U.S. Environmental Protection Agency
Region 5
Air and Radiation Division

CLEAN SCHOOL BUS USA WORK PLAN
For Fiscal Year 2006 Funding

I. Background/History of Project

a. Project Title:
NextEnergy Clean School Bus Proposal

b. Project Manager:
NextEnergy Center
461 Burroughs
Detroit, Michigan 48202
Contact: Jim Saber
313.833.0100 ext. 240
Email: saberj@nextenergy.org

c. Total Project Cost: Requested from EPA: $95,000; Match: $20,063; TOTAL: $115,063

d. Project Period: November 1, 2006 – September 30, 2008

e. Summary Statement: Funding of this proposal will enable the purchase of diesel oxidation catalysts to be retrofitted into 58 school buses in ozone non-attainment areas in Michigan.

f. School Districts:
Hamilton Community Schools, James Kos, 3644 48th St., Hamilton, MI 49419; Hartland Consolidated Schools, Janet Sifferman, 9525 E. Highland Rd., Howell Public Schools, Charles Breiner, 1313 W. Highland Rd., Howell, MI 48843; Lansing School District, Sharon Banks, 2817 Chamberlin Lane, Lansing, MI 48912

II. Scope of Work/Activities

a. NextEnergy is proposing to retrofit with an EPA approved diesel oxidation catalyst (DOC) 58 buses in Michigan, a Region 5 state.

b. Michigan is making significant progress in decreasing emissions from school buses in non-attainment counties. Through assistance from the EPA Clean School Bus USA program in 2004 and 2005, 372 school buses have been or are planned to be retrofitted with DOCs. While this represents an improvement, there are still hundreds of buses in non-attainment counties in Michigan that have not been retrofitted and have been identified by districts for retrofit. These buses continue to expose children to high levels of diesel emissions.

Twenty-five counties in Michigan have been designated by the U.S. EPA as ozone non-attainment areas and seven of these counties are also designated as non-attainment for fine particulates (PM2.5). NextEnergy intends to retrofit buses that are within one or both of these

non-attainment area classifications thereby helping to reduce school children's exposure to diesel exhaust from school buses in critical geographic locations.

c. There are 32,459 total students in the proposed districts and 9,089 riding in buses.

d. Fleet Information Table

See Attachment A. All 58 buses will be retrofitted.

e. To accomplish the objective of reducing diesel emissions within Region 5, NextEnergy will work with proposed districts to purchase and install 58 EPA approved diesel oxidation catalysts on qualifying school buses listed in the above Fleet Information Table. Upon grant approval, NextEnergy will contact each of the proposed districts to notify them of the funding availability and verify specific bus data. Each participating district will be required to sign an agreement with NextEnergy before program initiation which will stipulate requirements such as the use of ultra-low sulfur diesel fuel and maintenance of the DOCs.

NextEnergy will use EPA verified diesel oxidation catalyst providers to submit proposals for the project. NextEnergy will evaluate proposals and purchase the DOCs. A workshop will be held at the NextEnergy Center so that the fleet managers claim can their units and receive training. A presentation on ultra-low sulfur diesel, as well as a "lessons learned" component based on experiences of other bus fleets who have utilized DOCs, will be included at this workshop. The NextEnergy project director will visit each school district to inspect that the installations have been completed.

f. Each district will be responsible for maintaining the equipment throughout its operation. In addition, each school district receiving a diesel oxidation catalyst will be required to supply ultra-low sulfur diesel fuel for that bus throughout its operation. A log of that retrofitted-bus must be made available to the NextEnergy project director as required by the agreement signed by the district at the start of the project. These logs will be included in the EPA quarterly reports.

II. Environmental Results

Funding support for this program will help to reduce diesel emissions in Michigan, a Region 5 state, particularly in ozone and PM2.5 non-attainment counties. This project supports progress toward EPA's Strategic Plan Goal 1: Clean air and global climate change; Objective 1.1 (Healthier Outdoor Air); and sub-objectives 1.1.1 (More People Breathing Cleaner Air) and 1.1.2 (Reduce Risk from Toxic Air Pollutants). This project meets Goal 1 and two sub-objectives by retrofitting older polluting school buses and using cleaner fuels with those bus fleets, which will reduce particulate matter, ozone, and diesel exhaust.

IV. Outputs

The anticipated output for this program retrofits 58 school buses in Michigan non-attainment areas with a diesel oxidation catalyst. According to EPA data, diesel oxidation catalysts can reduce emissions of particulate matter (PM) by 20 percent and hydrocarbons (HC) by 50 percent

and carbon monoxide (CO) by approximately 40 percent. Achievement of outputs will be measured based on completion of DOC installations as outlined by the project timeline. NextEnergy Center will quantify the emissions reductions utilizing the U.S. Environmental Protection Agency National Mobile Inventory Model (NMIM) during this program to include expected emission reductions in tons or lbs/year and the overall cost effectiveness in $/lb or $/ton.

V. Outcomes

According to EPA data, each diesel oxidation catalyst installed should reduce particulate matter pollution from a range of 20-90% per vehicle. The short-term outcome will be the increased understanding gained by school personnel and the general public of the environmental and economic effectiveness of the use of technologies such as diesel oxidation catalysts. Through this education and understanding, the intermediate outcome will be to alter the decisions made by districts and drivers to help reduce emissions. This may include decisions to reduce idling or purchase additional emission reduction technology. The long-term outcome of the program is a significant reduction in nitrogen oxides, sulfur oxides, and air toxins. Public health benefits, especially for children in the funded districts, include decreased emissions from and exposure to diesel exhaust, improved ambient air quality, and reduced risk of asthma aggravation. These benefits may lead to a decreased number of illnesses, reduced health care costs, and a decreased number of missed work days or school days.