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**Northeast States' Report Finds Operators of Diesel Machines and
Nearby Residents Face Increased Health Risk from
Nonroad Diesel Equipment Emissions**

In-Cabin Exposures Up To 3.5 Times Greater Than Ambient Air Quality Standards

June 9, 2003 (Boston, MA) – Northeast States for Coordinated Air Use Management (NESCAUM), a non-profit association of the eight air quality agencies of the Northeast states, today released an interim report showing that operators of "nonroad" machines used in construction, agriculture, and logging operations are exposed to high levels of pollution from the machinery. The interim report, "*Evaluating the Occupational and Environmental Impact of Nonroad Diesel Equipment in the Northeast*" shows that levels of pollution inside the cabs of the machines - where the operators are working - are up to 16 times higher than federal health recommendations. As a result, workers may have an increased risk for cancer, cardiovascular, and cardio-pulmonary health effects.

Kenneth Colburn, Executive Director of NESCAUM stated, "The results of our study underscore the need to reduce emissions from nonroad machines like those used in construction. By reducing emissions from nonroad engines, not only will we advance overall clean air goals, but we will also protect the health of machine operators and people living and working near construction sites and other locations where heavy machinery is used." The release of NESCAUM's report coincides with hearings that the U.S. Environmental Protection Agency (EPA) is holding on a proposed rule to greatly reduce nonroad engine pollution. NESCAUM is encouraging the finalization of the rule as proposed by EPA.

NESCAUM's report shows that:

- In all locations, diesel equipment activity substantially increased fine particulate matter exposures for workers and nearby residents, in some cases by as much as 16 times.
- Individual workers' estimated 24-hour exposures exceed current air quality standards by nearly 2 to 3.5 times – substantially increasing workers' health risk.
- The most potent portion of particulate matter (PM_{2.5}) – *diesel* particulate matter – was estimated to exist at levels that pose risk of chronic inflammation and lung damage in exposed individuals.
- As many as 200,000 workers may be exposed to these harmful concentration levels of nonroad equipment emissions in the Northeast region.

- more -

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- Measured concentrations of acetaldehyde, benzene and formaldehyde around the tested nonroad equipment operations were as much as 140 times the federally established screening threshold for cancer risk.
- Concentrations of metals known to cause inflammatory responses and damage in pulmonary cells, such as iron, nickel and vanadium, were elevated in samples collected around nonroad equipment.

Supporting NESCAUM's findings, Union of Concerned Scientists referenced their release today of a new report entitled "*Cleaning up Diesel Pollution; Emissions from Off-highway Engines by State*." "Despite substantial progress in technologies that reduce diesel pollution, a double standard allows nonroad engines to pollute at high levels," said Patricia Monahan, UCS senior analyst and author of the new report. "Unlike diesel trucks and buses, construction and agricultural equipment are held to weak standards and public health pays the price. It is imperative that we hold all diesel engines to the same standard."

Diesel engines are major contributors to airborne nitrogen oxides, particulate matter, and toxics. Particulate matter is fine airborne soot – much of it from combustion – which penetrates deeply into the human lung and can even enter the blood stream. NO_x is one of the principal causes of ground-level ozone, a potent oxidant and lung irritant. Some toxic emissions, such as benzene, are known human carcinogens.

The contribution of heavy-duty diesel equipment emissions in the Northeast region has been poorly characterized to date. NESCAUM conducted this study, with support provided by the U.S. Environmental Protection Agency and Breakthrough Technologies, Inc. (BTI), in an effort to gather quantitative and qualitative evidence of the range of public health and environmental impacts associated with nonroad equipment operations in the northeast region and to determine the significance of these exposures when considering the health risks for residents and equipment operators.

Air quality samples were collected in the cab of the heavy duty diesel equipment operators and at the perimeter of five worksites. Urban and rural locations were used for this study including: a building construction site in New York City; a lumberyard in Maine; a New Hampshire construction site and a roadway construction project; and a Vermont dairy farm. Since final field monitoring was only completed May 29, 2003; complete data are not yet available from all sites evaluated. NESCAUM's interim report provides preliminary conclusions and a summary of selected results available from three of the five sites evaluated during the past twelve months of active fieldwork. A final report and conclusions will be issued later in 2003.

The researchers used established federal methods to monitor the daily average exposures, and in some cases minute-to-minute exposures, to diesel soot, fine particulate matter (PM_{2.5}), and a suite of gaseous pollutants including acetaldehyde, benzene, and formaldehyde. In addition to these analyses, x-ray fluorescence spectrometry and inductively coupled mass spectrometry were used to provide qualitative and quantitative analyses of the metal content of selected PM_{2.5} samples.

Northeast state air pollution control officials have encouraged EPA for some time to move aggressively in setting stringent emission reduction targets for diesel-powered nonroad equipment. The release of the study today provides further impetus for reducing harmful diesel engine emissions for nonroad equipment. Copies of the complete interim report are available at www.nescaum.org.

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