REPORT OF THE
SECRETARY OF ADMINISTRATION

Biodiesel Fuel Usage

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

HOUSE DOCUMENT NO. 18

COMMONWEALTH OF VIRGINIA
RICHMOND
2007

COMMONWEALTH of VIRGINIA

Office of the Governor

Viola O. Baskerville
Secretary of Administration

January 23, 2007

The Honorable Bruce F. Jamerson
Clerk of the House
Patrick Henry Building
Richmond, VA 23219

Dear Mr. Jamerson:

House Joint Resolution Number 148 (2006 Session) directs the Secretary of Administration to provide the Members of the General Assembly with a report "on the progress made by each agency toward using biodiesel fuels in fleet vehicles" by the first day of the 2007 Regular Session of the General Assembly. I am pleased to provide you with that report.

Please contact me if you have any questions with regard to this report.

Sincerely,

Viola O. Baskerville

Viola O. Baskerville

Cc: The Honorable William H. Leighty, Chief of Staff
Richard Sliwoski, Director, Department of General Services

Enclosure

House Joint Resolution No. 148

Report on Use of Biodiesel Fuels

EXECUTIVE SUMMARY

During the 2006 General Assembly Session, the House and Senate agreed to House Joint Resolution Number 148 (HJR 148). HJR 148 requested that state agencies implement the use of biodiesel fuels, where feasible, in fleet vehicles and equipment and that the Secretary of Administration report to the Division of Legislative Automated Systems on the progress of meeting the request of HJR 148. This report contains the information requested by HJR 148.

Because the Commonwealth does not have a single repository of data to perform an accurate assessment of the usage of biodiesel fuel or other fuels used by state agencies, the data collected to report information requested by HJR 148 was collected via a manual survey process. The Department of General Services, Office of Fleet Management Services (OFMS) conducted a survey via e-mail. The collected data reveals very little use of biodiesel fuels by state agencies.

The survey data identifies two agencies, of the one hundred eleven agencies that responded to the OFMS survey, that have used biodiesel fuel in their vehicles and equipment. These agencies are James Madison University (JMU) and the Virginia Department of Transportation (VDOT). Both agencies used B-5 biodiesel fuel which is a fuel blended with 5% biodiesel and 95% petroleum diesel fuel.

JMU and VDOT had mixed results from the use of biodiesel. JMU stated satisfactory use of B-5 and intends continued use of the fuel. VDOT uses B-5 in some of its vehicles and equipment in its Hampton Roads district. VDOT has not committed to expanding the use of biodiesel because of the possibility the fuel will damage fuel system components of older vehicles, insufficient infrastructure to install biodiesel fuel dispensers, engine manufacturer warranty concerns and other concerns.

The other agencies responding to the survey that operate diesel vehicles and equipment but have not used biodiesel fuel, responded that they are interested in additional information and training on the use of biodiesel. The Energy Division of the Department of Mines, Minerals, and Energy (DMME) is prepared to provide training and other assistance to state agencies for implementing biodiesel fuels into agency fleets. DMME and OFMS will be scheduling training events during calendar year 2007, to satisfy the requests for training.

BACKGROUND:

During the 2006 General Assembly Session, the House and Senate agreed to House Joint Resolution Number 148 (HJR 148). HJR 148 requested that state agencies implement the use of biodiesel fuels, where feasible, in fleet vehicles and equipment, specifically HJR 148 states:

HOUSE JOINT RESOLUTION NO. 148

Requesting state agencies within the Commonwealth to implement the use of biodiesel fuels, where feasible, in fleet vehicles owned or operated by the agency. Report.

