

Dec 1996

**SMALL NONHANDHELD SPARK-IGNITED NONROAD ENGINE
STATEMENT OF PRINCIPLES**

Members of the small (19 kilowatt and below) nonhandheld spark-ignited (SI) nonroad engine industry and the U.S. Environmental Protection Agency (EPA) (collectively, the Signatories) recognize the significant contribution made by small nonhandheld SI nonroad engines to the emissions inventory that leads to ozone concentrations in nonattainment areas. This recognition prompted the Signatories, along with State and environmental organization representatives, to work together to quickly put into place a first phase of regulations taking effect with the 1997 model year. The Phase 1 regulations achieve significant reductions in ozone-forming pollutants from these engines by setting emissions standards to control hydrocarbons (HC) and oxides of nitrogen (NO_x).

Nevertheless, the Signatories recognize that further control of HC and NO_x from these sources beyond the Phase 1 levels is achievable through technology that will be cost-effective and feasible in future model years. They also recognize the need for stability and predictability to be designed into a regulatory program that achieves these additional reductions.

The Signatories also recognize that it is important to maintain a strong and competitive industrial base as EPA implements its responsibilities to protect public health and welfare and the environment.

This Statement of Principles ("SOP") accomplishes both environmental and business objectives, ensuring cleaner air in a manner which is both realistic for industry and responds to environmental needs. The Signatories agree that the aggressive package of emission standards and implementation schedules contained in this SOP accomplishes the environmental benefit of further significantly reducing in-use emissions of ozone forming pollutants from nonhandheld small SI nonroad engines. The Signatories further agree that the package of provisions contained in this SOP reflects a clear, stable, long-term control

program for this source which will encourage industry to more effectively incorporate environmental objectives into their business planning.

With this SOP, the small nonhandheld SI nonroad engine industry has stepped forward to work as a partner with EPA to bring about cleaner air. States will see significant additional reductions in the emission inventory from these sources beyond those achieved by the Phase 1 rule that they can rely upon in meeting their responsibilities to attain and maintain the national ambient air quality standard (NAAQS) for ozone. Consumers will benefit from improved engine technology, which in addition to improving air quality will likely also burn less fuel, require less maintenance, be more reliable, and last longer.

This SOP outlines the joint understanding of all Signatories that will provide the basis for issuance by EPA of an Advanced Notice of Proposed Rulemaking ("ANPRM") and a Notice of Proposed Rulemaking ("NPRM") which would be consistent with the points outlined in this document. EPA intends to issue the ANPRM in early 1997, the NPRM in the Fall of 1997, and to promulgate a final rule by the Fall of 1998¹. Based on the currently available information, the Signatories believe that the standards contained in this SOP represent the most stringent standards achievable considering cost and other appropriate factors in the time frame of this Phase 2 program. However, this SOP does not change the importance of EPA demonstrating the need for the standards described below and EPA's obligations to meet the criteria of the Clean Air Act in finalizing any rule, including complying with all applicable rulemaking procedures.

1. Scope

This SOP addresses a Phase 2 program that will apply to Class 1 and Class 2 nonhandheld SI nonroad engines at or below 19 kilowatts (25 horsepower). These classes are distinguished from each other primarily in terms of engine size (displacement), cost, and the applications in which they are used.

¹EPA is currently seeking appropriate changes to a court order to conform to this SOP.

Class 1 engines, which have displacements of less than 225 cc, are typically used in relatively inexpensive applications such as walk-behind lawnmowers, edgers and trimmers, and other lawn care equipment. The vast majority of Class 1 engines produced for use in the United States use side-valve (SV) technology.

Class 2 engines, which have displacements greater than or equal to 225 cc, are typically used in more expensive applications such as riding mowers, lawn tractors, tillers, generator sets, and many other applications. Class 2 engines are often used in commercial applications and, as a result, tend to have much higher hours of use annually than Class 1 engines. Approximately one third of the Class 2 engines sold in the United States today utilize over-head valve (OHV) engine technology.

