

Final Report

of the

SBREFA Small Business Advocacy Review Panel

for

Control of Emissions of Air Pollution

from

Nonroad Diesel Engines

May 23, 1997

**Report of the Small Business Advocacy Review Panel
on
EPA’s Planned Proposed Rule
for
Control of Emissions of Air Pollution from Nonroad Diesel Engines**

INTRODUCTION

This report is presented by the Small Business Advocacy Review Panel convened for the rulemaking entitled “Control of Emissions of Air Pollution from Nonroad Diesel Engines” (hereinafter called the “Nonroad Diesel Engine rule”) that the Environmental Protection Agency (EPA) is currently developing. The Panel was convened by EPA’s Small Business Advocacy Chairperson under section 609(b) of the Regulatory Flexibility Act (RFA) as added by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA). This was the first such panel to be established under RFA/SBREFA for an EPA rulemaking. In addition to its chairperson, the Panel consists of representatives of EPA’s Office of Air and Radiation (the EPA program office responsible for developing the rule), the Office of Information and Regulatory Affairs within the Office of Management and Budget, and the Chief Counsel for Advocacy of the Small Business Administration.

The purpose of the Panel is to collect the advice and recommendations of representatives of small entities that will be affected by the rule and to report on those comments and the panel’s findings as to issues related to the key elements of an initial regulatory flexibility analysis (IRFA) under section 603 of the RFA. Those elements of an IRFA are:

- The number of small entities to which the proposed rule will apply.
- Projected reporting, record keeping, and other compliance requirements of the proposed rule, including the classes of small entities which will be subject to the requirements and the type of professional skills necessary for preparation of the report or record.
- Other relevant Federal rules which may duplicate, overlap, or conflict with the proposed rule.
- Any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities.

Once completed, the Panel report is provided to the agency issuing the proposed rule and included in the rulemaking record. In light of the Panel report, the agency is to make changes to the proposed rule

or the IRFA for the proposed rule, where appropriate.

This report by the Panel for the Nonroad Diesel rule includes a summary of the advice and recommendations received from each of the small entity representatives identified for purposes of the panel process. Written comments submitted by the representatives are provided in an appendix to the report. The report also presents the Panel's findings and discussion on issues related to the elements of an IRFA identified above.

It is important to note that the Panel's findings and discussion are based on the information available at the time this report was drafted. EPA is continuing to conduct analyses relevant to the proposed rule, and additional information may be developed or obtained during the remainder of the rule development process and from public comment on the proposed rule. The Panel makes its report at an early stage of the process of promulgating a rule and its report should be considered in that light. At the same time, the report provides the Panel and the Agency with a timely opportunity to identify and explore potential ways of shaping the proposed rule to minimize the burden of the rule on small entities while achieving the rule's statutory purposes. Any options the Panel identifies for reducing the rule's regulatory impact on small entities may require further analysis and/or data collection to ensure that the options are practicable, enforceable, environmentally sound and consistent with the statute authorizing the rule.

This report begins with a background section that describes the purpose of the rule, any relevant regulatory history and the types of businesses or other entities to which the proposed rule will apply. It then identifies the applicable definitions of small entities for the rule. The next section describes the small entity outreach conducted by EPA and the Panel. The core of the report summarizes the comments and recommendations received from the small entity representatives, including those related to the key elements of an IRFA. Separate summaries are provided for each type of small entity affected by the rule. In the course of reviewing the representatives' comments and recommendations, the Panel makes relevant observations or recommendations. Following these summaries, the Panel presents the rest of its findings and discussion on the rule.

BACKGROUND

EPA issued its first tier of regulations covering most land-based diesel engines (and other compression-ignition engines) used in nonroad applications in 1994, based on a mandate in the Clean Air Act. A more stringent second tier of standards was planned for the future. In 1995, this plan was merged with a larger initiative to significantly reduce NO_x and PM emissions from both nonroad diesel engines and highway heavy-duty engines.

