

**Department of Legislative Services**  
 Maryland General Assembly  
 2006 Session

**FISCAL AND POLICY NOTE**

House Bill 38 (Delegate Hubbard)  
 Health and Government Operations

**Procurement - Diesel-Powered Nonroad Vehicles - Fuel and Technology Requirements**

This bill requires State agencies and their contractors to use ultra low sulfur diesel (ULSD) fuel in all diesel-powered nonroad vehicles (*e.g.*, backhoes, cranes, and bulldozers) used in public works projects beginning April 1, 2007. A separate requirement that State agencies and their contractors use the best available technology (BAT), as determined by the Secretary of the Environment, for reducing pollution emissions from nonroad vehicles used in public works projects is phased in over two years. The bill allows the Secretary of the Environment to make certain exceptions to both requirements.

**Fiscal Summary**

**State Effect:** In the first three years, general and special fund expenditures on public works contracts could increase significantly, though the actual increase is difficult to quantify at this time, due to higher fuel costs for nonroad vehicles and the cost of retrofitting nonroad vehicles with emission-reducing technology. These costs will be mitigated after 2010 when new federal rules take effect. General fund expenditures shown reflect three positions at the Maryland Department of the Environment (MDE) to implement the provisions of the bill. Out-year expenditures decrease as staffing needs are reduced.

(in dollars)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
Revenues	\$0	\$0	\$0	\$0	\$0
GF Expenditure	145,500	112,800	76,400	80,700	85,300
Net Effect	(\$145,500)	(\$112,800)	(\$76,400)	(\$80,700)	(\$85,300)

*Note:() = decrease; GF = general funds; FF = federal funds; SF = special funds; - = indeterminate effect*

**Local Effect:** None.

**Small Business Effect:** Minimal. Any effects on small businesses bidding on State contracts would likely be passed on to the State in the form of higher bids on public works contracts.

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## Analysis

**Bill Summary:** Beginning April 1, 2007, this bill requires that all diesel-powered nonroad vehicles owned, leased, or operated by or on behalf of State agencies use ULSD fuel. It further requires that all solicitations for public works projects issued on or after April 1, 2007, and the resulting contracts, require contractors to abide by the same requirement. Emergency and expedited procurements are exempted from this requirement.

ULSD fuel is defined as diesel fuel that has a sulfur content of no more than 15 parts per million (ppm).

In cases where a public works contractor does not have access to sufficient ULSD fuel, the Secretary of the Environment must authorize the contractors to use diesel fuel for its nonroad vehicles that has a sulfur content of no more than 30 ppm. These exceptions must be renewed every six months in writing, and may not extend beyond October 1, 2009. If sufficient diesel fuel with a sulfur content of no more than 30 ppm is not available, and the agency or contractor makes a good faith effort to use available quantities of ultra low or low sulfur fuel in their nonroad vehicles, they may be exempt from either requirement.

The bill requires that, beginning October 1, 2007, all diesel-powered nonroad vehicles owned, leased, or operated by or on behalf of State agencies must use the BAT for reducing the emission of pollutants. This requirement is phased in for all contractors working on public works projects for the State. Beginning on October 1, 2007, contractors with public works contracts valued at \$2 million or more are required to use the BAT for reducing the emission of pollutants. Beginning on April 1, 2008, all public works contracts are subject to this requirement.

The Secretary of the Environment is responsible for determining the BAT for reducing emissions for each type of diesel-powered nonroad vehicle, subject to guidelines included in the bill.

The bill includes several exceptions to the requirement that public works contractors use the BAT to reduce emissions from nonroad vehicles. The Secretary of the Environment may exempt any contractor from this requirement if the BAT for reducing emissions is

not available, or if that technology is unsafe. Contractors that have upgraded their nonroad vehicles with the BAT within the last three years do not need to perform any additional upgrades. Also, nonroad vehicles used for less than 20 days on a given public works project are exempt.

The bill requires the Secretary of the Environment to report annually by January 1 to the General Assembly on agency compliance with this bill, beginning in 2008.

The bill also subjects contractors who violate the bill's requirements, or who make false claims with respect to their compliance, to civil fines specified in the legislation.

**Current Law:** Current law does not require State agencies or their contractors to use either ULSD fuel or the BAT to reduce pollutant emissions on their nonroad vehicles. However, in 2004, the U.S. Environmental Protection Agency (EPA) issued final regulations mandating a 500 ppm cap on the sulfur content in fuel used for nonroad vehicles by 2008, and a 15 ppm cap on the sulfur content for nonroad vehicles by 2010.

**Background:** High sulfur diesel fuel engines, such as those used in nonroad equipment, emit sulfur dioxide, which can aggravate cardiovascular disease and contribute to acid rain. Diesel engines using ULSD fuel emit dramatically lower levels of sulfur dioxide. Until 2004, EPA had never regulated the sulfur content of diesel fuel used in nonroad vehicles. The diesel fuel used today in these vehicles has a typical sulfur content of about 3,000 ppm. The caps mandated by EPA will result in dramatic reductions in sulfur dioxide emissions from nonroad vehicles. However, some older nonroad diesel engines cannot run on ULSD fuel, so they have to either be replaced or retrofitted.

