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Dated: January 22, 1996.

W. Michael McCabe,

Regional Administrator, Region III.

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40 CFR Parts 89, 90, and 91

[FRL-5412-3]

RIN 2060-AE54

Control of Air Pollution; Emission Standards for New Gasoline Spark-Ignition and Diesel Compression-Ignition Marine Engines; Exemptions for New Nonroad Compression-Ignition Engines at or Above 37 Kilowatts and New Nonroad Spark-Ignition Engines at or Below 19 Kilowatts

AGENCY: Environmental Protection Agency (EPA).

ACTION: Supplemental notice of proposed rulemaking; proposed revisions.

SUMMARY: Pursuant to section 213(a)(3) of the Clean Air Act as amended, EPA published a Notice of Proposed Rulemaking (NPRM) on November 9, 1994 (59 FR 55930) for emission standards for new gasoline spark-ignition and diesel compression-ignition marine engines. EPA believes that the proposed standards will help nonattainment areas come into compliance with the ozone National Ambient Air Quality Standards.

The Agency is now publishing this Supplemental Notice of Proposed Rulemaking (SNPRM) because EPA wishes to refine its proposals regarding compliance programs, and because EPA wishes to address some of the comments received on the NPRM. Many of the provisions of this SNPRM seek to minimize regulatory burdens proposed in the NPRM without reducing environmental benefits. The proposals include, for example, modified compliance requirements for small manufacturers and manufacturers of sterndrive/inboard engines or old technology two-stroke outboard/personal watercraft engines. Also, this Notice proposes an in-use averaging, banking, and trading program, and addresses comments regarding consistency with the regulations on land-based nonroad compression-ignition engines rated at or above 37 kilowatts (kW). The Agency is proposing adjustments to the form of the proposed standards for gasoline spark-ignition marine engines, and is proposing changes to the level of the standards for sterndrive and inboard

engines. Finally, this Notice proposes to revise the criteria for a national security exemption in the regulations regarding marine engines, land-based nonroad compression-ignition engines (≥ 37 kW), and land-based nonroad spark-ignition engines (≤ 19 kW).

DATES: The comment period for this rulemaking will reopen on February 7, 1996, for purposes of taking comment on issues raised in this SNPRM and will remain open until March 8, 1996, or 30 days after the date of a public hearing, if one is held.

The Agency will hold a public hearing regarding the content of this SNPRM on February 22, 1996, if it receives the request to testify at a hearing by February 20, 1996. The Agency will cancel this hearing if no one requests to testify. Members of the public should call the contact persons indicated below to notify EPA of their interest in testifying at the hearing; they may call the contact persons after February 20, 1996, to determine whether the hearing will be held.

ADDRESSES: Interested parties may submit written comments (in duplicate, if possible) for EPA consideration by addressing them as follows: EPA Air Docket (LE-131), Attention: Docket Number A-92-28, room M-1500, 401 M Street, SW., Washington, D.C. 20460.

The public hearing will be held at the National Vehicle and Fuel Emission Laboratory, 2565 Plymouth Road, Ann Arbor, Michigan, at 9 a.m.

Materials relevant to this rulemaking are contained in this docket and may be reviewed at this location from 8:00 a.m. until 5:30 p.m. Monday through Friday. As provided in 40 CFR part 2, a reasonable fee may be charged by EPA for photocopying.

FOR FURTHER INFORMATION CONTACT: Deanne R. North, Office of Mobile Sources, Engine Programs and Compliance Division, (313) 668-4283, or James A. Blubaugh, Office of Mobile Sources, Engine Programs and Compliance Division, (202) 233-9244.

SUPPLEMENTARY INFORMATION:

I. Obtaining Copies of the Regulatory Language

The Agency has not included in this document the proposed regulatory language. Electronic copies (on 3.5" diskettes) of the proposed regulatory language may be obtained free of charge by visiting, writing, or calling the Environmental Protection Agency, Engine Programs and Compliance Division, 2565 Plymouth Road, Ann Arbor, MI 48105, (313) 668-4288. Refer to Docket A-92-28. A copy is also

available for inspection in the docket (see **ADDRESSES**).

The preamble and regulatory language are also available electronically on the Technology Transfer Network (TTN), which is an electronic bulletin board system (BBS) operated by EPA's Office of Air Quality Planning and Standards. The service is free of charge, except for the cost of the phone call. Users are able to access and download TTN files on their first call using a personal computer and modem per the following information.

TTN BBS: 919-541-5742 (1200-14400 bps, no parity, 8 data bits, 1 stop bit) Voice Helpline: 919-541-5384. Also accessible via Internet: TELNET ttnbbs.rtpnc.epa.gov Off-line: Mondays from 8:00 a.m. to 12:00 Noon ET

A user who has not called TTN previously will first be required to answer some basic informational questions for registration purposes. After completing the registration process, proceed through the following menu choices from the Top Menu to access information on this rulemaking.

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<T> GATEWAY TO TTN TECHNICAL
      AREAS (Bulletin Boards)
<M> OMS—Mobile Sources Information
<K> Rulemaking and Reporting
<6> Non-Road
<1> File area #1. Non-Road Marine
      Engines
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At this point, the system will list all available files in the chosen category in chronological order with brief descriptions. To download a file, select a transfer protocol that is supported by the terminal software on your own computer, then set your own software to receive the file using that same protocol.

If unfamiliar with handling compressed (that is, ZIP'ed) files, go to the TTN top menu, System Utilities (Command: 1) for information and the necessary program to download in order to unZIP the files of interest after downloading to your computer. After getting the files you want onto your computer, you can quit the TTN BBS with the <G>oodbye command.

Please note that due to differences between the software used to develop the document and the software into which the document may be downloaded, changes in format, page length, etc. may occur.

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III. Statutory Authority and Background

A. Statutory Authority

Authority for the actions proposed in this notice is granted to EPA by sections 203, 204, 205, 206, 207, 208, 209, 213, 215, 216, and 301(a) of the Clean Air Act as amended [42 U.S.C. 7522, 7523, 7524, 7525, 7541, 7542, 7543, 7547, 7549, 7550, and 7601(a)].

B. Background

Pursuant to section 213(a) of the Clean Air Act as amended (hereafter, "CAA"), EPA undertook a study of emissions from nonroad engines and vehicles to determine whether such emissions are significant contributors to ozone or carbon monoxide (CO) concentrations in more than one nonattainment area. A nonattainment area is a specified area that has failed to attain the applicable National Ambient Air Quality Standard (NAAQS) for a given pollutant. Based on the 1991 Nonroad Engine and Vehicle Emission Study (available in the docket),¹ EPA determined that nonroad emissions do, in fact, contribute significantly to ozone and CO concentrations in more than one NAAQS nonattainment area.²

Under section 213(a)(3) of the CAA, EPA is required to regulate those categories or classes of new nonroad engines and vehicles that contribute to ozone and CO air pollution. On November 9, 1994, EPA published a Notice of Proposed Rulemaking (NPRM) for emission standards for new gasoline spark-ignition (SI) and diesel compression-ignition (CI) marine engines pursuant to section 213(a) of the CAA.³ The primary pollutants affected by this rule include ozone and hydrocarbons (HC) for gasoline SI engines and oxides of nitrogen (NO_x) for CI engines. In addition, EPA proposed that this rule have some impact on particles smaller than 10 microns (PM₁₀) and carbon monoxide (CO). EPA believes the standards proposed in this rule will reduce HC emissions from SI engines and reduce NO_x from CI engines and help areas come into compliance with the ozone NAAQS.

The proposed gasoline SI marine engine HC emission standards should decrease HC emissions from marine engines by approximately 75% from projected baseline emission levels by the year 2025. HC emission levels are estimated to be stabilized at this percentage reduction through complete fleet turnover by the year 2051. Emission reductions due to this regulation for diesel CI marine engines are expected to be equivalent on a per-engine basis to the reductions achieved from land-based CI engines. Land-based CI engines were estimated to achieve a reduction in NO_x of approximately 37% per year on a per-engine basis (see 59 FR 31306).

In the course of the comment period for the NPRM, some commenters suggested that EPA consider new approaches to some of the items addressed in the proposal; also, it became apparent that some aspects of the proposed regulation were not addressed in sufficient detail in the NPRM and needed additional development for further comment. This SNPRM seeks to address these matters. Today's notice modifies only those aspects of the November 9, 1994, NPRM that are identified herein; the remainder of the proposals set forth in the NPRM remain unchanged except to the extent necessary to make them consistent with the proposals set forth in this SNPRM.

EPA has received an extension of the court ordered deadline for the final rulemaking. The final rulemaking must now be signed by the Administrator on May 31, 1996. The court ordered deadline for this rulemaking is set forth in a consent decree resulting from

consolidated lawsuits brought by Sierra Club and the Natural Resources Defense Council against the Administrator.⁴

IV. Proposed Changes; Discussion of Issues

A. Emission Standards for Spark-Ignition Engines

EPA has received comment suggesting that a more appropriate form of average emission standard for spark-ignition engines is of the type "HC+NO_x." Comment has indicated that an HC+NO_x average emission standard more appropriately recognizes the inherent SI engine technology trade-off between reductions in HC and necessary increases in NO_x. EPA is proposing a HC+NO_x average emission standard structure for spark-ignition marine engines. Additionally, comment was received indicating that the SD/I emission standards as proposed were unnecessarily stringent and counterproductive. EPA is proposing different SD/I emission standards for HC and NO_x (now proposed as an average HC+NO_x standard) that will not require any physical changes to SD/I engines.

1. HC+NO_x Emission Standard

From an engineering perspective, it is clear that exhaust or engine out HC reductions from charge crankcase scavenged 2-stroke engines (e.g., old technology 2-stroke) of the magnitude proposed in the NPRM lead to a small NO_x increase for all spark-ignition internal combustion engines that do not utilize catalyst or exhaust gas recirculation technology. The HC and NO_x balance can be adjusted to some extent through other means, but some NO_x increase is inevitable if HC reductions are finalized on the order of magnitude proposed. EPA recognized this fact in the NPRM by setting a HC average emission standard for outboards and personal watercraft (OB/PWC) that achieved dramatic reduction (i.e., a 75% reduction) and setting a NO_x standard that was targeted at the average of the necessary increase in NO_x (i.e., 6.0 g/kw-hr) across the fleet.

Comment received in response to the NPRM from some in industry indicated that the NO_x emission standard proposed was too stringent and that a HC+NO_x average emission standard structure would be more appropriate. Commentors indicated that a HC+NO_x average emission standard would provide them with needed flexibility when attempting to appropriately calibrate the OB/PWC four-stroke and direct-injection two stroke technology.

¹ EPA Publication Number 211A-2001 (November, 1991).

² 59 FR 31306 (June 17, 1994).

³ 59 FR 55930 (November 9, 1994).

⁴ Sierra Club v. Browner, Civil no. 93-0124 NHJ (D.D.C.).

Further, the NPRM standards would likely cause a low HC engine that generated positive emission credits according to the HC average standard to at the same time generate negative NO_x credits. Therefore, the low HC engine would have to cover the negative NO_x credits with positive NO_x credits from other engines. These other engines would by nature have higher HC. Commentors suggested that the way to address this perverse effect would be to set a HC+NO_x average emission standard. Although the perverse effect exists under combined or separate HC and NO_x standards, a combined standard gives manufacturers more flexibility to calibrate engines, while still achieving overall targets. This calibration flexibility may be appropriate because OB/PWC four stroke technology and direct injection two stroke technology have similar overall levels of HC+NO_x, while four stroke technology is cleaner on HC but would be more likely to have emissions above the separate average NO_x emission standard. An emission standard which allows HC and NO_x to be averaged together may treat these two control technologies more equitably.

EPA did not propose a HC+NO_x average emission standard structure in the NPRM and requested comment surrounding the relative valuation of HC versus NO_x in terms of air quality. Air quality is determined according to a variety of local and regional conditions, including the relative background concentrations of volatileSince the NPRM, EPA has moved forward with two rulemakings that contain HC+NO_x emission standards based on a 1 to 1 weighting of the two pollutants. This type of emission standard, HC+NO_x, was finalized for small gasoline engines under 19 kilowatt,⁵ was discussed in an ANPRM for on-highway heavy-duty engines,⁶ and has been promulgated for on-highway heavy-duty engine emission standards in the past. The issue of weighting other than 1 to 1 did not appear to be a concern in public comment to these prior rulemakings. EPA requests further comment on the issue of weighting.

Further a HC+NO_x average and structure is inherently inter-pollutant averaging. The Agency is not opposed to considering inter-pollutant averaging as a form of emission standard structure.

With respect to this particular marine regulation, EPA believes this combined HC+NO_x average emission standard may be less of a potential concern from the perspective of air quality and HC/

NO_x weighting given the magnitude of the large HC inventory reductions proposed and the comparatively tiny increase in NO_x inventories, which are small to begin with, resulting from the separate HC and NO_x emission standards proposed in the NPRM. Further, the NO_x emission standard is proposed to be phased into a combined HC+NO_x emission standard over the 9 year phase-in period at a gradual rate, rather than allowing the final year NO_x increase in the first year of implementation (see detailed discussion of proposed NO_x phase-in in section IV.A.1.a below). Thus, it doesn't appear reasonable to say that a HC+NO_x average emission standard structure would have a significant negative environmental impact. However, EPA requests comment should anyone think there may be a negative environmental impact.

EPA requests comment on its proposal to finalize a HC+NO_x average emission standard for spark-ignition gasoline engines. Commenters are encouraged to comment on the appropriateness of an HC+NO_x average emission standard, as well as any variation on the proposal. EPA is particularly interested in any data that may further characterize the relative value of HC versus NO_x with respect to air quality. Among other possibilities, should EPA determine that the combined standard would have a negative environmental impact, EPA may finalize separate HC and NO_x average standards for SI engines. However, the flexibilities afforded by a HC+NO_x emission standard may encourage manufacturers greater flexibility to bring clean HC technology into the marketplace earlier than if the standards were separate.

2. Proposed Emission Standard Levels

a. *OB/PWC*. EPA proposes to retain the NPRM average emission standard levels for OB/PWC of 6.0 g/kw-hr NO_x and the associated HC average emission standards which result in a 75% reduction in HC by model year (MY) 2006. The HC+NO_x average emission standard for OB/PWC is proposed to be the sum of these NPRM proposed average emission standard levels, although NO_x is proposed to be phased-in gradually over the 9 year phase-in period. Therefore, the following formulas and tables summarize the HC+NO_x average emission standard proposed today for OB/PWC.⁷

$$HC_{base} = (151 + 557/P^{0.9}) \text{ or } 300 \text{ g/kW-hr, whichever is lower, where:}$$

HC_{base}=hydrocarbon base emission standard in g/kW-hr
P=rated power of the engine family in kilowatt (kW).

This HC_{base} is reduced over a 9 year phase-in period beginning in MY 1998 and ending in MY 2006. The average HC standard curve for a given MY is determined by the product of the HC_{base} curve function and the MY factor as shown in Table 1. The MY factor reflects equal percentage reductions per year from the baseline over the nine year phase-in period, resulting in a 75 percent decrease when fully implemented. For example, the average HC emission standard in 2004 is the product of the 2004 HC MY factor, 0.417, and the HC_{base} function. The resulting HC average emission standard function for MY 2004 is as follows:

Also, given the limitation on HC_{base} of 300 g/kW-hr maximum, the 2004 emission standard may not be greater than 0.417×300=125.1 g/kW-hr.