2. Technology Forcing and In-Use Goals

The two primary goals for the Phase 2 program for small nonhandheld SI nonroad engines reflected in this SOP are 1) a shift to cleaner, more emissions durable technology as quickly as feasible, considering cost and lead time factors, and 2) assurance that emission reductions are achieved in-use.

The Signatories acknowledge that the program described here is intended to meet the clean technology goal and reflect a shift to clean more durable technology on an aggressive schedule by: 1) ensuring that manufacturers shift their production of larger (Class 2) nonhandheld engines completely to over-head valve engine or comparably clean and durable technology (referred to herein as "OHV emissions performance") by model year 2005, and in the interim attain a 50 percent shift to OHV emissions performance by model year 2001, 2) establishing standards for Class 1 engines that reflect cost-effective controls on SV engine technology, and 3) assessing the environmental, marketplace and other economic factors associated with high-volume OHV technology for smaller (Class 1) nonhandheld engines through an OHV demonstration program.

The Signatories further agree on the principle that the emission benefits of the program must be realized in-use. As a result, this SOP contains provisions to ensure that the engines

produced by manufacturers are emissions durable over their useful lives while at the same time using compliance mechanisms that are not unduly burdensome.

3. Standards and Effective Dates

In order to achieve the goals described in section 2 above, the Signatories agree to the following provisions.

a. HC + NOx

The Signatories believe that the standards and effective dates shown in Table 1 below will achieve the technology forcing goal described in section 2 above.

Table 1 - HC+NOx Standards and Model Year Effect Dates

	HC+NOx	NMHC+ NOx (optional standard for natural gas fueled engines only)	2001	2002	2003	2004	2005
	g/kw-hr (g/bhp-hr)		Assumed % of Sales ²				
Class 1	25.0 (18.7)	23.0 (17.2)	100				
Class 2	24.0 (18.0)	22.1 (16.5)	50	37.5	25	12.5	0
	12.1 (9.0)	11.3 (8.4)	50	62.5	75	87.5	100

The actual corporate average emission standards for Class 2 engines, based on the standards applicable at the 250 hour useful life category are, in g/kw-hr:

2001	2002	2003	2004	2005
18.0	16.6	15.0	13.6	12.1

A manufacturer's actual corporate average could be different depending on its mix of 250, 500, and 1000 hour useful life engines.

The Class 1 level of 25 g/kw-hr is expected to achieve meaningful emission reductions from these engines beyond what is required for the Phase 1 rule, while at the same time allowing the continued use of SV engines in the market for this class. The Signatories agree to the importance of the OHV Demonstration Program for Class 1 to investigate the potential for increasing penetration of OHV technology in Class 1 (see section 3(g) below).

For Class 2 engines there is a dual standard: one based on SV technology (which is expected to be phased-out), and one based on OHV technology. The OHV technology based standard (12.1 g/kw-hr for 250 hour engines) would be phased-in on a percentage of production basis as shown in Table 1. The standard is based on the projected capabilities of emissions-optimized durable OHV engines. The standard assumes an assigned multiplicative deterioration factor (DF) of 1.3 at 250 hours for OHV engines. EPA will propose that manufacturers would be allowed to establish their own DFs for their full product line within a useful life category for the 500 and 1000 hour useful life categories. The proposal will address in a reasonable and practical manner the kind of data required to determine the DFs, the amount of in-use testing required to verify the DFs, and the appropriateness of reserving certification credits pending verification of the DFs through in-use testing. During the rulemaking process EPA will consider the appropriateness of allowing manufacturers to establish their own DFs for their full product line within the first useful life category (250 hours).