In its final rulemaking, EPA noted that the current supply of ULSD fuel for nonroad vehicles is extremely limited, confined only to a small "niche market." The ULSD fuel that is available is designed for *onroad* vehicles, which are required by EPA to use it beginning in October 2006. Fuel suppliers anticipate difficulty in meeting the demand just for onroad ULSD because damage to oil refineries from Hurricane Katrina slowed down conversion efforts that were necessary to produce more ULSD fuel.

**State Fiscal Effect:** There are three components to the fiscal effects of this bill on the State:

- the higher cost of ULSD fuel compared with high sulfur fuel currently used by most nonroad vehicles;
- the cost of equipping nonroad vehicles with the BAT for reducing engine emissions; and

- the administrative costs to implement the bill's provisions.

*Fuel Costs:* This bill will increase the cost of all public works construction projects in the State. Nonroad ULSD is likely to be unavailable or expensive until the EPA mandates for nonroad vehicles take effect in 2010. The Maryland Transit Administration currently purchases ULSD for one of its four bus fueling depots and reports that the price gap between *onroad* ULSD and regular diesel fuel (RDF) is 45 cents per gallon. The price gap between RDF and the high sulfur fuel currently used by nonroad vehicles would make the total price differential even greater, likely in excess of 50 cents per gallon.

The fiscal effects of this bill will be mitigated once the new EPA rules take full effect in 2010. Not only will the State and its contractors have no choice about using ULSD fuel in nonroad vehicles, but EPA expects the price for ULSD fuel to drop to just 7 to 9 cents per gallon higher than the high sulfur fuel currently used. However, because EPA also estimates that engines using ULSD fuel will last longer and incur fewer maintenance costs, it estimates the net price differential to end-users to be 4 or 5 cents per gallon in the northeast United States by 2012.

The State owns or operates few nonroad vehicles. The Maryland Port Administration (MPA) is likely the largest State consumer of nonroad diesel fuel, using 300,000 gallons annually to operate its cranes. However, increased ULSD fuel costs for public works contracts would likely be passed on to the State by contractors. The estimated number of nonroad diesel vehicles used by all divisions of the Maryland Department of Transportation (MDOT) and its contractors exceeds 2,000. With these vehicles purchasing about 7 million gallons of fuel annually, the total cost that could be passed on to the State could average about \$3.1 million using a relatively conservative price gap of 45 cents per gallon, depending on what happens to the price of ULSD fuel over those first three years. Of course, if ULSD fuel is not available, which is likely, the costs would be lower because most contractors and State agencies would obtain waivers under the terms of the bill.

*Retrofitting with Best Available Technology:* The bill's requirements that the State and its contractors use the BAT to reduce pollutant emissions from nonroad vehicles will impose additional costs on the State. For example, MPA estimates spending at least \$300,000 to retrofit its cranes. For other nonroad vehicles used by contractors, BAT includes everything from improved diesel particulate filters costing several hundred dollars per vehicle to more comprehensive engine retrofits costing between \$2,000 and \$10,000 per vehicle. Assuming that contractors pass on the costs of adopting BAT for all of their nonroad vehicles to the State, the total cost could fall anywhere between \$400,000 and \$20 million, depending on which retrofits are required for each nonroad vehicle.

*Administrative Costs:* Finally, the bill imposes extensive administrative responsibilities on MDE that require additional staff in the first year. Under the terms of the bill, MDE is responsible for developing and updating a list of BAT available for all types of nonroad engines; granting waivers to contractors when ULSD fuel is not available or when the use of BAT is not appropriate; and submitting annual reports on the use of ULSD and BAT by State agencies and their contractors. The initial development of a BAT list could be quite cumbersome. Other jurisdictions, most notably the California Air Resources Board, have begun to assemble BAT lists, but those lists are incomplete and tend to focus on improvements available for onroad vehicles rather than nonroad vehicles. Therefore, MDE would have to conduct a great deal of technical research before developing the required lists. The waiver requirements, at least in the years immediately following the bill's effective date when ULSD and BAT are in short supply, would likely be extensive. The annual report requires extensive collaboration with other State agencies responsible for public works procurement.

General fund expenditures could increase by an estimated \$145,500, which accounts for the bill's October 1, 2006 effective date.

MDE requests four new public health engineer positions, including a supervisor, to carry out these responsibilities. The Department of Legislative Services (DLS) notes that after the initial development of the BAT lists, responsibility for updating them every six months should be less cumbersome. Similarly, as ULSD and BAT become more available, the need to process waivers will ease substantially. Both of these factors suggest that MDE's staffing needs are not permanent and thus could be performed, in part, by contractual employees. Therefore, DLS's estimate reflects the cost of hiring three new public health engineers, of which two are contractual positions, to perform the functions required by the bill during the first year. It includes salaries, fringe benefits, one-time start-up costs, and ongoing operating expenses. Second-year costs reflect a reduction of one contractual position, and third-year costs reflect a reduction of the second contractual position.

**Additional Comments:** MDOT advises that it is unclear whether MARC locomotives would be subject to the requirements of this bill. For the purposes of this analysis, DLS did not include them in the estimate.

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## Additional Information

**Prior Introduction:** None.

**Cross File:** None.

**Information Source(s):** Department of General Services, Board of Public Works, Maryland Department of the Environment, University System of Maryland, Maryland Department of Transportation, Department of Budget and Management, U.S. Department of Energy, *Federal Register*, Vol. 69, No. 124, California Air Resources Board, Department of Legislative Services

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