TABLE 1—GASOLINE SPARK-IGNITION OB/PWC MARINE ENGINES [HC Average Emission Standards]

Model year	HC MY factor
1998	0.917
1999	0.833
2000	0.750
2001	0.667
2002	0.583
2003	0.500
2004	0.417
2005	0.333
2006 and after	0.250

Table 2 contains the HC+NO_x average emission standards proposed today. These average emission standards represent the summation of the average emission standards proposed in the NPRM.

TABLE 2.—GASOLINE SPARK-IGNITION OB/PWC MARINE ENGINES [HC+NO_x Average Emission Standards]

Model year	HC+NO _x average emission standard by MY
1998	$(0.917 \times (151 + 557/P^{0.9}) + (1/9 \times (6.0 - 2.0)) + 2.0)$
1999	$(0.833 \times (151 + 557/P^{0.9}) + (2/9 \times (6.0 - 2.0)) + 2.0)$
2000	$(0.750 \times (151 + 557/P^{0.9}) + (3/9 \times (6.0 - 2.0)) + 2.0)$
2001	$(0.667 \times (151 + 557/P^{0.9}) + (4/9 \times (6.0 - 2.0)) + 2.0)$
2002	$(0.583 \times (151 + 557/P^{0.9}) + (5/9 \times (6.0 - 2.0)) + 2.0)$
2003	$(0.500 \times (151 + 557/P^{0.9}) + (6/9 \times (6.0 - 2.0)) + 2.0)$
2004	$(0.417 \times (151 + 557/P^{0.9}) + (7/9 \times (6.0 - 2.0)) + 2.0)$

⁵ 60 FR 34582 (July 3, 1995).

⁶ 60 FR 45580 (August 31, 1995).

⁷ The level of the OB/PWC emission standard for CO proposed in the NPRM remains unchanged.

TABLE 2.—GASOLINE SPARK-IGNITION OB/PWC MARINE ENGINES—Continued

[HC+NO_x Average Emission Standards]

Model year	HC+NO _x average emission standard by MY
2005	$(0.333 \times (151 + 557/P^{0.9})) + (8/9 \times (6.0 - 2.0)) + 2.0$.
2006 and after ..	$(0.250 \times (151 + 557/P^{0.9})) + 6.0$.

The proposed HC+NO_x average emission standards in Table 2 are derived by adding the average HC emission standards that were proposed in the NPRM to phased-in NO_x levels. The NO_x baseline is 2.0 g/kw-hr and is gradually increased over the phase-in to 6.0 g/kw-hr. EPA chose this phase-in approach for the NO_x part of the average HC+NO_x emission standard because it encourages manufacturers to avoid increases in NO_x all at once.

Further, this approach eliminates any windfall credits from the point of view of the market as a whole. If the standard were phased-in differently, such as setting the 6.0 NO_x level earlier than MY 2006, it could be said that windfall NO_x credits would be generated because the overall fleet NO_x average would be less than 6.0 g/kw-hr. Currently, the overall fleet average is at approximately 2.0 g/kw-hr. To allow a 6.0 g/kw-hr NO_x average in 1998 allows windfall credits equal to nearly 4.0 g/kw-hr of NO_x from the emission rate perspective. EPA mitigated this problem somewhat in the NPRM proposal by disallowing NO_x credit banking. However, it would be cumbersome to disallow NO_x credit banking under today's proposal for a combined HC+NO_x average standard in which a NO_x credit is the same as a HC credit. Therefore, EPA thinks the most equitable way to phase-in the targeted NO_x level is to gradually phase it in from the current levels to the targeted level in equal percentages over the 9 year phase-in, which is what is proposed in Table 2.

At the same time, because of the inherent flexibility with a combined HC+NO_x emission standard, the gradual phase-in should not inhibit the introduction of clean technology early. Further, the HC+NO_x emission standard clearly achieves the same overall control as the proposal, if not better control for NO_x. EPA requests comment on the way in which the NO_x average emission standard should be combined with the HC emission standard over the phase in period. Comment should address the specific NO_x numbers that are recommended for each phase-in year and the rationale supporting the

recommendation, including whether windfall credits are associated with the recommendation.

b. SD/I Engines. Comment received on the NPRM from some in industry indicated that the proposed emission standards for sterndrive and inboard (SD/I) engines are inappropriate because they would increase costs and thereby depress sales of SD/I engines, the cleaner engines in the marketplace. As stated in the NPRM, uncontrolled SD/I's are cleaner than OB/PWC's would be in the MY 2006 at the end of the phase-in. When EPA proposed emission standards for SD/I engines in the NPRM, EPA thought the standards would incur very little, if any, additional costs because they would simply require tighter calibration of SD/I engines.

Now, comments suggest that the necessary engines changes would be more costly than EPA expected and would adversely affect SD/I operation and sales. The emission standards proposed in the NPRM would require the manufacturers to spend money recalibrating the engines. The recalibration would cause the engines to have poor operating characteristics. Alternatively, because manufacturers may not meet the corporate average by recalibration alone, exhaust gas recirculation may need to be applied. Exhaust gas recirculation is costly and would not provide much environmental benefit. Hence, EPA now believes it would be counterproductive for EPA to finalize the emission standards for SD/I engines proposed in the NPRM because that action would introduce negative market forces which would discourage manufacturers from expanding the market with new models of cleaner SD/I engines and discourage people from buying the cleaner engines.

For these reasons, EPA is now proposing to apply two-thirds of the final phase-in MY 2006 OB/PWC HC+NO_x emission standard to SD/I engines as an emission cap beginning in SD/I MY 1998.⁸ Thus, SD/I engines would not be allowed to exceed two-thirds of the MY 2006 OB/PWC average emission standard of $(0.250 \times (151 + 557/P^{0.9})) + 6$ in the 1998 MY. Therefore, the 1998 MY emission standard for SD/I engines is shown in the following equation.

EPA believes that SD/I engines are much cleaner than this proposed emission level. All data available to EPA clearly shows that all SD/I engines have emission levels that are much below this level. Therefore, manufacturers will not need to make any changes to SD/I

engines to achieve two-thirds of the MY 2006 OB/PWC average emission standard as a cap type standard.

EPA requests comment on this emission standard proposal for SD/I engines, particularly any comment indicating that any particular type of SD/I engine would be likely to exceed the proposed level. Refer to the docket for further discussion of the emission levels associated with SD/I engines.⁹ EPA does not think backsliding is a concern at the proposed emission standard level, primarily because if backsliding were to occur, it seems that it would have occurred already, since these engines are currently unregulated and future technology is more likely to result in lower emissions, not backsliding.

EPA is considering whether a report should be submitted by the SD/I industry or by SD/I manufacturers that indicates the emission levels of the engines based on the voluntary testing that is performed by manufacturers. For example, manufacturers already do testing of the SD/I engines. Requiring a biennial report of this data (e.g., test results on specific test procedures, engine family identification, test fuel, type of engine: prototype, development, production, in-use or field engine) would seem to adequately identify if backsliding is or is not occurring. EPA requests comment whether EPA should finalize such a requirement or whether EPA should ask the SD/I manufacturers to submit these reports voluntarily.

In the alternative, EPA proposes not to apply emission standards to SD/I engines. EPA believes Section 213(a)(3) of the CAA offers the Agency the flexibility either to finalize the emission standards for SD/Is proposed above or not to impose emissions standards for SD/I engines, given the unique circumstances presented by SD/Is.

Section 213(a)(3) directs EPA to establish emission standards for "classes or categories" of new nonroad engines which achieve "the greatest degree of emission reduction achievable through the application of technology * * *, giving appropriate consideration to the cost of applying such technology within the period of time available to manufacturers" and other factors. 42 U.S.C. 7545(a)(3). EPA is proposing in this rule to treat all marine spark-ignition engines as one "class or category" of new nonroad engines for which EPA is establishing emission standards. SD/Is would constitute a subclass or subcategory of the marine SI class or category. Given this approach,

⁸The level of the SD/I emission standard for CO proposed in the NPRM would remain unchanged.

⁹Refer to EPA Air Docket A-92-28, docket submission IV-H-01.

EPA believes that, depending on circumstances on which it seeks comment below, the HC+NO_x emission standards proposed for OB/PWC plus either (1) an SD/I HC+NO_x standard set at two-thirds the MY 2006 OB/PWC HC+NO_x standard, or (2) no SD/I HC or NO_x standard at all, satisfy the criteria set forth in Section 213(a)(3). In the unique circumstances presented by the marine SI industry, HC+NO_x emissions from unregulated SD/I engines will be dramatically cleaner than HC+NO_x emissions from MY 2006 and later OB/PWC regulated at the levels proposed in this rule. Given this fact, and the opportunity for some substitution of SD/I for OB/PWC in the market place, it is appropriate for EPA to consider what emissions standards for SD/Is, if any, will most appropriately satisfy the criteria of Section 213(a)(3) viewing marine SI engines as a whole.

EPA believes that requiring SD/Is to comply with two-thirds of the MY 2006 OB/PWC HC+NO_x emission standard would achieve greater emission reductions from marine SI engines as a class or category than would the SD/I emission standard levels proposed in the NPRM, at less cost to the SI industry. If EPA were to finalize the SD/I HC+NO_x standard proposed in this Notice, EPA would encourage the cleaner SD/I engine in the market by virtually eliminating any regulatory costs on SD/I engines (see discussion of minimal administrative burdens for SD/I engines, in Section IV.B.1 below). The minimal regulatory burden and consequent lower cost to SD/I engines compared to OB/PWC should encourage manufacturers to offer a greater range of SD/I engines, including smaller SD/Is that could compete with OB/PWC. Public health and the environment in turn would benefit from the emissions reductions achieved through any substitution of SD/Is for OB/PWC, and at lesser cost to the SI engine industry than the more stringent SD/I emission standards proposed in the NPRM.

EPA is proposing in the alternative to finalize no HC or NO_x emission standard for SD/Is because this alternative may achieve greater emission reductions from SI engines as a class or category than would the SD/I HC+NO_x standard proposed above, at lesser cost to the SI industry. While the option of applying two-thirds of the MY 2006 OB/PWC HC+NO_x standard level to SD/I would not require manufacturers to physically change the engines in any way, to the extent that an emission standard causes any costs on SD/I such standards may tend to limit SD/I substitution for OB/PWC and therefore offer somewhat less emission reductions

than would no SD/I standard at all, while imposing more cost on the SI industry.

On the other hand, finalizing no HC or NO_x emission standard for SD/I raises a potential concern. There is the issue whether SD/I standards at the level proposed here would offer a useful backstop against emissions backsliding by SD/I. EPA believes that emissions backsliding, i.e. worsening emissions performance, may not be a realistic concern with SD/I because of several reasons. First, engines have been moving to electronic fuel injection which will provide better control over engine and emission performance. Customer demands for both low odor and low smoke discourage manufacturers from selling engines that have higher emissions. Also, the engine block manufacturers are improving the emission performance of the engine blocks because of carryover of on-highway emission performance through engine block design.

If EPA finalizes the alternative of no HC or NO_x emission standard for the SD/I subcategory, EPA is considering a suboption of issuing guidance to states that provides information of the relative emissions form the class or category of SI engines. This guidance would explain that EPA did not finalize emission standards on the subclass or subcategory of SD/I engines because they are relatively clean. EPA requests comment on whether industry could or should provide data either voluntarily or by requirement that exemplifies the emission characteristics of the fleet of SD/I engines in support of this guidance based on the current testing of SD/I engines which industry already performs as noted above. EPA also requests comment on the frequency with which manufacturers should be asked to require to provide such data.

EPA requests comment on both proposals regarding HC and NO_x emission standards for SD/I. Commenters should specify whether they prefer some level of HC and NO_x emission standards for SD/Is or none at all, and why they prefer one approach versus the other. If the commenter favors some level of HC and NO_x emission standards, EPA requests comment on the proposal to combine the standards into one HC+NO_x standard and on the proposal to set the HC+NO_x standard for SD/I at two-thirds of the proposed MY 2006 HC+NO_x standard for OB/PWC. Should a commenter prefer a different HC+NO_x standard level, EPA encourages the commenter to identify the standard level that it prefers and offer an explanation for this preference. EPA

also seeks comment on which approach toward SD/I emissions best satisfies the criteria set forth in Section 213(a)(3), and why.

B. Administrative Program Flexibility

The Agency is proposing several modifications to the proposed rules in order to offer administrative program flexibility to certain types of engine technology and certain categories of small manufacturers, as described below in section C., "Small Manufacturer Criteria."

Specifically, EPA proposes to allow the Administrator to certify all sterndrive and inboard (SD/I) engine families on the basis of much less information than that proposed in the NPRM. As explained in more detail below, EPA proposes to find as part of this rulemaking that EPA currently has enough testing and other information regarding engines which meet EPA's proposed regulatory definition for SD/I such that additional emissions testing is not needed to determine if an SD/I engine family should be certified as conforming to the HC+NO_x and CO standards proposed in this rule. This finding would make it unnecessary for manufacturers to submit test results in order to receive a certificate of conformity. To apply for a certificate for an engine family, the manufacturer need only submit a simple affirmation that the engine family meets the SD/I definition and related affirmations. Upon receipt of the affirmations, EPA would typically issue a certificate of conformity. In addition, EPA proposes to exempt all SD/I engine manufacturers from the proposed regulatory provisions concerning manufacturer-conducted production line and in-use testing requirements, related test equipment and test procedure provisions, and selective enforcement auditing.

The Agency received comments urging EPA to drop manufacturer-conducted production line testing and in-use testing requirements for all marine CI engines proposed in the NPRM. The Agency now proposes to apply the EPA-directed production line and in-use testing provisions to marine CI engines that already apply to similar land-based CI engines, as set forth in 40 CFR part 89 and discussed in more detail below. Also, the Agency is proposing some administrative program flexibilities for old technology two-stroke outboard and personal watercraft (OB/PWC) engines, for the reasons set forth below.

Finally, EPA proposes that the administrative programs for small marine CI engine manufacturers focus

on simplified certification and reduced enforcement requirements.

EPA believes it has authority under the CAA to offer the administrative program flexibility that is described in more detail below. The CAA states that the marine engine emission standards, when finalized, shall be subject to Sections 206, 207, and 208 of the Act, "with such modifications of the applicable regulations * * * as the Administrator deems appropriate." 42 U.S.C. 7547(d). This statutory language grants EPA substantial discretion to offer flexibility in the compliance provisions of the marine engine final rule. The paragraphs below describe each of the administrative program flexibility provisions proposed in this SNPRM and explains EPA's rationale for offering such flexibility.

1. Sterndrive and Inboard Engine Manufacturers

The Agency believes that any regulations it issues for marine engines should offer substantial compliance flexibility to manufacturers of gasoline-fueled SD/I engines, in part because the market is comprised mostly of small manufacturers, but principally because the engines are inherently low-emitting compared to the OB/PWC alternative. In fact, the market is moving towards even cleaner technology (e.g., electronic fuel control) in the future without regulation. In the absence of compliance flexibility, small SD/I engine manufacturers would be particularly at risk, because their receipts would not bear the cost of compliance as proposed in the NPRM. The Agency does not wish to drive out of business manufacturers of engines that are already relatively clean.