Recognizing that manufacturers' testing capacities may be substantially constrained during the transition to fully phased in standards, manufacturers choosing to establish their own DFs for the 500 and 1000 hour Class 2 useful life categories may base the DF on good engineering judgment, demonstrated to the satisfaction of the Administrator, provided that, in a reasonable period after model year 2005, the manufacturer shall verify their good engineering judgement using appropriate data. The proposal will address in a reasonable and practical manner the kind of data required to verify the DFs. In the event that a DF must be adjusted, the manufacturers shall offset any emission shortfalls resulting from a previous low DF. The use of credits from either Class 1 or Class 2 engines would be one means to offset any such shortfalls.

The Signatories agree that one goal of the SOP is to encourage manufacturers to design and build engines that are emissions durable over their actual useful lives, and to encourage manufacturers to voluntarily certify their engines to longer useful life categories when they are intended for longer hours of operation in-use (See section 3.b.). The Signatories recognize that, depending on the emission characteristics of an engine, at longer useful life hours the emission standard may be more difficult to meet. In addition, it is the Signatories' goal to make sure the emission standards encourage manufacturers to voluntarily certify to longer useful lives those engine designed to be operated and durable for longer useful lives.

EPA will propose, based on available data, optional assigned DFs for the 500 and 1000 hour useful life categories. The proposed assigned DFs at the longer useful life categories would not be lower than 1.3. Furthermore, it is anticipated that longer useful life engines would not have an assigned DF greater than 1.5 at 1000 hours. Consequently, the Signatories expect that the proposed assigned DFs for longer useful life engines would be between 1.3 and 1.5 at 1000 hours.

Finally, the Signatories agree that EPA will propose HC + NOx standards associated with longer useful hours to reflect the proposed assigned DFs discussed above.³ However, in no case will the proposed standard be lower than that associated with an assigned DF of 1.3 or higher than that associated with an assigned DF of 1.5.

If as a result of the field durability demonstration program described under section 4(d), EPA later determines that the assigned DFs need to be adjusted, then EPA would initiate a rulemaking to adjust the DFs and the standards accordingly⁴. Any such rulemaking would only apply prospectively and would be undertaken only if data suggest that measured DFs are

The proposed standards will be based on the ratio of the assigned DFs for these longer useful life engines at the longer time periods compared to the 1.3 assigned DF at the 250 hour useful life category (e.g., $1.5/1.3 \times 12.1 = 14.0$).

For example, the standard would be 14.0 g/kw-hr if the DF was adjusted to be 1.5, whereas the standard would be 11.2 g/kw-hr if the DF was adjusted to be 1.2.

significantly different from the assigned DFs as set forth in this SOP.

The engines for which the manufacturer determines its own DFs would be included in the field durability demonstration program. However, data from those engines would not be included in determining whether the assigned DFs need to be adjusted under the field durability program.

The Signatories acknowledge that it may be appropriate to create a separate engine class with different HC+NOx standards for very small displacement nonhandheld engines. To that end, EPA will consider the need for such a class as part of the rulemaking process.

b. Useful Life

The Signatories recognize that small nonhandheld SI nonroad engines are used in a wide range of applications with annual and seasonal hourly use varying from low in some residential applications to high in some commercial applications. The Signatories further recognize that the greater the use during the ozone season of an engine the greater its importance in terms of air quality impacts.

The Signatories agree to the desirability of a mechanism that allows manufacturers to select the useful life category for a given engine application. Selection of the useful life category would be solely at the manufacturer's discretion, and the engine's label and averaging, banking and trading (ABT) credit calculation would reflect the manufacturer's choice.

For the Phase 2 program, the useful life categories for Class 1 and Class 2 engines would be as follows:

Table 2 - Useful Life Categories (Hours)

	Category C	Category B	Category A
Class 1	66	250	500
Class 2	250	500	1000

The useful life category corresponds to the hours of operation to which the engine is subject to applicable emissions standards. For purposes of the engine label, the useful life will be referred to as the emissions compliance period. The engine label will indicate that the engine is built to conform with EPA emissions regulations for the emissions compliance period, in hours, selected by the manufacturer (e.g., 250 hours).

