

Final Report
of the
SBREFA Small Business Advocacy Review Panel
for
Control of Emissions of Air Pollution
from
Nonroad Diesel Engines

May 23, 1997

Ms. Carol M. Browner
Administrator
United States Environmental Protection Agency
401 M. Street S.W.
Washington, D.C. 20460

Dear Administrator Browner:

As you know, a Small Business Advocacy Review Panel was established in accordance with section 609(b) of the Regulatory Flexibility Act (RFA) as added by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA) for EPA's planned rulemaking setting emission standards for certain nonroad diesel engines. This was the first SBREFA panel established for an EPA proposal. Members of the Panel include Thomas E. Kelly (Chair), Small Business Advocacy Chairperson/EPA; Jere Glover, Chief Counsel for Advocacy, OA/SBA; Chet France, Office of Air and Radiation/EPA; and Sally Katzen, Administrator, OIRA/OMB. The Panel hereby transmits its report for your consideration. The report includes a summary of the comments received from representatives of the small businesses that will be subject to the nonroad diesel engine rule and the Panel's findings with regard to certain regulatory flexibility issues. The full Panel report is enclosed; this letter summarizes its main points.

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. 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.

Summary of Small Entity Outreach

The types of small entities to which the nonroad diesel rule will apply include small manufacturers of diesel engines, small manufacturers of equipment that uses those engines, small businesses that modify engines for marine use (called "marinizers") and, potentially, engine rebuilders or remanufacturers. Beginning before SBREFA's enactment, EPA conducted extensive outreach to members of the affected industries and their representatives, including small entities. This outreach increased the Agency's understanding of the nature of their business and the challenges these businesses face.

In January of 1997, EPA published 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 representatives of potentially affected industries, several of which represented small businesses. The workshop devoted a significant period of time to discussing small entity issues. In addition to the comments made at the workshop, EPA received additional written comments, including comments on small entity concerns, during the comment period on the Supplemental ANPRM. The comments EPA received during this period included several new ideas suggesting how EPA might provide flexibility to affected industries, especially those that are small entities.

On November 13, 1996, EPA notified the SBA Chief Counsel for Advocacy that a small business advocacy review panel would likely be required and provided the Chief Counsel with a list of suggested small-entity representatives developed during EPA's previous outreach. The Chief Counsel and EPA subsequently agreed on a final set of representatives, a list of whom is included in the enclosed Panel report. EPA then conducted further outreach to these representatives, resulting in development of ten concepts that had the potential to significantly reduce the impact on their businesses. A list of these ten concepts with EPA staff comments on "pros" and "cons" for each concept, entitled "Preliminary EPA Staff Assessment of Alternative Equipment Manufacturer Flexibility Concepts," is appended to the enclosed Panel report.

In March 1997, the Panel for the nonroad diesel rule was convened. The Panel distributed a summary of the ten flexibility concepts to the small entity representatives 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.

The full Panel report summarizes the comments, oral and written, received from each of the small entity representatives and appends their written comments. In light of these comments, the Panel considered the regulatory flexibility issues specified by RFA/ SBREFA and developed the findings and discussion summarized below.

Panel Findings and Discussion

Under RFA/SBREFA, the Panel is charged with addressing four regulatory flexibility issues related to the potential impact of the rule on small entities: the type and number of small entities to which the rule will apply; recordkeeping and reporting requirements applicable to those small entities; the rule's interaction with other Federal rules; and regulatory alternatives that would minimize the impact on small entities consistent with the stated objectives of the statute authorizing the rule. The Panel's findings and discussion with respect to each of these issues are summarized below. A full discussion of Panel activities is presented in the enclosed Panel report.

Type and Number of Affected Small Entities. As indicated above, the types of small entities to which the 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 not yet known. The small entity representatives had little or no information on this point. The Panel supports EPA's ongoing efforts to work with the affected industries to develop information on the number of small entities that will be subject to the rule.

Recordkeeping and reporting requirements. The bulk of the recordkeeping and reporting requirements under this rule arise from the requirement that engine manufacturers must certify that their engines meet the emission standards set by the rule. These certification requirements are likely to be modeled on analogous requirements already applicable to other classes of nonroad engines. Previous EPA efforts have already served to streamline the certification process. Marinizers' suggestions (included in the report) for further streamlining certification procedures for marinized engines are worthy of Agency consideration. Any recordkeeping or reporting requirements associated with providing small equipment manufacturers and others with additional flexibility have not been developed; 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.