Agreed to by the House of Delegates, March 2, 2006

Agreed to by the Senate, February 28, 2006

WHEREAS, alternative fuels such as biodiesel can help meet the growing demand for transportation fuels in the Commonwealth; and

WHEREAS, the Commonwealth has an abundance of agricultural products that can be used to produce biodiesel; and

WHEREAS, increased use of biodiesel in the Commonwealth could generate new jobs and economic opportunities for residents of the Commonwealth; and

WHEREAS, in his report related to the use and production of biodiesel fuel in the Commonwealth, the Secretary of Agriculture and Forestry recommended that the Commonwealth support the use of biodiesel and, where feasible, implement the use of biodiesel in its fleet of vehicles and equipment; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That state agencies within the Commonwealth be requested to implement the use of biodiesel fuels, where feasible, in fleet vehicles owned or operated by the agency. The Secretary of Administration shall submit to the Division of Legislative Automated Systems an executive summary and report of each agency's progress in meeting the requests of this resolution no later than the first day of the 2007 Regular Session of the General Assembly. The executive summary and report shall be submitted for publication as a report as provided in the procedures of the Division of Legislative Automated Systems for the processing of legislative documents and reports and shall be posted on the General Assembly's website.

BIODIESEL USAGE DATA:

Data Collection:

Because the Commonwealth does not have a single repository of fuel data that can be queried to identify and track fuel (gasoline, diesel, biodiesel, and ethanol) usage by all state agencies, collecting the information requested by HJR 148 required a manual data collection process. The Department of General Services, Office of Fleet Management Services (OFMS) prepared and conducted a survey of state agencies in an attempt to collect data necessary to be responsive to the requirements of HJR 148. Survey questions were sent to agencies via e-mail in December 2006, with a request for survey data to be returned to OFMS in January 2007. Questions used in the survey were:

- Does your agency own and operate diesel powered vehicles?
- How many diesel powered vehicles does your agency own?
- Did you use any biodiesel fuel in the past twelve months? If yes, briefly describe your experience. If no, please explain.
- Do you have any plans for using biodiesel in the coming year?
- Would you like more information or be willing to attend a workshop on the use of alternative fuels?

Summary results from responses received are included in this report.

Survey Results:

Responses to the survey questions yielded the following information:

- Forty-four agencies reported they owned and operated diesel fueled vehicles.
- Total number of diesel vehicles reported from the survey data 6,709.
- Total number of other diesel burning equipment (i.e. generators) 2,486.
- Two agencies reported using biodiesel fuels – James Madison University and Virginia Department of Transportation
- All agencies reporting requested further information and training on the use of biodiesel fuels
- The Energy Division of the Department of Mines, Minerals, and Energy (DMME) has offered to provide training and other assistance to state agencies for implementing biodiesel fuels into agency fleets.

Specific Biodiesel Usage Information:

James Madison University (JMU) is currently utilizing biodiesel fuel identified as B-5 (5% biodiesel + 95% diesel fuel) and has reported no material problems or issues related to using the fuel. JMU has reported that they plan to continue using B-5 biodiesel, as long as the supply is available, in all diesel powered vehicles and equipment owned by the University.

VDOT reported that they currently use B-5 fuel in the Hampton Roads district. VDOT also commented that the use of biodiesel fuel on an across-the-board basis, as a replacement for petroleum diesel fuel, is neither practical nor cost-effective. VDOT submitted the following information regarding the use of biodiesel fuel:

- VDOT's equipment fleet consists of a mixture of old and new equipment. Older equipment is not designed to use biodiesel fuel. Biodiesel fuel can have an effect on fuel system components of older equipment.

- In order to use biodiesel only in VDOT's newer equipment, and continue to use petroleum diesel fuel in its older equipment, VDOT would need to install additional fuel storage tanks at each of its facilities to store biodiesel fuel purchased in bulk. Many VDOT sites have no room for additional fueling equipment, and it would be extremely costly for VDOT to purchase the infrastructure needed to install biodiesel fuel dispensers.

- Starting and engine problems, biodiesel availability, blending techniques, and manufacturers' warranties are additional concerns with biodiesel usage.