As a part of the initiative to reduce NO_x and PM emissions, highway engine manufacturers, EPA, and the State of California agreed on a framework for the proposal of stringent new standards for

highway heavy-duty engines in a historic Statement of Principles in September of 1996. In the “Highway Statement of Principles,” EPA also announced the beginning of efforts to reach a similar Statement of Principles covering nonroad engines. These efforts were successful, and another government/industry Statement of Principles, the “Nonroad Statement of Principles” was recently signed by members of the nonroad diesel engine industry, the State of California and EPA. The Agency published the Nonroad Statement of Principles in a Supplemental Advance Notice of Proposed Rulemaking in the Federal Register on January 2, 1997 which announces EPA’s intent to issue a formal proposal in 1997.

EPA intends to propose emission standards covering all nonroad diesel engines except for those used to power locomotives, underground mining equipment, and larger marine vessels. (The latter categories are to be regulated separately). Consistent with the Statement of Principles, EPA plans to propose standards which parallel the degree of control anticipated from existing and proposed standards covering highway heavy-duty engines. The standards for land-based nonroad engines rated at over 37 kW(50 hp) would become effective in the 2001-2006 time frame (Tier 2) and 2006-2008 (Tier 3). The standards EPA intends to propose for diesel engines rated at under 37 kW, both land-based and marine, would represent the first emission standards for these nonroad diesels (Tier 1), beginning in 1999 and 2000, as well as Tier 2 standards beginning in 2004 and 2005. EPA does not plan to propose Tier 3 standards for these engines in this rule.

EPA also intends to propose provisions relating to test procedures, emission control system durability, emissions averaging for each of the covered nonroad diesel engine categories, and voluntary standards for low-emitting engines.

The nonroad diesel engine manufacturing industry and “marinizers” of small (under 37 kW) nonroad diesel engines for marine applications would be responsible for meeting the new standards. The engine manufacturers consist of several large- and medium-sized companies and one company that meets SBA small business criteria. There are 12 companies that adapt diesel engines under 37 kW for marine applications, 10 of which meet small business criteria.

In addition, there are many companies that manufacture the equipment into which nonroad diesel engines are installed (some large companies manufacture both engines and equipment). These nonroad equipment manufacturers would be prohibited from introducing into commerce any equipment that contains an engine that does not comply with the new standards (subject to the flexibility provisions discussed below). As discussed below, a change in the engine as a result of the new standards may require a redesign of the equipment to accommodate new engine characteristics such as size or power.

Marinizers generally purchase complete or partially complete engines and add parts to adapt them to marine use (propulsion or auxiliary electrical generation). In some ways the challenge of any new standards for these “post-manufacture marinizers” would mirror that of nonroad equipment manufacturers in that changes made by the original engine manufacturers might require changes in the

parts and process involved in marinization. Unlike equipment manufacturers, however, the marinizers generally complete the final stages of engine production and thus would typically be responsible for obtaining an EPA Certificate of Conformity with the standards and would bear liability for the emissions of these engines in use.

Finally, companies that rebuild or remanufacture nonroad diesel engines, many of which are small companies, would potentially be subject to the rule if EPA were to propose and implement provisions covering the end of the life of original engines. Such provisions were not discussed specifically in the Statement of Principles.

Each of these industries is discussed in more detail below.

Because there is a degree of uncertainty at this early date about how engine changes might impact equipment manufacturers, the engine manufacturer and government participants developing the Nonroad Statement of Principles met with equipment manufacturers during the course of the Statement of Principles discussions. Based on these discussions, the participants included flexibility provisions in the Statement of Principles designed to ease the burden on equipment makers in the event such changes are necessary. These provisions would allow equipment makers to install older-design engines in a fraction of their production for several years. A similar program with higher percent allowances would apply to agricultural and logging equipment. Further, to avoid disadvantaging smaller companies and companies with limited product offerings, equipment manufacturers would be allowed to exceed the older-design production allowances for one model line with an annual production volume of 100 pieces or less.

APPLICABLE “SMALL BUSINESS” DEFINITIONS

This report considers four separate but related industries that will be subject to the nonroad diesel rule and that contain small businesses as defined by regulations of the Small Business Administration (SBA): Nonroad diesel engine manufacturing, manufacturing of nonroad equipment, post-manufacture marinizing of diesel engines, and the rebuilding or remanufacturing of diesel nonroad engines.

