nearly zero, or 0.001 percent.

The cost to residential consumers at $40.0 million is larger than for any individual manufacturing market, and about equivalent to the aggregate consumer surplus losses in the manufacturing industries. In comparison, the social cost burden to residential consumers of fuel is 0.03 percent of residential energy expenditures ($40.0 million/$131.06 billion). The commercial sector of energy users also experiences a moderate portion of total social costs at an estimated $29.3 million and represents an aggregate across all commercial North American Industrial Classification System (NAICS) codes. As a percentage of fuel expenditures by this sector of fuel consumers, the regulatory burden is 0.03 percent ($29.3 million/$96.86 billion). The cost to transportation consumers is estimated to be $16.2 million. This cost represents 0.008 percent ($16.2 million/$188.13 billion) of energy expenditures for the transportation sector.

Therefore, giving consideration to the minimal changes in prices and output in nearly all markets, and the fact that the regulatory costs that are shared by commercial, residential, and transportation users of fuel energy are a small fraction of typical energy expenditures in these sectors each year, we conclude that the economic impacts of the proposed rule will not be significant to any one sector of the economy.

D. What Are the Non-Air Health, Environmental and Energy Impacts?

We do not expect any significant wastewater, solid waste, or energy impacts resulting from the proposed rule. Energy impacts associated with the proposed rule would be due to additional energy consumption that the proposed rule would require by installing and operating control equipment. The only energy requirement for the operation of the control technologies is a very small increase in fuel consumption resulting from back pressure caused by the emission control system.

V. Solicitation of Comments and Public Participation

A. General

We are requesting comments on all aspects of the proposed rule, such as the proposed emission limitations and operating limitations, recordkeeping and monitoring requirements, as well as aspects you may feel have not been addressed.

Specifically, we request comments on the performance capabilities of state-of-the-art CO CEMS and their ability to measure the low concentrations of CO in the exhaust of a stationary RICE following an oxidation catalyst control system. We also request comments with recommendations on changes we should make to our PS 4 and 4A for CO CEMS of 40 CFR part 60, appendix B, and to Method 10 of 40 CFR part 60, appendix A, and the performance criteria in addenda A to Method 10. In addition, we request comments on the availability of instruments capable of meeting the changes they recommend to our performance specifications for CO CEMS, Method 10 of 40 CFR part 60, appendix A, and addenda A to Method 10.

As also mentioned earlier, we request comments on the ability and use of FTIR systems to meet the validation and quality assurance requirements of Method 320 of 40 CFR part 63, appendix A, for the purpose of determining compliance with the emission limitations for formaldehyde emissions. In addition, we request comments on the use of CARB 430 to determine compliance with the emission limitations for formaldehyde.

In addition, we request any HAP emissions test data available from stationary RICE; however, if you submit HAP emissions test data, please submit the full and complete emission test report with these data. Without a complete emission test report, which includes sections describing the stationary RICE and its operation during the test as well as identifying the stationary RICE for purposes of verification, discussion of the test methods employed and the quality assurance/quality control procedures followed, the raw data sheets, all the calculations, etc., which such reports contain, submittal of HAP emission data by itself is of little use.

B. Can We Achieve the Goals of the Rule in a Less Costly Manner?

We have made every effort in developing the proposal to minimize the cost to the regulated community and allow maximum flexibility in compliance options consistent with our statutory obligations. We recognize, however, that the proposal may still require some facilities to take costly steps to further control emissions even though those emissions may not result in exposures which could pose an excess individual lifetime cancer risk greater than one in one million or which exceed thresholds determined to provide an ample margin of safety for protecting public health and the environment from the effects of hazardous air pollutants. We are, therefore, specifically soliciting comment on whether there are further ways to structure the proposed rule to focus on the facilities which pose significant risks and avoid the imposition of high costs on facilities that pose little risk to public health and the environment.

Representatives of the plywood and composite wood products industry provided EPA with descriptions of three mechanisms that they believed could be used to implement more cost-effective reductions in risk. The docket for the proposed rule contains white papers prepared by industry that outline their proposed approaches (see docket number OAR–2002–0059). These approaches could be effective in focusing regulatory controls on facilities that pose significant risks and avoiding the imposition of high costs on facilities that pose little risk to public health or the environment, and we are seeking public comment on the utility of each of these approaches with respect to the proposed rule.

One of the approaches, an applicability cutoff for threshold pollutants, would be implemented under the authority of CAA section 112(d)(4); the second approach, subcategorization and delisting, would be implemented under the authority of CAA sections 112(c)(1) and 112(c)(9); and, the third approach would involve the use of a concentration-based applicability threshold. We are seeking comment on whether these approaches are legally justified and, if so, we ask for information that could be used to support such approaches.

The MACT program outlined in CAA section 112(d) is intended to reduce emissions of HAP through the application of MACT to major sources of toxic air pollutants. Section 112(c)(9) of the CAA is intended to allow EPA to avoid setting MACT standards for categories or subcategories of sources that pose less than a specified level of risk to public health and the environment. The EPA requests comment on whether the proposals described here appropriately rely on these provisions of CAA section 112. While both approaches focus on assessing the inhalation exposures of HAP emitted by a source, EPA specifically requests comment on the appropriateness and necessity of extending these approaches to account for non-inhalation exposures or to account for adverse environmental impacts. In addition to the specific requests for comment noted in this section, we are also interested in any information or comment concerning technical limitations, environmental and cost impacts, compliance assurance, legal rationale, and implementation relevant to the identified approaches. We also request comment on appropriate practicable and verifiable methods to ensure that sources' emissions remain below levels that protect public health and the environment. We will evaluate all comments before determining whether either of the three approaches will be included in the final rule.

1. Industry Emissions and Potential Health Effects

For the RICE source category, four HAP make up the majority of the total HAP. Those four HAP are methanol, formaldehyde, acetaldehyde, and acrolein. In accordance with section 112(k) of the CAA, EPA developed a list of 33 HAP which represent the greatest threat to public health in the largest number of urban areas. Three of the four HAP, acetaldehyde, acrolein, and formaldehyde, are included in the HAP listed for the EPA's Urban Air Toxics Program.

In November 1998, EPA published ''A Multimedia Strategy for Priority, Persistent, Bioaccumulative, and Toxic (PBT) Pollutants''. The HAP emitted by RICE facilities do not appear on the published list of PBT compounds referenced in the EPA strategy.

Two of the HAP, acetaldehyde and formaldehyde, are considered to be nonthreshold carcinogens, and cancer potency values are reported for them in Integrated Risk Information System (IRIS). Acrolein and methanol are not carcinogens, but are considered to be threshold pollutants, and inhalation reference concentrations are reported for them in IRIS and by the California Environmental Protection Agency (CalEPA), respectively.

To estimate the potential baseline risks posed by the RICE source category, EPA performed a crude risk analysis of the RICE source category that focused only on cancer risks. The results of the analysis are based on approaches for estimating cancer incidence that carry significant assumptions, uncertainties, and limitations. Based on the assessment, if the proposed rule is implemented at all affected RICE facilities, annual cancer incidence is estimated to be reduced on the order of ten cases/year. Due to the uncertainties associated with the analysis, annual cancer incidence could be higher or lower than these estimates. (Details of this assessment are available in the docket.)

2. Applicability Cutoffs for Threshold Pollutants Under Section 112(d)(4) of the CAA

The first approach is an applicability cutoff for threshold pollutants that is based on EPA's authority under CAA section 112(d)(4) to establish standards for HAP which are threshold pollutants. A ''threshold pollutant'' is one for which there is a concentration or dose below which adverse effects are not expected to occur over a lifetime of exposure. For such pollutants, CAA section 112(d)(4) allows EPA to consider the threshold level, with an ample margin of safety, when establishing emission standards. Specifically, CAA section 112(d)(4) allows EPA to establish emission standards that are not based upon the MACT specified under CAA section 112(d)(2) for pollutants for which a health threshold has been established. Such standards may be less stringent than MACT. Historically, EPA has interpreted CAA section 112(d)(4) to allow categories of sources that emit only threshold pollutants to avoid further regulation if those emissions result in ambient levels that do not exceed the threshold, with an ample margin of safety.[1]

A different interpretation would allow us to exempt individual facilities within a source category that meet the CAA section 112(d)(4) requirements. There are three potential scenarios under this interpretation of the CAA section 112(d)(4) provision. One scenario would allow an exemption for individual facilities that emit only threshold pollutants and can demonstrate that their emissions of threshold pollutants would not result in air concentrations above the threshold levels, with an ample margin of safety, even if the category is otherwise subject to MACT. A second scenario would allow the CAA section 112(d)(4) provision to be applied to both threshold and non-threshold pollutants, using the one in a million cancer risk level for decision making for nonthreshold pollutants. A third scenario would allow a CAA section 112(d)(4) exemption at a facility that emits both threshold and nonthreshold pollutants. For those emission points where only threshold pollutants are emitted and where emissions of the threshold pollutants would not result in air concentrations above the threshold

[1] See 63 FR 18765–66 (April 15, 1998) (Pulp and Paper Combustion Sources Proposed NESHAP).

levels, with an ample margin of safety, those emission points could be exempt from the MACT standards. The MACT standards would still apply to nonthreshold emissions from other emission points at the source. For this third scenario, emission points that emit a combination of threshold and nonthreshold pollutants that are co-controlled by MACT would still be subject to the MACT level of control. However, any threshold HAP eligible for exemption under CAA section 112(d)(4) that are controlled by control devices different from those controlling nonthreshold HAP would be able to use the exemption, and the facility would still be subject to the parts of the standards that control nonthreshold pollutants or that control both threshold and non-threshold pollutants.

a. Estimation of Hazard Quotients and Hazard Indices

Under the CAA section 112(d)(4) approach, EPA would have to determine that emissions of each of the threshold pollutants emitted by RICE sources at the facility do not result in exposures which exceed the threshold levels, with an ample margin of safety. The common approach for evaluating the potential hazard of a threshold air pollutant is to calculate a hazard quotient by dividing the pollutant's inhalation exposure concentration (often assumed to be equivalent to its estimated concentration in air at a location where people could be exposed) by the pollutant's inhalation Reference Concentration (RfC). An RfC is defined as an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure that, over a lifetime, likely would not result in the occurrence of adverse health effects in humans, including sensitive individuals. The EPA typically establishes an RfC by applying uncertainty factors to the critical toxic effect derived from the lowest-or no-observed-adverse-effect level of a pollutant.[2] A hazard quotient less than one means that the exposure concentration of the pollutant is less than the RfC, and, therefore, presumed to be without appreciable risk of adverse health effects. A hazard quotient greater than one means that the exposure concentration of the pollutant is greater than the RfC. Further, EPA guidance for assessing exposures to mixtures of threshold pollutants recommends calculating a hazard index by summing the individual hazard quotients for those pollutants in the mixture that affect the same target organ or system by the same mechanism.[3] Hazard index (HI) values would be interpreted similarly to hazard quotients; values below one would generally be considered to be without appreciable risk of adverse health effects, and values above one would generally be cause for concern.

For the determinations discussed herein, EPA would generally plan to use RfC values contained in EPA's toxicology database, the IRIS. When a pollutant does not have an approved RfC in IRIS, or when a pollutant is a carcinogen, EPA would have to determine whether a threshold exists based upon the availability of specific data on the pollutant's mode or mechanism of action, potentially using a health threshold value from an alternative source, such as the Agency for Toxic Substances and Disease Registry (ATSDR) or the CalEPA. Table 2 of this preamble provides the RfC, as well as unit risk estimates, for the HAP emitted by facilities in the RICE source category. A unit risk estimate is defined as the upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of 1 micrograms per cubic meter (μg/m³) in air.

TABLE 2.—DOSE-RESPONSE ASSESSMENT VALUES FOR HAP REPORTED EMITTED BY THE RICE SOURCE CATEGORY

Chemical name	CAS No.	Reference concentration [a] (mg/m^3)	Unit risk estimate [b] ($1/(\mu g/m^3)$)
Acetaldehyde	75–07–0	9.0E–03 (IRIS)	2.2E–06 (IRIS)
Acrolein	107–02–8	2.0E–05 (IRIS)	
Formaldehyde	50–00–0	9.8E–03 (ATSDR)	1.3E–05 (IRIS)
Methanol	67–56–1	4.0E+00 (CAL)	

[a] Reference Concentration: An estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups which include children, asthmatics and the elderly) that is likely to be without an appreciable risk of deleterious effects during a lifetime. It can be derived from various types of human or animal data, with uncertainty factors generally applied to reflect limitations of the data used.

[b] Unit Risk Estimate: The upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of 1 μg/m³ in air. The interpretation of the Unit Risk Estimate would be as follows: if the Unit Risk Estimate = 1.5×10^{-6} per μg/m³, 1.5 excess tumors are expected to develop per 1,000,000 people if exposed daily for a lifetime to 1 microgram (μg) of the chemical in 1 cubic meter of air. Unit Risk Estimates are considered upper bound estimates, meaning they represent a plausible upper limit to the true value. (Note that this is usually not a true statistical confidence limit.) The true risk is likely to be less, but could be greater.