The Agency recognizes that four-stroke SD/I engines are currently cleaner than OB/PWC engines with respect to hydrocarbon (HC) emissions. Even at the 75 percent HC reduction level proposed in the NPRM for OB/PWC engines, SD/I engines will still be much cleaner on average than controlled OB/PWC. Because EPA wants its regulations to encourage purchasers to substitute SD/I engines for OB/PWC engines rather than hinder that substitution, it is proposing certification flexibility for all manufacturers of SD/I engines as a means of keeping the costs of SD/I engines low.

In the NPRM, EPA discussed the issue of averaging between OB/PWC engines and SD/I engines as a way to encourage the purchase of the inherently cleaner SD/I engines. The Agency stated at that time that substitution of SD/I engines for OB/PWC engines was possible in some horsepower ranges and was

environmentally desirable. In developing the NPRM, EPA considered averaging systems and other mechanisms (such as relative standard stringency) to encourage this substitution.

Comments on the proposal stated that many SD/I engine manufacturers were in fact very small operations that marinized engine blocks purchased from automobile manufacturers. Some of these companies only employ two people. Additionally, EPA received comment that the certification and testing burden was very onerous for such entities. The standards originally proposed for SD/I engines were set at a level that EPA believed would keep prices low and encourage growth in the SD/I market relative to the market for OB/PWC. However, these commenters believed that, rather than encouraging the growth of the cleaner SD/I market, EPA's proposed administrative program would have the unintended effect of forcing small SD/I manufacturers out of business, shrinking competition, and raising SD/I prices.

The Agency remains interested in encouraging the relatively clean SD/I technology and is concerned that burdens of certification and other administrative programs would decrease the substitution of SD/I engines for the higher-polluting OB and PWC. Therefore, EPA is proposing a very minimal certification process for all manufacturers of SD/I engines.

The certification process is proposed to simply include manufacturer submittal of an affirmation that the engine family meets the regulatory definition of a sterndrive or inboard engine, an affirmation that the manufacturer has no test data or other engine information indicating that the engine family would not comply with the emission standard, and an affirmation that the engine meets applicable safety requirements. Upon receipt, the Administrator would issue a certificate of conformity, unless, based on all available information, the Administrator has reason to believe that the engine family may not comply with the applicable emission standards and safety requirements and therefore is not able to determine that the engine family conforms and should be issued a certificate.

While EPA believes current SD/Is meet the proposed emission standards,¹⁰ circumstances could arise in the future where EPA may have reason to doubt that a particular engine family meets the applicable emission standards.

¹⁰ Refer to EPA Air Docket A-92-28, docket submission IV-H-01

Therefore, the Agency proposes that in such circumstances EPA may require, at its discretion, other information on the engine family in addition to the affirmations specified above. For example, the Administrator may require the manufacturer to demonstrate (on the basis of previous emission tests, development tests, or other information) that the engine will conform with applicable emission standards.

EPA expects this proposed certification process for SD/I engine families to be straightforward, involving no more than a one-page submittal to EPA and an expedient issuance of a Certificate of Conformity. The submitter would not need to include test results in its submission if its engine meets the regulatory definition of an SD/I because EPA would determine as part of this rule that EPA currently has enough emission testing and other information regarding engines meeting the SD/I definition such that additional testing is not needed to determine whether an SD/I engine family should be certified. EPA is exploring electronic data submission alternatives that may make this process virtually burden free for the manufacturers.

EPA believes that the engines currently are well below the proposed emission standards level. EPA has test results on the regulated test procedure and confidential test result information submitted by manufacturers. All data is presented in the docket, with any confidential data masked so as to not reveal its origin (Refer to Docket A-92-28 submission IV-H-01). EPA encourages comment on this data and the submission of further data that either supports or refutes the data presented.

The Agency believes Section 206 of the CAA offers it the flexibility to determine through rulemaking that EPA currently has enough testing and other information such that additional emissions testing is not needed to determine whether an SD/I engine family should be certified as conforming to the applicable emission regulations (i.e., a cap of two-thirds of the proposed MY 2006 OB/PWC HC+NO_x emission standard and a CO cap of 400 g/kW-hr). While the language of Section 206 contemplates an individualized, adjudicatory procedure, Supreme Court precedent allows EPA to establish issues common to many adjudications through rulemaking. See *American Hospital Assn. v NLRB*, 499 U.S. 606, 612 (1991) ("[E]ven if a statutory scheme requires individualized determinations, the decisionmaker has the authority to rely on rulemaking to resolve certain issues of general applicability unless Congress

clearly expresses an intent to withhold that authority.'"); *Heckler v. Campbell*, 461 U.S. 458, 467 (1983). Therefore, EPA believes that, should information available to EPA support a finding that additional emissions testing is not needed to determine whether SD/I engine families should be certified, it is appropriate for EPA to make this finding through rulemaking and offer for SD/I engine families the minimally burdensome individualized determination of conformity described above. The individualized determination would basically address whether a specific engine family fits the definitions for sterndrive or inboard engines proposed in this rulemaking, whether there is any information specific to this engine family that would indicate it in fact would not be expected to conform to the standards, and whether the specific engine family meets the safety criteria of Section 206(a)(3).

In addition, the Agency is proposing to exempt SD/I manufacturers from manufacturer production-line testing, manufacturer in-use testing, and related requirements. EPA is proposing that Part 91 subparts A, B, H, I (recall portions only), J, K, L, and M apply to SD/I engine manufacturers, in order to minimize compliance burdens on these manufacturers. While EPA is proposing to exempt these manufacturers from subpart G, Selective Enforcement Auditing, EPA retains authority under Sections 206(b)(1) and 208 to test newly manufactured engines and to inspect production facilities and processes to determine whether the manufacturer is complying with the information submitted for certification. Further, EPA would retain authority under Section 206(b)(2) of the CAA to suspend or revoke the certificate for engines that do not conform with applicable emission standards.

The Agency requests comment as to which subparts of Part 91 should apply to SD/I engine manufacturers and comment on the proposed certification process as outlined above. Further, EPA requests comment on its proposal to find through rulemaking that EPA currently has enough testing or other information regarding engines which meet the regulatory definition of SD/I such that additional emissions testing is not needed to determine whether an SD/I engine family conforms to the HC+NO_x and CO emission standards proposed in this rule. Commenters are encouraged to evaluate the data on which EPA proposes to rely and to submit to EPA any additional relevant data, together with the commenter's evaluation of the submitted data. EPA requests comment

on whether it is appropriate to treat small SD/I manufacturers (as defined in more detail below) separately from other SD/I manufacturers and if so, which subparts of Part 91 should apply to small SD/I manufacturers.

Finally, EPA requests comment on the following definitions. A sterndrive engine is defined as a 4-stroke engine (unless otherwise designated by the Administrator (e.g., a personal watercraft engine)) that is designed such that the drive unit is external to the hull of the marine vessel, while the engine is internal to the hull of the marine vessel. An inboard engine is defined as a 4-stroke engine (unless otherwise designated by the Administrator (e.g., a personal watercraft engine)) that is designed such that the propeller shaft penetrates the hull of the marine vessel while the engine and the remainder of the drive unit is internal to the hull of the marine vessel. Commenters are encouraged to offer any changes to the definitions which are needed to allow the commenter to concur with EPA's proposal to offer non-testing certification to qualifying SD/I engine families. Commenters should explain the reasons for any proposed alterations to the definitions.

2. Marine Compression-Ignition Engine Manufacturers

In comments responding to the NPRM, several small CI engine marinizers characterized the proposed administrative program requirements as very burdensome for the small proportion of marine emissions attributable to such engines. Marinizers informed EPA that they are truly small manufacturers, in terms of market share, production, and number of employees, compared to all other manufacturers of nonroad diesel engines. Furthermore, they believe that their marinized engines may already meet or nearly meet the proposed standards.

The Agency now proposes certification program flexibility for small marine CI engine manufacturers; that is, small marine CI engine manufacturers will have reduced certification data requirements. EPA proposes that part 89 subparts A, B, C, G, H, I, J, and K be applicable to manufacturers of small marine CI engines. This means that the manufacturers must undergo simplified certification, while receiving reduced enforcement requirements. While EPA is not proposing to apply subpart F, Selective Enforcement Auditing, to small marine CI manufacturers, EPA retains authority under Sections 206(b)(1) and 208 to test newly manufactured engines and to inspect

production facilities and processes to determine whether the manufacturer is complying with the information submitted for certification. The Agency requests comment as to which subparts of part 89 should apply to the small marine CI engine manufacturers. Further, EPA would retain authority under § 206(b)(2) of the CAA to suspend or revoke the certificate for engines that do not conform with applicable emission standards.

The Agency has also received comments in response to the NPRM regarding the proposed production line testing and in-use testing requirements for marine CI engines. The comments did not support finalizing these two types of testing because EPA does not require them for land-based CI engines in 40 CFR Part 89, and many of the land-based CI engine blocks are used for marine CI engines. If EPA were to finalize its requirements as proposed, it would impose different requirements for essentially some of the same engines. The Agency has considered these comments and now proposes not to require marine CI engines to comply with the production line and in-use testing provisions that EPA proposed in the NPRM; instead, it proposes that marine CI engines be subject to the SEA testing and recall provisions that apply to land-based CI engines greater than 37 kilowatts (kW), as set forth in 40 CFR part 89.

3. Old Technology Two-Stroke Outboard Engine and Personal Watercraft Manufacturers

The Agency received significant comment in response to the NPRM regarding the cost of the CO cap and the administrative programs relative to old technology two-stroke OB/PWC engines. Manufacturers argued that imposing the costs of certification testing and enforcement program testing on old technology OB/PWC engines is not a cost-effective requirement, because these engines will be phased out of production anyway. Also, many old technology OB/PWC exceed the CO cap, and money would have to be spent to redesign product and production lines to meet the CO standard even though the old technology will be phased-out. Manufacturers would rather spend their limited resources on developing and producing cleaner, new technology OB/PWC engines.

The new, cleaner technology will require extensive changes in production lines and engine design. The engine changes do not simply consist of using a different fuel system, but involve designing whole new engines. Therefore, millions of dollars will be

needed for capital costs over the phase-in period. Manufacturers have also stated that they would potentially have to build twice as many test facilities, in order to accommodate testing of old technology OB/PWC engines as well as new technology OB/PWC engines, and half of those facilities would become idle as soon as manufacturers phased out the old technology.

In view of these comments, EPA believes it is appropriate to mitigate compliance costs for old technology OB/PWC engines through compliance flexibility, waivers, and an exemption from the CO cap, if one is finalized,¹¹ until late in the phase-in in order to free up the manufacturers' limited resources for new technology development.

Because adequate test data on old technology engines currently exists, and that data shows engine emissions are so high that production variance and in-use deterioration are almost negligible effects on the emission rate, imposing compliance costs on the old technology engines would appear to yield little environmental benefit. On the other hand, allowing flexibility in the administrative programs for old technology, which will be phased out of production, will free up money for the manufacturers to develop, produce, and market clean technology OB/PWC engines.

The Agency proposes to define old technology OB/PWC engine families to be those that were in production for the 1997 and previous model years and that did not utilize newer technologies, such as four-stroke technology, direct-injection two-stroke technology, or catalyst technology. It is important to restrict this definition to engines that were in production both in 1997 and in previous years so an old technology engine family that would first be brought into production in 1997, just before the regulations take effect, could not take advantage of flexibilities proposed here. EPA does not want to allow the flexibilities to be gamed in this way. For example, the jetboat market segment is expanding rapidly. A manufacturer electing to bring in a new jetboat engine family in 1997 that uses old technology (e.g., simple two-stroke engine design) should not enjoy the flexibilities proposed here. The reason is that the manufacturer is choosing to spend money to bring more old, dirty technology into the market rather than spending the money on new, cleaner technology. To allow flexibility in this

¹¹ EPA is currently considering whether to include a CO cap in the final rule in light of the comments it received on the NPRM and its authority under the CAA.

case on the eve of the implementation of the proposed 1998 MY emission standards is contrary to EPA's intent in offering this flexibility. EPA is offering this flexibility to allow the manufacturers to spend money on new, cleaner technology rather than old, dirty technology that will need to be phased-out of production.

EPA is proposing to allow manufacturers of old technology OB/PWC engines for a limited time to comply with reduced data submission requirements for certification,¹² to be exempted from Part 91 subparts D, E, F, G, I (non-recall portions only), J, and M containing compliance monitoring programs, and to be exempted from any CO cap if it should be included in the final rule. However, EPA does not intend to allow such provisions in the latter years of the nine year phase-in of emission standards. The Agency believes it is important to the integrity of the averaging standard that at the end of the nine year phase-in, all OB/PWC engine families submit the certification and testing data normally required for obtaining certificates of conformity and that all OB/PWC engine families comply with enforcement provisions and any CO cap. Further, because the phase-in period is nine years, EPA believes that allowing this flexibility for the first six years will be adequate to mitigate costs and will also encourage the introduction of the cleanest technology sooner.

Therefore, EPA intends to implement such flexibility through the sixth year of the phase-in. The Agency requests comment on allowing this flexibility for old technology OB/PWC engines and on EPA's intended implementation strategy for this flexibility. Commenters are encouraged to express separately their views on each aspect (i.e., certification, enforcement, and the CO cap) of the flexibility proposed here as EPA may finalize all, some, or none of them. EPA also requests comment on the proposed definition of old technology OB/PWC and alternative approaches.

4. Other Potential Administrative Program Changes

a. Recall. EPA is considering omitting from the final spark-ignition marine

¹² EPA proposes that it may accept, at its discretion, summary information on an old technology OB/PWC engine family in lieu of the full Application for Certification. The Agency plans to explain its policy on accepting summary information via guidance to be generated and distributed to manufacturers subsequent to the publication of the final rule. The Agency welcomes comments on whether guidance is the appropriate mechanism for defining the summary certification procedures, or whether EPA should engage in notice and comment rulemaking (at some later date) to define the procedures.

engine regulations (Part 91) those portions of proposed Subpart I regarding recall.

Section 213(d) of the CAA provides that new nonroad engine emission standards "shall be subject" to the provisions of sections 206 through 209. EPA believes that this statutory provision is self-executing, so that the marine engine standards proposed in this rulemaking would be subject to the remedial provisions of section 207(c)(1) as well as, for example, the certification provisions of section 206. Further, EPA believes that the remaining language in section 213(d) does not require promulgation of regulations to implement section 207(c) for marine engines, except where they are "necessary to determine compliance with, and enforce," such new nonroad engine standards.¹³

In this rulemaking, EPA believes that it may not be necessary to promulgate regulations specifying procedures to implement § 207(c) in order to determine compliance with and enforce the proposed marine spark-ignition emission standards. The in-use averaging, banking, and trading (ABT) program proposed in this SNPRM makes it highly improbable that EPA would ever find that a substantial number of marine engines do not conform to the applicable emissions standard or FEL, since any noncompliance may be offset through ABT. Moreover, EPA expects that remedial action under section 207(c) would be largely ineffective, both because industry structure and engine owner turnover make it difficult for a manufacturer to identify the owners of a nonconforming engine, and because safety-related recalls of marine engines have generated little consumer response in the past. For these reasons, EPA would not expect to make a determination of nonconformity under section 207(c) regarding marine engines. Furthermore, in the unlikely event EPA should find it appropriate to take such action, EPA retains authority either to take action directly under section 207(c) or to promulgate appropriate regulations at that time.