According to SBA’s regulations (13 CFR 121), businesses with no more than the following numbers of employees or dollars of annual receipts are considered "small entities" for purposes of a regulatory flexibility analysis:

- Manufacturers of engines (includes marinizers) 1000 employees
- Equipment manufacturers
 - Manufacturers of construction equipment 750 employees

- Manufacturers of industrial trucks (forklifts) 750 employees
- Manufacturers of other nonroad equipment 500 employees

- Rebuilders/Remanufacturers of engines \$5 million

SUMMARY OF SMALL-ENTITY OUTREACH

Beginning before SBREFA's enactment, EPA conducted outreach to members of the above industries and their representatives, including small entities, several times and in several ways. The "Statement of Principles" process provided an early opportunity to spread awareness of potential nonroad diesel emission standards among a number of stakeholders. During the development of the Statement of Principles, EPA staff initiated visits with several members of the equipment manufacturing industry. These visits provided mutually beneficial opportunities to develop relationships with engineers and executives in these companies and to increase the Agency's understanding of the nature of their business and the challenges that members of this industry face. In addition, EPA staff organized briefings for equipment manufacturers on the progress of the Statement of Principles process.

During the fall of 1996, EPA staff began contacting representatives of small businesses who had participated in the briefings during the Statement of Principles process or had been involved in the Tier 1 rulemaking process. These contacts were generally familiar with the potential regulations and were able to provide early comments from a small business perspective. They also suggested names of others for EPA to contact. EPA then assembled the comments from these representatives and sent a summary to them and to several new contacts. As a result, the Agency received several sets of written comments during this process.

In January of 1997, EPA published the Statement of Principles with a Supplemental Advance Notice of Proposed Rulemaking (Supplemental ANPRM), which in part requested comment on small business concerns. During the comment period for the Supplemental ANPRM, EPA held a workshop in Chicago attended by nonroad equipment manufacturers, including several small equipment manufacturers and marinizers. The workshop devoted a significant period of time to discussing equipment manufacturer flexibilities and small entity issues. In addition to the comments made at the workshop, EPA received additional written comments on the provisions of the Statement of Principles and small entity concerns during the comment period on the Supplemental ANPRM. The comments EPA received during this period included several new ideas for how the program envisioned in the Statement of Principles might provide flexibility to equipment manufacturers, especially those that are small entities.

In March 1997, the Panel for the Nonroad Diesel rule was convened. The panel distributed a summary of the flexibility concepts to the small entity representatives identified for the panel process

(see list below) for further comment. The panel then held a teleconference on May 2 which included most of the small entity representatives and allowed for broad interactive discussion and further clarification of potential regulatory options. The panel then accepted further written comment from the representatives on these concepts.

This report and its appendices summarize the comments EPA and the Panel received over the course of the small entity outreach effort.

SMALL-ENTITY REPRESENTATIVES

EPA and the SBREFA Panel have been in contact to date with the following small businesses and organizations that represent the interests of small-business members:

Nonroad Diesel Engine Manufacturers

- WisCon Total Power (Jerome Berti)

Nonroad Equipment Manufacturers

- Long Manufacturing NC, Inc. (Alton Cobb, Edward Vincek)
- Outdoor Power Equipment Institute (OPEI) (John Liskey, Bill Guerry)
- Industrial Truck Association (ITA) (Bill Montweiler, Gary Cross, Matthew Hall)
- Equipment Manufacturers Institute (EMI) (John Crowley)
- Construction Industry Manufacturers Association (CIMA) (Edward Roszkowski)

Post-Manufacture Engine Marinizers

- Westerbeke (John Westerbeke, Jeff Ng)
- Alaska Diesel Electric (Dick Gee)(also produce land-based diesel generator sets)
- Entec West (Dave Oostmann)

Nonroad Engine Rebuilders/Remanufacturers

- Automotive Engine Rebuilders Association (AERA) (Michael Duebner, Michael Conlon)
- Production Engine Manufacturers' Association (PERA) (Joe Polich)

SUMMARY OF INPUT FROM SMALL-ENTITY REPRESENTATIVES

As noted earlier, each of the small entity representatives identified for the panel process for Nonroad Diesel rule was asked to address issues related to the key elements of an IRFA (listed above). For each of the industry sectors subject to the rule, the points made by their small entity representatives are summarized below.