As an option, the engine label will indicate that the engine is built to conform with EPA emissions regulations for the emissions compliance period, by category, selected by the manufacturer (e.g., Category C). The label will refer to the appropriate owner's manual for a description of the emissions compliance period. As part of this option, EPA will propose that engine manufacturers demonstrate during the certification process that information explaining the meaning of the category designation will be provided to the ultimate purchaser.

c. CO

The Phase 1 carbon monoxide (CO) standard for Class 1 and Class 2 engines will remain in place for the Phase 2 program, but will be adjusted to 610 g/kw-hr to reflect engine deterioration. In addition, EPA will have authority to waive the reporting requirement for CO at the Administrator's discretion.

d. Wintertime Products

The exemptions from the HC+NOx standards contained in Phase 1 for engines used only in wintertime products would continue for Phase 2.

e. Certification Test Fuel

The Signatories agree that no changes in the certification test fuel specifications will be proposed from the current Phase 1 requirements.

f. Averaging, Banking, and Trading (ABT)

Compliance with the HC+NOx standards above would be based upon a corporate average with manufacturers also having the ability to bank and trade emission credits. The Signatories agree that such an ABT program will help assure that the aggressive schedule set out above will be cost-effective and technologically feasible.

Credit calculations would be based upon sales weighted corporate average emissions from a manufacturer's engines on an annual basis, using family emission limits (FELs) and useful life hours selected by the manufacturer. While the Signatories believe that the phase-in for percentage of production shown in Table 1 for Class 2 engines will occur, the flexibility provided under the ABT program will allow some variation from the expected percentage of production phase-in. Regardless of this variation, manufacturers of Class 2 engines certified to the 250 hour useful life category would be required to achieve a standard of 18.0 g/kw-hr, 16.6 g/kw-hr, 15.0 g/kw-hr, and 13.6 g/kw-hr in model years 2001, 2002, 2003, and 2004, respectively, on a sales weighted average across their Class 2 production⁵, recognizing that through the ABT program credits may be used to meet the standard. EPA will propose rules addressing the procedures and requirements for determining the number of engines that correspond to an engine family and model year for purposes of credit calculations. The procedures and requirements will take into account the unique characteristics of the small nonhandheld SI nonroad engine industry, and will be designed to limit the burden of tracking engine production and sales to no more than the minimum needed to establish fair and accurate credit accounting. In addition, EPA will consider during the rulemaking process the appropriateness of using production-based instead of sales-based accounting for credit accounting purposes.

In order to assure that the ABT program adequately encourages the transition to cleaner, more durable technology and that the ABT program fulfills its intended function, cross class averaging, banking, and trading will only be allowed under two

A manufacturer's actual corporate average could be different depending on its mix of 250, 500, and 1000 hour useful life engines.

scenarios; provided that the affected manufacturer's Class 2 engine production is either all OHV technology or it meets or exceeds the assumed OHV emissions performance production phase-in schedule for Class 2 engines in Table 1. One scenario where cross class ABT would be allowed is for credit exchanges from credit generating Class 2 engines to credit using Class 1 engines. The other allowable scenario is credit exchanges between Class 1 and Class 2 engines to offset emission shortfalls identified in to the programs outlined in Section 4(c) below or as a result of an adjustment to manufacturer determined DFs as discussed in section 3(a).

In order to provide an incentive to accelerate the introduction of cleaner technologies, the Signatories agree that the proposal will contain provisions for generation of credits prior to the 2001 model year (i.e., early banking). Manufacturers may begin to generate such early credits two model years before the standards set forth in this SOP take effect. Early banking credits may only be generated for engines certified below the 12.1 g/kw-hr HC+NOx emission level at the 250 hour useful life category for Class 2 engines (or the applicable standard for the 500 and 1000 hour useful life categories), and below 16.0 g/kw-hr HC+ NOx for Class 1 engines. In addition, such early credits could only be banked where a manufacturer certifies and complies with the 2001 standard for it's entire product line in a given class. Early banking credits cannot be used to defer the assumed OHV emissions performance production phase-in schedule for Class 2 engines in Table 1.

