United States Senate
Committee on Environment and Public Works
Subcommittee on Clean Air and Nuclear Safety
Hearing on
"Black Carbon – A Global Health Problem with Low-Cost Solutions"
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Chairman Carper, Ranking Member Sessions, and distinguished members of the Subcommittee, thank you for the opportunity to discuss black carbon emissions and the Port Authority's positive experiences to reduce diesel emissions and leveraging federal financial support under the Diesel Emissions Reduction Act (DERA). My name is Bob Harris, and I oversee environmental and federal programs for the Alabama State Port Authority.

The Authority represents the public cargo terminals at the Port of Mobile, which is currently the 13th largest of the nation's 150 commercial, deep-water seaports. The U.S. Army Corps of Engineers Waterborne Commerce Center reports, in calendar year 2011, the Port of Mobile handled over 55 million tons of import, export and domestic cargo. Mobile's public seaport terminals serve bulk, neo-bulk, containers, oversized and heavy lift cargoes and general cargo bound to and from manufacturing, agribusiness, mining, processing, retail/distribution, and building industries. The Alabama State Port Authority's economic value in Alabama alone tops $18.7 billion and directly and indirectly generates over 127,000 jobs.

The Alabama State Port Authority is one of three commercial, deep-water, U.S. seaport Authorities that own and operate a freight railroad. The Authority's Terminal Railway (TASD) consists of 75 miles of track and ten diesel powered locomotives and handles over 133,000 revenue rail cars annually. In most commodity groups, the

Terminal Railway (TASD) handles nearly 60 percent of the cargo volume moving through the public terminals. The Terminal Railway (TASD) also provides rail switching services for five Class I and two Class III railroads at the Port of Mobile, making it the largest public seaport owned and operated terminal railroad in the nation.

In and around port communities, the seaport industry is increasingly factoring air quality when addressing landside operations, truck and rail traffic impacts associated with population and manufacturing growth and expanding U.S. trade. Cargo-handling equipment, trucks, locomotives, tugboats, dredges, ferries and ships mostly rely on diesel engines for power. Older diesel engines can emit elevated levels of particulate matter (PM) and nitrogen oxides (NO_x), which can contribute to quality concerns. Reducing diesel engine emissions is particularly important for U.S. ports that operate in areas designated as “non-attainment” or “maintenance” for one or more of the national ambient air quality standards (NAAQS). While the Port of Mobile currently does not reside in a “non-attainment” area, the Port Authority is partnering with the Environmental Protection Agency (EPA), the American Association of Port Authorities and other U.S. seaports to voluntarily reduce emissions from older diesel engines and openly support EPA’s National Clean Diesel Campaign.

The Alabama State Port Authority is proactive in the Southeast Diesel Collaborative (SEDC), which represents the National Clean Diesel Campaign in eight southern states. The Collaborative advocates voluntary reduction of diesel emissions through a variety of strategies, including the installation of new technology emission control devices, the use of sustainable alternative fuels, deploying idle reduction practices, and repowering or replacing old diesel engines. Many of these strategies can also help save money, such as the implementation of idle reduction practices and the use of more efficient and cleaner engines to reduce fuel consumption. The SEDC has implemented 473 projects, in seven years, to clean up the emissions from 534,000 diesel engines, mostly from an estimated 14,000 buses located throughout the south. The SEDC has been successful in reducing nitrogen oxides (NO_x) emissions by 36,370 tons, volatile organic compounds (VOCs) by 3, 900 tons, particulate matter (PM) by 2,800 tons and Carbon Dioxide (CO_2) emissions by 769,770 tons. To date, the federal

government has invested $73 million in grants in the southeast, while local sponsors have leveraged these grants toward $707 million invested realizing nearly a ten to one (10:1) return on federal investment.

In 2008, the Alabama State Port Authority pursued its own Campaign goals to reduce emissions at the port's terminals by twice seeking funding assistance made available through the Environmental Protection Agency's (EPA) National Clean Diesel Funding Assistance program to purchase a new class of fuel efficient, low emissions locomotive engines. The port's objective was to begin converting its ten locomotives to cleaner burning more efficient engines that met Tier II emissions standards.

In 2011, EPA awarded the port $953,921 under a $1.58 million grant request to improve air quality by rapid deployment of clean diesel technologies through assistance funding from the Diesel Emissions Reduction Act (DERA) of 2010. The EPA's portion is only applied to equipment costs, with the Port Authority picking up all remaining costs associated with the project. The Port Authority's project would repower a 1980 GM EMD MP-15 diesel-electric switching locomotive with state-of-the-art GenSet technology with a goal to significantly reduce existing nitrous oxides, particulate matter and hydrocarbon locomotive emissions by up to 95%, and reduce fuel consumption by 50%. The Authority's management identified an EPA certified off-road industrial diesel engine, or Ultra-Low Emitting Locomotive (ULEL), that met the Agency's locomotive emission regulations for 2012 under Tier 3. Due to the ULEL's highly favorable economic benefits of fuel savings, tractive effort capability, noise reduction, and reduced maintenance cost, the Port Authority estimated a faster overall return on investment, which would allow future budget allocations for additional locomotive repowers.

The Port Authority took delivery of the first retrofitted engine in February 2013. The Terminal Railway Locomotive 802 was immediately placed into service realizing the 50% fuel use reduction goal and an 80%-90% reduction in nitrous oxides and particulate matter, without compromising engine performance thresholds.

In follow-up to our positive experience with DERA, the Port Authority looked to build on the program's success by seeking another grant under DERA 2012 to repower

two Terminal Railway (TASD) circa 1980 MP-15 diesel-electric switching locomotives. This $3.37 million project will replace the single larger diesel engines in each locomotive with several smaller ULEL GenSet engines that can be shut down or operated depending upon power demand requirements. This approach eliminates continuous idle conditions, which consume four or five gallons of diesel fuel per hour, and provides more opportunities to conserve power and fuel during actual operations, i.e., using only one engine in low power applications, and powering up two or three engines in higher power demand applications. The EPA awarded $1.35 million to the Port Authority, which will provide the remaining costs at just over $2.02 million. It is estimated that over the lifetime of the engines, nitrous oxide emissions will be reduced by 1,730 tons, hydrocarbon emissions will be reduced by 161 tons, and particulate matter emissions will be reduced by 60 tons. Additionally, these two engine repowers will generate an estimated 43,000 gallons of diesel fuel savings annually, thereby demonstrating that "Green is Green," and that environmental stewardship helps the bottom line.

The Alabama State Port Authority applauds the Subcommittee for its past leadership and support of the DERA grant program and for its ongoing leadership in addressing black carbon impacts. Under-investment in this vital program will result in slower implementation of federal and industry goals to reduce diesel emissions and fuel consumption. The Alabama State Port Authority is very appreciative of its partnership with EPA and the federal government's efforts to help our port leverage increasingly scarce capital toward the repowering a critical business segment within our overall operations. The Port Authority thanks the Members for the opportunity to speak on our experiences with this critical program, and I am happy to address any questions.

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