

Department of Legislative Services
Maryland General Assembly
2009 Session

FISCAL AND POLICY NOTE

House Bill 532 (Delegate Morhaim)
Health and Government Operations

State Procurement Diesel Emissions Reduction Act

This bill requires State contractors to equip diesel-powered nonroad vehicles, heavy equipment, and generators with emissions-reducing equipment by specified dates. The State must reimburse contractors for 50% of the cost of equipment retrofits if they have not received reimbursement under prior contracts.

Fiscal Summary

State Effect: State expenditures (all funds) increase significantly beginning in FY 2011 to reimburse State contractors for the cost of retrofitting their diesel-powered nonroad vehicles, heavy equipment, and generators with emissions-reducing equipment. Legislative Services cannot reliably estimate the extent of the increase or the distribution among funding sources. State expenditures (all funds) for construction contracts may also increase slightly. No effect on revenues.

Local Effect: None.

Small Business Effect: Potential meaningful.

Analysis

Bill Summary: The bill establishes three levels of emissions reduction for diesel-powered engines:

- Level 1 controls reduce particulate matter (PM) emissions by at least 25% from uncontrolled engine emission levels;

- Level 2 controls reduce PM emissions by at least 50%;and
- Level 3 controls reduce PM emissions by at least 85% or to less than or equal to 0.01 grams of PM per brake horsepower-hour.

The retrofit requirements for State contractors apply only to construction contracts valued at more than \$2 million and to nonroad vehicles, heavy equipment, and generators that remain on-site for more than three days. The implementation deadlines vary by project start date, vehicle type, and engine size, but they begin January 1, 2011, with full compliance required for projects that begin on or after July 1, 2014.

The bill also requires that construction contracts prohibit the venting of crankcase emissions from, and nonessential idling by, diesel nonroad vehicles and heavy-duty diesel vehicles used to perform the work.

Funding for the contractor reimbursements is specified to come from federal Congestion Mitigation and Air Quality (CMAQ) grants, Diesel Emissions Reduction Act (DERA) funds, any other designated federal funds, and any appropriated State funds.

Current Law: Federal regulations require that diesel engines produced since 2007 reduce PM emissions by more than 90%. As of October 2006, all on-road diesel vehicles are required to use ultra low sulfur fuel, which even when used in older engines can reduce PM emissions by about 10%; beginning in 2010, federal regulations require nonroad vehicles to use ultra low sulfur fuel.

The State does not require that diesel-powered construction equipment used by State contractors be equipped with retrofit technology.

Background: Diesel engines are the predominant source of power for heavy-duty applications because they are more powerful, efficient, and durable than gasoline-powered engines. Diesel engines are found in two-thirds of farm and construction equipment, over 90% of commercial trucks, and the vast majority of school buses. Older diesel engines, however, emit higher levels of PM, sulfur, and nitrous oxide than their gasoline-powered counterparts.

Recent advances in diesel-engine technology, fuel processing, and government regulation have addressed many of the environmental concerns related to diesel fuel. However, the durability of diesel engines works against efforts to reduce emissions because the vast majority of diesel-powered engines still in use were produced before new technology and federal regulations went into effect.

To accelerate the reduction of PM emissions, vehicle and equipment operators can retrofit existing diesel engines with various types of emissions-reducing devices. The

U.S. Environmental Protection Agency and the California Air Resources Board have categorized these devices according to the reductions in emissions they have been shown to produce. **Exhibit 1** summarizes their key traits.

Exhibit 1
Diesel Engine Retrofit Devices

	<u>Most Common Device</u>	<u>PM Emissions Reduction</u>	<u>Cost per Vehicle</u>
Level 1	Diesel Oxidation Catalyst	25%	\$1,000 to \$2,000
Level 2	Flow Through Filter	50%	Unknown
Level 3	Diesel Particulate Filter	85%	\$5,000 to \$10,000

Source: California Air Resources Board, U.S. Environmental Protection Agency

Federal Programs:

The U.S. Congress reauthorized CMAQ, which dates to 1991, in 2005 to provide funding to state transportation departments and transit agencies to invest in emissions reduction initiatives. CMAQ funding may be used only in areas that do not meet federal air quality standards (nonattainment areas) and former nonattainment areas that are now in compliance (maintenance areas). States must give priority in distributing CMAQ funds to diesel engine retrofit projects and other cost-effective emissions reduction activities.