Nonroad Engine Manufacturers

There is one domestic nonroad engine manufacturer that meets SBA small business criteria, WisCon Total Power. WisCon's representative stated that the impact of new standards will be relatively greater for a small company as compared to a larger one, because outfitting of engine test cells is just as expensive as for larger companies but there are fewer sales across which to recoup this cost. Similarly, costs for R&D, tooling, etc. will also represent a relatively large fraction of a small company's assets. WisCon has not to date raised issues relating to reporting or record keeping (EPA does not have plans to propose any significant changes from the reporting and record keeping requirements of the Tier 1 program) or to potential overlap with other federal rules, and they have not suggested regulatory alternatives. WisCon is a signatory to the Nonroad Statement of Principles.

Nonroad Equipment Manufacturers

General Comments

In general, most concerns raised by nonroad equipment manufacturers are independent of company size. That is, there do not appear to be fundamental differences between the interests of large and small manufacturers of equipment as they relate to new standards for nonroad engines. The potential impacts tend to be more severe for small companies, but the fundamental nature of the concerns is the same. Because of this similarity in basic interests, this report includes some general concerns raised by both large and small manufacturers of nonroad equipment and their representatives as well as special concerns raised by small companies.

Members and representatives of this industry stated that manufacturers of nonroad equipment may face new challenges, depending on the choices engine manufacturers make in response to new emission standards. If new standards are proposed, engine manufacturers will be considering several kinds of changes that could affect equipment manufacturers, including decisions about the following: Changes in the physical and operational characteristics of engines; changes in the pricing of engines; and whether to continue to produce certain engine models. Physical or operational changes in engines may require equipment manufacturers to change their physical designs or adapt to different operational characteristics (such as power or torque), adding to their costs. Also, if engine manufacturers decide to discontinue some engine lines without introducing substitute models, equipment manufacturers could face significant adjustments in their designs and offerings. Further, the Equipment Manufacturers

Institute stated the following:

Increased engine price, possible discontinuance of engine models, increased equipment costs, possible increased operating costs, and possible impairment of machine function may result in protracted decline in demand for new equipment after regulation and therefore may shift equipment sales patterns and/or delay the turnover that both industry and EPA desire. Therefore it cannot be assumed for the cost impact analysis and small entity evaluation that engine and equipment manufacturers will be able to pass through to consumers the added costs attributable to Tier 2/3 regulation, or that sales of new equipment will not decline appreciably after Tier 2/3 regulation.

Similar concerns were raised by a small manufacturer of equipment. This commenter expressed the concern that engine compliance costs may cause purchasers to delay replacement of older engines (especially for smaller engines, which the commenter believes would have higher compliance costs as a fraction of total engine cost as compared to larger engines).

Contacts also expressed the concern that for the Statement of Principles's equipment manufacturer flexibility provisions to have value, at least some engine manufacturers would have to continue to produce the older-type engines that equipment manufacturers would be allowed to install in limited numbers.

In addition, some representatives commented that non-vertically integrated equipment manufacturers (i.e., those that do not produce their own engines) may have difficulty in getting information about engine changes and availability from their engine suppliers in order to comment knowledgeably on new proposed standards. Commenters have also requested that EPA urge engine manufacturers to provide more information to their customers about their product plans and specifications. Equipment manufacturers requested that, if such information is not forthcoming from the engine manufacturers, EPA provide small entity equipment manufacturers with a set of hypothetical scenarios (e.g., with respect to engine availability, cost increase, engine "envelope" size, additional cooling requirements, performance changes) that could result from the new standards in order to permit more thorough comments on a future NPRM. Also, EPA was asked to delay proposal of new standards until an industry-funded cost study is complete.