Interaction with Other Federal Rules. The Panel did not receive any information indicating that any other Federal rules would duplicate, overlap or conflict with the proposed rule, with the possible exception of an Occupational Health and Safety Administration (OSHA) ambient carbon monoxide regulation. The Panel encourages EPA to consider the potential interaction of the Nonroad Diesel rule with this OSHA regulation.

Regulatory Alternatives. The Panel considered the ten flexibility concepts suggested by the small entity representatives and listed in the Panel report. The Panel considered each of these 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 five of the ten suggested 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. Further, incorporation of these five concepts would allow EPA to meet the emission-reduction goals of the program while maximizing the compliance flexibility for small manufacturers of nonroad equipment and small marinizers. 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:¹

- 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

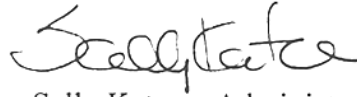
¹SBA recommends the inclusion of these five concepts as part of the proposal.

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 these and other issues of concern to small entities.

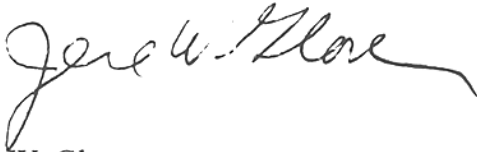
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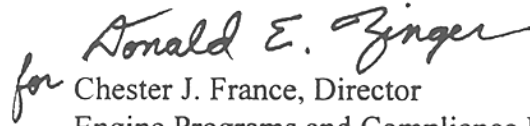
Thomas E. Kelly, Chair
Small Business Advocacy
U.S. Environmental Protection Agency



Sally Katzen, Administrator
Office of Information and Regulatory Affairs
Office of Management and Budget



Jere W. Glover
Chief Counsel for Advocacy
U.S. Small Business Administration



for Chester J. France, Director
Engine Programs and Compliance Division
U.S. Environmental Protection Agency

Enclosure

**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.²

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 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

²SBA 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.

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:³

- 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
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)

³SBA recommends the inclusion of these five concepts as part of the proposal.

Preliminary EPA Staff Assessment of Alternative Equipment Manufacturer Flexibility Concepts

Concept 1: Extra Time for Equipment Redesign

Description of Concept

Westerbeke Version:

Give OEMs a one year allowance before must use complying engines. Give small businesses an additional two years.

Ingersoll-Rand/Melroe (Hunton & Williams) Version:

Give OEMs at least two years of leadtime after the new engine's "made available" date. "Made available" means final design specs, drawings and prototypes. Prohibit significant engine design changes after this date.

Charles Machine Works (Ditch Witch) Version:

Similar to Ingersoll-Rand Version but phase in requirement 20% per year after "made available" date, unless a new equipment model is being introduced anyway.

Pro's

- Provides more time for OEMs to redesign equipment to accommodate redesigned engines.
- Westerbeke version helps level the playing field for small businesses, which need more time due to small staffs.
- Helps match redesign for emissions with normal product update cycle.

Con's

- Mandated 1-2 years with no return on investment disruptive to engine suppliers; engines will not be made available unless market exists.
- Cost of engines (and pass through to ultimate purchaser) likely to increase.
- Prohibition on design changes unenforceable.
- Many design changes occur because of product improvements unrelated to emissions; these would be hampered by prohibition.
- Large loss of environmental benefit due to delayed implementation.

Concept 2: Renew Flexibilities With Each New Tier of Standards

Description of Concept

The SOP concept provides OEM's with an allowance of exempted equipment for several years after a Tier 2 (Tier 1 for <50 hp engines) standard kicks in. Concept 2 would repeat the same allowances for Tier 3 (Tier 2 for <50 hp engines).

Pro's

- Gives more flexibility to OEMs (almost double the exemptions).
- Allows OEMs more time between tiers to recoup investment.

Con's

- Not needed at this time. SOP envisions no significant equipment design impacts due to Tier 3 standards (Tier 2 for <50 hp). EPA is committed to reassessing this issue in 2001 and proposing relief (perhaps including this concept and more) if significant adverse impacts to the OEMs are identified.
- Loss of environmental benefit, possibly large.

Concept 3: Allow Respreading of OEM Exemption Allowances

Description of Concept

Instead of a fixed exemption allowance in each year, provide OEMs an equivalent "lump sum" of exemptions, to be spread over the same years as they see fit.