EPA seeks comment whether EPA should omit the recall portions of subpart I (Part 91) from the final rule. Commenters are encouraged to explain the basis for their opinion, including all policy reasons and all circumstances regarding the marine engine industry which favor one approach versus another, as well as the statutory basis for the preferred approach.

¹³ See also discussion of section 207(c) and recall in the NPRM 59 FR 55943-46.

EPA is also considering not applying Part 89, Subpart H (recall regulations) to small marine CI engine manufacturers (as proposed to be defined in this Notice). As with marine SI engines, EPA expects that remedial action under § 207(c) for marine CI engines would be largely ineffective, both because industry structure and engine turnover make it difficult for a manufacturer to identify the owners of a nonconforming engine and because safety-related recalls of marine engines have generated little consumer response in the past.

Unlike marine SI engine manufacturers, however, marine CI engine manufacturers would not have available credits generated through an in-use credit program to offset any in-use noncompliance. Instead, it may be appropriate not to apply Part 89, subpart H, to small marine CI engine manufacturers because of the relative burden of § 207(c)(1) remediation on smaller marine CI engine manufacturers compared to larger marine CI engine manufacturers. Even if the recall regulations were to apply, EPA would expect that any Agency decision on whether to take formal action under § 207(c) would take into consideration the circumstances involved, including the nature of the industry and the specific manufacturer involved.

EPA seeks comment, including any available data, on the relative potential burden of recall on marine CI engine manufacturers depending on their size. EPA also seeks comment whether EPA should apply Part 89, subpart H to small marine CI engine manufacturers (as proposed to be defined in this Notice) or whether any differences in potential manufacturer burden should be addressed through EPA's discretion in implementing the recall authority. Commenters are encouraged to explain the basis for their opinion, as well as any variation in the definition of small marine CI engine manufacturer which would affect their opinion.

b. 1998 MY Corporate Average Compliance. In the NPRM, EPA proposed that manufacturers begin the phase-in of the spark-ignition gasoline engine regulations in the 1998 MY. Production of the 1998 MY will begin in May, 1997, and this final rulemaking is scheduled to be published in May, 1996. Manufacturers have informed EPA that 1998 MY compliance will be challenging because they must have their product line certified and in compliance on a corporate average basis within one year.

EPA is concerned with this short amount of time between the final rule and the first year of compliance. However, EPA strongly wishes to

implement the rulemaking for the 1998 MY so as to achieve emission reductions in 1998 from this source. As the emission reductions in MY 1998 are very important, EPA is reluctant to forego the 1998 MY. Therefore, EPA is not revising its proposal to begin implementation in 1998 MY.

On the other hand, the timing is clearly tight. There may be circumstances where, despite the manufacturer's best efforts, compliance in the 1998 MY is unattainable. When compliance is unattainable due to circumstances that are clearly beyond the control of a manufacturer, it may be reasonable to allow the manufacturer some flexibility in compliance.

Compliance, for this rulemaking, means having a zero or positive emission credit balance for the manufacturer's product line at the end of the MY. Therefore, a manufacturer would potentially be in noncompliance if it could not generate or buy sufficient positive emission credits to offset the amount of negative emission credits reflected in its product line.

When the manufacturer is in such a situation for the 1998 MY due to circumstances that are clearly beyond its control, EPA is considering allowing the manufacturer to combine its 1998 MY ending credit balance (i.e., a negative balance) with the 1999 MY credit balance. In this special circumstance, the compliance period would be a 2 year averaging period across the 1998 and 1999 MYs. The advantage of this approach is that it inherently requires remediation of the lack of reduction in 1998 MY.

Circumstances beyond the control of a manufacturer would be those types of circumstances where the manufacturer had taken clearly laid out steps to make sure its product plans would be met, yet could not produce its appropriate complying product plans due to factors associated with suppliers not providing appropriate inputs. For example, test facilities might not be operational due to delays in construction that are beyond the control of the manufacturer or its designated contractor (e.g., the test equipment supplier did not deliver the equipment in time to be installed).

EPA requests comment on the need for flexibility for 1998 MY compliance due to circumstances outside the control of the manufacturer. Specifically, EPA requests comment on allowing a 2 year averaging period for a manufacturer which EPA determines is in such a situation, including comment on a different averaging period (e.g., 18 months, 30 months). EPA requests comment on specific circumstances which would clearly be outside the

control of a manufacturer leading to the inability to comply in 1998 MY. Finally, EPA requests comment on any other alternatives.

C. Small Manufacturer Criteria

In their comments to the NPRM, small marine manufacturers provided new information to EPA. This information has heightened EPA's awareness that the proposal would impact different segments of the marine market in different ways.

One example is the engine marinizer: rather than manufacturing the engines themselves, smaller marine engine companies (i.e., "marinizers") will often modify engine blocks originally produced for other nonroad or on-highway applications for marine applications. Marinizers may have as few as two employees and typically do not have the resources to comply with certification and enforcement provisions proposed in the NPRM. The cost of one test for one engine can be \$5,000–\$10,000 at a contract laboratory, while the cost of test equipment can run up to one half million dollars. Many marinizers have indicated that the cost of certification reporting burdens alone will dramatically increase their costs and may force them out of business.

Based on the written comments to the NPRM described above, EPA proposes to allow some flexibility in the certification and enforcement provisions proposed in the NPRM for small manufacturers. The proposed flexibility is described in IV.B. above. In the following sections, EPA proposes small manufacturer criteria for the marine CI engine and SD/I engine market segments. Each market segment has a different, unique aspect from a regulatory and market structure perspective, as explained below. Therefore, different small manufacturer criteria are proposed for each market segment.

1. Sterndrive and Inboard Engine Manufacturers

Although EPA is proposing an emission standard for SD/I engine families that will only necessitate a marginal compliance burden to certify the engine family and no other administrative program burdens, EPA is proposing a small manufacturer criteria in the event that the rulemaking should be finalized with the need for such a criteria.

The market for SD/I engines is composed of one very large market leader, several medium-sized market players, and a number of very small (in terms of both receipts and production volumes) manufacturers. For the

purposes of the SD/I engine category only, EPA proposes to define small manufacturers as those which have less than 15 percent of the United States market share of SD/I engines on a unit volume basis, to be determined by averaging engine unit volume for the past three model years. The average total SD/I market unit volume for the same model years would be used to determine whether a manufacturer's market share was less than 15 percent. Manufacturers with greater than 15% market share are clearly the largest manufacturers.

The Agency requests comment on this market share percentage criterion and on alternatives for defining a small SD/I manufacturer.

2. Marine Compression-Ignition Engine Manufacturers

The Agency proposes that a small marine CI engine manufacturer be defined as one for which the business concern together with all its domestic and foreign affiliates (e.g., the parent company and all the subsidiaries): (1) Have total annual receipts under \$100 million, and (2) have less than a 4 percent United States market share on a unit volume basis for all nonroad diesel engines. For example, 4 percent market share is approximately 12,000 units based on a total volume of all nonroad diesel engines of 300,000. According to the proposed criteria, the average annual receipts per engine from 12,000 units could not exceed approximately \$8,300 per engine (\$100 million/12,000 engines).

The Agency proposes to accept the definitions of "affiliation," "annual receipts," and "business concern" that are contained in 13 CFR Part 121 of the Small Business Administration (SBA) regulations. Compliance with the market share criterion will be determined on the basis of data averaged over the past three fiscal years, in a manner similar to that defined in the SBA regulations for annual receipts.

The definition proposed herein would give flexibility in the rule for manufacturers of different sizes of marine CI engines and different production volumes. If a manufacturer meets the definition's criteria, EPA proposes that its engine families be eligible automatically for the certification program flexibility described in section IV.B.2. above.

The Agency requests comment on the advisability of two additional small entity criteria that it has not proposed. The first of these would be to limit small manufacturer flexibility to engine families under 1500 kW only. This is because engines over 1500 kW are

expensive, and therefore, certification and enforcement costs have a small effect on engine price and should be easily recovered. The second would be to limit small manufacturer flexibility using an engine speed designation for high-speed marine CI engines, instead of a maximum power criterion. The Agency requests comment on designating high-speed engines as those over 1000 revolutions per minute (rpm). Comment submitted in response to the NPRM on the issue of harmonization with the proposed emission standards by the International Maritime Organization included a recommendation on a 1500 kW cutpoint for EPA's proposal.

The Agency also requests comment regarding specific alternative criteria for designating small manufacturers and on equity issues associated with the proposed criteria. In addition, EPA is considering whether to propose applying the small marine CI engine manufacturer definition to all aspects of the CI engine industry. EPA is not aware of any nonmarine CI engine manufacturers that meet this criteria. However, if any exist or enter the market, it seems appropriate that the same provisions apply. EPA welcomes comments on this issue.

3. Outboard Engine and Personal Watercraft Manufacturers

a. Competitive Issues. Manufacturers of outboards or personal watercraft that commented on the proposal appear to fall into at least one of two categories: (1) Those which do not meet the SBA's definitions of "small" and (2) manufacturers that purchase engines and market them as their own, rather than being actual engine manufacturers. Thus, EPA is not aware of any manufacturers of OB/PWC engines that it believes would need compliance flexibility as small volume manufacturers. Moreover, this category of marine engines produces the highest HC emissions per unit power output, and is therefore the category of marine engines targeted for the largest HC reductions. The Agency is hesitant to offer a permanent waiver of more stringent testing requirements for the engines of most concern to it. EPA wants to be certain that manufacturers are developing, producing, and achieving the targeted HC emission reductions for OB/PWC. For these reasons, EPA does not propose to offer small entity regulatory relief to manufacturers of OB/PWC engines.

However, while in the absolute sense there are no "small" manufacturers, in the relative sense there are smaller manufacturers relative to the larger

manufacturers. Furthermore, there are differences in the product lines of the manufacturers. Some manufacturers are dominant in the personal watercraft market while at the same time being less dominant in the outboard market (e.g., Yamaha). Most of the PWC manufacturers specialize only in personal watercraft and do not produce outboards.

EPA proposed in the NPRM a combined averaging set for outboards and personal watercraft, even though there are differences in product lines between manufacturers with some producing both types or only one type. EPA thinks this strategy best for many reasons. First, this strategy allows manufacturers to take advantage of the most cost-effective means of achieving emission reduction targets amongst engines with similar emission problems. Both outboards and personal watercraft currently utilize old technology 2-stroke engines and have similar options available to reduce those emissions. Second, achieving the most cost-effective emission reductions means that the market achieves the lowest price increase to the consumer. Third, EPA is not interested in protecting manufacturer market share at the expense of higher consumer prices for control technology. EPA thinks that broader averaging sets encourage a more competitive market environment which in turn limits non-competitive (e.g., oligopolistic) market forces and acts to keep consumer prices low. Fourth, a combined OB/PWC averaging set gives more flexibility to manufacturers, particularly the smaller PWC manufacturers, to buy credits from other manufacturers (including those they do not directly compete with) instead of putting on control technology that is not cost-effective. Therefore, in effect, a combined OB/PWC set inherently improves small manufacturer flexibility. For these reasons, EPA is very hesitant to consider splitting up the combined OB/PWC averaging set.

In response to the NPRM, EPA received significant comment from some manufacturers that only produces PWC indicating concern with the appropriateness of a combined OB/PWC averaging set.¹⁴ These manufacturers seemed to be concerned that manufacturers that produce both outboards and personal watercraft (only one such manufacturer currently exists) can take competitive advantage of their ability to average their OB engine

¹⁴ Refer to the Kawasaki docket comments IV-D-58, statement or Artco, Kawasaki, and Polaris IV-D-66 and Polaris statement IV-51 for EPA. Air Docket A-92-28.

families with their PWC engine families. The PWC-only manufacturer seemed to be concerned that their competitor has more flexibility to meet the emission standards due to the possibilities of generating internal to the company positive credits from the OB product line that can potentially delay control on PWC or provide cheaper credits to cover lesser control on PWC. One PWC-only manufacturer stated their belief that the other manufacturer will convert its OB products into 4-stroke and that will harm the competitive position of manufacturers who only produce PWC and market share will be eroded. There is concern that the end result will be that the OB/PWC manufacturer will become a much more dominant manufacturer. It is feared by the commenter that no credits would be available in the market that would allow the same flexibility for the PWC manufacturers that this one manufacturer will inherently have under the combined OB/PWC set.

EPA would be concerned if a single manufacturer gained control over the PWC market simply because of the combined OB/PWC averaging set.

On the other hand, EPA is concerned that splitting the averaging sets will give significant competitive advantage to the current dominant PWC manufacturers, particularly against the PWC manufacturers with smaller market share. The marginal cost-effectiveness analysis by which EPA set the 75% reduction in HC requirement allows small engine families, such as those produced by PWC manufacturers with smaller market share, to avoid manufacturing changes that are not cost-effective in a relative sense and purchase sufficient credits in the market. This is because the marginal cost-effectiveness for each engine family was ranked and the standard was set at the point where it became less cost-effective to gain further emission reductions. Splitting the averaging set restricts the potential credit supply and the result may be that the most cost-effective credits are not available. Therefore, even if it is more marginally cost-effective to achieve emission reductions from OB, for example, restricting the averaging between OB and PWC means that some of the most cost-effective reductions may not be taken advantage of. Further, the smaller PWC manufacturers who would most need to buy credits would be restricted to purchasing credits from their direct competitors, instead of the OB manufacturers they do not directly compete with. The effect would be that the dominant PWC manufacturers would be able to gain competitive

advantage because they produce larger unit volumes and can take advantage of economies of scale, thereby generating positive credits in a more cost-effective manner than lower volume manufacturers. Thus, protecting the market share of current dominant manufacturers by splitting the averaging set may have the effect of strengthening the dominant manufacturers' market positions against the smaller PWC manufacturers. EPA is seeking an emission standard structure that promotes a competitive market and promotes the cleanest technology. EPA thinks it essential to allow all smaller manufacturers the flexibility intended with the combined OB/PWC averaging set.

Comments are requested on separating the averaging sets as an approach to address the specific problem raised with respect to the competitive impact of a combined OB/PWC averaging set. EPA requests comment on requiring separate averaging sets for a short while during the phase-in period or a portion of it. From an environmental point of view, this will likely ensure that the manufacturer who produces both OB and PWC invest in control technology for PWCs in the early years of the phase-in. EPA is hesitant to consider this option and would only consider it for a short while (e.g., a portion of the phase-in).

EPA requests comment on why EPA should consider requiring separate sets, even for a portion of the phase-in period, if this limits the ability of the market to generate the most cost-effective controls overall. Further, EPA requests comment on the docket comments submitted by Kawasaki (IV-D-58 for EPA Air Docket A-92-28).

Also, EPA notes that it would have to re-evaluate the appropriateness of the proposed OB/PWC emission standards if the averaging sets were to change, because of the potential effect of the separate sets on such factors as technological achievability and cost (see section 213(a)(3) of the CAA). The Agency seeks comment on what changes, if any, should be made to the proposed emission standards if separate averaging sets are finalized, with an explanation of the reasons for the commenter's preferred approach.