Sources: IRIS = EPA Integrated Risk Information System (*http://www.epa.gov/iris/subst/index.html*)
ATSDR = U.S. Agency for Toxic Substances and Disease Registry (*http://www.atsdr.cdc.gov/mrls.html*)
CAL = California Office of Environmental Health Hazard Assessment (*http://www.oehha.ca.gov/air/hot_spots/index.html*)
HEAST = EPA Health Effects Assessment Summary Tables (#PB (=97–921199), July 1997)

To establish an applicability cutoff under CAA section 112(d)(4), EPA would need to define ambient air exposure concentration limits for any threshold pollutants involved. There are several factors to consider when establishing such concentrations. First, we would need to ensure that the concentrations that would be established would protect public health with an ample margin of safety. As discussed above, the approach EPA commonly uses when evaluating the potential hazard of a threshold air pollutant is to calculate the pollutant's hazard quotient, which is the exposure concentration divided by the RfC.

The EPA's "Supplementary Guidance for Conducting Health Risk Assessment of Chemical Mixtures" suggests that the noncancer health effects associated with a mixture of pollutants ideally are assessed by considering the pollutants' common mechanisms of toxicity [3]. The guidance also suggests, however, that when exposures to mixtures of pollutants are being evaluated, the risk assessor may calculate a HI. The recommended method is to calculate multiple hazard indices for each

[2] "Methods for Derivation of Inhalation Reference Concentrations and Applications of Inhalation Dosimetry." EPA–600/8–90–066F, Office of Research and Development, USEPA, October 1994.

[3] "Supplementary Guidance for Conducting Health Risk Assessment of Chemical Mixtures. Risk Assessment Forum Technical Panel," EPA/630/R–00/002. USEPA, August 2000. *http://www.epa.gov/nceaww1/pdfs/chem mix/chem mix 08 2001.pdf.*

exposure route of interest, and for a single specific toxic effect or toxicity to a single target organ. The default approach recommended by the guidance is to sum the hazard quotients for those pollutants that induce the same toxic effect or affect the same target organ. A mixture is then assessed by several HI, each representing one toxic effect or target organ. The guidance notes that the pollutants included in the HI calculation are any pollutants that show the effect being assessed, regardless of the critical effect upon which the RfC is based. The guidance cautions that if the target organ or toxic effect for which the HI is calculated is different from the RfC's critical effect, then the RfC for that chemical will be an overestimate, that is, the resultant HI potentially may be overprotective. Conversely, since the calculation of an HI does not account for the fact that the potency of a mixture of HAP can be more potent than the sum of the individual HAP potencies, an HI may potentially be underprotective.

b. Options for Establishing a Hazard Index Limit

One consideration in establishing a hazard index limit is whether the analysis considers the total ambient air concentrations of all the emitted HAP to which the public is exposed [4]. There are at least several options for establishing a hazard index limit for the CAA section 112(d)(4) analysis that reflect, to varying degrees, public exposure.

One option is to allow the HI posed by all threshold HAP emitted from RICE sources at the facility to be no greater than one. This approach is protective if no additional threshold HAP exposures would be anticipated from other sources in the vicinity of the facility or through other routes of exposure (*e.g.*, through ingestion).

A second option is to adopt a default percentage approach, whereby the hazard index limit of the HAP emitted by the facility is set at some percentage of one (*e.g.*, 20 percent or 0.2). This approach recognizes the fact that the facility in question is only one of many sources of threshold HAP to which people are typically exposed every day. Because noncancer risk assessment is predicated on total exposure or dose, and because risk assessments focus only on an individual source, establishing a hazard index limit of 0.2 would account for an assumption that 20 percent of an individual's total exposure is from that individual source. For the purposes of this discussion, we will call all sources of HAP, other than the facility in question, background sources. If the facility is allowed to emit HAP such that its own impacts could result in HI values of one, total exposures to threshold HAP in the vicinity of the facility could be substantially greater than one due to background sources, and this would not be protective of public health, since only HI values below one are considered to be without appreciable risk of adverse health effects. Thus, setting the hazard index limit for the facility at some default percentage of one will provide a buffer which would help to ensure that total exposures to threshold HAP near the facility (*i.e.*, in combination with exposures due to background sources) will generally not exceed one, and can generally be considered to be without appreciable risk of adverse health effects.

The EPA requests comment on using the default percentage approach and on setting the default hazard index limit at 0.2. The EPA is also requesting comment on whether an alternative HI limit, in some multiple of 1 would be a more appropriate applicability cutoff.

A third option is to use available data (from scientific literature or EPA studies, for example) to determine background concentrations of HAP, possibly on a national or regional basis. These data would be used to estimate the exposures to HAP from non-RICE sources in the vicinity of an individual facility. For example, the EPA's National-Scale Air Toxics Assessment (NATA) [5] and ATSDR's Toxicological Profiles [6] contain information about background concentrations of some HAP in the atmosphere and other media. The combined exposures from RICE sources and from other sources (as determined from the literature or studies) would then not be allowed to exceed a hazard index limit of 1. The EPA requests comment on the appropriateness of setting the hazard index limit at 1 for such an analysis.

A fourth option is to allow facilities to estimate or measure their own facility-specific background HAP concentrations for use in their analysis. With regard to the third and fourth options, the EPA requests comment on how these analyses could be structured. Specifically, EPA requests comment on how the analyses should take into account background exposure levels from air, water, food and soil encountered by the individuals exposed to RICE emissions. In addition, we request comment on how such analyses should account for potential increases in exposures due to the use of a new or the increased use of a previously emitted HAP, or the effect of other nearby sources that release HAP.

The EPA requests comment on the feasibility and scientific validity of each of these or other approaches. Finally, EPA requests comment on how we should implement the CAA section 112(d)(4) applicability cutoffs, including appropriate mechanisms for applying cutoffs to individual facilities. For example, would the title V permit process provide an appropriate mechanism?

c. Tiered Analytical Approach for Predicting Exposure

Establishing that a facility meets the cutoffs established under CAA section 112(d)(4) will necessarily involve combining estimates of pollutant emissions with air dispersion modeling to predict exposures. The EPA envisions that we would promote a tiered analytical approach for these determinations. A tiered analysis involves making successive refinements in modeling methodologies and input data to derive successively less conservative, more realistic estimates of pollutant concentrations in air and estimates of risk.

As a first tier of analysis, EPA could develop a series of simple look-up tables based on the results of air dispersion modeling conducted using conservative input assumptions. By specifying a limited number of input parameters, such as stack height, distance to property line, and emission rate, a facility could use these look-up tables to determine easily whether the emissions from their sources might cause a hazard index limit to be exceeded.

A facility that does not pass this initial conservative screening analysis could implement increasingly more site-specific but more resource-intensive tiers of analysis using EPA-approved modeling procedures, in an attempt to demonstrate that exposure to emissions from the facility does not exceed the hazard index limit. The EPA's guidance could provide the basis for conducting such a tiered analysis.[7]

The EPA requests comment on methods for constructing and implementing a tiered analytical approach for determining applicability of the CAA section 112(d)(4) criterion to specific RICE sources. It is also possible

[4] Senate Debate on Conference Report (October 27, 1990), reprinted in ''A Legislative History of the Clean Air Act Amendments of 1990,'' Comm. Print S. Prt. 103–38 (1993) (''Legis. Hist.'') at 868.

[5] See *http://www.epa.gov/ttn/atw/nata.*

[6] See *http://www.atsdr.cdc.gov/toxpro2.html.*

[7] ''A Tiered Modeling Approach for Assessing the Risks due to Sources of Hazardous Air Pollutants.'' EPA–450/4–92–001. David E. Guinnup, Office of Air Quality Planning and Standards, USEPA, March 1992.

that ambient monitoring data could be used to supplement or supplant the tiered modeling approach described above. It is envisioned that the appropriate monitoring to support such a determination could be extensive. The EPA requests comment on the appropriate use of monitoring in the determinations described above.

d. Accounting for Dose-Response Relationships

In the past, EPA routinely treated carcinogens as nonthreshold pollutants. The EPA recognizes that advances in risk assessment science and policy may affect the way EPA differentiates between threshold and nonthreshold HAP. The EPA's draft Guidelines for Carcinogen Risk Assessment [8] suggest that carcinogens be assigned non-linear dose-response relationships where data warrant. Moreover, it is possible that dose-response curves for some pollutants may reach zero risk at a dose greater than zero, creating a threshold for carcinogenic effects. It is possible that future evaluations of the carcinogens emitted by this source category would determine that one or more of the carcinogens in the category is a threshold carcinogen or is a carcinogen that exhibits a non-linear dose-response relationship but does not have a threshold.

The dose-response assessments for formaldehyde and acetaldehyde are currently undergoing revision by the EPA. As part of this revision effort, EPA is evaluating formaldehyde and acetaldehyde as potential non-linear carcinogens. The revised dose-response assessments will be subject to review by the EPA Science Advisory Board, followed by full consensus review, before adoption into the EPA Integrated Risk Information System. At this time, EPA estimates that the consensus review will be completed by the end of 2003. The revision of the dose-response assessments could affect the potency factors of these HAP, as well as their status as threshold or nonthreshold pollutants. At this time, the outcome is not known. In addition to the current reassessment by EPA, there have been several reassessments of the toxicity and carcinogenicity of formaldehyde in recent years, including work by the World Health Organization and the Canadian Ministry of Health.

The EPA requests comment on how we should consider the state of the science as it relates to the treatment of threshold pollutants when making determinations under section 112(d)(4). In addition, EPA requests comment on whether there is a level of emissions of a nonthreshold carcinogenic HAP (*e.g.,* benzene, methylene chloride) at which it would be appropriate to allow a facility to use the approaches discussed in this section.

If the CAA section 112(d)(4) approach were adopted, the proposed rulemaking would likely indicate that the requirements of the rule do not apply to any source that demonstrates, based on a tiered approach that includes EPA-approved modeling of the affected source's emissions, that the anticipated HAP exposures do not exceed the specified hazard index limit.

3. Subcategory Delisting Under Section 112(c)(9)(B) of the CAA

The EPA is authorized to establish categories and subcategories of sources, as appropriate, pursuant to CAA section 112(c)(1), in order to facilitate the development of MACT standards consistent with section 112 of the CAA. Further, section 112(c)(9)(B) allows EPA to delete a category (or subcategory) from the list of major sources for which MACT standards are to be developed when the following can be demonstrated: (1) In the case of carcinogenic pollutants, that ''no source in the category * * * emits (carcinogenic) air pollutants in quantities which may cause a lifetime risk of cancer greater than 1 in 1 million to the individual in the population who is most exposed to emissions of such pollutants from the source''; (2) in the case of pollutants that cause adverse noncancer health effects, that ''emissions from no source in the category or subcategory * * * exceed a level which is adequate to protect public health with an ample margin of safety''; and (3) in the case of pollutants that cause adverse environmental effects, that ''no adverse environmental effect will result from emissions from any source.''

Given these authorities and the suggestions from the white paper prepared by industry representatives (see docket number OAR–2002–0059), EPA is considering whether it would be possible to establish a subcategory of facilities within the larger RICE category that would meet the risk-based criteria for delisting. Such criteria would likely include the same requirements as described previously for the second scenario under the section 112(d)(4) approach, whereby a facility would be in the low-risk subcategory if its emissions of threshold pollutants do not result in exposures which exceed the HI limits and if its emissions of nonthreshold pollutants do not result in exposures which exceed a cancer risk level of 10^{-6}. The EPA requests comment on what an appropriate HI limit would be for a determination that a facility be included in the low-risk subcategory.

Since each facility in such a subcategory would be a low-risk facility (*i.e.,* if each met these criteria), the subcategory could be delisted in accordance with CAA section 112(c)(9), thereby limiting the costs and impacts of the proposed rule to only those facilities that do not qualify for subcategorization and delisting. The EPA estimates that the maximum potential effect of this approach would be the same as that of applying the CAA section 112(d)(4) approach that allows exemption of facilities emitting threshold and non-threshold pollutants if exemption criteria are met.

Facilities seeking to be included in the delisted subcategory would be responsible for providing all data required to determine whether they are eligible for inclusion. Facilities that could not demonstrate that they are eligible to be included in the low-risk subcategory would be subject to MACT and possible future residual risk standards. The EPA solicits comment on implementing a risk-based approach for establishing subcategories of RICE facilities.

Establishing that a facility qualifies for the low-risk subcategory under CAA section 112(c)(9) will necessarily involve combining estimates of pollutant emissions with air dispersion modeling to predict exposures. The EPA envisions that we would employ the same tiered analytical approach described earlier in the CAA section 112(d)(4) discussion for these determinations.

One concern that EPA has with respect to the CAA section 112(c)(9) approach is the effect that it could have on the MACT floors. If many of the facilities in the low-risk subcategory are well-controlled, that could make the MACT floor less stringent for the remaining facilities. One approach that has been suggested to mitigate this effect would be to establish the MACT floor now based on controls in place for the entire category and to allow facilities to become part of the low-risk subcategory in the future, after the MACT standards are established. This would allow low risk facilities to use the CAA section 112(c)(9) exemption without affecting the MACT floor calculation. The EPA requests comment on this suggested approach.