CONCLUSION

The Commonwealth does not have a single repository of enterprise wide data to perform an accurate assessment of biodiesel fuel or other fuels used by state agencies. As a result, it makes it difficult to analyze fuel usage to make any meaningful data supported conclusions on the quantity consumed, benefits, and disadvantages of using certain types of fuels. Nevertheless, to be as responsive as possible to HJR 148, a manual survey process was conducted by OFMS in an attempt to capture biodiesel usage by state agencies. The collected data revealed very little use of biodiesel fuels by state agencies.

Two agencies, JMU and VDOT, reported using biodiesel fuel with mixed results. Both agencies use B-5 biodiesel fuel which is a fuel blended with 5% biodiesel and 95% petroleum diesel fuel. JMU reported satisfactory results from the use of B-5 and intends continued use of the fuel. VDOT reported using B-5 in some of its vehicles and equipment in its Hampton Roads district. VDOT has not committed to expanding the use of biodiesel because of the possibility the fuel will damage fuel system components of older vehicles, insufficient infrastructure to install biodiesel fuel dispensers, engine manufacturer warranty concerns and other concerns. Agencies surveyed with diesel vehicles and equipment but not using biodiesel fuel are interested in additional information and training on the use of biodiesel. The Energy Division of the Department of Mines, Minerals, and Energy (DMME) has offered to provide training and other assistance to state agencies for implementing biodiesel fuels into agency fleets. DMME and OFMS will be scheduling training events during calendar year 2007.

The use of biodiesel fuels by agencies of the Commonwealth could possibly expand with training on what benefits can be achieved from use and availability of the fuel. To be able to assess the benefits and availability of the fuel, the Commonwealth must first be able to understand how the fuel is purchased and the sources of the fuel. Fuel, to include biodiesel fuel, is purchased by state agencies at either state owned bulk fuel sites or privately owned fuel sites. Bulk fuel is purchased by agencies off of VDOT statewide fuel contracts while fuel purchased from privately owned sites are purchased primarily with a Voyager fuel card issued by OFMS. Unfortunately, these two fuel purchasing methods are not integrated to enable an enterprise wide study for strategic planning and training on the use of alternative fuel sources such as biodiesel.

The Commonwealth does have an example of an enterprise wide fuel management program implemented by OFMS. The OFMS program tracks fuel consumption by OFMS owned vehicles by tracking fuel purchases at state bulk fueling sites and privately owned fuel sites via an automated vehicle management maintenance system that includes fuel management functionality. The data available from the system enables OFMS to study fuel consumption trends, study the cost of fuel from state owned bulk fuel sites and privately owned fuel sites, and to geographically identify locations where fuel is purchased.

In addition, OFMS has taken the lead to introduce and implement an alternative fuel, ethanol (E-85) for use in OFMS vehicles; DMME assisted OFMS with this implementation. E-85 fuel is an alternative fuel to gasoline that can be used in vehicles that operate on ethanol fuel. OFMS has over 1,000 vehicles deployed across the Commonwealth that can operate on E-85. OFMS is currently studying, using fuel data from its vehicle management system, benefits of using E-85 fuel in OFMS vehicles and evaluating feasibility of implementing other potential E-85 fueling locations in the Commonwealth.

OFMS has fuel management experience and an automated vehicle management system with fuel management functionality. Along with DMME performing the role of technical expert, OFMS and DMME could study in more detail the feasibility, benefits and disadvantages of expanding biodiesel usage by state agencies. To do so, fuel management would need to be consolidated with oversight by a single agency in consultation with those agencies consuming large quantities of fuel. OFMS could take an oversight role as its staff has enterprise wide fuel management experience and an automated system to track fuel purchases across the Commonwealth.

The information provided in this report is as accurate and detailed as possible considering a manual reporting process was used to collect the data. To enable a more accurate study on the use of biodiesel fuels, and all fuels consumed by state vehicles and equipment, an enterprise wide approach to fuel management is necessary. The Commonwealth has achieved efficiencies and benefits, both operational and cost, from the implementation of enterprise wide services. Fuel (gasoline, diesel, ethanol, biodiesel) consumption and services have the potential to achieve similar efficiencies and benefits.