

**BEFORE THE UNITED STATES SENATE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
SUBCOMMITTEE ON CLEAN AIR AND NUCLEAR SAFETY**

**Hearing Entitled “Black Carbon – A Global Health Problem with Low-Cost Solutions”
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**TESTIMONY OF ROBERT D. SINGLETARY
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Good morning Chairman Carper, Ranking Member Sessions, and members of the Subcommittee. Thank you for the opportunity to testify at today’s hearing. My name is Robert Singletary and I serve as the Supervising Attorney for the Air Quality and Land Protection Divisions at the Oklahoma Department of Environmental Quality.

I have been asked to provide testimony today regarding the implementation of the Diesel Emissions Reduction Act (“DERA”) in Oklahoma, and the resulting reductions in diesel emissions and the associated impact on air quality.

The State of Oklahoma has participated in the DERA program since 2008. During this period, Oklahoma has administered funds allocated by the U.S. Environmental Protection Agency (“EPA”) in an amount of just over four million three hundred thousand dollars (\$4,300,000). The majority of those funds (approximately three million one hundred thousand dollars (\$3,100,000)) came via the American Recovery and Reinvestment Act of 2009 (“ARRA”). Aside from the funding provided through ARRA, the annual funding allocated to Oklahoma by EPA for DERA projects during this period was between approximately one hundred ninety thousand dollars (\$190,000) and two hundred ninety-five thousand dollars (\$295,000) until FY 2013. In addition, the State of Oklahoma has contributed just over three hundred thousand dollars (\$300,000) in State matching funds to the program.

Since beginning participation in the program in 2008, the Oklahoma Department of Environmental Quality has overseen the completion of approximately 413 DERA projects that have resulted in diesel emissions reductions and public health benefits. These projects include:

- Replacement of 118 older diesel school buses with new vehicles which meet more stringent emission limits;
- Installation of diesel particulate filters (“DPF”) and related technologies on 18 school buses;
- Installation of diesel oxidation catalysts (“DOC”) on 82 school buses;
- Installation of closed crank ventilation systems (“CCVS”) on 125 school buses; and
- Installation of auxiliary heaters on 155 school buses.

Diesel engines are designed to have very long operating lifespans. Many of the school buses replaced in Oklahoma were more than twenty (20) years old. It is not uncommon for diesel school buses of that age to have emissions of hydrocarbons (“HC”), carbon monoxide (“CO”), and nitrogen oxides (“NO_x”) that are sixty-five to ninety-five percent (65-95%) greater than those of new diesel school buses. Similarly, and of particular relevance to the Black Carbon discussion, it is not uncommon for fine particulate matter (“PM_{2.5}”) emissions from older diesel buses to be ninety percent (90%) greater than the newer certified models.

Installation of certain retrofit technologies also greatly reduces the percentage of PM_{2.5} emissions; for example, the installation of diesel particulate filters reduces PM_{2.5} emissions by fifty to sixty percent (50-60%) and the installation of diesel oxidation catalysts reduces such emissions by nearly thirty percent (30%).

In total, the projects administered by the Oklahoma Department of Environmental Quality have resulted in emission reductions over the life of the replaced or retrofitted equipment by approximately: 20.96 tons of PM_{2.5}; 36.69 tons of HC; 171.66 tons of CO; and 353.45 tons of NO_x.

In addition to the emission reductions directly attributable to the replaced or retrofitted equipment, the DERA program has also provided the State with an opportunity to educate school districts regarding the economic and health benefits associated with implementing anti-idling strategies. These strategies can significantly reduce the overall emissions from these diesel engines whether or not they are replaced or retrofitted, and significantly reduce the exposure of impacted children to concentrated levels of these pollutants. Moreover, any school or school district participating in the program was required to implement an anti-idling policy across its fleet of buses.

Based on the reductions in the proposed funding allocations for the upcoming year, the Oklahoma Department of Environmental Quality chose not to participate in the program next year; however, the agency supports the voluntary nature of the DERA program and the opportunity for States to implement it at the local level. Assuming a funding level sufficient to warrant the minimal administrative burden associated with implementing the program, the resulting emission reductions (especially in light of the sensitive population impacted) justify the agency's participation in the program.

Again, thank you Chairman Carper and members of the Subcommittee, for the opportunity to testify before you today.