[8] ''Draft Revised Guidelines for Carcinogen Risk Assessment.'' NCEA–F–0644. USEPA, Risk Assessment Forum, July 1999. pp 3–9ff. *http://www.epa.gov/ncea/raf/pdfs/cancer_gls.pdf.*

Another approach under CAA section 112(c)(9) would be to define a subcategory of facilities within the RICE source category based upon technological differences, such as differences in production rate, emission vent flow rates, overall facility size, emissions characteristics, processes, or air pollution control device viability. The EPA requests comment on how we might establish RICE subcategories based on these, or other, source characteristics. If it could then be determined that each source in this technologically-defined subcategory presents a low risk to the surrounding community, the subcategory could then be delisted in accordance with CAA section 112(c)(9). The EPA requests comment on the concept of identifying technologically-based subcategories that may include only low-risk facilities within the RICE source category.

If the CAA section 112(c)(9) approach were adopted, the proposed rulemaking would likely indicate that the rule does not apply to any source that demonstrates that it belongs in a subcategory which has been delisted under CAA section 112(c)(9).

C. Limited Use Subcategory

We are soliciting comments on creating a subcategory of limited use engines with capacity utilization of 10 percent or less (876 or fewer hours of annual operation). Units in this subcategory would include engines used for electric power peak shaving that are called upon to operate fewer than 876 hours per year. These units operate only during peak energy use periods, typically in the summer months. We believe that these infrequently operated units typically operate 10 percent of the year or less. While these are potential sources of emissions, and it is appropriate for EPA to address them in the proposed rule, the Agency believes that their use and operation are different compared to typical RICE. We believe that it may be appropriate for such limited use units to have their own subcategory. Therefore, we are soliciting comment on subcategorizing RICE having a capacity utilization of less than 10 percent.

We have performed a preliminary MACT floor analysis on engines with under 10 percent capacity utilization that are in EPA's RICE database. This analysis indicates that existing units would have a floor of no emissions reductions and new units would have a floor equal to the performance of an oxidation catalyst system.

We are interested in comments on creating a subcategory for limited use peak shaving (less than 10 percent capacity utilization) engines. We are interested in comments on the validity and appropriateness under the CAA for a subcategory for limited use peak shaving engines, data on the levels of control currently achieved by such engines, and any technical limitations that might make it impossible to achieve control of emissions from limited use peak shaving engines.

VI. Administrative Requirements

A. Executive Order 12866, Regulatory Planning and Review

Under Executive Order 12866 (58 FR 51735, October 4, 1993), we must determine whether a regulatory action is ''significant'' and, therefore, subject to review by the Office of Management and Budget (OMB) and the requirements of the Executive Order. The Executive 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, we have determined that the proposed rule is a ''significant regulatory action'' because it could have an annual effect on the economy of over $100 million. Consequently, this action was submitted to OMB for review under Executive Order 12866. Any written comments from OMB and written EPA responses are available in the docket.

As stipulated in Executive Order 12866, in deciding how or whether to regulate, EPA is required to assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. To this end, EPA prepared a detailed benefit-cost analysis in the ''Regulatory Impact Analysis of the Proposed Reciprocating Internal Combustion Engines NESHAP,'' which is contained in the docket. The following is a summary of the benefit-cost analysis.

It is estimated that 5 years after implementation of the proposed rule, HAP will be reduced by 5,000 tons per year due to reductions in formaldehyde, acetaldehyde, acrolein, methanol, and several other HAP from some existing and all new internal combustion engines. Formaldehyde and acetaldehyde have been classified as ''probable human carcinogens'' based on scientific studies conducted over the past 20 years. These studies have determined a relationship between exposure to these HAP and the onset of cancer; however, there are some questions remaining on how cancers that may result from exposure to these HAP can be quantified in terms of dollars. Acrolein, methanol and the other HAP emitted from RICE sources are not considered carcinogenic but have been reported to cause several noncarcinogenic effects.

The control technology to reduce the level of HAP emitted from RICE are also expected to reduce emissions of criteria pollutants, primarily CO, NO_X, and PM, however, VOC are also reduced to a minor extent. It is estimated that CO emissions reductions totals approximately 234,400 tons/year, NO_X emissions reductions totals approximately 167,900 tons/year, and PM emissions reductions totals approximately 3,700 tons per year. These reductions occur from new and existing engines in operation 5 years after the implementation of the rule as proposed and are expected to continue throughout the life of the engines and continue to grow as new engines (that otherwise would not be controlled) are purchased for operation. Human health effects associated with exposure to CO include cardiovascular system and CNS effects, which are directly related to reduced oxygen content of blood and which can result in modification of visual perception, hearing, motor and sensorimotor performance, vigilance, and cognitive ability. Emissions of NO_X can transform into PM in the atmosphere, which produces a variety of health and welfare effects. Human health effects associated with NO_X include respiratory problems, such as chronic bronchitis, asthma, or even death from complications. Welfare effects from direct NO_X exposure include agricultural and forestry damage and acidification of estuaries through rain deposition of nitrogen; while fine PM particles created from NO_X can reduce visibility in national parks and other natural and urban areas.

At the present time, the Agency cannot provide a monetary estimate for the benefits associated with the reductions in CO. For NO_X and PM, the Agency has conducted several analyses recently that estimate the monetized benefits of these pollutant reductions, including: the Regulatory Impact Analysis (RIA) of the PM/Ozone National Ambient Air Quality Standards (1997), the NO_X State Implementation Plan Call (1998), the section 126 RIA (1999), a study conducted for section 812(b) of the Clean Air Act Amendments (1990), the Tier 2/ Gasoline Sulfur Standards (1999), and the Heavy Duty Engine/Diesel Fuel Standards (2000).

On September 26, 2002, the National Academy of Sciences (NAS) released a report on its review of the Agency's methodology for analyzing the health benefits of measures taken to reduce air pollution. The report focused on EPA's approach for estimating the health benefits of regulations designed to reduce concentrations of airborne particulate matter (PM).

In its report, the NAS said that EPA has generally used a reasonable framework for analyzing the health benefits of PM-control measures. It recommended, however, that the Agency take a number of steps to improve its benefits analysis. In particular, the NAS stated that the Agency should:

(1) Include benefits estimates for a range of regulatory options;

(2) Estimate benefits for intervals, such as every 5 years, rather than a single year;

(3) Clearly state the project baseline statistics used in estimating health benefits, including those for air emissions, air quality, and health outcomes;

(4) Examine whether implementation of proposed regulations might cause unintended impacts on human health or the environment;

(5) When appropriate, use data from non-U.S. studies to broaden age ranges to which current estimates apply and to include more types of relevant health outcomes;

(6) Begin to move the assessment of uncertainties from its ancillary analyses into its primary analyses by conducting probabilistic, multiple-source uncertainty analyses. This assessment should be based on available data and expert judgment.

Although the NAS made a number of recommendations for improvement in EPA's approach, it found that the studies selected by EPA for use in its benefits analysis were generally reasonable choices. In particular, the NAS agreed with EPA's decision to use cohort studies to derive benefits estimates. It also concluded that the Agency's selection of the American Cancer Society (ACS) study for the evaluation of PM-related premature mortality was reasonable, although it noted the publication of new cohort studies that should be evaluated by the Agency. Several of the NAS recommendations addressed the issue of uncertainty and how the Agency can better analyze and communicate the uncertainties associated with its benefits assessments. In particular, the Committee expressed concern about the Agency's reliance on a single value from its analysis and suggested that EPA develop a probabilistic approach for analyzing the health benefits of proposed regulatory actions. The Agency agrees with this suggestion and is working to develop such an approach for use in future rulemakings.

In the RIA for the proposed rule, the Agency has used an interim approach that shows the impact of several important alternative assumptions about the estimation and valuation of reductions in premature mortality and chronic bronchitis. This approach, which was developed in the context of the Agency's Clear Skies analysis, provides an alternative estimate of health benefits using the time series studies in place of cohort studies, as well as alternative valuation methods for mortality and chronic bronchitis risk reductions.

For today's action, we conducted an air quality assessment to determine the change in concentrations of PM that results from reductions of NO_X and direct emissions of PM at all sources of RICE. Because we are unable to identify the location of all affected existing and new sources of RICE, our analysis is conducted in two phases. In the first phase, we conduct air quality analysis assuming a 50 percent reduction of 1996-levels of NO_X emissions and a 100 percent reduction of PM_{10} emissions for all RICE sources throughout the country. The results of this analysis serve as a reasonable approximation of air quality changes to transfer to the proposed rule's emissions reductions at affected sources. The results of the air quality assessment served as input to a model that estimates the benefits related to the health effects listed above. In the second phase of our analysis, the value of the benefits per ton of NO_X and PM reduced (*e.g.*, $ benefit/ton reduced) associated with the air quality scenarios are then applied to the tons of NO_X and PM emissions expected to be reduced by the proposed rule. We also used the benefit transfer method to value improvements in ozone based on the transfer of benefit values from an analysis of the 1998 NO_X SIP call. In addition, although the benefits of the welfare effects of NO_X are monetized in other Agency analyses, we chose not to do an analysis of the improvements in welfare effects that will result from the proposed rule. Alternatively, we could transfer the estimates of welfare benefits from these other studies to this analysis, but chose not to do so because these studies with estimated welfare benefits differ in the source and location of emissions and associated impacted populations.

Every benefit-cost analysis examining the potential effects of a change in environmental protection requirements is limited to some extent by data gaps, limitations in model capabilities (such as geographic coverage), and uncertainties in the underlying scientific and economic studies used to configure the benefit and cost models. Deficiencies in the scientific literature often result in the inability to estimate changes in health and environmental effects, such as potential increases in premature mortality associated with increased exposure to carbon monoxide. Deficiencies in the economics literature often result in the inability to assign economic values even to those health and environmental outcomes which can be quantified. While these general uncertainties in the underlying scientific and economics literatures are discussed in detail in the RIA and its supporting documents and references, the key uncertainties which have a bearing on the results of the benefit-cost analysis of today's action are the following:

(1) The exclusion of potentially significant benefit categories (*e.g.,* health and ecological benefits of reduction in hazardous air pollutants emissions);

(2) Errors in measurement and projection for variables such as population growth;

(3) Uncertainties in the estimation of future year emissions inventories and air quality;

(4) Uncertainties associated with the extrapolation of air quality monitoring data to some unmonitored areas required to better capture the effects of the standards on the affected population;

(5) Variability in the estimated relationships of health and welfare effects to changes in pollutant concentrations; and

(6) Uncertainties associated with the benefit transfer approach.

Despite these uncertainties, we believe the benefit-cost analysis provides a reasonable indication of the expected economic benefits of the RICE NESHAP under two different sets of assumptions.

We have used two approaches (Base and Alternative Estimates) to provide benefits in health effects and in monetary terms. They differ in the method used to estimate and value reduced incidences of mortality and chronic bronchitis, which is explained in detail in the RIA. While there is a substantial difference in the specific estimates, both approaches show that the RICE MACT may provide benefits to public health, whether expressed as health improvements or as economic benefits. These include prolonging lives, reducing cases of chronic bronchitis and hospital admissions, and reducing thousands of cases in other indicators of adverse health effects, such as work loss days, restricted activity days, and days with asthma attacks. In addition, there are a number of health and environmental effects which we were unable to quantify or monetize. These effects, denoted by ''B'' are additive to both the Base and Alternative estimates of benefits. Results also reflect the use of two different discount rates for the valuation of reduced incidences of mortality; a 3 percent rate which is recommended by EPA's Guidelines for Preparing Economic Analyses (U.S. EPA, 2000a), and 7 percent which is recommended by OMB Circular A–94 (OMB, 1992).

More specifically, the Base Estimate of benefits reflects the use of peer-reviewed methodologies developed for earlier risk and benefit-cost assessments related to the Clean Air Act, such as the regulatory assessments of the Heavy Duty Diesel and Tier II rules and the section 812 Report to Congress. The Alternative Estimate explores important aspects of the key elements underlying estimates of the benefits of reducing NO_X emissions, specifically focusing on estimation and valuation of mortality risk reduction and valuation of chronic bronchitis. The Alternative Estimate of mortality reduction relies on recent scientific studies finding an association between increased mortality and short-term exposure to particulate matter over days to weeks, while the Base Estimate relies on a recent reanalysis of earlier studies that associate long-term exposure to fine particles with increased mortality. The Alternative Estimate differs in the following ways: It explicitly omits any impact of long-term exposure on premature mortality, it uses different data on valuation and makes adjustments relating to the health status and potential longevity of the populations most likely affected by PM, it also uses a cost-of-illness method to value reductions in cases of chronic bronchitis while the Base Estimate is based on individual's willingness to pay (WTP) to avoid a case of chronic bronchitis. In addition, one key area of uncertainty is the value of a statistical life (VSL) for risk reductions in mortality, which is also the category of benefits that accounts for a large portion of the total benefit estimate. The adoption of a value for the projected reduction in the risk of premature mortality is the subject of continuing discussion within the economic and public policy analysis community. There is general agreement that the value to an individual of a reduction in mortality risk can vary based on several factors, including the age of the individual, the type of risk, the level of control the individual has over the risk, the individual's attitude toward risk, and the health status of the individual.

The Environmental Economics Advisory Committee (EEAC) of the EPA Science Advisory Board (SAB) recently issued an advisory report which states that ''the theoretically appropriate method is to calculate WTP for individuals whose ages correspond to those of the affected population, and that it is preferable to base these calculations on empirical estimates of WTP by age'' (EPA–SAB–EEAC–00–013). In developing our Base Estimate of the benefits of premature mortality reductions, we have appropriately discounted over the lag period between exposure and premature mortality. However, the empirical basis for adjusting the current $6 million VSL for other factors does not yet justify including these in our Base Estimate. A discussion of these factors is contained in the RIA and supporting documents. The EPA recognizes the need for additional research by the scientific community to develop additional empirical support for adjustments to VSL for the factors mentioned above. Furthermore, EPA prefers not to draw distinctions in the monetary value assigned to the lives saved even if they differ in age, health status, socioeconomic status, gender or other characteristic of the adult population. However, adjustments to VSL for age and life expectancy are explored in the Alternative Estimate.