The Signatories further agree that credits generated under the Phase 2 program will have an unlimited life when used for purposes of compliance with the standards specified in this SOP. EPA will consider the appropriate life of Phase 2 program credits in connection with other regulatory programs in which those credits could be used.

g. Class 1 OHV Demonstration Program

The Signatories recognize the important role SV engines currently play in the Class 1 market and the significant economic impediments to the widespread introduction of higher cost, cleaner technologies such as OHV in this class. Nevertheless,

the Signatories also recognize the desirability of investigating the potential to reduce the cost and increase the penetration of such technology in this class in order to maximize achievable emissions reductions from this industry.

As a result, in order to determine in a meaningful way the potential for increasing the penetration of cleaner, more durable technology in Class 1, EPA and certain manufacturers have entered into Memoranda of Understanding (MOUs) calling for an OHV demonstration program. The Class 1 OHV demonstration program is designed as an experiment to explore the consumer acceptance and feasibility of applying OHV technology to mass production Class 1 engines. The program would include a series of reports to EPA on the level of success, impediments encountered, market response, costs, emission rates, etc.

4. Compliance Assurance

The Signatories agree on the principle that the emission benefits of the Phase 2 program must be achieved over the lifetime of the engines. However, the Signatories also recognize the importance of minimizing to the extent possible the compliance burden associated with this program.

The Signatories agree that reasonable means must exist to address emission exceedences identified in selective enforcement audits (SEA) or production line testing (PLT). These means should: 1) provide an incentive to manufacturers to build emission-durable engines; 2) be practical to implement; 3) provide an incentive to perform accurate testing; 4) offset additional emissions that occur as a result of the exceedence of the standards; and 5) not be unduly burdensome to manufacturers. The Signatories agree that a mandatory recall program for Class 1 and 2 engines, modeled on traditional on-highway recall procedures, does not meet these five criteria, given the non-integrated nature of the nonhandheld outdoor power equipment industry and the consumer markets in which most of that equipment is sold. The Signatories agree that there are other, better means to encourage compliance with emission standards for these engines than mandatory product recalls (as discussed in section 4(c) below), and that the efforts of the industry and EPA should be devoted to assuring that engines will comply with applicable

standards in-use before they leave the production facility and to taking any necessary actions as quickly as possible to assure good emission performance. Consequently, the proposal will not contain provisions for making compliance determinations on the basis of in-use testing or emission performance.

The Signatories agree that the combined package of provisions contained in this SOP strikes the appropriate balance between providing assurance of in-use emission performance and minimizing the burden to industry.

a. Class 1 Certification

Certification for Class 1 engines with SV technology or aftertreatment would continue as under Phase 1, except that certification engines would first be bench-aged to the number of hours selected as useful life (66, 250, or 500) to determine compliance with the FEL.

A manufacturer could propose a bench-aging schedule up to 48 months prior to the start of a model year for the engine family as projected by the manufacturer. EPA would accept or reject the proposed schedule within 90 days of submission. If EPA did not reject the schedule within 90 days, the manufacturer's proposed schedule would automatically be accepted.

Periodic correlation of bench-to-field testing would be demonstrated by the manufacturer. Such correlation would be established by a simple method such as determining the ratio of the calculated mean emission levels of bench-aged engines and field-aged engines. During the first five years the program correlation would be demonstrated every two model years, and every five model years thereafter (e.g., 2001, 2003, 2005, 2010, etc.). Any changes to the correlation ratio would apply prospectively only with appropriate lead time for the manufacturers.

As an option, instead of testing engines on the bench and demonstrating correlation, manufacturers could choose to test engines from the field with accumulated hours corresponding to the useful life category selected by the manufacturer ("field-aged certification").