Additionally, EPA requests comments on the need for any change from the combined OB/PWC averaging set that EPA proposed. Change is questionable since already manufacturers may purchase credits in the market rather than apply control technology in the early years of the phase-in thereby giving a manufacturer extra leadtime for

whatever reason. Further, if the credit market is economically efficient (i.e., a manufacturer does not act in a predatory manner to gain market share) then the OB manufacturer would make positive credits available to PWC manufacturers because this would lower the cost of OB compliance, either raising profit margin or increasing sales, or both.

EPA requests comment on systems that would encourage the credit market to function efficiently. Any comments that present ways to make the market function prospectively are especially encouraged. Comment is requested on the need to have a formalized credit market. EPA would prefer that such a market system not be run by EPA and requests comments on making this market run by an independent third party if a formalized market is advocated. EPA is seeking comment in order to determine whether it should propose action through a subsequent rulemaking.

b. Market Entrants. The Agency requests comment on the issue of flexibility for small OB/PWC engine manufacturers that may enter the market in the future. EPA would be concerned should administrative program burdens add an additional production cost that discourages market entrants and limits additional competition in the marketplace, particularly for clean technology. The Agency would consider allowing administrative program flexibility for a short period of time for new OB/PWC market entrants similar to that which it is proposing for small marine CI engine manufacturers, such as reduced certification requirements, as described above in section IV.B. As EPA would like to encourage clean technology, such market entrant flexibility would only be considered for engines with emissions falling below the MY 2006 average HC emission standard level.

The Agency requests comment on defining a market entrant as a manufacturer that has not produced OB/PWC engines before one MY prior to the current MY. This suggested definition would allow flexibility for market entrants for the first two model years. In addition, EPA requests comment on whether flexibility should be limited to small market entrants and, if so, requests suggestions for alternative definitions of a small market entrant.

D. Relative Use by Age Function

The Agency proposes to include a statistical function in the credit calculation formula in § 91.207 of the regulations proposed for 40 CFR Part 91, representing relative usage of engines by engine age and power output. EPA did

not propose the use of such a function in the NPRM for the generation of new engine family credits. However, EPA is inclined to believe that for OB engines usage does vary by age of the engine and by power output. The relationship between age of engine and relative usage was assumed to be linear according to the following function, which is based on an assumption of 30% deviation (i.e., 1.3 and 0.7).

where

t =age of the engine in years

μ_{use} =mean use in hours per year

μ_{life} =mean life

The average annual use derived for the new engine credit generation methodology proposed in the NPRM still appears to be an adequate representation.

For outboard engines, the probability that an engine will survive into the future depends upon the power output (in terms of rated kW or rated horsepower) of the engine. Smaller engines typically last longer than larger engines.¹⁵ Therefore, the relative use by age function uses mean life as an input. In turn, the mean life is dependent upon power output. Power output identifies the size of the engine.

The Agency is aware that the State of Wisconsin performed a survey of the 1995 summer season to obtain better information on relative use of engines by age. If the Wisconsin data becomes available before the final rule is promulgated, EPA will publish a notice of data availability regarding the survey results. EPA may consider the survey results when deciding how to finalize the rule with respect to the relative use by age function.

E. Manufacturer Production Line Testing Program

The NPRM described a proposal for marine SI and CI engine manufacturers to perform self-audits of new marine engines. The proposed self-audit program would be an emissions compliance program for new production marine engines in which manufacturers would be required to test engines as they leave the production line, without EPA oversight.

The Agency believes that a post-production compliance program may be necessary for OB/PWC only to verify that production engines comply with the applicable family emission limit (FEL), particularly during the early years of the program. The NPRM noted that the need for such a program is particularly vital in a regulatory

situation in which manufacturers participate in an averaging, banking, and trading program and receive usable or salable credits for declaring FELs more stringent than the emission standard. The NPRM proposed a self-audit program comparable to the California Air Resources Board's (CARB's) current Quality Audit Program for new utility and lawn and garden engines. As the NPRM described, this program would assure that engines from each engine family will be tested periodically and their compliance evaluated on a quarterly basis.

In this supplemental notice EPA proposes to modify the self-audit program set forth in part 91 subpart F of the NPRM's proposed regulatory text. First, EPA is proposing to change the name of the proposed Manufacturer Self-Audit Program to the Manufacturer Production Line Testing Program, because this title more clearly indicates that this proposal is applicable for emission testing engines from the manufacturer's production line. Second, EPA proposes to limit the production line testing program provisions to SI OB/PWC engines. As described in more detail in section IV.B.2. above, EPA now proposes that all marine CI engines be subject to the Selective Enforcement Auditing and recall provisions that have been promulgated for land-based CI engines. Third, EPA proposes to adopt the Cumulative Sum (CumSum) procedure described below, rather than CARB's Quality Audit Program procedure, because EPA has noticed a potential problem with the provisions of subpart F as proposed. CARB's Quality Audit Program is based on a fixed sample size approach. An essential problem with this approach is that to keep the sample size small, the manufacturer risk and the consumer risk must increase¹⁶. The only way to lower manufacturer and consumer risk is to increase the sample size to possibly burdensome levels. This results in an inherent conflict for the design of a quality audit procedure which requires a fixed sample size.

The annual sample size required by CARB's Quality Audit Program is set at one percent of engine family production, at least until ten engines are tested in an engine family. A major effort by both CARB and the affected manufacturers has been to find ways to reduce the necessary sample size,

resulting in a confusing array of statistically *ad hoc* modifications to the program. Upon recognizing the limitations of CARB's Quality Audit Program as a model for the NPRM's marine engine self-audit program, EPA initiated development of another approach.

In today's SNPRM, EPA is proposing to modify the proposed subpart F regulations to include a statistical procedure known as the CumSum procedure that will enable manufacturers to select engines at appropriate sampling rates for emission testing and will determine whether production line engines are complying with emission standards. CumSum procedures are used for the detection of changes in the average level of a process; the proposed procedure is useful both as an assessment tool for EPA and a quality control tool for engine manufacturers. The procedure is capable of detecting significant changes in the average level of a process, while ignoring minor fluctuations that are simply acceptable variation in the process.

Under the procedure, described in more detail below, manufacturers would select engines from each engine family at appropriate sampling rates for emissions testing. Testing would be required to be conducted in accordance with the applicable federal testing procedures for marine engines. The test results would be input to the appropriate CumSum equations, and the results of the procedure would indicate whether the engine family is in noncompliance.

1. Sampling Rates Required for the CumSum Procedure

Sample Size Calculation. At the start of each MY, manufacturers would begin to test each engine family at a rate of one percent, and then modify the testing rate according to a sample size equation. A manufacturer would determine the sample size necessary for newly-certified engine families by conducting two tests and then calculating the required sample size for the rest of the MY according to the Sample Size Equation below. For carry-over engine families, the manufacturer would determine the necessary sample size by conducting one test, then combining the test result with the last test result from the previous MY, and finally calculating the required sample size for the rest of the MY according to the Sample Size Equation below.

Sample Size Equation

where:

¹⁶Manufacturer risk is the risk that the quality audit program will detect that an engine family is in noncompliance, when the family is actually in compliance. Consumer risk is the risk that the quality audit program will fail to detect that an engine family is in noncompliance, when the family is actually in noncompliance.

¹⁵Price Waterhouse, National Recreational Boating Survey: Final Report, June 30, 1992.

N=Calculated sample size. N_{HC} , N_{CO} , and N_{NOX} are all calculated from each test result. The largest of the three becomes the official N which becomes the number of tests required for the remainder of the MY. N_{HC} , N_{CO} , and N_{NOX} are all recalculated after each test.
 t_{95} =95 percent confidence coefficient. It is dependent on the actual sample size, n, and is defined in the table below. It defines one-tail, 95 percent confidence intervals.

SAMPLE SIZE AND ONE-TAIL CONFIDENCE COEFFICIENTS

n	t_{95}	n	t_{95}	n	t_{95}
2	6.3	12	1.8	22	1.72
	1		0		
3	2.9	13	1.7	23	1.72
	2		8		
4	2.3	14	1.7	24	1.71
	5		7		
5	2.1	15	1.7	25	1.71
	3		6		
6	2.0	16	1.7	26	1.71
	2		5		
7	1.9	17	1.7	27	1.71
	4		5		
8	1.9	18	1.7	28	1.70
	0		4		
9	1.8	19	1.7	29	1.70
	6		3		
10	1.8	20	1.7	30	1.70
	3		3		
11	1.8	21	1.7	∞	1.645
	1		2		

σ =sample standard deviation of the actual sample, where:
 X_i =emission test result for an individual engine
 \bar{x} =mean of the actual sample
 STD=emission standard or, if applicable, family emission limit (FEL)
 n=The actual number of tests completed in an engine family
 The calculated sample size, N, determines the number of tests required for the rest of the MY. Tests must be distributed evenly throughout the remainder of the MY. After each new test, the sample size is recalculated with the updated sample mean, sample standard deviation, and 95 percent confidence coefficient.
 If at any time throughout the MY the calculated sample size for an engine family, N, is less than or equal to the actual sample size, n, and the sample mean, \bar{x} , for each pollutant, is less than or equal to the applicable standard or FEL, the manufacturer may stop testing that engine family. But, if at any time throughout the MY the sample mean, \bar{x} , for any pollutant, is greater than the applicable standard or FEL, the manufacturer must continue testing that

engine family at the appropriate maximum sampling rate.
 Manufacturers may elect to test additional engines for input into the Sample Size Equation, provided that testing of the additional engines is performed in accordance with the applicable federal testing procedures for marine engines.

Maximum Sample Rates. The maximum required sample size for an engine family (regardless of the result of the Sample Size Equation) is the lesser of three tests per month or one percent of projected annual production (distributed evenly throughout the model year). For example, if the Sample Size Equation produces a value of N = 252 for a family with annual production of 20,000 engines, a manufacturer may elect to test only three engines per month instead of:
 (1) 21 per month, which would be required if 252 tests were distributed evenly throughout the MY, or
 (2) 17 per month, if one percent of annual production were distributed evenly throughout the MY.
 Although the Sample Size Equation may calculate sample sizes greater than the proposed maximum sample rates, EPA believes sample sizes greater than these maximum rates would be unnecessarily burdensome for manufacturers of marine engines. The proposed maximum sample rates adequately characterize the emission levels of the engine family.

2. Construction of the CumSum Equation

After determining the appropriate sample size using the Sample Size Equation, the manufacturer would construct the following CumSum Equation for each regulated pollutant for each engine family:

where:
 C_i =The current CumSum statistic
 C_{i-1} =The previous CumSum statistic.
 Prior to any testing, the CumSum statistic=0 (i.e. $C_0=0$)
 X_i =The current emission test result for an individual engine
 STD=The applicable standard or, if applicable, the FEL
 $F=0.25 \times \sigma$ and is the reference value
 After each test, C_i is compared to the action limit, H.
 $H=5.0 \times \sigma$ and is the action limit, the quantity which the CumSum statistic must exceed, in two consecutive tests, before the engine family is determined to be in noncompliance. (it is a function of the standard deviation, δ)
 σ =is the sample standard deviation and is recalculated after each test.

Following each emission test, manufacturers would update current CumSum statistics for each pollutant according to the CumSum Equation described above. Manufacturers would continue to update the CumSum statistics throughout the MY. (At no time throughout the MY are CumSum statistics reset to zero.)

Manufacturers may elect to test additional engines for input into the CumSum Equation, provided that testing of the additional engines is performed in accordance with the applicable federal testing procedures for marine engines.

3. Criteria for Determining Noncompliance

An engine family is determined to be in noncompliance if at any time throughout the MY, the CumSum statistic, C_i , exceeds the applicable action limit in two consecutive tests for the same pollutant.

Production line emission test results, as well as sample size calculations and CumSum calculations, would be electronically reported to EPA on a quarterly basis. The Agency would then review the test data, sample size and CumSum calculations to assess the validity and representativeness of each manufacturer's production line testing program. If a manufacturer were to determine that an engine family is in noncompliance, the manufacturer would be required to report the emission test results and the appropriate Sample Size and CumSum Equation calculations within two working days of such a determination.

If an engine family is determined to be in noncompliance, or a manufacturer's submittal to EPA reveals that production line tests were not performed in accordance with applicable federal testing procedures, EPA may suspend or revoke the manufacturer's certificate of conformity in whole or in part for that engine family. The suspension or revocation will not occur before fifteen days after a noncompliance determination is made. During this fifteen day period, EPA will coordinate with the manufacturer to facilitate the approval of the required production line remedy in order to eliminate the need to halt production, if possible. The manufacturer must then address the engines produced prior to the suspension or revocation of the certificate of conformity. EPA may reinstate a certificate of conformity subsequent to a suspension, or reissue one subsequent to a revocation, after the manufacturer demonstrates that improvements, modifications, or

replacement have brought the engine family into compliance. The proposed regulations include provisions for a hearing in which a manufacturer may challenge EPA's decision to suspend or revoke a certificate of conformity based on the CumSum procedure.

The Manufacturer Production Line Testing Program would be the main production line emission test program for marine engines. The Selective Enforcement Auditing (SEA)¹⁷ program that was proposed in the NPRM will serve a spot-check function and enable EPA to evaluate testing practices used by the manufacturer, follow up on concerns reported to EPA, and address any configurations not covered by manufacturers in their production line testing program.

EPA realizes that the standard deviation, σ , of an engine family is an important aspect of the production line testing program. EPA intends to employ accurate engine family standard deviation in the CumSum Equations. The Agency requests comment on all aspects of the proposed production line testing program and specifically the appropriateness of the values chosen for the variables in the Sample Size and CumSum Equations. For more information on the derivation of the Sample Size and CumSum Equations, the selection of appropriate variables, and some examples of the CumSum Procedure, see "*The Cumulative Sum Procedure*" document in the docket.

4. Changes in FELs and Other Running Changes

During the course of a MY, manufacturers may change certification FELs up or down depending on comfort level or engineering decisions. Manufacturers may also make changes to the engines to increase performance or reduce emissions. The Agency proposes to handle these changes in production with respect to the CumSum procedure as described below.

Changing an FEL (Actual Engine Not Changed). All data accumulated during that MY but prior to the FEL change would be recalculated with the new FEL. New sample sizes would be calculated, and testing would be continued or halted as required. The CumSum statistic would also be recalculated with the new FEL and would be evaluated with respect to a new action limit. Testing and updating of the sample size and CumSum statistic would continue until testing could be halted as a result of the sample size

calculation, a noncompliance decision, or the end of the MY.

Changing an FEL (Actual Engine Changed). All data accumulated during that MY but prior to the FEL/engine change would be left as is. Sample sizes would now be calculated by inserting the new FEL into the Sample Size Equation. The CumSum Equation and action limit would be updated to reflect the new FEL. The CumSum statistic would then be calculated by the new equation and would be evaluated with respect to the new action limit. Testing and updating of the sample size and CumSum statistic would continue until testing could be halted as a result of the sample size calculation, a noncompliance decision, or the end of the MY.

No Change to an FEL (Actual Engine Changed). No changes would be made to any of the equations or any of the accumulated data. This type of action is considered a typical day-to-day change on the production line that should be evaluated by the Sample Size and CumSum Equations.