Given its basis in methods approved by the SAB, we employed the approach used for the benefit analysis of the Heavy Duty Engine/Diesel Fuel standards conducted in 2000 to the RICE NESHAP discussed in this preamble. A full discussion of considerations made in our presentation of benefits is summarized in the preamble of the Final Heavy Duty Engine/Diesel Fuel standards issued in December 2000, and in all supporting documentation and analyses of the Heavy Duty Diesel Program, and in the RIA for the proposed rule.

In addition to the presentation of quantified health benefits, our estimate also includes a ''B'' to represent those additional health and environmental benefits which could not be expressed in quantitative incidence and/or economic value terms. A full appreciation of the overall economic consequences of the RICE NESHAP requires consideration of all benefits and costs expected to result from the new standards, not just those benefits and costs which could be expressed here in dollar terms. A full listing of the benefit categories that could not be quantified or monetized in our estimate are provided in Table 3 of this preamble.

TABLE 3.—UNQUANTIFIED BENEFIT CATEGORIES FROM RICE EMISSIONS REDUCTIONS

	Unquantified benefit categories associated with HAP	Unquantified benefit categories associated with ozone	Unquantified benefit categories associated with PM
Health Categories	Carcinogenicity mortality. Genotoxicity mortality. Non-Cancer lethality. Pulmonary function decrement. Dermal irritation. Eye irritation. Neurotoxicity. Immunotoxicity. Pulmonary function decrement. Liver damage. Gastrointestinal toxicity. Kidney damage. Cardiovascular impairment. Hematopoietic (Blood disorders). Reproductive/Developmental toxicity.	Airway responsiveness. Pulmonary inflammation. Increased susceptibility to respiratory infection. Acute inflammation and respiratory cell damage. Chronic respiratory damage/Premature aging of lungs. Emergency room visits for asthma.	Changes in pulmonary function. Morphological changes. Altered host defense mechanisms. Cancer. Other chronic respiratory disease. Emergency room visits for asthma. Lower and upper respiratory symptoms. Acute bronchitis. Shortness of breath.
Welfare Categories	Corrosion/deterioration. Unpleasant odors. Transportation safety concerns. Yield reductions/Foliar injury. Biomass decrease. Species richness decline. Species diversity decline. Community size decrease. Organism lifespan decrease. Trophic web shortening.	Ecosystem and vegetation effects in Class I areas (e.g., national parks). Damage to urban ornamentals (e.g., grass, flowers, shrubs, and trees in urban areas). Commercial field crops. Fruit and vegetable crops Reduced yields of tree seedlings, commercial and non-commercial forests. Damage to ecosystems. Materials damage.	Materials damage. Damage to ecosystems (e.g., acid sulfate deposition). Nitrates in drinking water.

Our Base Estimate of benefits totals approximately $280 million when using a 3 percent interest rate (or approximately $265 million when using a 7 percent interest rate). The Alternative Estimate totals approximately $40 million when using a 3 percent interest rate (or approximately $45 million when using a 7 percent interest rate).

Benefit-cost comparison (or net benefits) is another tool used to evaluate the reallocation of society's resources needed to address the pollution externality created by the operation of RICE units. The additional costs of internalizing the pollution produced at major sources of emissions from RICE units is compared to the improvement in society's well-being from a cleaner and healthier environment. Comparing benefits of the proposed rule to the costs imposed by alternative ways to control emissions optimally identifies a strategy that results in the highest net benefit to society. In the case of the proposed RICE NESHAP, we are proposing only one option, the minimal level of control mandated by the Clean Air Act, or the MACT floor.

Table 4 of this preamble presents a summary of the costs, emission reductions, and quantifiable benefits by engine type. Table 5 of this preamble presents a summary of net benefits. Based on estimated compliance costs associated with the proposed rule and the predicted change in prices and production in the affected industries, the estimated social costs of the proposed rule are $254 million (1998$) as are discussed previously in this preamble.

Unfortunately, the air benefits characterized in this analysis are limited by the data available on the numerous health and welfare categories for the affected pollutants and by the lack of approved methods for quantifying effects.

Using the Base Estimate of benefits, the portion of total benefits associated with NO_X and PM reductions exceed the estimated total costs of the proposed rule by $25 million + B when using a 3 percent discount rate (or approximately $10 million + B when using a 7 percent discount rate). However, using the more conservative Alternative Estimate of benefits, net benefits are negative. Under the Alternative Estimate, net benefits total −$215 million + B under a 3 percent discount rate (or approximately −$210 million + B when using a 7 percent discount rate). Approximately 90 percent of the total benefits ($255 million under the Base Estimate, and $35 million under the Alternative Estimate) are associated with NO_X reductions from the 4SRB subcategory for new and existing engines. Approximately 10 percent of the total benefits ($25 million under the Base Estimate, and $5 million under the Alternative Estimate) are associated with the PM reductions from the compression ignition engine subcategory at new sources.

In both cases, net benefits would be greater if all the benefits of the HAP and other pollutant reductions could be quantified. Notable omissions to the net benefits include all benefits of HAP and CO reductions, including reduced cancer incidences, toxic morbidity effects, and cardiovascular and CNS effects. It is also important to note that not all benefits of NO_X reductions have been monetized. Categories which have contributed significantly to monetized benefits in past analyses (see the RIA for the Heavy Duty Engine/Diesel standards) include commercial agriculture and forestry, recreational and residential visibility improvements, and estuarine improvements.

TABLE 4.—SUMMARY OF COSTS, EMISSION REDUCTIONS, AND QUANTIFIABLE BENEFITS BY ENGINE TYPE

Type of engine	Total annualized cost (million $/yr in the 5th year after promulgation)	Emission reductions[A] (tons/yr in the 5th year after promulgation)				Quantifiable annual monetized benefits[B,C] (million $/yr in the 2005)	
		HAP	CO	NO_X	PM	Base estimate	Alternative estimate
2SLB-New	3	250	2,025	0	0	B_1	B_2
4SLB-New	66	4,035	36,240	0	0	B_3	B_4
4SRB-Existing	38	230	98,040	69,900	0	$105 + B_5	$15 + B_7
						$100 + B_6	$15 + B_8
4SRB-New	48	215	91,820	98,000	0	$150 + B_9	$20 + B_{11}
						$140 + B_{10}	$25 + B_{12}
CI-New	99	305	6,320	0	3,700	$25 + B_{13}	$5 + B_{14}
Total	254	5,035	234,445	167,900	3,700	$280 + B	$40 + B
						$265 + B	$45 + B

[A] For the calculation of PM-related benefits, total NO_X reductions are multiplied by the appropriate benefit per ton value presented in Table 8–7 of the RIA. For the calculation of ozone-related benefits, NO_X reductions are multiplied by 5/12 to account for ozone season months and 0.74 to account for Eastern States in the ozone analysis. The resulting ozone-related NO_X reductions are multiplied by $28 per ton. Ozone-related benefits are summed together with PM-related benefits to derive total benefits of NO_X reductions. All benefits values are rounded to the nearest $5 million.

[B] Benefits of HAP and CO emissions reductions are not quantified in this analysis and, therefore, are not presented in this table. The quantifiable benefits are from emissions reductions of NO_X and PM only. For notational purposes, unquantified benefits are indicated with a "B" to represent monetary benefits. A detailed listing of unquantified NO_X, PM, and HAP related health effects is provided in Table 8–13 of the RIA.

[C] Results reflect the use of two different discount rates; a 3 percent rate which is recommended by EPA's Guidelines for Preparing Economic Analyses (U.S. EPA, 2000a), and 7 percent which is recommended by OMB Circular A–94 (OMB, 1992).

TABLE 5.—ANNUAL NET BENEFITS OF THE RICE NESHAP IN 2005

	Million 1998$[A]
Social Costs[B]	$255
Social Benefits[B, C, D]:	
HAP-related benefits	Not monetized
CO-related benefits	Not monetized
Ozone- and PM-related welfare benefits	Not monetized
Ozone- and PM-related health benefits:	
Base Estimate	
—Using 3% Discount Rate	$280 + B
—Using 7% Discount Rate	$265 + B
Alternative Estimate	
—Using 3% Discount Rate	$40 + B
—Using 7% Discount Rate	$45 + B
Net Benefits (Benefits—Costs)[C, D]:	
Base Estimate	
—Using 3% Discount Rate	$25 + B
—Using 7% Discount Rate	$10 + B
Alternative Estimate	
—Using 3% Discount Rate	—$215 + B
—Using 7% Discount Rate	—$210 + B

[A] All costs and benefits are rounded to the nearest $5 million. Thus, figures presented in this chapter may not exactly equal benefit and cost numbers presented in earlier sections of the chapter.

[B] Note that costs are the total costs of reducing all pollutants, including HAP and CO, as well as NO_x and PM_{10}. Benefits in this table are associated only with PM and NO_x reductions.

[C] Not all possible benefits or disbenefits are quantified and monetized in this analysis. Potential benefit categories that have not been quantified and monetized are listed in Table 8–13. B is the sum of all unquantified benefits and disbenefits.

[D] Monetized benefits are presented using two different discount rates. Results calculated using 3 percent discount rate are recommended by EPA's Guidelines for Preparing Economic Analyses (U.S. EPA, 2000a). Results calculated using 7 percent discount rate are recommended by OMB Circular A–94 (OMB, 1992).

B. Executive Order 13132, Federalism

Executive Order 13132 (64 FR 43255, August 10, 1999), requires us to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" is defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government."

The proposed rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government, as specified in Executive Order 13132.

We are required by section 112 of the CAA, 42 U.S.C. 7412, to establish the standards in the proposed rule. The proposed rule primarily affects private industry and does not impose significant economic costs on State or local governments. The proposed rule does not include an express provision preempting State or local regulations. Thus, the requirements of section 6 of the Executive Order do not apply to the proposed rule.

Although section 6 of Executive Order 13132 does not apply to the proposed rule, we consulted with representatives of State and local governments to enable them to provide meaningful and timely input into the development of the proposed rule. This consultation took place during the ICCR FACA committee meetings where members representing State and local governments participated in developing recommendations for EPA's combustion-related rulemakings, including the proposed rule. The concerns raised by representatives of State and local governments were considered during the development of the proposed rule.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, we specifically solicit comment on the proposed rule from State and local officials.

C. Executive Order 13175, Consultation and Coordination With Indian Tribal Governments

Executive Order 13175 (65 FR 67249, November 6, 2000), requires EPA to develop an accountable process to ensure ''meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.'' ''Policies that have tribal implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on one or more Indian tribes, on the relationship between the Federal government and the Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes.''

The proposed rule does not have tribal implications. It will not have substantial direct effects on tribal governments, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes, as specified in Executive Order 13175. No known stationary RICE are located within the jurisdiction of any tribal government. Thus, Executive Order 13175 does not apply to the proposed rule.

D. Executive Order 13045, Protection of Children From Environmental Health Risks and Safety Risks

Executive Order 13045 (62 FR 19885, April 23, 1997) applies to any rule that: (1) Is determined to be ''economically significant'' as defined under Executive Order 12866, and (2) concerns an environmental health or safety risk that we have reason to believe may have a disproportionate effect on children. If the regulatory action meets both criteria, we must evaluate the environmental health or safety effects of the proposed rule on children, and explain why the proposed rule is preferable to other potentially effective and reasonably feasible alternatives considered.

The Agency does not have reason to believe the environmental health or safety risks associated with the emissions addressed by the proposed rule present a disproportionate risk to children. The public is invited to submit or identify peer-reviewed studies and data, of which the Agency may not be aware, that assess the results of early life exposure to the pollutants addressed by the proposed rule and suggest a disproportionate impact.

E. Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

Executive Order 13211, (66 FR 28355, May 22, 2001), requires EPA to prepare and submit to the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, a Statement of Energy Effects for certain actions identified as significant energy actions. Section 4(b) of Executive Order 13211 defines significant energy actions as any action by an agency (normally published in the **Federal Register**) that promulgates or is expected to lead to the promulgation of a final rule or regulation, including notices of inquiry, advance notices of proposed rulemaking, and notices of proposed rulemaking: (1)(i) that is a significant regulatory action under Executive Order 12866 or any successor order, and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (2) that is designated by the Administrator of the Office of Information and Regulatory Affairs as a significant energy action.

While the proposed rule is a significant regulatory action under Executive Order 12866, EPA has determined that the proposed rule is not a significant energy action because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy based on the Statement of Energy Effects for this action provided below.

