DIESEL TECHNOLOGY FORUM

May 20, 2019

Rep. Frank Pallone
Chair
House Energy & Commerce Committee
U.S. House of Representatives
2125 Rayburn House Office Building
Washington, DC 20515

Rep. Greg Walden
Ranking Member
House Energy & Commerce Committee
U.S. House of Representatives
2322 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Pallone and Ranking Member Walden:

We are writing in regards to clean diesel programs included in the LIFT Act that is scheduled for a hearing before the Committee. We thank you for your leadership in support of reauthorizing the Diesel Emission Reduction Act (DERA) program. This clean air program is one of the most cost effective environmental programs delivering benefits to communities across the country. Engine manufacturers are hard at work developing closer to zero emissions technology and DERA activities will be needed to help deliver these cleaner vehicles and equipment to communities. We are concerned over a portion of the proposed bill that may dilute benefits from these incentive funds. The Clean School Bus provision that only funds certain technologies may reduce benefits and exclude school districts that cannot adopt these technologies. We encourage the committee to support EPA's existing program that replace older school buses through the larger DERA program

By way of background, the Diesel Technology Forum is an educational not-for-profit organization whose members include leaders in diesel engines and equipment, vehicle manufacturers and fuel producers. Our organization serves a primary role of education along with the collection and commission of research to raise awareness of the environmental performance of the newest generation of diesel technology, including those that power school buses.

1. **Zero Emissions Requirement for Clean School Bus Replacements May Dilute Benefits**

Diesel is the technology of choice for the nation's school bus system. 95 percent of school buses are powered by diesel technology today, thanks to diesel's unique combination of features including safety (diesel is less combustible than other fuels when spilled), reliability, durability, low cost of maintenance and operation, flexible fueling and routing, and the ability to use advanced biofuels including renewable diesel fuel and biodiesel fuel.

Current technology diesel school buses meet existing U.S. EPA near-zero emissions standards while some manufacturers offer diesel school buses that demonstrate emissions that go beyond these

requirements.[1] Currently available diesel school buses offer school districts the best value and environmental performance when replacing older technology.

While zero-emissions technologies are available, these technologies are not easily adopted by all school districts. Range and ambient temperature limitations, lack of charging infrastructure and the much higher purchase price of all-electric school buses may hinder suburban, rural school districts and those that cannot afford the higher price of the technology and support infrastructure. For these districts, currently available near-zero emissions technology, including diesel, is viable.

When replacing older school buses, these currently available near-zero emissions diesel buses generate significant emission reduction benefits almost on par with all electric technologies. When replacing an older technology school bus, a new near-zero emissions diesel model reduces nearly as much fine particle emissions as an all-electric model and reduces emissions of oxides of nitrogen (NOx) – a smog forming compound – by 90 percent.[2] These significant emission reductions would occur through the purchase of much more cost effective investments in new diesel technology that do not require additional build-out of expensive charging infrastructure and are not impeded with range or ambient temperature limitations.

Far greater emission reductions are anticipated from investments in new diesel school buses than investment in zero-emissions technology, owing to diesel's cost effectiveness. Air quality officials in the State of Arizona determined that many more older and higher emitting school buses may be replaced for a fixed investment by choosing the cost effective new diesel option than more expensive zero-emission options thereby generating far greater anticipated emission reductions.[3]

We recognize the need to rejuvenate America's school bus fleet. As an alternative, we encourage you to devote funds proposed for the Clean School Bus provision to the existing school bus rebate program that already functions within the Diesel Emission Reduction Act program. This school bus rebate program awards higher funding for all-electric bus purchases for those school districts that choose this technology type. School districts that choose a new near-zero emissions diesel option are not precluded from this investment, but are awarded less funding for their choice.

**2. Continued Need for the Diesel Emission Reduction Act**

The Diesel Emissions Reduction Act is one of the most effective environmental programs delivering benefits to communities across the country. Between 2008 and 2016, the program has replaced 73,000 engines, vehicles and equipment with cleaner technologies to eliminate 335,000 tons of emissions of oxides of nitrogen (NOX), a smog forming compound, and nearly 15,000 tons of fine particle emissions.

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[1] Thomas Built Buses: "Facts About Fuels": https://thomasbuiltbuses.com/bus-advisor/facts-about-fuels/
[2] According to the Diesel Emission Quantifier using default assumptions provided by the U.S. Environmental Protection Agency.
[3] "Draft Beneficiary Mitigation Plan", Arizona Department of Administrative Services, June 2018: https://vwsettlement.az.gov/sites/default/files/media/VWBeneficiary-Mitigation-Plan.pdf

Every dollar invested through the program is met with $3 in non-federal matching grants to deliver $13 in health benefits. [4]

While the program is achieving great success, more can be done. Near-zero emissions technology, including clean diesel is available today across the large spectrum of heavy-duty applications from trucks and buses to much larger off-road equipment and even lager marine and locomotive engines. While new clean technologies including clean diesel are ready and available today, introducing these technologies in the fleet of heavy-duty on and off-road equipment is a lengthy process. The DERA program is a necessary tool to introduce these technologies sooner than they would occur under normal attrition rates.