5. Old Technology Engines

EPA proposes to waive production line testing requirements for any old technology OB/PWC engine family through MY 2003. In MY 2004 and MY 2005, any manufacturer of an old technology OB/PWC engine family may request, in writing, an exemption from the requirements to perform production line testing. EPA will have the discretion to grant a waiver if the Administrator determines that the engine family will be phased out of production by MY 2005. EPA will review requests for exemptions and upon granting appropriate requests will prepare and submit to the manufacturer a memorandum of exemption, which will set forth the terms and conditions of the exemption. The Agency requests comment on the appropriateness of exempting old technology engine families being phased out within six years of the effective date of the rulemaking, and of offering a discretionary waiver to such engine families in MY 2004 and MY 2005. Refer to section IV.B.3. for additional discussion of this flexibility and the definition of "old technology OB/PWC."

6. Effective Date of the CumSum Procedure

Since publishing the NPRM, it has come to EPA's attention that OB/PWC engine manufacturers may need significant time to prepare their production facilities with all of the necessary equipment and resources to comply with the production line testing

requirements. EPA is proposing that the requirements for the production line testing program become effective one year later than proposed in the NPRM. Under this proposal, marine engine emission standards, certification requirements, and in-use testing provisions would still go into effect beginning with MY 1998. Production line testing requirements would go into effect beginning in MY 1999. This proposal offers some relief to manufacturers while making sure that emission standards and in-use compliance are not delayed. Manufacturers could voluntarily submit production line testing data to EPA during MY 1998. The Agency requests comment on the appropriateness of this one-year delay in the imposition of production line testing requirements.

7. Request for Comment

Although EPA is proposing modifications to the proposed Production Line Testing Program to greatly reduce its burden as outlined above, EPA also requests comment on the appropriateness of omitting such a program from the final rule. EPA believes that the Production Line Testing Program may be the best testing activity which can detect whether a manufacturer has failed to translate an engine design successfully into mass production while the manufacturer still is producing that design.

This Program has the ability to catch and offer a manufacturer the opportunity to correct emission related problems early in an engine's life, thus reducing a manufacturer's in-use liability. EPA believes that the proposed Production Line Testing Program would also serve the following additional purposes: (1) ensure that manufacturers follow precisely the emissions test procedures listed in the CFR, (2) ensure that the manufacturers' test equipment accurately measure emissions, and (3) ensure that production engines are in conformity with applicable Federal emission requirements as they come off the assembly line and that individual engines tested conform to applicable family emission limits.

EPA believes that production line testing is especially important for a rule where certification is built around an averaging, banking, and trading program. Manufacturers will be producing engines which generate emission credits that can be bought or sold or used to offset other families produced by the same manufacturer. EPA believes it is important to ascertain that actual production engines achieve proper certification family emission

¹⁷ SEA is a program in which EPA selects engines from one engine family configuration, directly from the production line, for emissions testing.

limits to ensure that credits are bona fide and real.

However, EPA is considering whether the information obtained from this program is redundant with the information obtained from the proposed In-Use Testing Program. The government is generally attempting to reduce regulatory burden by eliminating all programs that generate redundant information and information that is not cost-effective. EPA requests comment on the relative importance of the information gleaned from the Production Line Testing Program and compliance measures associated with the In-Use Testing and In-use Credit Programs. EPA is considering the option of not finalizing the Production Line Testing Program provided that the In-Use Testing and In-Use Credit Programs are finalized. However, because EPA thinks production line testing generates relevant data and is important, EPA also requests comment on other options such as having production line testing in the early years of the program and then relaxing or eliminating production line testing as the in-use program generates more data.

Should EPA opt not to finalize a Production Line Testing Program, EPA requests comment as to whether SEA should become a more important programmatic emphasis. EPA requests comment on whether SEA regulations (i.e., Part 91, Subpart G) should be finalized for OB/PWC if commenters do not think SEA should become a more important programmatic emphasis. Even if the SEA regulations proposed in the NPRM were not finalized, EPA would retain authority under Sections 206(b)(1) and 208 of the CAA to test or require testing of newly manufactured engines and to inspect production facilities and processes to determine whether a manufacturer is complying with the information submitted for certification. Further, EPA would retain authority under Section 206(b)(2) of the CAA to suspend or revoke the certificate for engines that do not conform with applicable emission standards. However, without SEA regulations, the SEA process could become more cumbersome. EPA seeks comments on both the advantages and disadvantages of finalizing Subpart G, Part 91.

F. In-Use Credit Program

The Agency is proposing an in-use credit program for marine OB/PWC engines. This program would not be a substitute for the proposed averaging, banking, and trading (ABT) provisions used for certification purposes, but would be offered as a separate program that may be used in conjunction with

the certification ABT provisions. The in-use credit program is designed to reduce cost without reducing environmental benefits by providing manufacturers with flexibility in meeting the proposed standards for each pollutant in-use. Participation in this proposed program would be voluntary.

The flexibility that EPA proposes to provide in the in-use credit program is necessary for a number of reasons. In the event that engine families fail in-use testing, EPA believes that recalling the nonconforming engines would be particularly burdensome and impractical for this industry, mainly due to the difficulty of tracking the nonconforming engines. If registration with a government entity occurs, it is the vessel that is registered, not the vessel's engine; manufacturers of marine engines do not typically know in what vessels their engines are installed. Tracking the engines would thus be cumbersome and difficult, especially because manufacturers estimate that the owner moves or the vessel is typically sold about four years after the initial purchase. Therefore, recalling the engines would likely require substantial resources, yet not be highly effective in actually remedying the excess emissions.

The Agency believes it has the authority to promulgate this in-use credit program under the circumstances. The CAA provides that the marine engine emission standards, when finalized, shall be subject to Section 207 of the Act, "with such modifications of the applicable regulations * * * as the Administrator deems appropriate." 42 U.S.C. 7547(d). Section 213 requires engines to comply with emission standards when in actual use throughout their regulatory useful lives, and Section 207 requires a manufacturer to remedy in-use nonconformity when EPA determines that a substantial number of properly maintained and used engines fail to conform with the applicable emission standards. 42 U.S.C. 7541. Once EPA makes this determination, recall would be necessary to remedy the nonconformity. However, EPA believes that, under the circumstances here, where it has been proposed that OB/PWC marine engines could use ABT to comply with the emission standards at certification (see 59 FR 55930), it is appropriate not to make a determination of substantial nonconformity where a manufacturer uses ABT to offset in-use noncompliance. Doing so is also appropriate because it is expected that recall would be impractical and largely ineffective. Thus, the CAA offers EPA the discretion to not make a Section

207(c) determination of substantial nonconformity where a marine engine manufacturer uses ABT to offset any noncompliance with the statute's in-use performance requirements. Though the language of Section 213(d) is silent on the issue of averaging, it allows EPA considerable discretion in determining what modifications to the on-highway regulatory scheme are appropriate for nonroad engines.

In this current proposal, in-use credits would be based upon in-use testing conducted by the manufacturer as discussed previously in the NPRM. For a given engine family, the in-use compliance level (CL) would be determined by averaging the results from in-use testing performed for that engine family. If the in-use CL is below the applicable FEL to which the engine family is certified, the manufacturer could generate in-use credits for that engine family. If the in-use CL is above the applicable FEL, the engine family would experience a credit deficit. In any given year, a manufacturer may use in-use credits to average against excess in-use emissions of another engine family from the same MY, to bank for use in future model years, or to trade to other manufacturers. If a manufacturer completes testing for a given MY and is in a deficit situation, it will not be allowed to carry the deficit over to the next MY. To remedy a deficit situation, a manufacturer could purchase credits from another manufacturer or, upon EPA approval, test additional engine families of that MY beyond the 25 percent proposed in the NPRM for the in-use testing program to generate additional credits.¹⁸

However, EPA is considering allowing a manufacturer to carry-over a deficit to the next MY in the beginning of the phase-in period. Specifically, EPA is considering allowing carry-over during the first three years of the phase-in if no credits are available for purchase to remedy the deficit. EPA requests comment on the appropriateness of allowing a deficit carry-over, on whether it should allow this carry-over only when no credits are available for purchase or if other circumstances are appropriate for carry-over, and on whether the first three years of the phase-in period or some other time period is an appropriate time period for such a deficit carry-over.

The Agency is designing the in-use credit program around three principles.

¹⁸ However, if the additional testing discovers an engine family that was in noncompliance with its FEL, the result would be handled as if it were a failure of the mandated in-use testing requirement of up to 25 percent of a manufacturer's engine families.

First, the in-use testing program will assess whether each manufacturer is achieving the environmental benefits intended by the standards when the engines are in-use. Second, manufacturers will be provided with strong incentive to maintain the standards in-use which will further encourage in-use compliance. Finally, the in-use credit program will provide flexibility and reduce the burden on manufacturers by allowing them an option to address in-use noncompliance in a way that EPA agrees would avoid a determination of nonconformity under § 207(c) of the Act, and thereby avoid a recall.

Credits associated with the certification ABT program would not be interchangeable with credits generated or used in the in-use credit program. Positive certification credits are generated when the FEL is set below the applicable standard. An in-use nonconformity occurs when the CL, which is the emission level determined by in-use testing for an engine family, is found to be above the FEL. Allowing a manufacturer to remedy an in-use nonconformity with positive certification credits generated by the same or another FEL setting would be a dubious policy. Such a policy does not appear to encourage manufacturers to make adequate effort to declare FELs during the certification process that predict in-use emission levels to the fullest extent possible. The Agency is concerned that if the in-use test results simply updated the certification FEL then manufacturers would attempt to set certification FELs that the engine would likely exceed in-use, because a manufacturer would have a chance after in-use testing to change the FEL if it had been set too low at certification. In this way, the manufacturer would generate more certification credits than the engine family actually should receive and would have already used those credits to offset dirtier engines. This is referred to as "gaming" the ABT provisions by "shaving" the FELs. Therefore, to preserve the integrity of both the certification and in-use ABT programs and maintain accountability for manufacturers to meet their stated FELs in certification, production line, and in-use testing, EPA is proposing to restrict credit use by separating in-use credits from certification credits. The Agency requests comment on the necessity of separate certification and in-use ABT sets, especially with respect to providing the incentive for manufacturers to produce engines that meet designed emission levels in-use

and to choose a certification FEL which represents in-use emission levels.

An engine family's in-use CL would be determined by averaging the results of testing in-use engines, as discussed in the NPRM. The test results would be rounded to the number of decimal places contained in the applicable emission standard or FEL, expressed to one additional significant figure. Rounding would be done in accordance with ASTM 29-90, "Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications." The CL would be compared to the applicable FEL to determine if the engine family will generate or require credits.

In EPA's experience with the on-highway heavy-duty ABT program,¹⁹ manufacturers have changed FELs during the MY through running changes. The Agency would not want to restrict the ability of manufacturers to lower FELs when installing cleaner technology during the MY, or to raise FELs if emission data is obtained on an engine family indicating an inadequate safety margin. However, EPA also believes that an in-use testing program that tests only one declared FEL during a MY would not be representative of an engine family having multiple FELs throughout that MY. In a case where a manufacturer has changed the FEL of an engine family during the MY because of a design change, EPA may designate which FEL of the engine family is to be tested. If an in-use failure occurs for this FEL designation, EPA may request in-use emission results from other FEL designations within this engine family to ensure that the noncompliance is confined only to that portion of the engine family with the audited FEL. A manufacturer can also change their certification FEL to increase its safety margin or generate extra credits without a design change. In such cases, if a chosen FEL of an engine family were to fail in-use testing, the emission results would apply to the entire production of the engine family, encompassing all of the FEL changes. Since in this case only the FEL was changed, and not the design of the engine family, EPA believes it is reasonable to apply the emission results of in-use testing to all the FEL settings of the engine family.

Separate calculations of credits would be required whenever an engine family contains multiple FELs. Therefore, it would be possible for an engine family (with multiple FELs) to both generate and require in-use credits as a result of in-use testing. The Agency requests comment on its proposed way of

handling in-use testing of engine families with a number of declared FELs. In particular, EPA seeks comment whether it should require a minimum number of in-use tests for each FEL (or change in emissions characteristics) and if so, what number of tests would be appropriate.

To provide a safeguard against potential environmental detriment, EPA believes that it should only grant in-use credits for amounts of emissions reductions in which EPA has a significant degree of confidence. Thus, EPA proposes to take into account the uncertainty in the in-use emissions tests when calculating credit generation by relating credit generation to the statistical accuracy of the tests. The ultimate purpose of testing a set of engines in-use is to estimate the average emissions rate of all of the engines in that family over their useful lives. For many reasons, the results of any one test of any one engine will generally constitute a fairly uncertain measure of fleet-wide average emission rates; various random factors in the way an individual engine is manufactured and used will cause its emission rate to deviate from the average of its engine family, and other random factors may cause the results of any one test of that engine to vary.

According to the provisions in the NPRM for in-use testing, a manufacturer could pass an in-use audit after the first four tests of an audit. However, if another manufacturer failed the first four tests in an audit, it would continue testing to ten tests in order to make a compliance determination. If both manufacturers simply took the mean of the tests associated with each of these audits, the two manufacturers would not be generating and using credits for in-use emissions levels with the same degree of certainty.

The Agency believes that the number of credits a manufacturer may generate should be related to the number of tests performed for that audit, because the more tests that are performed, the more certain EPA and the public are that the mean of those test results is near the true average for that engine family. In addition, an imbalance of certainty exists between credit generation and credit usage. This arises from the fact that manufacturers would be able to pass an audit and generate credits in four tests (or two for small volume manufacturers), but might not fail an audit or be required to use credits until ten tests were performed. The average of the ten tests will tend to be closer to the correct mean of the engine family. Thus, while EPA will award some credits for engine families that appear to be cleaner

¹⁹ 40 CFR part 86 (subpart A).

than their FEL on the basis of four tests, progressively more credits will be awarded if the compliance level is based on six, eight, or ten tests. (See Figure 1 below.) EPA requests comment on this proposal. In particular, EPA requests comment on the appropriateness of the magnitude of the relative sample size adjustments presented in Figure 1, any preferred adjustments, as well as this approach of adjusting the credits based on the amount of testing done to determine the CL.

FIGURE 1

No. of engines tested	2*,4	6	8	10
Credits earned (AF**)	.5	.75	.9	1

* Small Volume Manufacturer.
 ** Adjustment factor.

If a manufacturer were to pass an in-use audit with the first four tests but wanted to participate in the voluntary in-use credit program, it would be allowed to test ten engines to maximize the credits it would generate.

EPA is also considering a requirement that if in-use credits are generated and used from an engine family with a CL below the applicable emission standard or FEL, then the CL would become an enforceable limit for the engine family that generated the credits. This condition on the generation and use of credits would help ensure that the emissions reductions on which they are based would be real, permanent, and enforceable. EPA has consistently used such an approach before approving the use of credits for emissions reductions. Under such a system, an engine family would have to continue to meet the CL on which credits were based if it were tested again in-use. If it did not, then in-use credits would be required to avoid noncompliance. It is important to note that this would not affect or change in any way the generation or use of credits during certification.