In fiscal 2009, the Maryland Department of Transportation received approximately \$42 million in CMAQ funds. Except for a small pilot project with the Baltimore Metropolitan Planning Organization, the funds are not distributed to local governments. Instead, the State Highway Administration and the Maryland Transit Administration share the funds to pay for new and cleaner buses, ride sharing, Park & Ride lots, synchronization of traffic lights (to reduce idling), and other emissions reduction efforts.

The U.S. Congress adopted DERA in 2005 to fund State and local efforts to retrofit existing diesel engines with emissions control devices. A portion of total funding – 30% – is divided equally among the 50 states and the District of Columbia, while the remainder – 70% – is distributed to regions for competitive grants. The American Recovery and Reinvestment Act of 2009 (ARRA) includes \$300 million in one-time funds for DERA.

In fiscal 2009, the Maryland Department of the Environment (MDE) received \$196,000 in DERA formula grants; by fulfilling matching requirements, it received an additional \$98,000. Although final awards have not been made, MDE expects to distribute those funds to three local governments to fund retrofits of school buses and other diesel

vehicles. MDE expects \$1.7 million in DERA funds from ARRA in fiscal 2010 under the state formula grants; there is no State match for the next round of funding. Competitive grant awards available to states and local governments will likely range in size from \$1 million to \$7.5 million. Future availability of DERA and CMAQ funds hinges on reauthorization of both programs. CMAQ is well-established, but DERA is a relatively new program, so future funding is less certain.

State Fiscal Effect: As the bill relates to future construction contracts, Legislative Services cannot reliably estimate the cost of reimbursing State contractors for half the cost of retrofitting heavy equipment used on State construction projects. MDE roughly estimates that about 30,000 nonroad vehicles (9,000) and pieces of heavy equipment (19,000) in the State are not equipped with retrofits. To the extent that a meaningful portion of these may be used on State construction projects, the cost of reimbursing contractors for retrofits is likely to be substantial. Contractors may also pass on at least a portion, if not all, of any nonreimbursed costs for diesel retrofits to the State in the form of higher contract costs for State construction projects. *For illustrative purposes only*, reimbursing 50% of the cost (\$3,750) of retrofitting 1% of heavy equipment vehicles (1,900) with Level 3 controls increases State expenditures by \$7.1 million.

In the absence of a reliable estimate of the cost of reimbursing State contractors for the cost of diesel retrofits, Legislative Services cannot assess whether the expected fiscal 2010 DERA funding of \$1.7 million would be sufficient to cover the cost; however, Legislative Services advises that such funding is most likely not sufficient. Even if it were sufficient, DERA funding is not guaranteed beyond fiscal 2010. To the extent that the State's CMAQ funds are diverted to pay for future reimbursements, the State either needs to backfill those funds with general or special funds, or scale back its existing emissions reduction projects, which runs counter to the purposes of this bill. To the extent that DERA funds are insufficient, or CMAQ funds are diverted to reimburse contractors, State general and special fund expenditures may increase to reimburse contractors or sustain current emissions reduction programs.

It is assumed that State contractors' reimbursements are administered as part of State construction contracts.

Small Business Effect: Small construction companies that participate on State projects must pay to retrofit their nonroad vehicles and other heavy machinery with emissions reduction technology prior to contract award. Only half of their costs are directly reimbursed by the State, so their costs may increase. To the extent that at least a portion, if not all, nonreimbursed costs are passed on to the State in the form of higher contract costs, their costs may be lower.

Additional Information

Prior Introductions: None.

Cross File: None.

Information Source(s): Board of Public Works, Maryland Department of the Environment, Department of General Services, Comptroller's Office, University System of Maryland, Department of Legislative Services

Fiscal Note History: First Reader - February 24, 2009
ncs/rhh

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