**Commercial Vehicles and Buses**

America's fleet of trucks, school buses and transit buses are relatively old and do not come with the latest near-zero emissions technology. Today, diesel is the predominant powertrain found under the hood of America's fleet of commercial vehicles, transit buses and school buses. Seventy-five percent of commercial vehicles, 95 percent of school buses and 85 percent of transit buses are powered by diesel technology. According to vehicle in operation data compiled through 2017, about two out of every three trucks and buses on the road does not come with the latest near-zero emissions technology developed to meet the latest tailpipe emissions standard established for model year 2010. The DERA program is an effective and needed tool to provide incentive funds to encourage the owners of commercial trucks, school buses and transit buses to replace older equipment with new.

**Support for a New Engine Standard**

Commercial vehicles will be getting cleaner and the DERA program will help introduce these new technologies to benefit communities. Engine manufacturers and other stakeholders are working with EPA concerning a new heavy-duty engine standard that will take near-zero emissions for fine particles and NOx closer to zero while still working within stringent fuel economy standards. That program, the *Cleaner Trucks Initiative*, is ongoing and will see further reductions in emissions. If the past is any indication of the future, introducing these closer-to-zero innovations will take time and the DERA program is an important tool to deliver emission reduction benefits to communities across the country.

**Off-Road Equipment**

Unlike commercial vehicles, owners of off-road equipment are often not required to register equipment like the owner of a truck or car. Off-road equipment, including construction and agricultural tractors, are understood to be of a later generation of technology. These are expensive assets that owners will continue to maintain to ensure they are in the field and on job sites. Like commercial vehicles, the DERA program is an effective tool to help incentivize the replacement of equipment with new clean diesel Tier 4 technologies.

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[4] "Third Report to Congress: Highlights of the Diesel Emission Reduction Program"; U.S. Environmental Protection Agency, June 2016. Third Report to Congress: Highlights of the Diesel Emission Reduction Program(40 p

**Large Engines that Power Marine Vessels and Switch Locomotives**

The fleet of marine vessels and switch locomotives are powered by very large engines, which are often in service around the clock and operate in localized regions. Switch locomotives, for example, rarely leave a narrowly defined geographical region. Recent research commissioned jointly by the Diesel Technology Forum and the Environmental Defense Fund determined that these engines are older and live longer.[5]

Replacing these engines, with help from the DERA program, can introduce the latest clean diesel innovations and generate substantial emission reductions. Research confirms that marine engines remain in service upwards of 50 years as opposed to the 23 years estimated by EPA. Older uncontrolled engines may operate in sensitive communities for generations. The DERA program is a necessary tool to encourage the owners of these much larger marine vessels to replace older engines with new cleaner models. A single engine replacement, when replacing an older uncontrolled engine, can eliminate 30 tons of NOx emissions in a single year. This is equivalent to replacing 96 older Class 8 trucks. Without DERA funding, many of these older marine vessels may be in operation for many years.

Much like marine vessels, switch locomotives remain in service for about 50 years. Replacing the oldest engines that power switch locomotives, including those that were manufactured before emission controls were required of them, can reduce NOx emissions on average of nine tons per year. This is similar to replacing 29 large Class 8 trucks.

New clean diesel engines may also generate co-benefits in terms of greenhouse gas reductions and fuel savings. While Tier 4 clean diesel technologies are developed to reduce emissions of fine particles and NOx, some owners report additional benefits. One marine vessel operating in Puget Sound reported reducing 1,000 tons of greenhouse gas emissions from upgrading older engines with new clean diesel models, while a rail operator in the region reported saving 19,000 gallons of fuel per year when replacing an older engine with a new Tier 4 clean diesel model.[6]

In closing, the Diesel Emission Reduction Act is a program that works. The program **e**njoys bipartisan support in Congress and a uniquely broad-based coalition of followers including environmental and health advocates and industry representatives. The program is voluntary and incentive based, offering carrots – instead of sticks – to interested parties to participate while allowing owners to choose verified technologies that works best for their circumstances. DERA also gives states the flexibility to apply funding based on local emissions inventories to improve air quality. The program maximizes federal funds such that every single dollar spent with federal funds generates $13 in health benefits.

The need for these funds continues as the fleet of trucks, buses and equipment is still of an older generation. While truck and engine manufacturers are hard at work bringing emissions closer to zero, incentive funding opportunities provided by the Diesel Emission Reduction Act program will be needed to introduce these future technologies.

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[5] https://www.dieselforum.org/largeengineupgrades

[6] https://www.dieselforum.org/policyinsider/work-boats-working-for-clean-air
https://www.dieselforum.org/policyinsider/switch-the-switcher-from-old-to-new-clean-diesel-locomotive-power

We also encourage the Committee to invest funds set aside for the Clean School Bus program into the existing DERA rebate program for school buses. This existing rebate program allows school districts to choose the verified technology type that best fits their needs and maximize emission reductions.

Please feel free to contact me with any questions or concerns at (301) 668-7230.

Very truly yours,

Allen R. Schaeffer
Executive Director

CC: Committee on Energy and Commerce