Certification for Class 1 OHV engines would continue as under Phase 1, except that a multiplicative assigned DF would be applied to new engine levels to determine compliance with the FEL for the 66 hour useful life category shown in Table 2. The Signatories agree that the assigned DF for Class 1 OHV engines will be 1.3 at 66 hours. Manufacturers would be allowed to establish their own DFs for their full product line within a useful life category for the 250 and 500 hour useful life categories. The proposal will address in a reasonable and practical manner the kind of data required to determine the DF, the amount of in-use testing required to verify the DF, and the appropriateness of reserving certification credits pending verification of the DF through in-use testing. During the rulemaking process EPA will consider the appropriateness of allowing manufacturers to establish their own DF for their full product line within the first useful life category (66 hours). EPA will also consider the appropriateness of establishing optional assigned DFs for the 250 and 500 hour useful life categories. Any adjustment to the assigned DF would be made as set forth in Section 3(a) above, however, in the case of Class 1 engines the standard would not be adjusted.

b. Class 2 Certification

Certification for Class 2 engines with SV technology or aftertreatment would continue as under Phase 1, except that certification engines would first be bench-aged to the number of hours selected as the useful life (250, 500, or 1000) to determine compliance for certification purposes. During the transition to OHV emissions performance engines, some flexibilities to relieve testing burden would apply (see section 5).

A manufacturer could propose a bench-aging schedule up to 48 months prior to the start of a model year for the engine family as projected by the manufacturer. EPA would accept or reject the proposed schedule within 90 days of submission. If EPA did not reject the schedule within 90 days, the manufacturer's proposed schedule would automatically be accepted.

Periodic correlation of bench-to-field testing would be demonstrated by the manufacturer. Such correlation would be

established by a simple method such as determining the ratio of the calculated mean emission levels of bench-aged engines and field-aged engines. During the first five years the program correlation would be demonstrated every two model years, and every five model years thereafter (e.g., 2001, 2003, 2005, 2010, etc.). Any changes to the correlation ratio would apply prospectively only with appropriate lead time for the manufacturers.

As an option, instead of testing engines on the bench and demonstrating correlation, manufacturers could choose to test engines from the field with accumulated hours corresponding to the useful life category selected by the manufacturer ("field-aged certification").

Certification for Class 2 OHV engines would continue as under Phase 1, except that a multiplicative assigned DF would be applied to new engine levels to determine compliance with the FEL for the 250 hour useful life category shown in Table 2. The Signatories agree that the assigned DF for Class 2 OHV engines will be 1.3 at 250 hours. Manufacturers would be allowed to establish their own DFs for their full product line within a useful life category for the 500 and 1000 hour useful life categories. The proposal will address in a reasonable and practical manner the kind of data required to determine the DFs, the amount of in-use testing required to verify the DFs, and the appropriateness of reserving certification credits pending verification of the DFs through in-use testing. During the rulemaking process EPA will consider the appropriateness of allowing manufacturers to establish their own DFs for their full product line within the first useful life category (250 hours). EPA will propose based on available data optional assigned DFs for the 500 and 1000 hour useful life categories, as discussed in Section 3(a) above. Any adjustment to the DF and standard would be made as set forth in Section 3(a) above.

c. Production Line Compliance

The Signatories agree that reasonable testing to assure that production engines meet standards is appropriate and that two different approaches would be used to monitor production line compliance.