Pro's

- Allows OEMs to tailor implementation to their product design rollout plan.
- Maximizes availability of all exemption allowances.

Con's

- Some loss in environmental benefit, though likely small.

Concept 4: Equity between <50 hp and >50 hp Categories

Description of Concept

SOP limits flexibilities for OEMs using <50 hp engines to 4 years, in contrast to 7-8 years for OEMs using >50 hp engines. This concept would expand the former to match the latter.

Pro's

- Gives more flexibility to OEMs trying to meet early (1999/2000) start dates for <50 hp engine standards.
- Provides a consistent system of flexibilities for all engines.

Con's

- Some loss in environmental benefit from small engines, though likely small.

Concept 5: Allow Transfer of Exemptions Between HP Categories and Between Application Categories

Description of Concept

The SOP concept provides an allowance of exemptions for equipment using engines in each regulated hp category. It also allows more exemptions for farm and logging equipment. Concept 5 allows an OEM that builds equipment in multiple categories to

transfer unused exemptions for use in another hp category or application category. Another version of this concept expresses the exemptions on a per hp basis, rather than a per machine basis (as a way of accounting for the different emission rates of different sized engines).

Pro's

- Gives more flexibility to OEMs with diverse product offerings.

Con's

- Larger OEMs with diverse product offerings can gain advantage over small competitors by stacking their exemptions to delay implementation for years for some models.
- Difficult to establish appropriate weightings: large and small engines differ not just in hp but in such aspects as annual usage, emissions levels, and useful life.
- Some loss in environmental benefit, though likely small if transferred exemptions could be properly or conservatively weighted.
- Air quality impact may be geographically skewed to the extent that equipment mix varies from place to place.
- Adds to reporting/recordkeeping burden and makes enforcement more difficult.

Concept 6: Drop Special Exemptions for Farm and Logging Equipment

Description of Concept

Drop the larger exemption allowances for farm and logging equipment and respread them over the whole range of applications.

Pro's

- Increases flexibility for non-farm/logging machine manufacturers.

Con's

- Reduces flexibility for farm and logging machine manufacturers.
- Reduces environmental benefit in nonattainment areas (typically urban), by increasing number of exempted, higher-emitting machines used in these areas.

Concept 7 Allow OEMs to buy Engine Program Credits

Description of Concept

Allow OEMs to purchase credits earned by engine manufacturers in the Averaging, Banking, and Trading (ABT) program to offset the sale of additional equipment built with noncomplying engines (beyond that allowed under other flexibility provisions).

Pro's

- Has potential to provide additional flexibility to OEMs.
- May provide incentive for engine makers to make clean engines early.

Con's

- No guarantee that credits will be available for sale.
- Increases complexity of ABT program and EPA enforcement; high administrative burden on all parties to track "ownership" of credits.
- Reduces environmental benefit if it creates new market for otherwise unused credits.
- Creates enforceability concern with respect to potential double-counting of credits.
- Needs to ensure consistency with statutory standard-setting criteria

Concept 8: Expand Small Volume Allowance to More Than One Model

Description of Concept

The SOP concept allows OEMs to annually exempt up to 100 machines of a single model, in recognition of the fact that exempting a certain percentage of production does not help small OEMs with very limited product offerings. Concept 8 would drop the single model restriction, allowing the combined annual production of more than one model to be exempted, up to the combined total of 100 machines in each regulated power band.

Pro's

- Provides more flexibility to small volume OEMs with more than one model.

Con's

- Moves away from the philosophy behind this allowance, which is meant to help small companies with very limited product offerings.
- May be some undetermined loss in environmental benefit, due to the expanded number of companies that could make use of the small volume allowance.

Concept 9: Drop or Relax Standards For Equipment On Which Controls Are Not Cost-Effective

Description of Concept

Establish a cost-effectiveness threshold, above which specific equipment types will not be regulated or will be regulated under relaxed standards. Each equipment type would be evaluated considering cost of compliance, annual usage, hp size, and other factors.

Pro's

- Puts emphasis on equipment with highest environmental impact and easiest redesign effort.
- Eases implementation by reducing number of models needing redesign.

Con's

- Clean Air Act may preclude this approach.
- Evaluation results would depend on how types are defined: Many niche markets may have very low individual environmental impacts, but large impacts in the

aggregate.