The Agency proposes to require manufacturers to use in-use credits at a higher rate than the credits were generated. While EPA believes that it is important for manufacturers to have the option of remedying in-use problems through in-use averaging rather than through much more costly and uncertain recall actions, it would be better to not have in-use failures at all. EPA wants to maintain a strong incentive for manufacturers to produce engines that pass their in-use audits, and an incentive to achieve that is to

require manufacturers who must use in-use credits to do so at a greater rate than the credits are generated. Therefore, EPA proposes that manufacturers use credits at a rate of 1.2 to 1. In other words, EPA is proposing that manufacturers offset 120 percent of the negative credits identified by the in-use testing program with positive credits. In this way, the in-use credit program will achieve an additional environmental benefit when manufacturers underestimate FELs and will provide an added incentive to manufacturers to adequately identify expected full useful life emission levels when choosing the certification FEL. This would be a penalty for underestimating certification FELs. EPA requests comment on the appropriateness of this penalty, including whether the penalty should be larger, smaller, or not imposed at all.

This penalty may result in a greater environmental benefit than accounted for in the cost-benefit calculation. However, EPA is not taking a benefit in that calculation, because it expects engines to comply in-use with the certification FEL. In other words, EPA expects there will be few engine families that need to use in-use credits.

The credit calculation formula is as follows: Credits earned per engine family=

FEL=the pollutant specific family emission limit for the engine family in g/kW-hr.

CL=compliance level of the in-use testing in g/kW-hr.

SALES=the number of engines in the engine family sold in the U.S. calculated per the certification rules which are the "first delivery" concept.

Power=the average power of an engine family in kW. (sales weighted)

AF=adjustment factor for the number of tests conducted

U(t)=use in hours per year at age t, defined as

$$U(t) = 1.3\mu_{use} - \left(\frac{1.3\mu_{use} - 0.7\mu_{use}}{2\mu_{life}} \right) t$$

where

t=age of the engine in years

μ_{use} =mean use in hours per year, usage rate specific to the application; for outboard engines, hours per year = 34.8; for personal watercraft, hours per year = 77.3; for sterndrive/inboard engines, hours per year = 47.6 μ_{life} = the mean life in years of the engine; μ_{life} =10 for personal watercraft and for outboards

$$\mu_{life} = 41.27 \times \left(\frac{\text{kW}}{0.746} \right)^{-0.20}$$

S(t)=the cumulative fraction survived at time t

where μ_{life} is the mean life in years of the engine; μ_{life} = 10 for personal watercraft; and for outboards

$$e^{-(t \times 0.906 / \mu_{life})^{4.0}}$$

EPA requests comment on the use of the average power rating of an engine family. For certification provisions, EPA proposed to use the minimum power rating for engines below the applicable emission standard and the maximum power rating for engines above the applicable emission standard. EPA requests comments in light of the proposed certification requirements on power rating.

The Agency proposes that results of in-use testing of an engine family may apply to similar engine families from other model years, provided the engine families had received carry-over certification because the emission characteristics of the engine family had not changed. Therefore, if a carry-over engine family was tested and the CL was below the FEL, the engine family could earn credits for a total of up to four model years (the MY of the engine family tested, plus the two model years prior and the MY after: "minus two, plus one"). However, if the CL was above the FEL, then the engine family would owe credits for a total of up to four model years.

For example, in the year 2002 the Agency may request testing of a manufacturer's MY 2001 engine family, which has received carry-over certification from 1998-2002. The manufacturer would conduct the audit. In this example, suppose the CL for the engine family were found to be below the FEL. Since the emission results of an audit of a carry-over engine family can apply to two previous years and one subsequent year of the MY of the engine family tested, this engine family would earn credits for the model years 1999, 2000, 2001, and 2002. Similarly, if the CL was greater than the FEL, it would require credits for those same years. Any generated credits would be identified as MY 2001 credits for recordkeeping purposes.

The Agency proposes to implement this carry-over by applying test results from a given MY engine family to the corresponding engine family from other model years that involve carry-over certification for a number of reasons. The Agency has limited itself to requiring a manufacturer to audit only

25 percent of its engine families in any given MY. It would take at least four years of in-use auditing to cover all of a manufacturer's production. In fact, more than four years might be required, since manufacturers are allowed to drop and add engine families as their product line changes. Accordingly, the Agency believes it is reasonable to apply test results from an audit of an engine family that involves carry-over certification to other MY production. For example, a carry-over engine family that has been produced for eight years may pass an in-use audit in year one and fail in year eight. The failure may have occurred in years two through seven. It appears reasonable to EPA that a manufacturer's liability be limited in such situations because some engine families may be produced for many years before they are tested in-use. The four year proposal in this SNPRM was chosen as a compromise between unlimited MY liability and no liability beyond the specific MY that was audited.

In the administration of the Agency's in-use motor vehicle test program, the Agency has had occasion to be persuaded that an in-use remedy should not apply to a subclass of a given engine family or to a previous MY of a family that involved carry-over certification. The manufacturers have generally submitted test results and other information to support their cases. The Agency believes that a similar approach should apply to the marine in-use credit program. It would provide an opportunity for reductions in the amount of credits a manufacturer might owe for engine families that have been carried over for several years due to the automatic application of the "minus two, plus one" carry-over certification rule to credit calculations. The Agency anticipates using this approach infrequently, but believes it should be available due to EPA's experience in the motor vehicle in-use testing program.

The Agency is proposing unlimited life for in-use credits. Because in-use credits are generated based on real in-use test results, the validity of the credits are not in question. With the concern about validity of credits removed, an economic rationale supports unlimited life. The banked positive credits represent emission reductions beyond the requirements of the regulations, or "excess credits". The present value concept applies to benefits (e.g., emission reductions) as well as cost. In other words, just as a dollar today is worth more than a dollar tomorrow, so too an environmental benefit today is worth more than a benefit tomorrow. However, EPA is not proposing to adjust upward the amount

of credits banked to appropriate future value as would be required to properly account for present value with each year the credit is banked. Therefore, it is actually more beneficial to the environment for manufacturers to use the "excess credits" banked for exceedances in future years, because the banked credits inherently have a higher present value. Therefore, using the banked positive credits with a higher present value, although they are unadjusted, to offset negative credits in a future year yields a net environmental benefit because the banked credits have a real value higher than the value of the future year's negative credits. In this instance, the net environmental benefit is a "shadow" benefit insofar as it is philosophically valued yet unaccounted for.

The Agency is proposing that the United States sales figures used in the marine certification program for each engine family would also apply to this in-use credit program. The Agency sees no need and little benefit to conducting two separate analyses of the engine sales in the United States.

In order for EPA to determine manufacturer in-use compliance, the manufacturer would be required to submit an end of the MY in-use testing report. This report would have to be submitted within 90 days of the end of the in-use testing period for a given engine family for each MY, or at the same time as the final certification ABT report, whichever is later. The end of the MY in-use testing report would contain the calculated credits from all the in-use testing conducted by the manufacturer for a given MY. Also, within ten days after the end of an in-use audit for an engine family, the manufacturer would submit a report indicating the test results and the calculated CL for the engine family.

To ensure that the environment would not be adversely affected, EPA proposes that manufacturers may not enter into a deficit situation as a result of credit trading with other manufacturers. For the same reason, manufacturers may not carry over deficits from one MY to another. A manufacturer must obtain sufficient credits to meet its needs each MY, whether those credits are generated by its own engine families or obtained through trading. Trading may occur only after the manufacturer's in-use testing for that MY has been completed, and a manufacturer may only trade to another manufacturer credits that are in the bank at that time.

The integrity of the proposed marine in-use credit program depends on accurate recordkeeping and reporting by

manufacturers and effective tracking and auditing by EPA. Failure of a manufacturer to maintain the required records would result in the certificates for the affected engine families being void *ab initio*. Violations of reporting requirements could result in a manufacturer being subject to penalties of up to \$25,000 per day of violation as authorized by sections 205 and 213 of the CAA.

The Agency has prepared a supplementary document, available from the docket for this rulemaking, which discusses in-use credit issues in more detail. This document includes examples of calculations of credits in a variety of situations.

The proposed regulations include hearing provisions which allow the manufacturer to challenge EPA's audit of in-use credit calculations and the manner in which those credits were used/generated.

G. Labeling Requirements

As described in the NPRM, each certified engine must bear a label indicating the engine family name and the standard or FEL to which it is certified. Any engine imported into the United States in a vessel must have an engine which also complies with the labeling requirements.

The Agency considered proposing in this SNPRM the idea of a system of labeling engines (or, possibly, watercraft in the case of SD/I applications) that would encourage purchase of the cleanest engines and discourage purchase of the highest-polluting engines. Such a system could be a marketing tool. For example, the cleanest engines could be designated as "green engines" or engines which are most environmentally friendly. The highest-polluting engines could also be designated in such a way as to let the consumer know that there are cleaner engines available for purchase. EPA proposed a "green engine" label in the NPRM. However, EPA did not propose to label engines that are dirtier. EPA seeks here to elicit comments on a system which would also identify which engines are the dirtier engines. One option would be to identify all engines that do not meet the MY 2006 average emission standard as a "dirty engine."

EPA does not intend to go forward with such a proposal in this rulemaking. Nevertheless, EPA requests comment on the advisability of proposing labeling provisions of this type at some later date for use in conjunction with educational outreach to consumers.

H. Addition of Competition Exclusion and Revised Criteria for National Security Exemption for Marine Rule and Other Nonroad Rules

The Agency is proposing to amend or re-propose certain provisions of the existing land-based nonroad CI (>37 kW) rule,²⁰ the existing nonroad SI (≤19 kW) rule,²¹ and this proposed marine engine rule, in order to make the exclusions and national security exemptions (NSEs) in these rules more closely follow EPA's long-standing treatment of exclusions and NSEs in the on-highway motor vehicle program.

In the motor vehicle program, the regulations exclude from their scope any vehicle that exhibits features which render its use on a street or highway unsafe, impractical or highly unlikely, including features ordinarily associated with military combat or tactical vehicles such as armor and/or permanently affixed weaponry. 40 CFR 85.1703. This exclusion criterion is grounded in the definition of "motor vehicle" in the CAA, which restricts the term to vehicles that are designed for transporting persons or property on a street or highway. See Section 216(2) of the CAA.

The statutory definition of "nonroad engine" provides no comparable basis for a combat exclusion. See Section 216(10). However, EPA believes that the national security exemption set forth in Section 203(b)(1) of the Act allows EPA to grant a regulatory exemption to nonroad engines that exhibit "combat features." There are many potential uses of nonroad engines in military and national defenses settings. Accordingly, the Agency proposes to include an automatic national security exemption for nonroad engines, nonroad vehicles, and nonroad equipment that exhibit combat features in the two existing nonroad rules (for CI engines greater than 37 kW and SI engines less than or equal to 19 kW), and in the marine engine rule. All nonroad engines vehicles, and equipment within the scope of the regulations which exhibit the combat features described in the regulations would automatically enjoy an NSE; manufacturers of such products would not be required to apply for this exemption.

While the statutory basis for the automatic nonroad national security exemption differs from the statutory basis for the motor vehicle combat exclusion, the end result is substantially the same. EPA believes that establishing

an automatic NSE for the nonroad programs accords with Congressional intent to offer a national security exemption and decreases significantly the burden for manufacturers and EPA that would exist if EPA limited the availability of an NSE to those manufacturers who apply to EPA and receive approval, as occurs in the motor vehicle program. See 40 CFR 85.1708.

EPA also proposes that manufacturers who produce a nonroad engine, nonroad vehicle, or nonroad equipment which does not meet the "combat features" criterion, but may otherwise require an NSE, may apply to the Agency for an NSE in a manner similar to the national security exemption process offered in the motor vehicle program. See 40 CFR 85.1703. (A slightly different version of the proposed regulatory text on this issue already appears in Parts 89 and 90.) Additionally, the Agency proposes to promulgate a requirement that EPA maintain a publicly available list of NSEs granted to nonroad engines, vehicles, and equipment by EPA after manufacturer application.

Finally, EPA proposes to add a general competition exclusion to the marine rule; the NPRM had limited the competition exclusion to imported vessels. EPA believes this revised proposal accords with the CAA's definition of nonroad engine, which excludes nonroad engines used in a vehicle that is used solely for competition. See Section 216(2) of the Act.

I. Engine Family Definition

The Agency proposed an engine family definition in the NPRM that allowed the manufacturers flexibility to further segregate engine families beyond the proposed criteria, but did not allow manufacturers the flexibility to consolidate engine families. Comments in response to the NPRM indicated that it would be appropriate to include flexibility allowing manufacturers to consolidate engine families.

It is acceptable to consolidate engine families, particularly SD/I engine families, beyond the criteria proposed in the NPRM. For instance, SD/I engines may be marinized by different manufacturers yet have the same basic engine block produced by, for example, General Motors. The emission characteristics should be similar across most marinized engines with the same engine block, even if produced by other manufacturers. Generally, EPA would not expect the emission characteristics to be similar in the degree to which EPA expects on-highway engine families to be similar. The degree of emission control that is necessary for on-highway

applications requires that the concept of "similar" emission characteristics be more narrowly defined. For these reasons, EPA is proposing that engines differing in one or more of the characteristics proposed to define engine families (*i.e.*, combustion cycle, cooling mechanism, cylinder configuration, number of cylinders, catalytic converter, thermal reactor characteristics) may be grouped in the same engine family if the manufacturer can show that the in-use emission characteristics are expected to be similar.

J. Harmonization With the International Maritime Organization

As stated in the NPRM, EPA requests comment on harmonization with the International Maritime Organization (IMO) proposal to regulate emissions from new oceangoing vessels. A copy of this IMO proposal is located in the docket. EPA intends on harmonizing with the IMO emission standard levels for compression-ignition marine engines. EPA requests comment on specific ways to harmonize. EPA's NPRM proposed an average NO_x emission standard of 9.2 g/kW-hr, while the IMO NO_x emission standard varies from 9.8 g/kW-hr to 17.0 g/kW-hr, depending on engine speed. EPA's proposed NO_x emission standard is an average in which the engine can be either below or above, so long as the emissions above the standard are compensated with emissions below the standard. On the other hand, the IMO NO_x emission standard is a cap type standard that all engines must be less than.

Although EPA is not prepared to re-propose a different NO_x emission standard, there are several alternatives that seem to exist that would result in a harmonized NO_x emission standard structure with IMO. One alternative would be to adopt the IMO NO_x emission standard instead of the standard proposed in the NPRM. This would result in a cap type standard at the same NO_x levels as the IMO NO_x emission standard across the engine speed range. A second alternative would be to retain the proposed average NO_x emission standard of 9.2 g/kW-hr and to also adopt the IMO emission standards across the engine speed range as a cap which no engine could exceed. In this way, clean engines would be encouraged through the market for emission credits. Third, it may be appropriate to determine an engine speed or engine power output cutoff point. Such a point could be used to apply the IMO cap emission standard to all engines of high horsepower and low

²⁰ 59 FR 31306 (June 17, 1994); see also 40 CFR Part 89.