Some commenters have also stated that small equipment dealers/distributors and ultimate users (farmers, contractors, loggers, etc.), as well as small suppliers supplying parts to the engine manufacturers, should be included in small entity outreach for the rule. EPA notes that the outreach requirements of the RFA pertain only to the small entities that will be subject to the rule, and the entities mentioned by the commenters would not be subject to the rule. However, the Agency will fully consider during the rulemaking these and other comments about the effects of the proposed rule on any

and all parties.¹

One small manufacturer of nonroad equipment stated that they were not aware of “independent third-party studies” of the pollution contribution of various nonroad applications and horsepower levels or of the financial impact on small businesses. This commenter also stated that while efforts are underway to achieve international harmonization of nonroad emission standards, they are concerned that uncertainties about harmonization, significant compliance costs, and lead-time difficulties may result in non-U.S. engine suppliers deciding not to supply engines to some U.S. equipment manufacturers. This commenter stated that they requested information from their supplier about costs and the time frame for engine availability, but was told that such information is not yet available.

Number of Small Entities Affected

The small manufacturers of nonroad equipment and representatives that EPA and the Panel contacted did not have information about the total number of small entities that would be subject to the Nonroad Diesel rule. EPA is working with the industry and through an EPA contractor to develop information on the numbers of equipment manufacturers that use nonroad diesel engines and how many of these are small entities.

Interaction With Other Federal Rules

A representative of the diesel forklift industry indicated that OSHA ambient carbon monoxide limits, especially as applied in the state of Minnesota, need to be assessed for any overlap with the engine-based standards proposed in the Statement of Principles. No other potential overlaps with other federal rules were noted by equipment manufacturer representatives.

Reporting and Record keeping

Equipment manufacturers stated that under the flexibility provisions in the Statement of Principles, they should only be required to maintain accurate records of the engine types installed in equipment. These records would not be routinely submitted to EPA but would be available upon request. The commenters believe this approach would minimize the administrative burden on equipment manufacturers while providing for market-driven “self-policing” among competing companies (due to the likelihood that competitors would alert EPA to abuses of the flexibility provisions). It should be noted that no recordkeeping requirements would be proposed for manufacturers which choose not

¹SBA does not agree with EPA’s legal interpretation under SBREFA. However, the concerns of the suppliers in this case should be similar to the concerns raised by small equipment manufacturers who are represented here.

to take advantage of the voluntary flexibility provisions.

Suggested Regulatory Alternatives

Small manufacturers of nonroad equipment and their representatives suggested several alternative ways in which the provisions of the Statement of Principles might be changed or improved in order to achieve emission reductions in a more cost-effective manner. These alternative concepts are summarized in the appended document titled “Preliminary EPA Staff Assessment of Alternative Equipment Manufacturer Flexibility Concepts,” dated 5/14/97, along with potentially positive and negative characteristics of each concept.

Post-Manufacture Engine Marinizers

Most companies in this industry are not represented by an organization. EPA and the Panel have contacted several of them individually and received comments from two of them. These contacts stated that if engine suppliers do not provide new engines with sufficient lead time, their production would be stopped, at great cost. The marinizers need time to redesign the

parts they add to an engine if engines change or if a different company’s engine must be substituted.

A marinizer which has two years experience with EPA certification and compliance stated that they spent an average of 2.5 percent of their revenue on certification and compliance tasks. This was characterized as a large burden which larger companies can better absorb. Also, it was stated that small diesel engines such as the ones they produce contribute very little to total emissions because of their small size and small number.

One marinizer stated that the financial impact on small marinizers could be reduced if the proposed regulations accomplished the following:

- The regulations should be fair to all the regulated entities.
- The regulations should be written in plain English without gray areas subject to interpretation.
- The regulations should be organized to have broad coverage and avoid different rules for different markets or product segments.
- The regulations should provide small businesses “consideration” regarding certification and reporting, including allowing a marinizer to use the engine maker’s certificate of conformity if the marinizer demonstrates that they have not altered the performance or combustion parameters (“streamlining”).

The Panel observes that some or all of the equipment manufacturer flexibility provisions discussed above may also have application to engine marinizers.

Members of this industry have not provided comments about the number of small entities that would be covered by the standards discussed in the Statement of Principles. (As stated above, EPA believes that 12 companies would be subject to the rule, 10 of which meet SBA small-entity criteria). No comments have been received from this industry about reporting and record keeping or about overlap with other government regulations.