Under the first approach, a manufacturer would opt to conduct a manufacturer run Production Line Testing (PLT) program (including but not necessarily limited to CumSum) for all of their engine families. In this case, the Signatories agree that the SEA program would exist only for backstop purposes where evidence of improper testing or nonconformities not being addressed by the manufacturer's testing program was obtained by EPA. The Signatories agree that for manufacturers who conduct a PLT program under this approach, if an engine family fails its production audit by exceeding its FEL, the FEL for that family would be adjusted to the new FEL indicated by the production audit results for both past and future production where applicable. Similarly, if an engine family passes its production audit by achieving emissions below its FEL, the FEL for that family can be adjusted to the new FEL indicated by the production audit results for future production where applicable. Any deficit in corporate-wide emissions performance resulting from the FEL change would need to be retired by the end of the model year following the model year in which the production audit failure occurred on a one-for-one basis. Any deficit in corporate-wide emissions performance resulting from the FEL change that is not retired by that time can be retired in the following two model years on a 1.2 to one basis.

This PLT program will permit the manufacturer to perform additional testing beyond the minimum required by regulation. Any such additional test data can be used to limit the number of engines for which a manufacturer is liable if there is a failure in the PLT program.

A manufacturer must implement the PLT approach for a minimum of three consecutive model years and must notify EPA a minimum of one complete model year prior to the model year for which they are requesting to opt out. This timing restriction would not preclude a manufacturer from implementing appropriate changes to the design or scope of the PLT program from model year to model year. Furthermore, they cannot be carrying a negative credit balance at the time of opting out. Where a manufacturer fails the PLT audit for more than one engine family in a model year and the number of engines that are recertified to a new FEL as a result of the failed PLT audit exceeds 10 percent of the manufacturer's annual production, then the remedies for noncompliance under this option are no longer valid. Instead,

the provisions under the SEA approach described below would apply.

Under the second approach, engines in the Phase 2 program would be subject to SEA as under the Phase 1 program. This approach would apply to manufacturers who do not conduct a PLT program under the first approach. The Signatories agree that appropriate remedies need to be implemented for failures of SEA resulting from testing new (e.g. zero-hour) engines. Such appropriate remedies must meet the criteria set forth in the second paragraph of Section 4 above. EPA is committed to designing remedies that will both preserve the environmental benefits of this program and minimize the burden on the industry. The proposal will therefore preserve for EPA adequate flexibility to address such failures on a case-by-case basis, so that EPA and the manufacturer may develop a response that achieves the goals noted above. Such a response might include, for example, a combination of measures such as mandatory PLT for appropriate time periods and portions of production, recertification of all or part of an engine family, and generation of credits to remedy the exceedences over an appropriate period of time. As discussed above in section 4, the Signatories agree that a mandatory recall program for Class 1 and 2 engines, modeled on traditional on-highway recall procedures, does not meet the criteria for reasonable means to address emission exceedences identified in SEA or PLT programs, given the non-integrated nature of the nonhandheld outdoor power equipment industry and the consumer markets in which most of that equipment is sold. EPA will not revoke or suspend a certificate where a response that meets the goals noted above is designed and implemented in a timely manner (except in cases where a manufacturer desires to obtain a new certificate in which case the old certificate would be suspended to avoid the existence of two certificates for the same family).

d. Field Durability and In-use Emission Performance
Demonstration Program for OHV Engines

The Signatories agree to the necessity of a Field Durability and In-use Emission Performance Demonstration Program to produce reliable data that verifies that the conclusions in this program with respect to the durability of OHV engines are accurate. The data collected under this program would be designed to provide a

representative picture of actual in-use emissions, including representative age (hours), maintenance, and sales mix of engines in the field. Manufacturers would test a sufficient number of engines to be statistically meaningful. Individual manufacturers would supply test data to EPA. However, the test program could be jointly run on an industry-wide basis.

To the extent practical, engines will be selected from residential customers or professional users; however, the Signatories recognize that engines also will be selected from manufacturers fleets, as long as the engines represent typical in-use engines.

The Field Durability and In-use Emission Performance Demonstration Program would be conducted every four years. The data from this program are neither designed nor intended to be used for compliance purposes.