²¹ 60 FR 34582 (July 3, 1995); to be codified at 40 CFR Part 90.

and medium speeds. On the other hand, high speed engines with lower horsepower could meet the 9.2 g/kW-hr average standard proposed with the 9.8 g/kW-hr IMO level as a cap which no engine could exceed. This may be appropriate to encourage clean technology and because the high speed engines are used in other nonroad applications in addition to marine. Finally, EPA must determine whether and how to harmonize each of the emission standards for HC, CO, PM and smoke set forth in the NPRM with IMO's NO_x-only emission control approach. With respect to each of these standards, EPA could retain the standard as proposed in the NPRM, drop it, or alter it in some way.

EPA requests comment on ways to harmonize with the IMO emission standards, including the alternatives mentioned here and any alternatives that commenters can devise to integrate the standards. EPA thinks that harmonization is an important issue and intends on finalizing a harmonized NO_x emission standard. EPA requests comment on the extent to which it is appropriate for EPA to harmonize the enforcement requirements in its final rule with the enforcement scheme proposed in the IMO regulation. For example, EPA may finalize its rule such that to the extent that ship owners are liable for engine emissions under the IMO's finalized Marpol Annex, EPA may exercise its discretion under the CAA to not hold engine manufacturers liable for the same emissions. Similarly, EPA would expect to revise its regulations to the extent necessary to harmonize the enforcement scheme with that of the IMO's finalized Marpol Annex. However, EPA is concerned about the potential for a regulatory gap between the time EPA's regulation is implemented and the time when IMO's Marpol Annex would be implemented. EPA is considering applying harmonized or integrated emission standards until IMO's Marpol Annex is finalized so that EPA's regulation achieves emission reductions according to the schedule proposed in the NPRM (i.e., implementation of emission standards beginning in MY 1999).

Finally, EPA is considering whether its test procedures proposed in the NPRM are appropriate for CI engines above 1500 kW. EPA's requirements are for test bed testing only, whereas the IMO's Marpol Annex includes an option for testing such engines on-board vessels. EPA requests comment as to whether EPA test procedures are or should be harmonized with IMO test procedures, including details regarding any changes that are needed to bring

EPA's procedures in harmony with the proposed IMO procedures.

V. Public Participation

A. Comments and the Public Docket

The Agency welcomes comments on all aspects of this SNPRM. While EPA is not publishing the proposed regulatory language, EPA welcomes comment on it. The proposed regulatory language can be found in the docket, or can be requested from EPA on a floppy disk, or can be retrieved from the TTN (see information in section I. of this preamble). Commenters are especially encouraged to give suggestions for changing any aspects of the proposal that they find objectionable. Comments are also encouraged to identify those aspects of the proposal that they favor, since EPA may finalize some, but not all, of the proposals contained in this Notice. Also, commenters are encouraged to offer additional comments on the proposals contained in the NPRM should the proposals set forth in this SNPRM affect their views of the NPRM proposals. All comments, with the exception of proprietary information, should be directed to the EPA Air Docket Section, Docket No. A-92-28 (see ADDRESSES).

Commenters who wish to submit proprietary information for consideration should clearly separate such information from other comments by (1) labeling proprietary information "Confidential Business Information" and (2) sending proprietary information directly to the contact person listed (see FOR FURTHER INFORMATION CONTACT) and not to the public docket. This will help insure that proprietary information is not inadvertently placed in the docket. If a commenter wants EPA to use a submission labeled as confidential information as part of the basis for the final rule, then a nonconfidential version of the document that summarizes the key data or information should be sent to the docket.

Information covered by a claim of confidentiality will be disclosed by EPA only to the extent allowed and in accordance with the procedures set forth in 40 CFR part 2. If no claim of confidentiality accompanies the submission when it is received by EPA, it will be made available to the public without further notice to the commenter.

B. Public Hearing

As noted above (see DATES), EPA will hold a public hearing on this SNPRM on February 22, 1996, if EPA receives from any party a request to testify at the hearing. Any person desiring to present

testimony at the public hearing must notify the contact person listed above of such intent no later than February 20, 1996. The contact person should also be given an estimate of the time required for the presentation of the testimony and notification of any need for audio/visual equipment. Testimony will be scheduled on a first come, first served basis. A sign-up sheet also will be available at the registration table the morning of the hearing for scheduling testimony.

The Agency suggests that approximately 50 copies of any statement or material to be presented be brought to the hearing for distribution to the audience. In addition, EPA would find it helpful to receive an advance copy of any statement or material to be presented at the hearing at least five days before the scheduled hearing date, in order to give EPA staff adequate time to review such material before the hearing. Advance copies should be submitted to the contact person listed.

If a hearing is held, the official record of the hearing will be kept open for 30 days following the hearing to allow submission of rebuttal and supplementary testimony. All such submittals should be directed to the Air Docket, Docket No. A-92-28 (see ADDRESSES).

The hearing will be conducted informally, and technical rules of evidence will not apply. A written transcript of the hearing will be placed in the above docket for review. Anyone desiring to purchase a copy of the transcript should make individual arrangements with the court reporter recording the proceeding.

VI. Administrative Requirements

A. Reporting and Recordkeeping Requirements

The information collection requirements in the NPRM were submitted for approval to the OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* EPA prepared eight Information Collection Request (ICR) documents for the NPRM. Copies of the ICR documents may be obtained from Sandy Farmer, Information Policy Branch, EPA, 401 M St. SW. (mail code 2136), Washington, DC 20460 or by calling (202) 260-2740.

The eight ICR documents that have been prepared are:

EPA ICR document No.	Type of information
1722.01 ..	Certification/AB&T.
282.07	Emission Defect Information.

EPA ICR document No.	Type of information
1723.01 ..	Importation of Nonconforming Engines.
1724.01 ..	Selective Enforcement Auditing.
0012.08 ..	Engine Exclusion Determination.
0095.07 ..	Precertification and Testing Exemption.
1725.01 ..	Manufacturers' Assembly Line Testing.
1726.01 ..	Manufacturers' In-use Testing.

Each ICR document estimates the public reporting, recordkeeping, and testing burden for collecting the specified information, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing the collection of information. In the NPRM, the Agency estimated that the public burden for the collection of information for all the ICRs would average approximately 6,050 hours annually for a typical engine manufacturer. The hours spent by a manufacturer for information collection activities in any given year would be highly dependent upon manufacturer specific variables, such as the number of engine families, production changes, emissions defects, etc.

OMB originally denied all the ICRs that EPA submitted with the NPRM. OMB has subsequently approved two of these (1723.01, for Importation of Nonconforming Engines and 0012.08, for Engine Exclusion Determination), but the rest have not been approved as of the date of publication of this SNPRM. Without OMB approval of these information collection requests, EPA cannot implement the regulations once finalized. Therefore, EPA submitted new information collection requests in conjunction with this SNPRM that indicate that the reporting and recordkeeping requirements of the proposal as a whole are significantly less than estimated in the NPRM due to the small manufacturer criteria and provisions, the manufacturer production line testing program, the in-use credit program, the significantly reduced administrative programs for SD/I engines, and other proposals set forth in this SNPRM.

The new estimates are also based on additional information indicating that the rule affects more manufacturers, and potentially a larger number of small manufacturers. This new information prompted EPA to reduce administrative program burdens as much as possible. EPA now estimates that the public burden for the collection of information for all ICRs under the proposed rule as a whole would average approximately

4,200 hours annually for a typical engine manufacturer.

Comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden should be sent to Chief, Information Policy Branch, EPA, 401 M St., SW. (mail code 2136), Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503, marked "Attention: Desk Officer for EPA." The final rule will respond to any OMB or public comments on the information collection requirements contained in this SNPRM and the NPRM.

B. Impact on Small Entities

The Regulatory Flexibility Act of 1980 requires federal agencies to identify potentially adverse impacts of federal regulations upon small entities. In instances where significant impacts are possible on a substantial number of these entities, agencies are required to perform a Regulatory Flexibility Analysis (RFA). The RFA explores options for minimizing those impacts.

As mentioned in the NPRM, EPA considered, but rejected, the notion of exempting small manufacturers from enforcement programs or from the regulation entirely. A more proportionate sharing of cost burden was deemed appropriate. The pollution emitted by each of these engines not only contributes to ambient air quality problems but also has health impacts on the user of the engine who is in close proximity to the exhaust emissions.

However, as stated in the NPRM, EPA has recently adopted a new approach to regulatory flexibility:²² for purposes of EPA's implementation of the Act, any impact is a significant impact, and any number of small entities is a substantial number. Thus, EPA will consider regulatory options for every regulation subject to the Act that can reasonably be expected to have an impact on small entities. In light of this new approach, EPA has determined that, if no provisions were established to take economic effects into account, this rule would be likely to have a significant effect on a substantial number of small entities. As a result, in addition to the flexibility inherent in averaging, trading, and banking of emissions, EPA has tailored this rule to minimize the cost burdens imposed on smaller engine manufacturers.

²² Habicht, F. Henry II, Deputy Administrator, Internal EPA Memorandum, "Revised Guidelines for Implementing the Regulatory Flexibility Act," April 9, 1992.

The Agency performed an RFA in conjunction with the NPRM.²³ Subsequent comments on the NPRM indicated that EPA's proposal would indeed adversely impact small manufacturers while providing little environmental benefit. Specifically, many small manufacturers of SD/I gasoline engines and maritized CI engines came forward to inform EPA of the severe impacts the proposed regulations would have on their businesses.

In this SNPRM, EPA proposes small manufacturer exemptions and flexibility provisions, so as to ensure that this rulemaking does not unduly burden small manufacturers. The Agency is supplementing the RFA to reflect these proposals. EPA requests comment as to whether the proposed small manufacturer exemptions and provisions adequately address the needs of affected manufacturers.

C. Executive Order 12866

Under Executive Order 12866,²⁴ the Agency must determine whether the 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 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, the Agency has determined that the NPRM, which this notice supplements, is a "significant regulatory action" because it may adversely affect in a material way that sector of the economy involved with the production of marine engines. As such, this action was submitted to OMB for review. Changes made in response to OMB suggestions or recommendations will be documented in the public record.

²³ 59 FR 55930 (November 9, 1994).

²⁴ 58 FR 51735 (October 4, 1993).

D. Unfunded Mandates Reform Act of 1995

Under Section 202 of the Unfunded Mandates Reform Act of 1995 ("UMRA"), Public Law 104-4, EPA must prepare a budgetary impact statement to accompany any general notice of proposed rulemaking or final rule that includes a Federal mandate which may result in estimated costs to State, local, or tribal governments in the aggregate, or to the private sector, of \$100 million or more. Under Section 205, for any rule subject to Section 202 EPA generally must select the least costly, most cost-effective, or least burdensome alternative that achieves the objectives of the rule and is consistent with statutory requirements. Under Section 203, before establishing any regulatory requirements that may significantly or uniquely affect small governments, EPA must take steps to inform and advise small governments of the requirements and enable them to provide input.

EPA has determined that today's supplemental proposal regarding marine engines and proposed revisions to Parts 89 and 90 of the CFR do not trigger the requirements of UMRA. EPA expects to prepare a budgetary impact statement in compliance with Section 202 of the UMRA, and to follow the requirements of Section 205 of the UMRA, at the time it issues a final rule on marine engines.

List of Subjects

40 CFR Part 89

Administrative practice and procedure, Air pollution control, Confidential business information, Environmental protection, Imports, Incorporation by reference, Labeling, Nonroad source pollution, Reporting and recordkeeping requirements.

40 CFR Part 90

Administrative practice and procedure, Air pollution control, Confidential business information, Environmental protection, Imports, Incorporation by reference, Labeling, Nonroad source pollution, Reporting and recordkeeping requirements.

40 CFR Part 91

Administrative practice and procedure, Air pollution control, Confidential business information, Environmental protection, Imports, Incorporation by reference, Labeling, Nonroad source pollution, Reporting and recordkeeping requirements.

Dated: January 26, 1996.
Carol M. Browner,
Administrator.
[FR Doc. 96-2230 Filed 2-6-96; 8:45 am]
BILLING CODE 6560-50-P

40 CFR Part 180**[OPP-300410; FRL-4994-4]****Xanthan Gum-Modified, Produced by the Reaction of Xanthan Gum and Glyoxal; Tolerance Exemption****AGENCY:** Environmental Protection Agency (EPA).**ACTION:** Proposed rule.

SUMMARY: This document proposes that xanthan gum-modified, produced by the reaction of xanthan gum and glyoxal (maximum 0.3% by weight) be exempted from the requirement of a tolerance when used as a surfactant in pesticide formulations. This proposed regulation was requested by Rhone-Poulenc, Inc., pursuant to the Federal Food, Drug, and Cosmetic Act (FFDCA).

DATES: Comments, identified by the docket control number [OPP-300410], must be received on or before March 8, 1996.

ADDRESSES: By mail, submit written comments to: Public Response and Program Resources Branch, Field Operations Division (7506C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. In person deliver comments to: Rm. 1132, Crystal Mall #2, 1921 Jefferson Davis Highway, Arlington, VA.

Information submitted as a comment concerning this document may be claimed confidential by marking any part of all of that information as "Confidential Business Information" (CBI). Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2. A copy of the comment that does not contain CBI must be submitted for inclusion in the public record. Information not marked confidential will be included in the public docket by EPA without prior notice. The public docket is available for public inspection in Rm. 1132 at the address given above, from 8 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays.

Comments and data may also be submitted electronically by sending electronic mail (e-mail) to: opp-docket@epamail.epa.gov. Electronic comments must be submitted as an ASCII file avoiding the use of special characters and any form of encryption.

Comments and data will also be accepted on disks in WordPerfect in 5.1 file format or ASCII file format. All comments and data in electronic form must be identified by the docket number, [OPP-300410]. No CBI should be submitted through e-mail. Electronic comments on this proposed rule may be filed online at many Federal Depository Libraries. Additional information on electronic submissions can be found below in this document.

FOR FURTHER INFORMATION CONTACT: By mail: Amelia M. Acierito, Registration Support Branch, Registration Division (7505W), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location, telephone number, and e-mail address: 2800 Crystal Drive, North Tower, Arlington, VA, (703)-308-8375, e-mail: acierito.amelia@epamail.epa.gov.

SUPPLEMENTARY INFORMATION: Rhone-Poulenc, Inc., CN 7500, Cranbury, NJ 08512-7500, has submitted pesticide petition (PP) 2E04084 to EPA requesting that the Administrator, pursuant to section 408(e) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 346a(e), propose to amend 40 CFR 180.1001(c) by establishing an exemption from the requirement of a tolerance for xanthan gum, modified, produced by the reaction of xanthan gum and glyoxal (maximum 0.3% by weight) when used as a surfactant in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest.

Inert ingredients are all ingredients that are not active ingredients as defined in 40 CFR 153.125 and include, but are not limited to, the following types of ingredients (except when they have a pesticidal efficacy of their own): solvents such as alcohols and hydrocarbons; surfactants such as polyoxyethylene polymers and fatty acids; carriers such as clay and diatomaceous earth; thickeners such as carrageenan and modified cellulose; wetting, spreading, and dispersing agents; propellants in aerosol dispensers; microencapsulating agents; and emulsifiers. The term "inert" is not intended to imply nontoxicity; the ingredient may or may not be chemically active.

The data submitted in the petition and other relevant material have been evaluated. As part of the EPA policy statement on inert ingredients published in the Federal Register of April 22, 1987 (52 FR 13305), the Agency set forth a list of studies which would generally be used to evaluate the risks posed by the presence of an inert ingredient in a pesticide formulation. However, where