The RIA estimates changes in prices and production levels for all energy markets (*i.e.,* petroleum, natural gas, electricity, and coal). We also estimate how changes in the energy markets will impact other users of energy, such as manufacturing markets and residential, industrial and commercial consumers of energy. The results of the economic impact analysis for the proposed rule are shown for 2005, for that is the year in which full implementation of the rule is expected to occur. These results show that there will be minimal changes in price, if any, for most energy products affected by implementation of the proposed rule. Only a slight price increase (about 0.001 percent to 0.02 percent) may occur in three of the energy sectors: petroleum, electricity, and coal products nationwide, and approximately a one-tenth of one percent (*i.e.,* 0.10 percent) change in natural gas prices. The change in energy costs associated with the proposed rule, however, represents only 0.03 percent of expected annual energy expenditures by residential consumers in 2005, a 0.008 percent change for transportation consumers of energy, and about 0.03 percent of energy expenditures in the commercial sector. In addition, no discernable impact on exports or imports of energy products is expected. Therefore, the impacts on energy markets and users will be relatively small nationwide as a result of implementation of the proposed reciprocating internal combustion engines NESHAP.

F. Unfunded Mandates Reform Act of 1995

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), Public Law 104–4, establishes requirements for Federal agencies to assess the effects of their regulatory actions on State, local, and tribal governments and the private sector. Under section 202 of the UMRA, we generally must prepare a written statement, including a cost-benefit analysis, for proposed and final rules with ''Federal mandates'' that may result in expenditures to State, local, and tribal governments, in the aggregate, or to the private sector, of $100 million or more in any 1 year. Before promulgating a rule for which a written statement is needed, section 205 of the UMRA generally requires us to identify and consider a reasonable number of regulatory alternatives and adopt the least costly, most cost-effective or least burdensome alternative that achieves the objectives of the proposed rule. The provisions of section 205 do not apply when they are inconsistent with applicable law. Moreover, section 205 allows us to adopt an alternative other than the least costly, most cost-effective or least burdensome alternative if the Administrator publishes with the final rule an explanation why that alternative was not adopted. Before we establish any regulatory requirements that may significantly or uniquely affect small governments, including tribal governments, we must develop a small government agency plan under section 203 of the UMRA. The plan must provide for notifying potentially affected small governments, enabling officials of affected small governments to have meaningful and timely input in the development of regulatory proposals with significant Federal intergovernmental mandates, and informing, educating, and advising small governments on compliance with the regulatory requirements.

We have determined that the proposed rule contains a Federal mandate that may result in expenditures of $100 million or more for State, local, and tribal governments, in the aggregate, or the private sector in any 1 year. Accordingly, we have prepared a written statement under section 202 of the UMRA which is summarized below. The written statement is in the docket.

1. Statutory Authority

As discussed previously in this preamble, the statutory authority for the proposed rulemaking is section 112 of the CAA. Section 112(b) lists the 189 chemicals, compounds, or groups of chemicals deemed by Congress to be HAP. These toxic air pollutants are to be regulated by NESHAP.

Section 112(d) of the CAA directs us to develop NESHAP based on MACT which require existing and new major sources to control emissions of HAP. These NESHAP apply to all stationary RICE located at major sources of HAP emissions, however, only certain existing and new or reconstructed stationary RICE have substantive regulatory requirements.

In compliance with section 205(a), we identified and considered a reasonable number of regulatory alternatives. The regulatory alternative upon which the proposed rule is based represents the MACT floor for stationary RICE and, as a result, it is the least costly and least burdensome alternative.

2. Social Costs and Benefits

The RIA prepared for the proposed rule, including the Agency's assessment of costs and benefits, is detailed in the ''Regulatory Impact Analysis for the Proposed RICE NESHAP'' in the docket. Based on estimated compliance costs on all sources associated with the proposed rule and the predicted change in prices and production in the affected industries, the estimated social costs of the proposed rule are $254 million (1998$).

It is estimated that 5 years after implementation of the proposed rule, HAP will be reduced by 5,000 tons per year due to reductions in formaldehyde, acetaldehyde, acrolein, methanol and other HAP from existing and new stationary RICE. Formaldehyde and acetaldehyde have been classified as ''probable human carcinogens.'' Acrolein, methanol and the other HAP are not considered carcinogenic, but produce several other toxic effects. The proposed rule will also achieve reductions in 234,400 tons of CO, approximately 167,900 tons of NO_X per year, and approximately 3,700 tons of PM per year. Exposure to CO can effect the cardiovascular system and the central nervous system. Emissions of NO_X can transform into PM, which can result in fatalities and many respiratory problems (such as asthma or bronchitis); and NO_X can also transform into ozone causing several respiratory problems to affected populations.

At the present time, the Agency cannot provide a monetary estimate for the benefits associated with the reductions in HAP and CO. For NO_X and PM, we estimated the benefits associated with health effects of PM but were unable to quantify all categories of benefits of NO_X (particularly those associated with ecosystem and environmental effects). Unquantified benefits are noted with ''B'' in the estimates presented below. Total monetized benefits are approximately $280 million + B (1998$) under our Base Estimate when using a 3 percent discount rate (or approximately $265 million + B when using a 7 percent discount rate). Under the Alternative Estimate, total benefits are approximately $40 million + B when using a 3 percent discount rate (or approximately $45 million + B when using a 7 percent discount rate). The approach to value benefits is discussed in more detail in this preamble under the Executive Order 12866. These monetized benefits should be considered along with the many categories of benefits that we are unable to place a dollar value on to consider the total benefits of the proposed rule.

3. Future and Disproportionate Costs

The UMRA requires that we estimate, where accurate estimation is reasonably feasible, future compliance costs imposed by the proposed rule and any disproportionate budgetary effects. Our estimates of the future compliance costs of the proposed rule are discussed previously in this preamble.

We do not believe that there will be any disproportionate budgetary effects of the proposed rule on any particular areas of the country, State or local governments, types of communities (*e.g.*, urban, rural), or particular industry segments.

4. Effects on the National Economy

The UMRA requires that we estimate the effect of the proposed rule on the national economy. To the extent feasible, we must estimate the effect on productivity, economic growth, full employment, creation of productive jobs, and international competitiveness of the U.S. goods and services if we determine that accurate estimates are reasonably feasible and that such effect is relevant and material.

The nationwide economic impact of the proposed rule is presented in the ''Regulatory Impact Analysis for RICE NESHAP'' in the docket. This analysis provides estimates of the effect of the proposed rule on most of the categories mentioned above. The results of the economic impact analysis are summarized previously in this preamble.

5. Consultation With Government Officials

The UMRA requires that we describe the extent of our prior consultation with affected State, local, and tribal officials, summarize the officials' comments or concerns, and summarize our response to those comments or concerns. In addition, section 203 of UMRA requires that we develop a plan for informing and advising small governments that may be significantly or uniquely impacted by a proposal. Although the proposed rule does not affect any State, local, or tribal governments, we have consulted with State and local air pollution control officials. We also have held meetings on the proposed rule with many of the stakeholders from numerous individual companies, environmental groups, consultants and vendors, labor unions, and other interested parties. We have added materials to the docket to document these meetings.

In addition, we have determined that the proposed rule contains no regulatory requirements that might significantly or uniquely affect small governments. Therefore, today's proposed rule is not subject to the requirements of section 203 of the UMRA.

G. Regulatory Flexibility Act (RFA), as Amended by the Small Business Regulatory Enforcement Fairness Act of 1966 (SBREFA), 5 U.S.C. 601 et seq.

The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the proposed rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impacts of today's proposed rule on small entities, "small entity" is defined as: (1) A small business whose parent company has fewer than 500 employees (for most affected industries); (2) a small governmental jurisdiction that is a government or a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field. It should be noted that the proposed rule covers more than 25 different industries. For each industry, we applied the definition of a small business provided by the Small Business Administration at 13 CFR part 121, and classified by the NAICS. The Small Business Administration (SBA) defines small businesses in most industries affected by the proposed rule as those with fewer than 500 employees. However, SBA has defined "small business" differently for a limited number of industries, either through reference to another employment cap or through the substitution of total yearly revenues in place of an employment limit. For more information on the size standards for particular industries, please refer to the regulatory impact analysis in the docket.

After considering the economic impacts of today's proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. In support of this certification, EPA examined the percentage of annual revenues that compliance costs may consume if small entities must absorb all of the compliance costs associated with the proposed rule. Since many firms will be able to pass along some or all compliance costs to customers, actual impacts will frequently be lower than those analyzed here.

As is mentioned in previous sections of this preamble, the proposed rule will set standards for only a limited set of existing units, specifically 4SRB units. For all other types of engines, the proposed rule would impose requirements only on new engines. The EPA identified a total of 26,832 engines located at commercial, industrial, and government facilities. From this initial population of 26,832 engines, 10,118 engines were excluded because the proposed regulation will not cover engines smaller than 500 horsepower or engines used to supply emergency/backup power. Of the 16,714 units remaining, 2,645 units had sufficient information to assign to model unit numbers developed during the cost analysis. These 2,645 units were linked to 834 existing facilities, owned by 153 parent companies. A total of 47 companies were identified as small entities, and only 13 of them own 4SRB engines. These small entities own a total of 39 4SRB units at 21 facilities. Further, assuming only 40 percent of the all RICE sources are located at major sources and, thus, affected by the regulation, about 16 of the 39 4SRB units identified at facilities owned by small businesses would be located at major sources.

Under this scenario, there are no small firms that have compliance costs above 3 percent of firm revenues and only two small firms owning 4SRB engines that have impacts between 1 and 3 percent of revenues. In addition to 12 small firms with 4SRB engines, there is one small government in the Inventory Database affected by the proposed rule. The costs to this city are approximately $3 per capita annually assuming their engine is affected by the proposed rule, less than 0.01 percent of median household income.

Based on this subset of the existing engines population, the regulation will affect no small entities owning RICE at a cost to sales ratio (CSR) greater than 3 percent, while approximately 4 percent (2/47) of small entities owning RICE greater than 500 horsepower will have compliance costs between 1 and 3 percent of sales under an upper bound cost scenario. In comparison, the total existing population of engines with greater than 500 horsepower that are not backup units is estimated to be 22,018.

Assuming the same breakdown of large and small company ownership of engines in the total population of existing engines as in the subset with parent company information identified, the Agency expects that approximately 17 small entities in the existing population of RICE owners would have CSR between 1 and 3 percent under an upper bound cost scenario where we assume all RICE owned by small entities are located at major sources.

In addition, because many small entities owning RICE will not be affected because of the exclusion of engines with less than 500 horsepower, the percentage of all small companies owning RICE that are affected by the proposed rule is even smaller. Based on the proportion of engines in the Inventory Database that are greater than 500 horsepower and are not backup units (16,714/26,832, or 62.3 percent) and assuming that small companies own the same proportion of small engines (less than 500 horsepower) as they do of engines greater than 500 horsepower, the Agency estimates that 628 small companies own RICE. Of all small companies owning RICE, 2.7 percent (17/628) are expected to have CSR between 1 and 3 percent under an upper bound cost scenario. If the percentage of RICE owned by small companies that are located at major sources is the same as the engine population overall (40 percent), only about 1.1 percent of small companies owning RICE would be expected to have CSR greater than 1 percent.

The average profit margin for the industries in our analysis is approximately 5 percent. Therefore, based on this median profit margin data, it seems reasonable to review the number of small firms with CSR above 3 percent in screening for significant impacts. In addition, based on the low number of affected small firms, the fact that no small firms have CSR between 3 and 5 percent, and the fact that industry profit margins average 5 percent, this analysis concludes that the proposed rule will not have a significant impact on a substantial number of existing small entities.

For new sources, it can be reasonably assumed that the investment decision to purchase a new engine may be slightly altered as a result of the proposed rule. In fact, for the entire population of affected engines (approximately 20,000 new engines over a 5-year period), 2 fewer engines (0.01 percent) may be purchased due to changes in costs of the engines and market responses to the proposed rule. It is not possible, however, to determine future investment decisions by the small entities in the affected industries, so we cannot link these 2 engines to any one firm (small or large). Overall, it is very unlikely that a substantial number of small firms who may consider purchasing a new engine will be significantly impacted, because the decision to purchase new engines is not altered to a large extent.

In addition to this consideration of costs on some firms attributable to the proposed rule, EPA notes the proposed rule is likely to increase revenues for many small firms, including those not regulated by the proposed rule, due to a predictable increase in prices of natural gas in the industry. Although the proposed rule will not have a significant impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of the proposed rule on small entities. In the proposed rule, we are applying the minimum level of control allowed by the CAA (*i.e.,* the MACT floor), and the minimum level of monitoring, recordkeeping, and reporting by affected sources. In addition, as mentioned earlier in the preamble, new RICE units with capacities under 500 horsepower and those that operate as emergency/limited use units are not covered by the proposed rule, provisions that should greatly reduce the level of small-entity impacts. We continue to be interested in reducing any remaining impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

H. Paperwork Reduction Act

The information collection requirements in the proposed rule will be 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 (ICR No. 1975.01) and a copy may be obtained from Susan Auby by mail at the U.S. Environmental Protection Agency, Collection Strategies Division (2822), 1200 Pennsylvania Avenue NW., Washington, DC 200, by e-mail at *auby.susan@epa.gov,* or by calling (202) 566–1672. A copy may also be downloaded off the internet at *http://www.epa.gov/icr.* The information requirements are not effective until OMB approves them.

The information requirements are based on notification, recordkeeping, and reporting requirements in the NESHAP General Provisions (40 CFR part 63, subpart A), which are mandatory for all operators subject to national emission standards. These recordkeeping and reporting requirements are specifically authorized by section 114 of the CAA (42 U.S.C. 7414). All information submitted to the EPA pursuant to the recordkeeping and reporting requirements for which a claim of confidentiality is made is safeguarded according to Agency policies set forth in 40 CFR part 2, subpart B.