- Many engine models go into multiple applications, possibly leading to more than one version of each model and higher costs.
- Creates international deharmonization.
- Restrictions on engines allowed to be used in a machine difficult to enforce.
- Accurate cost-effectiveness comparisons would be very difficult to determine; for example, annual usage may vary widely (e.g., commercial harvesting vs. harvesting by farm owner).

Concept 10: Relief for Hardship Cases

Description of Concept

Small OEMs have stated that they are sometimes at the mercy of engine suppliers who are not responsive to the major disruptions that last minute changes or delays cause. This concept would provide a last resort opportunity for small OEMs, after exhausting all other flexibilities, to gain additional relief from EPA on a case-by-case basis.

Pro's

- Protects small OEMs from serious disruptions occurring through no fault of their own.
- Formalizing a process in regulations allows public input (during the rulemaking) into development of criteria for relief.

Con's

- Difficult to define appropriate and fair criteria for relief, especially with respect to OEM's burden of showing no fault.
- Raises concerns about inappropriate Agency intervention in marketplace and in individual companies' confidential financial situation.
- Loss in environmental benefit, though likely small if objective criteria can be defined and appropriate safeguards can be put in place.

**Summary of Comments
Nonroad Diesel Engine Rule
SBREFA Panel Request for Comments**

May 12, 1997

Commenters (written comments and participants in 5/2/97 teleconference):

Westerbeke (engine marinizer) -- Jeff Ng*
Alaska Diesel Electric (engine marinizer) -- Dick Gee*
Outdoor Power Equipment Institute (OPEI) -- Bill Guerry
Equipment Manufacturers Institute (EMI) -- John Crowley
Industrial Truck Association (ITA) -- Matthew Hall*
Construction Industry Manufacturers Association (CIMA) -- Ed Roszkowski
Automotive Engine Rebuilders Association (AERA) -- M. Duebner and M. Conlon*

* also submitted written comments

Several commenters expressed appreciation to the panel in its approach to conducting this process, and to EPA in its continuing efforts in seeking out the concerns of small businesses early in the rulemaking process. Special appreciation was expressed regarding the consideration of real concepts for meaningful relief, and for the use of the teleconference to cost-effectively solicit input. The following summarizes the detailed comments received in response to the panel's April 24th request, both in writing and in the May 2 teleconference.

Specific Comments on Flexibility Concepts

Concept 1-- Extra Time for Equipment Redesign

OPEI: To the extent that leaner-burning, hotter-running engines are required to meet the new standards, equipment manufacturers may need more time to retool. Especially for makers of seasonal equipment (mowers, etc), a delay of just a few months because of engine unavailability could mean loss of all sales that year. In general, market-based incentives (like ABT) are better than mandating practices in contracts between engine and equipment manufacturers. Instead of prohibiting engine design changes after the "made available" date, EPA might consider providing benefits to engine manufacturers within the ABT program for making final engine designs available on time.

EMI: Additional "pro" of this concept: delaying compliance for small equipment manufacturers "levels the playing field" between them and their larger competitors.

Alaska Diesel: Supports the version of this concept suggested by Charles Machine Works. Does not support prohibiting engine makers from changing engines after a "made available" date.

Westerbeke: Continues to support a one year delay for OEMs and marinizers, and two years

for small businesses. They believe this would be useful even though they do not support a policy of prohibiting engine manufacturers from changing engines after a certain date. They need more leadtime after they get a new engine prototype from the supplier; experience has been that they often don't get engines in time. Also, time needed is longer for small companies because very few staff are available to complete the conversion of their product line into compliance.

Concept 2 -- Renew Flexibilities With Each New Tier of Standards

OPEI: Supports the concept.

Alaska Diesel: Supports this concept. Believes that there will indeed be significant engine redesign with significant equipment design impact due to the Tier 3 (Tier 2 for <50 hp) standards.

Westerbeke: Need more time between tiers of emission standards (to have sufficient time to earn back investment in the new engines).

Concept 3 -- Allow Respreading of OEM Exemption Allowances

ITA: No negatives to this option, this would be a meaningful improvement.

Alaska Diesel: expressed support.

Concept 4 -- Equity between <50 hp and >50 hp Categories

OPEI: The SOP appears to discriminate against manufacturers of small (under 50 hp) equipment. Under 50 hp engines will be newly regulated and equipment makers face tough issues; they need the same flexibility as makers of equipment using over-50 hp engines.