Engine Rebuilders/Remanufacturers

EPA staff have also consulted representatives of companies which rebuild or remanufacture engines. EPA has discussed plans to propose provisions relating to rebuilding and remanufacturing nonroad diesel engines which are very similar, if not identical, to the corresponding provisions being considered for highway heavy-duty engines. In both cases, these provisions are aimed at ensuring no loss of emission control at the time of rebuild or remanufacture. Representatives of the rebuilding and remanufacturing industry have stated that they are comfortable with such an approach and they do not believe it would raise new issues for members of this industry. They have not to date raised issues relating to reporting and record keeping or overlap with other federal rules, and they have not suggested regulatory alternatives.

ADDITIONAL PANEL FINDINGS AND DISCUSSION

As indicated above, the types of small entities to which the Nonroad Diesel rule will apply include small engine manufacturers, small equipment manufacturers, small engine marinizers and potentially engine rebuilders or remanufacturers. The number of these small entities is still uncertain. The small entity representatives contacted for the rule were unable to provide additional information about this issue. The Panel supports EPA's efforts to seek additional information about the number of small entities that will be affected by the rule.

The background section above describes the basic elements of the Nonroad Diesel rule. Recordkeeping and reporting requirements associated with engine emission standards are likely to be modeled on analogous requirements already applicable to some nonroad engines. These requirements have benefited from previous EPA efforts to simplify the certification process. Marinizers' suggestions for further streamlining certification procedures for marinized engines are worthy of Agency consideration. Any recordkeeping or reporting requirements associated with potential means for providing small businesses with additional flexibility have yet to be developed, but the Panel urges EPA to keep any such requirements to a minimum. There is little sense in providing small businesses with flexibility only to bog them down with excessive paperwork.

The Panel is unaware of any other relevant Federal rules which may duplicate, overlap or conflict with the proposed rule, with the possible exception of the OSHA ambient carbon monoxide

regulations. The Panel encourages EPA to consider the potential interaction of the Nonroad Diesel rule with those OSHA regulations.

Regarding regulatory alternatives, the Panel considered the 10 concepts suggested by small entity representatives and others. The Panel considered each of the alternatives in light of several criteria including whether the alternative is consistent with the Clean Air Act; whether it would achieve emission reductions comparable to those the basic proposed program would achieve; whether it is reasonably practicable and enforceable; and whether some concepts may complement each other to maximize the overall flexibility for small entities.

The Panel believes that a set of five of the ten suggested concepts (see first appendix for a list of all 10 concepts), considered as an integrated package, would provide significant flexibility and burden reduction for small entities subject to the Nonroad Diesel regulations that EPA plans to propose. Together, these five provisions appear to the Panel to essentially address the full range of concerns raised by small entity representatives. Further, this set of provisions would allow EPA to meet the goals of the program envisioned in the Statement of Principles while maximizing the compliance flexibility for small manufacturers of nonroad equipment and small marinizers and achieving emission reductions comparable to those of the original Statement of Principles plan. The Panel believes that EPA should consider conducting further analysis on the following five concepts and proposing or soliciting comment on them in its planned Notice of Proposed Rulemaking:²

- Concept 3 Allow Respreading of OEM Exemption Allowances
- Concept 4 Equity between <50 hp and >50 hp Categories
- Concept 7 Allow OEMs to buy Engine Program Credits
- Concept 8 Expand Small Volume Allowance to More Than One Model
- Concept 10 Relief for Hardship Cases

In addition to the above package of flexibility concepts, the Panel believes EPA should carefully consider all comments received during this outreach process, as well as comments which will be received as the rulemaking proceeds, on other issues of concern to small entities.

Appendices: Document: “Preliminary EPA Staff Assessment of Alternative Equipment Manufacturer Flexibility Concepts”

Document: “Summary of Comments, Nonroad Diesel Engine Rule, SBREFA Panel Request for Comments”

Attachments: Long Manufacturing N.C. Inc. Comments

²SBA recommends the inclusion of these five concepts as part of the proposal.

Westerbeke Corporation Comments (Three sets of comments)
Alaska Diesel Electric (Two sets of comments)
OPEI (Two sets of comments)
ITA (Three sets of comments)
EMI (Two sets of comments)
AERA (Two sets of comments)