The proposed rule would require maintenance inspections of the control devices but would not require any notifications or reports beyond those required by the General Provisions. The recordkeeping requirements require only the specific information needed to determine compliance.

The annual monitoring, reporting, and recordkeeping burden for this collection (averaged over the first 3 years after the effective date of the standards) is estimated to be 142,436 labor hours per year at a total annual cost of $15,998,347. The estimate includes a one-time performance test and report (with repeat tests where needed); one-time purchase and installation of bag leak detection systems; one-time submission of a startup, shutdown, and malfunction plan with semiannual reports for any event when the procedures in the plan were not followed; semiannual excess emission reports; maintenance inspections; notifications; and recordkeeping. Total capital/startup costs associated with the monitoring requirements over the 3-year period of the ICR are estimated at $5,436,882, with operation and maintenance costs of $1,208,206/yr.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. That includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An Agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations are listed in 40 CFR part 9 and 48 CFR chapter 15.

Comments are requested on our need for the information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques. Send comments on the ICR to the U.S. EPA, Director, Collection Strategies Division (2822), 1200 Pennsylvania Ave., NW., Washington, DC 20500; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th St., NW., Washington, DC 20503, marked ''Attention: Desk Officer for EPA.'' Include the ICR number in any correspondence. Since OMB is required to make a decision concerning the ICR between 30 and 60 days after December 19, 2002, a comment to OMB is best assured of having its full effect if OMB receives it by January 21, 2003. The final rule will respond to any OMB or public comments on the information collection requirements contained in the proposed rule.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act (NTTAA) of 1995 (Pub. L. No. 104–113; 15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in their regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.*, materials specifications, test methods, sampling procedures, business practices) developed or adopted by one or more voluntary consensus bodies. The NTTAA directs us to provide Congress, through annual reports to OMB, with explanations when an agency does not use available and applicable voluntary consensus standards.

The proposed rulemaking involves technical standards. We propose in the rule to use EPA Methods 1, 1A, 3A, 3B, 4, 10 of 40 CFR part 60, appendix A; Method 320 of 40 CFR part 63, appendix A; PS 3, PS 4A of 40 CFR part 60, appendix B; EPA SW–8 Method 0011, and ARB Method 430, California Environmental Protection Agency, Air Resources Board, 2020 L Street, Sacramento, CA 95812. Consistent with the NTTAA, we conducted searches to identify voluntary consensus standards in addition to these EPA methods. No applicable voluntary consensus standards were identified for EPA Methods 1A, 3B, PS 3, PS 4 of CFR part 60, and ARB Method 430, California Environmental Protection Agency, Air Resources Board, 2020 L Street, Sacramento, CA 95812. The search and review results have been documented and are placed in the docket for the proposed rule.

One voluntary consensus standard was identified as applicable, and we propose to use that standard in the proposed rule. The voluntary consensus standard, ASTM D6522–00 (2000)—Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions From Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers, is an acceptable alternative procedure for use in determining carbon monoxide and oxygen concentrations the exhaust gases of reciprocating internal combustion engines.

In addition to the voluntary consensus standard we propose to use in the rule, this search for emission measurement procedures identified ten other voluntary consensus standards. We determined that six of these ten standards were impractical alternatives to EPA test methods for the purposes of the proposed rulemaking. Therefore, we do not propose to adopt these standards today. The reasons for this determination for the six methods are discussed below.

Two of the six voluntary consensus standards are impractical alternatives to EPA test methods for the purposes of the proposed rulemaking because they are too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements: ASTM E337–84 (Reapproved 1996), ''Standard Test Method for Measuring Humidity with a Psychrometer (the Measurement of Wet- and Dry-Bulb Temperatures),'' for EPA Method 4 of 40 CFR part 60, appendix A; and CAN/CSA Z223.2–M86(1986), ''Method for the Continuous Measurement of Oxygen, Carbon Dioxide, Carbon Monoxide, Sulphur Dioxide, and Oxides of Nitrogen in Enclosed Combustion Flue Gas Streams,'' for EPA Method 3A of 40 CFR part 60, appendix A.

Four of the six voluntary consensus standards are impractical alternatives to EPA test methods for the purposes of the proposed rulemaking because they lacked sufficient quality assurance and quality control requirements necessary for EPA compliance assurance requirements: ASTM D3154–91, ''Standard Method for Average Velocity in a Duct (Pitot Tube Method),'' for EPA Methods 1, 2, 2C, 3, 3B, and 4 of 40 CFR part 60, appendix A; ASTM D5835–95, ''Standard Practice for Sampling Stationary Source Emissions for Automated Determination of Gas Concentration,'' for EPA Method 3A of 40 CFR part 60, appendix A; ISO 10396:1993, ''Stationary Source Emissions: Sampling for the Automated Determination of Gas Concentrations,'' for EPA Method 3A of 40 CFR part 60, appendix A; ISO 9096:1992, ''Determination of Concentration and Mass Flow Rate of Particulate Matter in Gas Carrying Ducts—Manual Gravimetric Method,'' for EPA Method 5 of 40 CFR part 60, appendix A.

The following four of the ten voluntary consensus standards identified in this search were not available at the time the review was conducted for the purposes of the proposed rulemaking because they are under development by a voluntary consensus body: ASME/BSR MFC 13M, ''Flow Measurement by Velocity Traverse,'' for EPA Method 1 (and possibly 2) of 40 CFR part 60, appendix A; ISO/DIS 12039, ''Stationary Source Emissions—Determination of Carbon Monoxide, Carbon Dioxide, and Oxygen—Automated Methods,'' for EPA Method 3A of 40 CFR part 60, appendix A; ASTM D6348–98, ''Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform (FTIR) Spectroscopy,'' for EPA Method 320 of 40 CFR part 63, appendix A; and Gas Research Institute, ''Measurement of Formaldehyde Emissions Using the Acetylacetone Colorimetric Method'' for EPA Method 320 of 40 CFR part 60, appendix A. While we are not proposing to include these four voluntary consensus standards in today's proposal, we will consider the standards when final.

The consensus standard, GRI, ''Measurement of Formaldehyde Emissions Using the Acetylacetone Colorimetric Method,'' is currently under our review as an alternative method for sampling formaldehyde emissions in the exhaust of natural gas-fired combustion sources. This standard is based on the ''Chilled Impinger Train Method for Methanol, Acetone, Acetaldehyde, Methyl Ethyl Ketone, and Formaldehyde'' and is described by the National Council for Air and Stream Improvement in its Technical Bulletin No. 684, dated December 1994. After EPA's review, if this GRI standard is determined to be technically appropriate for identifying formaldehyde emissions, it could be incorporated by reference for our regulatory applicability at a later date.

For the voluntary consensus standard, ASTM D6348–98, ''Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform (FTIR) Spectroscopy,'' we have submitted comments to ASTM regarding EPA's technical evaluation of ASTM D6348–98. Currently, the ASTM Subcommittee D22–03 is undertaking a revision of the ASTM standard in part to address EPA's comments. Upon successful ASTM balloting and demonstration of technical equivalency with EPA's FTIR methods, the revised ASTM standard could be incorporated by reference for EPA regulatory applicability.

We are taking comment on the compliance demonstration requirements in the proposed rulemaking and specifically invite the public to identify potentially-applicable voluntary consensus standards. Commentors should also explain why the proposed regulation should adopt these voluntary consensus standards in lieu of or in addition to EPA's standards. Emission test methods and performance specifications submitted for evaluation should be accompanied with a basis for the recommendation, including method validation data and the procedure used to validate the candidate method (if a method other than Method 301, of 40 CFR part 63, appendix A, was used).

Tables 4, 5, and 6 of proposed subpart ZZZZ list the EPA testing methods and performance standards included in the proposed rule. Under 40 CFR 63.8 of subpart A of the General Provisions, a source may apply to EPA for permission to use alternative monitoring in place of any of the EPA testing methods.

List of Subjects in 40 CFR Part 63

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Intergovernmental relations, Reporting and recordkeeping requirements.

Dated: November 26, 2002.

Christine Todd Whitman,

Administrator.

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

PART 63—[AMENDED]

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

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

2. Part 63 is amended by adding subpart ZZZZ to read as follows:

Subpart ZZZZ—National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Sec.

What This Subpart Covers

§ 63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

§ 63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that stationary RICE are not self-propelled, are not intended to be propelled while performing their function, or are not portable or transportable as that term is identified in the definition of non-road engine at 40 CFR 89.2.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

§ 63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.* A stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002. A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* A stationary RICE is new if you commenced construction of the stationary RICE after December 19, 2002.

(3) *Reconstructed stationary RICE.* A stationary RICE is reconstructed if you meet the definition of reconstruction in § 63.2 and reconstruction is commenced after December 19, 2002.

(b) *Exceptions.* (1) A stationary RICE which meets either of the criteria in paragraph (b)(1)(i) or (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of § 63.6645(d).

(i) The stationary RICE is an emergency power/limited use unit; or

(ii) The stationary RICE combusts digester gas or landfill gas as the primary fuel.

(2) A stationary RICE which meets any of the criteria in paragraph (b)(2)(i) or (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part.

(i) The stationary RICE is an existing spark ignition 2 stroke lean burn (2SLB), an existing spark ignition 4 stroke lean burn (4SLB), or a compression ignition (CI) stationary RICE; or

(ii) The stationary RICE has a manufacturer's nameplate rating of less than or equal to 500 brake horsepower.

§ 63.6595 When do I have to comply with this subpart?

(a) *Affected sources.* (1) If you have an existing stationary RICE, you must comply with the applicable emission limitations and operating limitations no later than [3 years after the date of publication of the final rule in the **Federal Register**].

(2) If you start up your new or reconstructed stationary RICE before [date of publication of the final rule in the **Federal Register**], you must comply with the applicable emission limitations and operating limitations in this subpart no later than [date of publication of the final rule in the **Federal Register**].

(3) If you start up your new or reconstructed stationary RICE after [date of publication of the final rule in the **Federal Register**], you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, any existing, new, or reconstructed stationary RICE must be in compliance with this subpart when the area source becomes a major source.

(c) If you own or operate an affected RICE, you must meet the applicable notification requirements in § 63.6645 and in 40 CFR part 63, subpart A.

Emission and Operating Limitations

§ 63.6600 What emission limitations and operating limitations must I meet?

(a) If you own or operate an existing, new, or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE located at a major source of HAP emissions, you must comply with the emission limitations in Table 1(a) of this subpart and the operating limitations in Table 1(b) of this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB or 4SLB stationary RICE or a new or reconstructed CI stationary RICE located at a major source of HAP emissions, you must comply with the emission limitations in Table 2(a) of this subpart and the operating limitations in Table 2(b) of this subpart which apply to you.

(c) If you own or operate: an existing 2SLB stationary RICE, 4SLB stationary RICE, or a CI stationary RICE; a stationary RICE that combusts digester gas or landfill gas as the primary fuel; an emergency power/limited use stationary RICE; a stationary RICE with a manufacturer's nameplate rating of 500 brake horsepower or less; or a stationary RICE which is being tested at a stationary RICE test cell/stand, you do not need to comply with the emission limitations in Tables 1(a) and 2(a) of this subpart or operating limitations in Tables 1(b) and 2(b) of this subpart.

General Compliance Requirements

§ 63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations and operating limitations in this subpart that apply to you at all times, except during periods of startup, shutdown, and malfunction.

(b) If you must comply with emission limitations and operating limitations, you must operate and maintain your stationary RICE, including air pollution control and monitoring equipment, in a manner consistent with good air pollution control practices for minimizing emissions at all times, including during startup, shutdown, and malfunction.

Testing and Initial Compliance Requirements

§ 63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations?

You must conduct the initial performance test or other initial compliance demonstrations in Table 4 of this subpart that apply to you within 180 calendar days after the compliance date that is specified for your stationary RICE in § 63.6595 and according to the provisions in § 63.7(a)(2).

§ 63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

§ 63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements in § 63.7(e)(1) and under the specific conditions that this subpart specifies in Table 4.

(c) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in § 63.7(e)(1).

(d) You must conduct three separate test runs for each performance test required in this section, as specified in § 63.7(e)(3). Each test run must last at least 1 hour.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \qquad \text{(Eq. 1)}$$

Where:

C_i = concentration of CO or formaldehyde at the control device inlet,

C_o = concentration of CO or formaldehyde at the control device outlet, and

R = percent reduction of CO or formaldehyde emissions.

(2) You must normalize the carbon monoxide (CO) or formaldehyde concentrations at the inlet and outlet of the oxidation catalyst or non-selective catalytic reduction (NSCR) (whichever applies to you) to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO_2) if you are using a continuous emissions monitoring system (CEMS).

(f) If you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust, you must petition the Administrator for additional operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no additional operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you petition the Administrator for approval of additional operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as additional operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you petition the Administrator for approval of no additional operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.*, operator adjustment, automatic controller adjustment, *etc.*) or unintentionally (*e.g.*, wear and tear, error, *etc.*) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

§ 63.6625 What are my monitoring installation, operation, and maintenance requirements?

(a) If you are required to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either oxygen or CO_2 at both the inlet and the outlet of the oxidation catalyst according to the requirements in paragraphs (a)(1) through (4) of this section.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in § 63.8 and according to the applicable performance specifications of 40 CFR part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in § 63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in § 63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2 concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in § 63.8.

