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Workgroup Recommendations and Other Potential Control Measures
Non-Automobile Gasoline Engines Workgroup

NA001 – Encourage the USEPA to Implement More Stringent Federal Emissions Standards for New Nonroad Spark Ignited Engines

<u>Description-</u>	<u>Benefits</u>
<p>The Clean Air Act requires the USEPA to periodically evaluate and revise emissions standards for mobile emissions sources. These evaluations are to include the technological feasibility for emissions control, economic feasibility, and safety considerations. States are generally preempted from establishing new engine emissions standards for nonroad engines. The preemption includes language allowing California to set its own standards. Examples of nonroad spark-ignited engines include, engines powering boats, chainsaws and lawnmowers.</p> <p>Congress passed a law in 2005 that prohibits the USEPA from tightening emissions standards for new nonroad spark-ignited engines until an evaluation of the safety-related risks associated with using advanced emissions controls (referring to catalytic converters) in outdoor power equipment was completed by the Swedish National Testing and Research Institute's Department of Fire Technology. This was released March 17, 2006. The study concludes that adding emission control technologies would not increase the risk of fire and burn to consumers, flammable items and refueling. The USEPA should now be able to move forward to establish more stringent emissions control standards for nonroad spark-ignited engines.</p>	<p>Projected 2007 emissions, Existing turnover rate: VOC = 152 STPD NOx = 44 STPD PM2.5= 6.4 TPD</p> <p>2007 with 100% scrap/ turnover VOC= 85 STPD NOx = 25 STPD PM2.5= 5.3 TPD</p> <p>2007 with 100% scrap/turnover and 50% stringency new standards VOC = 43 STPD NOx = 12 STPD PM2.5= 2.6 TPD</p> <p>STPD = Summer Tons Per Day</p>

Disclaimer – The recommendations contained within this white paper do not constitute official state decisions nor reflect any pending regulatory or nonregulatory actions. The NJDEP welcomes public feedback on this (or any other) white paper.

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Standards Should Reflect Available Technology

In establishing more stringent emissions standards, the USEPA should consider the improved capabilities of catalytic converters and fuel systems with precision metering and exhaust monitor feedback controls. The technologies exist and have been in common use in the automotive industry since the late 1970's. Using these technologies could allow emissions levels to be reduced by at least half compared to nonroad spark-ignited engines meeting current emission standards.

USEPA should also require evaporative emissions controls, emissions control fault monitoring and display capabilities to inform the operator of conditions leading to excess emissions. Fault monitors are already available on some marine engines. A more advanced version of this technology exists in generation 2 Onboard Diagnostics, which has been required on automobiles since 1996. Existing evaporative emissions control technologies are simple in design and should not require extensive research to use in nonroad applications.

Since these are existing technologies, setting standards to levels requiring their use would not unduly burden manufacturers technology development costs.

2002 Existing Measure: New Program

Durability Requirements for Commercial and Industrial Equipment

In addition, USEPA should develop more stringent emissions standards and comprehensive durability requirements for nonroad engines designed for commercial and industrial applications. Nonroad engines in commercial and industrial applications undergo heavy use, and tend to have a long service life. The emissions control durability requirements should reflect the added durability and intended use of the equipment to which the engine is applied.

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Handheld Equipment Engines Can Do Better

During the process of revising standards, the USEPA should not consider establishing less stringent standards for manufacturing segments where two-stroke engines are predominant. The most stringent nonroad engine standards incorporate higher allowable VOC emissions levels from small “hand-held” spark ignited engines. This concession is outdated and does not reflect currently available engine technologies. The marine engine industry has advanced two-stroke engine technology significantly in response to marine engine emissions standards that were designed to phase out two-stroke technology from this segment. There are now four marine engine manufacturers that offer two-stroke engines that meet the stringent 2007 marine engine emissions standards. None of them have a catalytic converter. In addition to the advancements made in two-stroke engine emission control technology, the manufacturing technology of small four-stroke engines has advanced to produce engines of comparable size and weight to the traditional two-stroke engines used in the hand-held segment. String trimmers powered by four-stroke engines are commercially available today.

Recommendation - Urge USEPA to expedite more stringent emissions standards for nonroad spark-ignited engines.

Rationale - Halving the current standards is technologically achievable and should not unduly burden engine manufacturers.

Sources-

A Collaborative Report Presenting Recommended Air Quality Strategies for Further Consideration by the State of New Jersey, Non Automotive Gasoline Engines Workgroup, October 31, 2005.

California Air Resources Board Mobile Source Programs website at <http://www.arb.ca.gov/msprog/msprog.htm>.

NONROAD emissions model, United States Environmental Protection Agency, 2005.

Recreational Marine Engines, presentation to the NJDEP Small Gasoline Engine Air Working Group Meeting, National Marine Manufacturers Association, July 19, 2005.