EMI: Supports the concept.

Alaska Diesel: Supports the concept as fair. They produce a broad range of marine engines above and below the hp delineation.

ITA: Supports concept. Inequity in SOP is counterintuitive, considering equipment with small engines has shorter leadtime, smaller emissions impact, and tougher redesign challenges.

Concept 5 -- Allow Transfer of Exemptions Between HP Categories and Between Application Categories

No comments in response to EPA solicitation of ideas for how to weight exemptions.

Alaska Diesel: Supports the concept. Because they have 79 different model/rating combinations, they could well use such transferability.

ITA: Considers it essential to allow equipment manufacturers to use their allowances as they see most appropriate, so long as the total allowance for the entire flexibility period is not exceeded.

Concept 6 -- Drop Special Exemptions for Farm and Logging Equipment

Alaska Diesel: Supports the dropping of the special exemption or adding diesel marine engines to the special exemption, since diesel marine engines are similar to farming and logging equipment in that they are not significant contributors to emissions in urban areas (disputing a statement made by EPA staff).

ITA: Supports the concept. Rationale for the special exemptions not well made: air quality argument is speculative; flexibility for small volume models is better addressed through SOP's small volume allowance. Consider applying the exemption only to equipment using above-50 hp engines.

Westerbeke: Supports dropping the special exemptions. No basis for it in terms of need (same engines used in both types of applications) or environmental impact.

Concept 7 -- Allow OEMs to Buy Engine Program Credits

Alaska Diesel: Supports the concept, but not likely that engine makers would sell their credits, and if so, that small equipment makers could afford them.

Concept 8 -- Expand Small Volume Allowance to More Than One Model

Alaska Diesel: Supports the concept; believe they could use it.

ITA: This is an additional option that should be available.

EMI: Supports the concept. Disagrees that there may be a loss in benefit.

Westerbeke: Supports the concept. Would be appropriate alternative to Concept 1.

Concept 9 -- Drop or Relax Standards For Equipment On Which Controls Are Not Cost-Effective

Alaska Diesel: Does not support this concept.

Concept 10 -- Relief for Hardship Cases

EMI and OPEI: This concept is imperative if Concept #1 is not pursued.

ITA: Supportive of the concept. Support for this concept is widespread among regulated equipment manufacturers.

Alaska Diesel: This concept or something similar is an “absolute necessity”.

Westerbeke: Supports the concept. Envisions EPA evaluating petitions for waivers on case-by-case basis. May not be needed if other flexibility is in place, but should be available as safety net.

General Comments

Alaska Diesel:

1. Wants to avoid separate certification if their marinization can be shown to not affect emissions.

Westerbeke:

1. Supports Alaska Diesel suggestion about certification, and offers some possible technical parameters that might be used to show that emissions are not affected.
2. EPA concern about windfall credits for cleaner indirect injection engines is misplaced; Agency should not discourage shift from direct to indirect injection designs.

OPEI:

1. Discontinuance of an engine model could be disastrous to a small equipment maker.
2. Enhanced flexibility for engine manufacturers could translate into a benefit for equipment manufacturers if the flexibility made it more likely that engines would be available. This includes broadening the engine maker ABT program as much as possible (including cross-horsepower trading) and minimizing the durability testing burden.
3. EPA should consider allowing equipment manufacturers additional flexibility if they take additional measures, such as voluntarily using cleaner engines in some of their product.

EMI:

1. Problem of discontinuance of engine models by engine makers. Members have been unable to get sufficient information from engine makers to evaluate the impact on them.
2. EPA should include equipment distributors and ultimate users in small business outreach and in the rule analyses.
3. Concern about impact of equipment cost rises on demand for new equipment.

CIMA:

1. Concerned about discontinuance of engines by engine manufacturers.
2. Concerned about significant engine changes that change the “envelope” size.
3. Need to get specs for engines ahead of time and be assured they won’t change.
4. Need to consider impact on end users.

AERA:

1. Asked that the description of their position in the draft report be changed to clarify that adopting an approach to the rebuilding of nonroad engines that is similar (if not identical) to that taken in the heavy-duty highway engine rule would be acceptable to AERA.

ITA:

1. Forklift manufacturer generally needs at least 18 months after obtaining a new, durability-proven engine to put its product on the market.
2. SOP's current allowance formula unlikely to be of meaningful assistance because it may not match equipment maker production schedules.