§ 63.6630 How do I demonstrate initial compliance with the emission limitations and operating limitations?

(a) You must demonstrate initial compliance with each emission and operating limitation that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1(b) and 2(b) of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in § 63.6645.

Continuous Compliance Requirements

§ 63.6635 How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), you must monitor continuously at all times that the stationary RICE is operating.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels, nor may such data be used in fulfilling the minimum data availability requirement. You must, however, use all the valid data collected during all other periods.

§ 63.6640 How do I demonstrate continuous compliance with the emission limitations and operating limitations?

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation in Tables 1(a) and 1(b) and Tables 2(a) and 2(b) of this subpart that apply to you according to methods specified in Table 6 of this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1(a) and 1(b) and Tables 2(a) and 2(b) of this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in § 63.6650. If you change your catalyst (*i.e.*, replace catalyst elements), you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required CO or formaldehyde percent reduction applicable to your stationary RICE.

(c) During periods of startup, shutdown, and malfunction, you must operate in accordance with your startup, shutdown, and malfunction plan.

(d) Consistent with §§ 63.6(e) and 63.7(e)(1), deviations from the emission or operating limitations that occur during a period of startup, shutdown, or malfunction are not violations.

(e) If you are complying with the requirement to limit the formaldehyde concentration, you must conduct performance tests as shown in Table 4 of this subpart. Following the initial performance test, subsequent performance tests must be conducted at the lowest load. You must also conduct a performance test and reestablish the minimum load or minimum fuel flow rate if you want to operate the stationary RICE at a load or fuel flow rate lower than that established during the initial performance test.

(f) You must also report each instance in which you did not meet the requirements in Table 8 of this subpart that apply to you. If you own or operate an existing 2SLB stationary RICE, existing 4SLB stationary RICE, or a CI stationary RICE, or a stationary RICE with a manufacturer's nameplate rating of 500 brake horsepower or less, you do not need to comply with the requirements in Table 8 of this subpart. If you own or operate a stationary RICE that combusts digester gas or landfill gas as the primary fuel or an emergency power/limited use stationary RICE, you do not need to comply with the requirements in Table 8 of this subpart, except for the initial notification requirements.

Notifications, Reports, and Records

§ 63.6645 What notifications must I submit and when?

(a) You must submit all of the notifications in §§ 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified.

(b) As specified in § 63.9(b)(2), if you must comply with the emission and operating limitations, and you start up your stationary RICE before [the effective date of this subpart], you must submit an Initial Notification not later than [120 days after date of publication of the final rule in the **Federal Register**].

(c) As specified in § 63.9(b)(3), if you start up your new or reconstructed stationary RICE on or after the [date of publication of the final rule in the **Federal Register**], you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with § 63.6590(b), your notification should include the information in § 63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency/ limited use stationary RICE).

(e) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 calendar days before the performance test is scheduled to begin as required in § 63.7(b)(1).

(f) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to § 63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 of this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th calendar day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 of this subpart that includes a performance test conducted according to the requirements in Table 4 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th calendar day following the completion of the performance test according to § 63.10(d)(2).

§ 63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under § 63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (5) of this section.

(1) The first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in § 63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in § 63.6595.

(2) The first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in § 63.6595.

(3) Each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) Each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (4) of this section.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a startup, shutdown, or malfunction during the reporting period, the compliance report must include the information in § 63.10(d)(5)(i).

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in § 63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in § 63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

§ 63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(3), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in § 63.10(b)(2)(xiv).

(2) The records in § 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.

(3) Records of performance tests and performance evaluations as required in § 63.10(b)(2)(viii).

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in § 63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.*, superseded) versions of the performance evaluation plan as required in § 63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in § 63.8(f)(6)(i), if applicable.

(c) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

§ 63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to § 63.10(b)(1).

(b) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1). You can keep the records offsite for the remaining 3 years.

Other Requirements and Information

§ 63.6665 What parts of the General Provisions apply to me?

Table 8 of this subpart shows which parts of the General Provisions in §§ 63.1 through 63.15 apply to you. If you own or operate an existing 2SLB, an existing 4SLB stationary RICE, an existing CI stationary RICE, or a stationary RICE with a manufacturer's nameplate rating of 500 brake horsepower or less, you do not need to comply with any of the requirements of the General Provisions. If you own or operate a stationary RICE that combusts digester gas or landfill gas as the primary fuel or is an emergency power/limited use stationary RICE, you do not need to comply with the requirements in the General Provisions except for the initial notification requirements.

§ 63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the authorities contained in paragraph (c) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in § 63.6600 under § 63.6(g).

(2) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f) and as defined in § 63.90.

(3) Approval of major alternatives to monitoring under § 63.8(f) and as defined in § 63.90.

(4) Approval of major alternatives to recordkeeping and reporting under § 63.10(f) and as defined in § 63.90.

§ 63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.*, as amended by Public Law 101–549, 104 Stat. 2399).

Compression ignition engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition, including diesel engines and dual-fuel engines.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: after processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2.

Digester gas means any gaseous by-product of wastewater treatment formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2.

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency power/limited use stationary RICE means any stationary RICE that operates as a mechanical or electrical power source when the primary power source for a facility has been rendered inoperable by an emergency situation. Examples include stationary RICE used when electric power from the local utility is interrupted, stationary RICE used to pump water in the case of fire or flood, etc. Emergency power/limited use units also include units that operate less than 50 hours per year in non-emergency situations, including certain peaking units at electric facilities and stationary RICE at industrial facilities.

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is normally a gas with a heating value at standard temperature and pressure.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2.

Lean burn engine means any two-stroke or four-stroke engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio is greater than 1.1.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in § 63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control except when they are on the same surface site;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in this section, shall not be aggregated; and

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage tanks with flash emissions potential, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. May be field or pipeline quality.

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_X) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_X, CO, and volatile organic compounds (VOC) into CO_2, nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.*, remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device for lean burn engines that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable.

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8, suitable for use in spark-ignited internal combustion engines.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio is less than or equal to 1.1.

Spark ignition engine means a type of engine in which a compressed air/fuel mixture is ignited by a timed electric spark generated by a spark plug.

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that stationary RICE are not self propelled, are not intended to be propelled while performing their function, or are not portable or transportable as that term is identified in the definition of non-road engine at 40 CFR 89.2.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

Tables to Subpart ZZZZ of Part 63

TABLE 1A TO SUBPART ZZZZ OF PART 63.—EMISSION LIMITATIONS FOR EXISTING, NEW, AND RECONSTRUCTED SPARK IGNITION, 4SRB STATIONARY RICE

[As stated in §§ 63.6600 and 63.6640, you must comply with the following emission limitations for existing, new and reconstructed 4SRB stationary RICE]

For each . . .	You must meet *one* of the following emission limitations . . .
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 75 percent or more, if you use NSCR; or b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2, if you use means other than NSCR to reduce HAP emissions.

TABLE 1B TO SUBPART ZZZZ OF PART 63.—OPERATING LIMITATIONS FOR EXISTING, NEW, AND RECONSTRUCTED SPARK IGNITION, 4SRB STATIONARY RICE

[As stated in §§ 63.6600, 63.6630 and 63.6640, you must comply with the following operating emission limitations for existing, new and reconstructed 4SRB stationary RICE]

For each . . .	You must meet the following operating limitation . . .
1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 75 percent or more using NSCR.	a. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than two inches of water from the pressure drop across the catalyst measured during the initial performance test; and b. Maintain your catalyst so that the temperature rise across the catalyst is no more than 5 percent different from the temperature rise across the catalyst measured during the initial performance test; and c. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750°F and less than or equal to 1250°F.
2. 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 using means other than NSCR to reduce emissions.	a. Maintain an operating load equal to or greater than 95 percent of the operating load established during the initial performance test; or b. Maintain a fuel flow rate equal to or greater than 95 percent of the fuel flow rate established during the initial performance test; and c. You must comply with any additional operating limitations approved by the Administrator.

TABLE 2A TO SUBPART ZZZZ OF PART 63.—EMISSION LIMITATIONS FOR NEW AND RECONSTRUCTED LEAN BURN AND COMPRESSION IGNITION STATIONARY RICE

[As stated in §§ 63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and compression ignition stationary RICE]

For each . . .	You must meet the following emission limitation . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 60 percent or more, if you use an oxidation catalyst; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 17 ppmvd or less at 15 percent O_2, if you use some means other than an oxidation catalyst to reduce emissions.
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more, if you use an oxidation catalyst; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O_2, if you use some means other than an oxidation catalyst to reduce emissions.
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more, if you use an oxidation catalyst; or

TABLE 2A TO SUBPART ZZZZ OF PART 63.—EMISSION LIMITATIONS FOR NEW AND RECONSTRUCTED LEAN BURN AND COMPRESSION IGNITION STATIONARY RICE—Continued

[As stated in §§ 63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and compression ignition stationary RICE]

For each . . .	You must meet the following emission limitation . . .
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2, if you use some means other than an oxidation catalyst to reduce emissions.

TABLE 2B TO SUBPART ZZZZ OF PART 63.—OPERATING LIMITATIONS FOR NEW AND RECONSTRUCTED LEAN BURN AND COMPRESSION IGNITION STATIONARY RICE

[As stated in §§ 63.6600, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed lean burn and compression ignition stationary RICE]

For each . . .	You must meet the following operating limitation . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE with a brake horsepower <5000 complying with the requirement to reduce CO emissions using an oxidation catalyst.	a. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than two inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and b. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 500°F and less than or equal to 1250°F.
2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust.	a. Maintain an operating load equal to or greater than 95 percent of the operating load established during the initial performance test; or b. Maintain a fuel flow rate equal to or greater than 95 percent of the fuel flow rate established during the initial performance test; and c. You must comply with any additional operating limitations approved by the Administrator.

TABLE 3 TO SUBPART ZZZZ OF PART 63.—SUBSEQUENT PERFORMANCE TESTS

[As stated in §§ 63.6615 and 63.6620, you must comply with the following subsequent performance test requirements]

For each . . .	Complying with the requirement to . . .	You must . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE with a brake horsepower <5000.	Reduce CO emissions if using an oxidation catalyst.	Conduct subsequent performance tests quarterly.
2. 4SRB stationary RICE with a brake horsepower ≥5000.	Reduce formaldehyde emissions 75 percent or more using NSCR.	Conduct subsequent performance tests semiannually [a].
3. Stationary RICE (all stationary RICE subcategories and all brake horsepower ratings).	Limit the concentration of formaldehyde in the stationary RICE exhaust, if using means other than an oxidation catalyst or NSCR.	Conduct subsequent performance tests semiannually [a].

[a] After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

TABLE 4 TO SUBPART ZZZZ OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS

[As stated in §§ 63.6610, 63.6620, and 63.6640, you must comply with the following requirements for performance tests]

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE with a brake horsepower <5000.	a. Reduce CO emissions if using an oxidation catalyst.	i. Measure the O_2 at the inlet and outlet of the oxidation catalyst. and	(1) Portable CO and O_2 analyzer.	(a) Using ASTM D6522–00 [b]. Measurements to determine O_2 must be made at the same time as the measurements for CO concentration.
		ii. Measure the CO at the inlet and the outlet of the oxidation catalyst.	(1) Portable CO and O_2 analyzer.	(a) Using ASTM D6522–00 [b]. The CO concentration must be at 15 percent O_2, dry basis.
2. 4SRB stationary RICE ..	a. Reduce formaldehyde emissions by 75 percent or more using NSCR.	i. Select the sampling port location and the number of traverse points. and	(1) Method 1 or 1A of 40 CFR part 60, appendix A § 63.7(d)(1)(i).	(a) Sampling sites must be located at the inlet and outlet of the NSCR.

TABLE 4 TO SUBPART ZZZZ OF PART 63.—REQUIREMENTS FOR PERFORMANCE TESTS—Continued

[As stated in §§ 63.6610, 63.6620, and 63.6640, you must comply with the following requirements for performance tests]

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
		ii. Measure O_2 at the inlet and outlet of the control device. and	(1) Method 3A and 3B of 40 CFR part 60, appendix A.	(a) Measurements to determine O_2 concentration must be made at the same time as the measurements for formaldehyde concentration.
		iii. Measure moisture content at the inlet and outlet of the NSCR. and	(1) Method 4 of 40 CFR part 60, appendix A.	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the inlet and the outlet of the NSCR.	(1) Method 320 or 323 of 40 CFR part 63, appendix A, EPA SW–846 Method 0011 or Method CARB 430[a].	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
3. Stationary RICE	a. Limit the concentration of formaldehyde in the stationary RICE exhaust.	i. Select the sampling port location and the number of traverse points. and	(1) Method 1 or 1A of 40 CFR part 60, appendix A § 63.7(d)(1)(i).	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2 concentration of the stationary RICE exhaust at the sampling port location. and	(1) Method 3A or 3B of 40 CFR part 60, appendix A.	(a) Measurements to determine O_2 concentration must be made at the same time and location as the measurements for formaldehyde concentration.
		iii. Measure moisture content of the stationary RICE exhaust at the sampling port location. and	(1) Method 4 of 40 CFR part 60, appendix A.	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde concentration.
		iv. Measure formaldehyde at the exhaust of the stationary RICE.	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or Method CARB 430[a] (spark ignition 4SRB stationary RICE only); or EPA SW–846 Method 0011.	(a) The stationary RICE must be operating at the lowest operating load at which you will operate the stationary RICE; and Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

[a] You may obtain a copy of ARB Method 430 from the California Environmental Protection Agency, Air Resources Board, 2020 L Street, Sacramento, CA 95812, or you may download a copy of ARB Method 430 from ARB's web site (*http://www.arb.ca.gov/testmeth/vol3/vol3.htm*).