The Signatories recognize that the test programs covered under sections 4(a), 4(b) and 4(d) should be designed in a way to minimize the overall burden on the manufacturer while meeting the goals of these provisions including a reasonable cap where appropriate on the overall level of testing required. The Signatories further recognize that while the maximum testing may be required in the initial years of testing, EPA will reduce the testing burden as appropriate in subsequent years as the overall database grows. To that end, the total field engine test burden for the largest manufacturers by sales volume for tests required for these programs will not exceed 96 field-aged engines in a four year period or 24 field-aged engines in a one year period. EPA will propose an appropriate scaling of the field engine test burden for smaller volume manufacturers. It is intended that only a representative sample of engine families will be tested in the program set forth in Section 4(d). EPA will have the discretion to proportion the test engines among the test programs covered under Sections 4(a), 4(b) and 4(d). The Signatories also agree to permit the Field Durability test program to run over multiple years and to provide for appropriate delays or waivers from the requirements of the bench correlation program in years when a manufacturer also runs the field durability program.

5. Manufacturer Flexibilities During the Transition to OHV Emissions Performance Engines

Recognizing that old technology will be phased-out during the transition period to clean durable OHV emissions performance technology for Class 2, the Signatories agree to certain flexibilities to accommodate an orderly transition. Manufacturers would be allowed to bench-age Class 2 SV or aftertreatment engines and to demonstrate compliance with the FEL based on 120 hours of testing during the transition period. However, manufacturers would certify to and use 250 hours for credit calculation purposes.

6. Small Volume Provisions

The Signatories agree that for SV Class 2 engine families with less than 1000 units produced for sale in the U.S. can continue to meet the 24.0 g/kw-hr standard in 2005 and subsequent model years. With the 2005 model year, however, this standard will become a cap and these engines will be excluded from the ABT credit calculations.

7. Fuel Spillage Reduction Program

The Signatories recognize the contribution to air pollution from fuel spillage and agree to work collaboratively and with other affected parties to develop a voluntary Fuel Spillage Reduction Program which provides information and education to a variety of audiences and encourages the development and use of technology that will reduce spills by users.

8. Test Procedures and Other Requirements

The signatories agree that the model year definition will be the same as for the Phase 1 rule, and the interpretation of the model year definition for the start-up of the Phase 1 program will also exist for the start-up of the Phase 2 program in order to provide maximum flexibility in the transition to Phase 2 standards.

The Signatories acknowledge that this SOP does not address such issues as test procedure or certain other issues included in the existing Phase 1 Rule. The Signatories acknowledge that any changes not specifically set forth above could adversely affect the manufacturers ability to meet the standards and effective dates in this SOP. EPA will continue to review all aspects of the Phase 1 regulatory program to determine what areas, if any, need to be updated to reflect experience gained during Phase 1 or to implement the provisions contained in this SOP. EPA does not plan on proposing any changes in the areas not addressed herein, or any additional programs not consistent with this SOP, such as evaporative emissions standards, that would materially change the stringency or cost of the Phase 2 regulatory program.

9. Stability

One of the key principles of this SOP is to design a regulatory program that provides industry with stability and predictability, allowing it to make and recoup the investments that will be needed to achieve the emissions reductions called for under this SOP. EPA recognizes this level of investment, and acknowledges the need for a corresponding period of stability and certainty.

10. Harmonization

The Signatories recognize the value that harmonizing standards within the United States would have on the cost of producing engines and equipment and support the goal of harmonization as long as it does not undercut achieving the air quality needs the standards are designed to achieve, and the Signatories will work with the California Air Resources Board (ARB) to this end. The Signatories will also coordinate and consult with ARB in order to achieve the maximum appropriate harmonization of the elements of their respective small SI engine regulatory programs, including, for example, test procedures, certification, and compliance assurance, recognizing the value for EPA, manufacturers and users associated with harmonizing these programs.

SIGNATORIES
TO SMALL NONHANDHELD SPARK-IGNITED NONROAD ENGINE
STATEMENT OF PRINCIPLES

Signature

Name:

Organization:

Date:
