

The Honorable Christine Todd Whitman  
Administrator  
U.S. Environmental Protection Agency  
Ariel Rios Building  
1200 Pennsylvania Avenue, N.W.  
Washington, D.C. 20460

*date stamped December 23, 2002*

Dear Ms. Whitman:

Enclosed for your consideration is the Report of the Small Business Advocacy Review Panel (SBAR Panel or the Panel) convened for the proposed rulemaking on the Control of Emissions of Air Pollution From Land-Based Nonroad Compression Ignition Engines and Nonroad Diesel Fuel that the U.S. Environmental Protection Agency (EPA or the Agency) is currently developing.

On October 24, 2002, EPA's Small Business Advocacy Chairperson (SBAC) convened this Panel under Section 609(b) of the Regulatory Flexibility Act (RFA) as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996. In addition to the Chair, the Panel consisted of the Deputy Director of EPA's Office of Transportation and Air Quality, the Chief Counsel for Advocacy of the Small Business Administration, and the Administrator of the Office of Information and Regulatory Affairs within the Office of Management and Budget.

The Panel's findings and discussion are based on the information available during the term of the Panel. 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 Clean Air Act, primarily sections 211(c) and 213(a) and (b).

#### Small Entities That May Be Subject to the Proposed Regulation

##### Nonroad Diesel Engine and Equipment Manufacturers

EPA conducted a preliminary industry profile to identify the engine and equipment manufacturers that are in the nonroad diesel sector. Using this, EPA identified a total of 61 engine manufacturers. Of the 61 manufacturers, 4 fit the SBA definition of a small entity. These businesses all make lower horsepower (hp) engines, and comprise about one percent of the total engine sales for the year 2002.

In this same assessment, EPA identified over 700 nonroad equipment manufacturers. These

businesses include equipment manufacturers in the industrial, construction, agricultural, and outdoor power equipment (mainly, lawn and garden equipment) sectors of the nonroad diesel market. The equipment produced by these manufacturers ranged from small (sub-25 horsepower walk-behind equipment) to large (in excess of 750 horsepower, such as mining and construction equipment). Of these manufacturers, EPA believes that small equipment manufacturers represent approximately 71 percent of total equipment manufacturers (and these manufacturers account for 11 percent of nonroad diesel equipment industry sales).

### Nonroad Diesel Fuel Industry

EPA's current assessment is that 26 refiners (collectively owning 33 refineries) meet SBA's definition of a small business for the refining industry. The 33 refineries appear to meet both the employee number and production volume criteria. The total number of refineries producing nonroad diesel fuel is 91. These small refiners currently produce approximately 6 percent of the total high-sulfur diesel fuel.

The industry that transports, distributes, and markets nonroad diesel fuel encompasses a wide range of businesses, including bulk terminals, bulk plants, fuel oil dealers, and diesel fuel trucking operations. Thousands of entities have some role in this activity. More than 90 percent of these entities would meet small entity criteria. There are ten small common carrier pipeline companies which are also a part of the distribution system.

### Summary of Small Entity Outreach

Before beginning the formal SBREFA Panel process, EPA actively engaged in talking to entities that would potentially be affected by the upcoming rulemaking. With knowledge learned from the highway diesel rulemaking, the Agency began conducting phone conferences and face-to-face meetings with small fuel refiners that produce nonroad diesel fuel well in advance of the SBREFA process. This led to the selection of a set of potential Small Entity Representatives (SERs) that represent a cross-section of all small refiners. EPA also had begun conversations with representatives of small nonroad fuel distributors in order to better understand that industry sector, and identified three potential SERs in this process.

For the engine and equipment manufacturers, an industry profile of businesses that manufacture nonroad diesel engines and equipment was prepared. From this study, EPA was able to determine the small entities that could potentially be affected by this rulemaking. The Agency began talking to manufacturers and trade associations to locate potential SERs to participate in SBREFA; EPA also contacted some of the SERs that were involved in the previous nonroad diesel rulemaking SBREFA process in 1997.

EPA provided each business with EPA/SBAC fact sheets on the SBREFA process and

background information on the nonroad diesel sector and the rulemaking process. Once potential SERs were identified, EPA began having more discussions to better understand the needs of the small entities in more detail.

Outreach meetings were held with the potential SERs on September 16, 2002 and November 13, 2002. On September 16, 2002, EPA held two separate two-hour meetings with groups of potential SERs representing the engine and equipment manufacturing industry and the fuels industry. Fifteen potential SERs participated in the meetings. These outreach meetings were held to provide the industry representatives with information on the SBREFA process and the role of a SER, and to solicit initial feedback from the potential SERs on the upcoming rulemaking. The potential SERs were encouraged to provide EPA feedback on the material presented. About two months later, on November 13, 2002, EPA held two additional separate two-hour meetings with each group of SERs. These SERs represented the engine and equipment manufacturing and fuels industries. A total of 20 SERs participated in the meetings either in person or by telephone, providing their input to the Panel on the material presented in the SER outreach packet. Following each of the outreach meetings, comments were received from the SERs. A summary and full text of these comments can be found in the Panel report.

### Regulatory Approaches

The technologies envisioned for the next step in the regulation of nonroad diesel engines depends on the level of NOx/PM control required. The Panel assessed six engine emission standards approaches with two underlying fuel approaches. The base approach was premised on aftertreatment-based NOx and PM standards across all hp categories by 2012 with ultra low sulfur diesel fuel (15 ppm) in place in 2008 to enable these technologies which would begin to phase-in in 2009. The remaining five approaches were variants from the base approach. Basic parameters were varied for the engine emission standards, such as implementation year, whether aftertreatment based standards would be applied to all horsepower categories or, if not, whether further reduction should be required in those hp categories not likely to employ aftertreatment. The timing of the aftertreatment-based standards was driven largely by when ultra low sulfur diesel fuel would be available. The concept of varying requirements by engine hp category was based on cost concerns. In the approaches where the 15 ppm diesel fuel would not be available until 2010, the same approaches included an interim reduction to 500 ppm in 2007.

### Panel Findings and Discussion

The Panel assessed each of the issues raised in the outreach meetings and in written comments by the SERs. For small engine manufacturers, the Panel's key discussions centered on the limited financial and engineering resources available to these companies and the identification of flexibilities which would aid their transition to eventual compliance with the new standards. The Panel also discussed the six regulatory approaches and agreed to recommend further assessment of the issues.

For small equipment manufacturers, essentially all of whom are dependent on outside suppliers for their engines, the discussions focused on the difficulty of compliance due to new engine and equipment modification costs, limited engineering resources, and the many different equipment models.

Furthermore, the Panel considered whether the flexibilities would provide adequate interim relief and whether previous (e.g., Tier 2 or Tier 3) Tier<sup>1</sup> engines would be available for use when the flexibilities are exercised. With regard to the diesel fuel provisions, the Panel discussion involved assessing the best means by which to provide flexibility to the small refiners in light of their different product mixes (gasoline, highway diesel, nonroad diesel, etc.) and their technology position with regard to refinery configuration and product desulfurization plans. For nonroad diesel fuel distributors, the major focus was understanding the impact of adding an additional grade of nonroad diesel fuel on their operations and identifying potential options to mitigate storage and distribution system impacts.

#### Projected Reporting, Recordkeeping, and Other Compliance Requirements of the Proposed Rule

At this point in the process, EPA has not yet fully defined a program of reporting, record keeping requirements, or compliance assurance for the engine and equipment entities that may be subject to the proposed rule. For engine and equipment manufacturers, EPA expects to propose to continue the reporting, recordkeeping, and compliance requirements prescribed for these categories in 40 CFR 89. For any fuel control program, EPA must have assurance that fuel produced by refiners meets the applicable standard, and that the fuel continues to meet the standard as it passes downstream through the distribution system to the ultimate end user. EPA expects that recordkeeping, reporting and compliance provisions of the proposed rule will be fairly consistent with those in place today for other fuel programs, including the current 15 ppm highway diesel regulation. For example, recordkeeping would likely involve the use of product transfer documents, which are already required under the 15 ppm highway diesel sulfur rule.

If EPA adopts a provision allowing small refiners to continue selling 500 ppm sulfur fuel when the rest of the industry is producing 15 ppm, there would need to be provisions to ensure that refiners as well as downstream parties are subject to enforceable measures to prevent contamination and misfueling (e.g., general segregation requirements, labeling at pump stands), that would be modeled largely after similar provisions of the highway diesel program.

#### Other Relevant Federal Rules Which May Duplicate, Overlap, or Conflict With the Proposed Rule

The Panel is aware of a few other current or proposed Federal rules that are related to the upcoming proposed rule. There are currently emission standards for nonroad diesel engines and related provisions for equipment manufacturers both of which are to be covered by the potential proposed rule

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<sup>1</sup> EPA generally sets standards in phases or "tiers", with one tier applying for a limited number of model years until replaced by the next tier of standards.

(see 40 CFR 89). EPA's proposed certification fees rule may have some impact on the upcoming rule, and the Panel encourages EPA to take into consideration the effects this rule may have on small businesses.

The fuel regulations that EPA expects to propose would be similar in many respects to the existing and future sulfur standards for highway diesel fuel. The Panel is not aware of any area where the regulations under consideration would directly duplicate or overlap with the existing federal, state, or local regulations. The Panel notes, however, that several small refiners also will be subject to the gasoline sulfur and highway diesel sulfur control requirements, as well as air toxics requirements.

The Panel also notes that more stringent nonroad diesel sulfur standards may require some refiners to obtain permits from state and local air pollution control agencies under the Clean Air Act's New Source Review program prior to constructing the desulfurization equipment needed to meet the standards.

The Panel notes that the Internal Revenue Service (IRS) has an existing rule that levies taxes on highway diesel fuel only. The IRS rule requires that nonroad diesel (un-taxed) fuel be dyed so that regulators and customers will be able to distinguish fuel type. If there are two grades of nonroad diesel fuel allowed in the marketplace during the transition periods, there may be a cost for small distributors who choose to install an extra tank to segregate both grades.

### Regulatory Alternatives

The Panel considered a wide range of options and regulatory alternatives for providing small businesses with flexibility in complying with the nonroad diesel engine, equipment and diesel fuel sulfur standards. As part of this process, the Panel requested and received comment on many ideas that were suggested by both the Panel members and the SERs. Taking into consideration the comments received on these ideas, as well as additional business and technical information gathered from and about potentially affected small entities, the Panel summarizes the major options below. The complete set of recommendations can be found in section 9 of the full Panel Report.

### Major Panel Recommendations

#### Small Engine Manufacturers

##### Regulatory Flexibility Options for Small Engine Manufacturers

Currently, certified nonroad diesel engines produced by small manufacturers all have a rating of 80 hp or less. The flexibilities to be considered depend upon what approach, or approaches, EPA proposes. The Panel recommends the following:

- If EPA proposes an approach with two phases of standards, the engine manufacturer could skip the first phase and comply on time with the second. Or, alternatively, the manufacturer could delay compliance with each phase of standards.
- If the approach EPA proposes entails only one phase of standards, the manufacturer could opt to delay compliance.

The Panel recommends that the length of these delays be a three year period, and recommends that EPA take comment on whether this delay period should be two, three, or four years. Each delay would be pollutant specific (i.e., the delay would apply to each pollutant as it is phased in).

#### Hardship Provisions for Small Engine Manufacturers

The Panel is also recommending that two types of hardship provisions be extended to small engine manufacturers. These provisions are:

- For the case of a catastrophic event, or other extreme unforeseen circumstances, beyond the control of the manufacturer that could not have been avoided with reasonable discretion (i.e. fire, tornado, supplier not fulfilling contract, etc.); and
- For the case where a manufacturer has taken all reasonable business, technical, and economic steps to comply but cannot do so.

A manufacturer would have to demonstrate to EPA's satisfaction that failure to sell the noncompliant engines would jeopardize the company's solvency. Either relief provision would provide additional lead time for up to 2 model years (in addition to the flexibilities listed above) based on the circumstances, but EPA may require recovery of the lost environmental benefit through the use of programs such as supplemental environmental projects.

In terms of applicability, the Panel recommends that engine manufacturers and importers must have certified engines in model year 2002 or earlier in order to take advantage of these provisions. Each manufacturer would be limited to 2500 units per year. This number allows for some market growth.

#### Other Small Engine Manufacturer Provisions

The Panel also recommends that an averaging, banking, and trading (ABT) program be included as part of the overall rulemaking program, the Panel also recommends that EPA take comment on the inclusion of a specific ABT provision for small engine manufacturers.

Based on the SERs' concerns about the technical feasibility of the Tier 4 standards, and the technical information discussed in the Panel report, SBA recommends that EPA include a technological review of the standards in the 2008 timeframe in the rulemaking proposal. The Panel recommends that

EPA consider this recommendation.

### SBA Observations

The Chief Counsel for Advocacy of the SBA offers some observations about the impacts of the regulatory approaches on affected small engine and equipment manufacturers. While the other Panel members do not join in these observations, the Panel recommends that the Administrator carefully consider these points and examine further the factual, legal and policy questions raised here in developing the proposed rule. First, given the available information, the Office of Advocacy has substantial doubts about the technical feasibility and cost of engineering aftertreatment devices into a wide diversity of nonroad diesel applications for engines under 50 kilowatts (kW) (70 hp). Considerable concern has been raised regarding the technical feasibility of aftertreatment devices, even for larger engines, and particularly in the case of NOx adsorbers. Second, the low retail cost and low annual production for many of these applications make it extremely difficult for the equipment manufacturer to absorb these additional costs. Therefore, the Office of Advocacy believes that, based on the available information, EPA does not have a sufficient basis to move forward with a proposal that would require nonroad engines under 50 kW to use aftertreatment devices.

As is explained in the Panel report, EPA estimates the total cost of adding aftertreatment devices to smaller hp engines (approach 1 versus approach 3) at approximately \$800 million annually, with a difference in emission reductions of 18,000 tons of PM and 116,000 tons of NOx nationwide. The Office of Advocacy notes some uncertainty about the costs of these new requirements. In light of the costs and the emission reductions here, and the statutory requirements, the Office of Advocacy questions whether there are other more cost-effective opportunities for achieving these emission reductions than the more expensive regulatory approaches.

### Small Equipment Manufacturers

#### Regulatory Flexibility Options for Small Equipment Manufacturers

Experience gained in implementing the Tier 1 and 2 nonroad diesel engine emission standards indicates that providing equipment manufacturers some flexibility as to which Tier of engines they use (new or previous Tier) provides significant opportunity for manufacturers to phase-in equipment redesigns by aligning their redesign efforts with more normal business practice. The Panel recommends that EPA propose to continue these flexibilities, as set out in 40 CFR 89.102, with some potential modifications. The recommended flexibilities are:

- Percent of Production Allowance: Over a seven model year period, equipment manufacturers may install engines not certified to the new emission standards in an amount of equipment equivalent to 80 percent of one year's production. This is to be implemented by power category with the average determined over the period in which

the flexibility is used.

- Small Volume Allowance: A manufacturer may exceed the 80 percent allowance in seven years as described above, provided that the previous Tier engine use does not exceed 700 total over seven years and 200 in any given year. This is limited to one family per power category. Alternatively, manufacturers may choose, by hp category, a program that eliminates the “single family provision” restriction with revised total and annual sales limits as shown below:

- For each hp category  $\leq 175$  hp as defined in the regulation - 525 previous Tier engines (over 7 years) with annual cap of 150 units
- For each hp category  $> 175$  hp as defined in the regulation - 350 previous Tier engines (over 7 years) with annual cap of 100 units.

The Panel recommends that EPA seek comment on the total number of engines and annual cap values listed above.

In contrast to the Tier 2/Tier 3 rule promulgated in 1998, SBA expects the transition to the Tier 4 technology will be more costly and technically difficult. Therefore, the small equipment manufacturers may need more liberal flexibility allowances especially for equipment using the lower hp engines. The Panel’s recommended flexibility may not adequately address the approximately 50 percent of small business equipment models where the annual sales per model is less than 300 and the fixed costs are higher. Thus, SBA and OMB recommend that EPA seek comment on implementing the small volume allowance (700 engine provision) for small equipment manufacturers without a limit on the number of engine families which could be covered in any hp category.

- In addition, due to the changing nature of the technology as the manufacturers transition from Tier 2 to Tier 3 and Tier 4, the Panel recommends that equipment manufacturers be permitted to borrow from the Tier 3/Tier 4 flexibilities for use in the Tier 2/Tier 3 timeframe.
- To maximize the likelihood that the application of these flexibilities will result in the availability of previous Tier engines for use by the small equipment manufacturers, the Panel recommends that these three flexibilities be provided to all equipment manufacturers.
- The Panel recommends that EPA seek comment on the need for and value of special application specific standards for small equipment manufacturers for equipment configurations which present unusually challenging technical issues for compliance.

#### Hardship Provisions for Small Equipment Manufacturers



The Panel is also recommending that two types of hardship provisions be extended to small equipment manufacturers. These provisions are:

- For the case of a catastrophic event, or other extreme unforeseen circumstances, beyond the control of the manufacturer that could not have been avoided with reasonable discretion (i.e. fire, tornado, supplier not fulfilling contract, etc.); and
- For the case where a manufacturer has taken all reasonable business, technical, and economic steps to comply but cannot do so. In this case, relief would have to be sought before there is imminent jeopardy that a manufacturer's equipment could not be sold and a manufacturer would have to demonstrate to EPA that failure to sell equipment with a previous Tier engine would create a serious economic hardship. Hardship relief of this nature cannot be sought by a manufacturer which also manufactures the engines for its equipment.

Hardship relief would not be available until other allowances have been exhausted. A manufacturer would have to demonstrate to EPA's satisfaction that failure to sell the equipment would create a serious economic hardship. Either relief provision would provide additional lead time for up to 2 model years based on the circumstances, but EPA may require recovery of the lost environmental benefit.

To be eligible for the flexibilities and hardship provisions listed above, the Panel recommends that equipment manufacturers and importers must have reported equipment sales using certified engines in model year 2002 or earlier.

### Fuel Refiners

The Panel considered a range of options and regulatory alternatives for providing small refiners with flexibility in complying with new sulfur standards for nonroad diesel fuel. Taking into consideration the comments received on these ideas, as well as additional business and technical information gathered about potentially affected small entities, the Panel recommends that whether EPA proposes a one-step or a two-step approach, EPA should provide for delayed compliance for small refiners as shown below.

### **Small Refiner Options Under Potential 1-Step and 2-Step Nonroad Diesel Base Programs Recommended Sulfur Standards (in parts per million (ppm))\***

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015+
<i>Under 1-Step Program</i>										

Non-Small**	--	--	15	15	15	15	15	15	15	15
Small	--	--	--	--	--	--	15	15	15	15
<i>Under 2-Step Program</i>										
Non-Small***	--	500	500	500	15	15	15	15	15	15
Small	--	--	--	--	500	500	500	500	15	15

\* New standards are assumed to take effect June 1 of the applicable year.

\*\* Assumes 500 ppm standard for marine + locomotive fuel for non-small refiners for 2008 and later and for small refiners for 2012 and later.

\*\*\* Assumes 500 ppm standard for marine + locomotive fuel for non-small refiners for 2007 and later and for small refiners for 2010 and later.

If EPA were to propose a base program approach different from the one-step and two-step approaches represented in the table above, the Panel recommends that such a proposal include small refiner delays that are equivalent to those in the table. Similarly, if EPA were to propose that locomotive and marine diesel fuel be reduced to 15 ppm in the base program, the Panel recommends that a standard of 500 ppm for this fuel be continued at least for several years for small refiners.

#### Small Refiner Incentives for Early Compliance

In addition to these standards, the Panel recommends that EPA propose certain provisions to encourage early compliance with lower sulfur standards. The Panel recommends that EPA propose that small refiners be eligible to select one of the two following options:

- Credits for Early Desulfurization: The Panel recommends that EPA, as part of an overall trading program, propose a credit trading system that allows small refiners to generate and sell credits for nonroad diesel fuel that meets the small refiner standards earlier than that required in the above table. Such credits could be used to offset higher sulfur fuel produced by that refiner or by another refiner that purchases the credits.
- Limited Relief on Small Refiner Interim Gasoline Sulfur Standards: The Panel recommends that a small refiner producing its entire nonroad diesel fuel pool at 15 ppm sulfur by June 1, 2006, and that chooses not to generate nonroad credits for its early compliance, receive a 20 percent relaxation in its assigned small refiner interim gasoline sulfur standards. However, the Panel recommends that the maximum per-gallon sulfur cap for any small refiner remain at 450 ppm.

#### Refiner Hardship Provisions

The Panel recommends that EPA propose refiner hardship provisions modeled after those established under the gasoline sulfur and highway diesel fuel sulfur program. See 40 CFR 80.270 and 80.560. Specifically, the Panel recommends that EPA propose a process that, like the hardship provisions of the gasoline and highway diesel rules, allows refiners to seek case-by-case approval of applications for temporary waivers to the nonroad diesel sulfur standards, based on a demonstration to EPA of extreme hardship circumstances. This provision would allow domestic and foreign refiners, including small refiners, to request additional flexibility based on a showing of unusual circumstances that result in extreme hardship and significantly affect the ability of the refiner to comply by the applicable date, despite its best efforts.

#### Nonroad Diesel Fuel Distributors and Marketers

The diesel fuel approaches being considered by EPA both include the possibility of there being two grades of nonroad diesel fuel (500/15 ppm) in the market place for at least a transition period. The distributors support a one-step approach because it has no significant impact on their operations. The distributors offered some suggestions on how they might deal with this issue, but indicated that there would be adverse impact in some circumstances. The Panel recommends that EPA study this issue further.

Sincerely,

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/s/

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Enclosure