[b] You may also use Methods 3A and 10 as options to ASTM–D6522–00. You may obtain a copy of ASTM–D6522–00 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohochen, PA 19428–2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

TABLE 5 TO SUBPART ZZZZ OF PART 63.—INITIAL COMPLIANCE WITH EMISSION LIMITATIONS AND OPERATING LIMITATIONS

[As stated in §§ 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following]

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE with a brake horsepower <5000.	a. Reduce CO emissions if using an oxidation catalyst.	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst pressure drop and catalyst inlet temperature according to the requirements in § 63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. 2SLB and 4SLB stationary RICE and CI stationary RICE with a brake horsepower ≥5000.	a. Reduce CO emissions if using an oxidation catalyst.	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at both the inlet and outlet of the oxidation catalyst according to the requirements in § 63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and iii. The average reduction of CO calculated using § 63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
3. 4SRB stationary RICE	a. Reduce formaldehyde emissions if using NSCR.	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst pressure drop and catalyst temperature rise according to the requirements in § 63.6625(b); and iii. You have recorded the catalyst pressure drop, catalyst inlet temperature and catalyst temperature rise during the initial performance test.
4. Stationary RICE	a. Limit the concentration of formaldehyde in the stationary RICE exhaust.	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor stationary RICE operating load or fuel flow rate according to the requirements in § 63.6625(b); and iii. You have recorded the average stationary RICE operating load or fuel flow rate during the initial performance test.

TABLE 6 TO SUBPART ZZZZ OF PART 63.—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS AND OPERATING LIMITATIONS

[As stated in § 63.6640, you must continuously comply with the emissions and operating limitations as required by the following]

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE with a brake horsepower <5000.	a. Reduce CO emissions if using an ozidation catalyst.	i. Conducting quarterly performance tests for CO to demonstrate that the required CO percent reduction is achieved; and ii. Collecting the catalyst pressure drop and catalyst inlet temperature data according to § 63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages within the operating limitations for the pressure drop across the catalyst and the catalyst inlet temperature established during the initial performance test.
2. 2SLB and 4SLB stationary RICE and CI stationary RICE with a brake horsepower ≥5000.	a. Reduce CO emissions if using an oxidation catalyst.	i. Collecting the monitoring data according to § 63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction of CO emissions according to § 63.6620; and ii. Demonstrating that the oxidation catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period; and

TABLE 6 TO SUBPART ZZZZ OF PART 63.—CONTINUOUS COMPLIANCE WITH EMISSION LIMITATIONS AND OPERATING LIMITATIONS—Continued

[As stated in § 63.6640, you must continuously comply with the emissions and operating limitations as required by the following]

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
3. Spark ignition, 4SRB stationary RICE	a. Reduce formaldehyde emissions if using NSCR.	i. Collecting the pressure drop across the catalyst, the catalyst inlet temperature and the temperature rise across the catalyst data according to § 63.6625(b); and ii. Reducing these data to 4-hour rolling averages; and iii. Maintaining the 4-hour rolling averages within the operating limitations for pressure drop across the catalyst, the catalyst inlet temperature and temperature rise across the catalyst established during the performance test.
4. 4SRB stationary RICE with a brake horsepower ≥5000.	Reduce formaldehyde emissions if using NSCR.	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction horsepower is achieved [a]
5. Stationary RICE	a. Limit the concentration of formaldehyde in the stationary RICE exhaust.	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit [a]; and ii. Collecting the operating load or fuel flow data; and iii. Reducing operating load or fuel flow data to 4-hour rolling averages; and iv. Maintaining the 4-hour rolling averages equal to or greater than 95 percent of the operating limitations established during the initial performance test.

[a] After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

TABLE 7 TO SUBPART ZZZZ OF PART 63.—REQUIREMENTS FOR REPORTS

[As stated in § 63.6650, you must comply with the following requirements for reports]

You must submit a (n)	The report must contain . . .	You must submit the report . . .
1. Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in § 63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period. or	i. Semiannually according to the requirements in § 63.6650(b).
	b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in § 63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in § 63.8(c)(7), the information in § 63.6650(e). or	i. Semiannually according to the requirements in § 63.6650(b).
	c. If you had a startup, shutdown or malfunction during the reporting period, the information in § 63.10(d)(5)(i).	i. Semiannually according to the requirements in § 63.6650(b).
2. An immediate startup, shutdown, and malfunction report if you had a startup, shutdown, or malfunction during the reporting period.	a. Actions taken for the event and	i. by fax or telephone within 2 working days after starting actions inconsistent with the plan.
	b. The information in § 63.10(d)(5)(ii)	i. By letter within 7 working days after the end of the event unless you have made alternative arrangements with the permitting authorities. (§ 63.10(d)(5)(ii)).

TABLE 8 TO SUBPART ZZZZ OF PART 63 APPLICABILITY OF GENERAL PROVISIONS TO SUBPART ZZZZ

[As stated in § 63.6665, you must comply with the following applicable general provisions:]

General provisions citation	Subject of citation	Applies to Subpart	Explanation
1. § 63.1	General applicability of the General Provisions.	Yes.	
2. § 63.2	Definitions	Yes	Additional terms defined in § 63.6675.
3. § 63.3	Units and abbreviations	Yes.	
4. § 63.4	Prohibited activities and circumvention.	Yes.	
5. § 63.5	Construction and reconstruction	Yes.	
6. § 63.6(a)	Applicability	Yes.	
7. § 63.6(b)(1)–(4)	Compliance dates for new and reconstructed sources.	Yes.	
8. § 63.6(b)(5)	Notification	Yes.	
9. § 63.6(b)(6)	[Reserved]	Yes.	
10. § 63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources.	Yes.	
11. § 63.6(c)(1)–(2)	Compliance dates for existing sources.	Yes.	
12. § 63.6(c)(3)–(4)	[Reserved]	Yes.	
13. § 63.6(c)(5)	Compliance dates for existing area sources that become major sources.	Yes.	
14. § 63.6(d)	[Reserved]	Yes.	
15. § 63.6(e)(1)–(2)	Operation and maintenance	Yes.	
16. § 63.6(e)(3)	Startup, shutdown, and malfunction plan.	No	No requirement for a startup, shutdown and malfunction plan.
17. § 63.6(f)(1)	Applicability of standards except during startup shutdown malfunction (SSM).	Yes.	
18. § 63.6(f)(2)	Methods for determining compliance.	Yes.	
19. § 63.6(f)(3)	Finding of compliance	Yes.	
20. § 63.6(g)(1)–(3)	Use of alternate standard	Yes.	
21. § 63.6(h)	Opacity and visible emission standards.	No	Subpart ZZZZ, 40 CFR part 63, does not contain opacity or visible emission standards.
22. § 63.6(i)	Compliance extension procedures and criteria.	Yes.	
23. § 63.6(j)	Presidential compliance exemption.	Yes.	
24. § 63.7(a)(1)–(2)	Performance test dates	Yes.	
25. § 63.7(a)(3)	Section 114 authority	Yes.	
26. § 63.7(b)(1)	Notification of performance test	Yes.	
27. § 63.7(b)(2)	Notification of rescheduling	Yes.	
28. § 63.7(c)	Quality assurance/test plan	Yes.	
29. § 63.7(d)	Testing facilities	Yes.	
30. § 63.7(e)(1)	Conditions for conducting performance tests.	Yes	Except that testing is required under lowest load conditions for some regulatory alternatives.
31. § 63.7(e)(2)	Conditions for conducting performance tests.	Yes.	
32. § 63.7(e)(3)	Test run duration	Yes.	
33. § 63.7(e)(4)	Administrator may require other testing under section 114 of the CAA.	Yes.	
34. § 63.7(f)	Alternative test method provisions	Yes.	
35. § 63.7(g)	Performance test data analysis, recordkeeping, and reporting.	Yes.	
36. § 63.7(h)	Waiver of tests	Yes.	
37. § 63.8(a)(1)	Applicability of monitoring requirements.	Yes	Subpart ZZZZ, 40 CFR part 63, contains specific requirements for monitoring at § 63.6625.
38. § 63.8(a)(2)	Performance specifications	Yes.	
39. § 63.8(a)(3)	[Reserved].		
40. § 63.8(a)(4)	Monitoring with flares	No.	
41. § 63.8(b)(1)	Monitoring	Yes.	
42. § 63.8(b)(2)–(3)	Multiple effluents and multiple monitoring systems.	Yes.	
43. § 63.8(c)(1)	Monitoring system operation and maintenance.	Yes.	
44. § 63.8(c)(1)(i)	Routine and predictable SSM	Yes.	

TABLE 8 TO SUBPART ZZZZ OF PART 63 APPLICABILITY OF GENERAL PROVISIONS TO SUBPART ZZZZ—Continued

[As stated in § 63.6665, you must comply with the following applicable general provisions:]

General provisions citation	Subject of citation	Applies to Subpart	Explanation
45. § 63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan.	Yes.	
46. § 63.8(c)(1)(iii)	Compliance with operation and maintenance requirements.	Yes.	
47. § 63.8(c)(2)–(3)	Monitoring system installation	Yes.	
48. § 63.8(c)(4)	Continuous monitoring system (CMS) requirements.	Yes	Except that Subpart ZZZZ, 40 CFR part 63, does not require Continuous Opacity Monitoring System (COMS).
49. § 63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ, 40 CFR part 63, does not require COMS.
50. § 63.8(c)(6)–(8)	CMS requirements	Yes	Except that Subpart ZZZZ, 40 CFR part 63, does not require COMS.
51. § 63.8(d)	CMS quality control	Yes.	
52. § 63.8(e)	CMS performance evaluation	Yes	Except for § 63.8(e)(5)(ii), which applies to COMS.
53. § 63.8(f)(1)–(5)	Alternative monitoring method	Yes.	
54. § 63.8(f)(6)	Alternative to relative accuracy test.	Yes.	
55. § 63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§ 63.6635 and 63.6640.
56. § 63.9(a)	Applicability and State delegation of notification requirements.	Yes.	
57. § 63.9(b)(1)–(5)	Initial notifications	Yes.	
58. § 63.9(c)	Request for compliance extension	Yes.	
59. § 63.9(d)	Notification of special compliance requirements for new sources.	Yes.	
60. § 63.9(e)	Notification of performance test	Yes.	
61. § 63.9(f)	Notification of visible emission (VE)/opacity test.	No.	
62. § 63.9(g)(1)	Notification of performance evaluation.	Yes.	
63. § 63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ, 40 CFR part 63, does not contain opacity or VE standards.
64. § 63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded.	Yes	If alternative is in use.
65. § 63.9(h)(1)–(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations.
66. § 63.9(i)	Adjustment of submittal deadlines	Yes.	
67. § 63.9(j)	Change in previous information	Yes.	
68. § 63.10(a)	Administrative provisions for record keeping/reporting.	Yes.	
69. § 63.10(b)(1)	Record retention	Yes.	
70. § 63.10(b)(2)(i)–(v)	Records related to SSM	Yes.	
71. § 63.10(b)(2)(vi)–(xi)	Records	Yes.	
72. § 63.10(b)(2)(xii)	Record when under waiver	Yes.	
73. § 63.10(b)(2)(xiii)	Records when using alternative to RATA.	Yes	For CO standard if using RATA alternative.
74. § 63.10(b)(2)(xiv)	Records of supporting documentation.	Yes.	
75. § 63.10(b)(3)	Records of applicability determination.	Yes.	
76. § 63.10(c)	Additional records for sources using CEMS.	Yes.	
77. § 63.10(d)(1)	General reporting requirements	Yes.	
78. § 63.10(d)(2)	Report of performance test results	Yes.	
79. § 63.10(d)(3)	Reporting opacity or VE observations.	No	Subpart ZZZZ, 40 CFR part 63, does not contain opacity or VE standards.
80. § 63.10(d)(4)	Progress reports	Yes.	
81. § 63.10(d)(5)	Startup, shutdown, and malfunction reports.	Yes.	
82. § 63.10(e)(1) and (2)(i)	Additional CMS reports	Yes.	

TABLE 8 TO SUBPART ZZZZ OF PART 63 APPLICABILITY OF GENERAL PROVISIONS TO SUBPART ZZZZ—Continued

[As stated in § 63.6665, you must comply with the following applicable general provisions:]

General provisions citation	Subject of citation	Applies to Subpart	Explanation
83. § 63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ, 40 CFR part 63, does not require COMS.
84. § 63.10(e)(3)	Excess emission and parameter exceedances reports.	Yes.	
85. § 63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ, 40 CFR part 63, does not require COMS.
86. § 63.10(f)	Waiver for recordkeeping/reporting.	Yes.	
87. § 63.11	Flares	No.	
88. § 63.12	State authority and delegations	Yes.	
89. § 63.13	Addresses	Yes.	
90. § 63.14	Incorporation by reference	Yes.	
91. § 63.15	Availability of information	Yes.	

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