SPECIAL REPORT

Review of Plans and Analysis for Reducing the Use of Petroleum Products

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STATE OF TENNESSEE

COMPTROLLER OF THE TREASURY

Department of Audit

Division of State Audit

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November 30, 2010

The Honorable Ron Ramsey
Speaker of the Senate
The Honorable Kent Williams
Speaker of the House of Representatives
The Honorable Steve Southerland, Chair
Senate Environment, Conservation, and Tourism Committee
The Honorable John C. Tidwell, Vice Chair
House Conservation and Environment Committee
The Honorable Bo Watson, Chair
Senate Committee on Government Operations
The Honorable Mike Kernell, Vice Chair
House Committee on Government Operations
and
Members of the General Assembly
State Capitol
Nashville, Tennessee 37243

Ladies and Gentlemen:

Transmitted herewith is the analysis of the petroleum use reduction plans of the Department of General Services, the Department of Transportation, the University of Tennessee System, and the Board of Regents institutions. This review was conducted pursuant to the requirements of Section 4-22-103, *Tennessee Code Annotated*.

Sincerely,

Arthur A. Hayes, Jr., CPA
Director

AAH/dww
11-030

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Review of Plans and Analysis for Reducing the Use of Petroleum Products

INTRODUCTION

AUTHORITY

Section 4-22-101, *Tennessee Code Annotated*, requires all state agencies, universities, and community colleges that have state-owned motor vehicle fleets consisting of ten or more motor vehicles to develop and implement plans to increase the state's use of alternative fuels, synthetic lubricants, and fuel-efficient or low-emission vehicles. Agencies were to submit an analysis of plan implementation by September 1, 2008, and annually thereafter, to the Comptroller of the Treasury. Under Section 4-22-103, the Comptroller is to forward a report analyzing plan implementation to the Environment, Conservation, and Tourism Committee of the Senate; the Conservation and Environment Committee of the House of Representatives; and the Government Operations Committees of the Senate and House of Representatives by November 1, 2008, and annually thereafter.

OBJECTIVE

The objective of the review was to determine whether applicable agencies have complied with statutory requirements to develop and implement plans to reduce or displace the use of petroleum products by their motor vehicle fleet.

SCOPE AND METHODOLOGY

The 2010 reports were submitted to the Comptroller of the Treasury by each of the state agencies subject to the law: The Department of General Services, Department of Transportation, Board of Regents colleges and universities, and the University of Tennessee System. We reviewed the plans to determine if the measures outlined in the reports were consistent with the goal of the statute and if the agencies had reported they had met the statutory goal. We contacted the agencies to clarify any questions we had.

STATUTORY REQUIREMENTS

State law requires that each entity's plan have a goal of reducing or displacing at least 20% of the current petroleum products consumed by each entity's motor vehicle fleet by January 1, 2010. All entities were to initiate plan implementation by January 1, 2008. (The departments

of General Services and Transportation used calendar year 2006 as the baseline year for the current use of petroleum products. Most of the Board of Regents colleges and universities used fiscal year 2007, and UT used fiscal year 2008.)

The law specified that reductions could be made in the following ways:

- through the use of biodiesel, ethanol, synthetic oils or lubricants, or other alternative fuels;
- through the use of hybrid electric vehicles or other fuel-efficient or low-emission vehicles; or
- through additional methods that reduce harmful emissions as may be approved by the Department of General Services.

SUMMARY OF ENTITIES' STATUS IN REDUCING THE USE OF PETROLEUM PRODUCTS

Department of General Services

The Department of General Services submitted its 2010 Petroleum Reduction Plan and Analysis on August 23, 2010. The following is an update on the strategies General Services has implemented to help achieve its goal:

- An award for a new fuel card contract using a universally accepted card, such as Visa or MasterCard, is in process to expand the number of suppliers and increase the accessibility of E85 ethanol and B20 biodiesel fuel. (E85 is a gasoline blend containing up to 85% ethanol. B20 is a biodiesel blend containing 20% biodiesel and 80% petroleum diesel.)
- E85 ethanol and B20 biodiesel fuel were added to the statewide contract for bulk fuels effective February 1, 2009.
- The Division of Motor Vehicle Management (MVM) continues to monitor the usage of E85 and B20 biodiesel fuel. Each department/agency has been notified annually of its fuel consumption including E85 and B20 biofuel for the report period and target goals for 2010.
- MVM instituted the practice of purchasing only flex-fuel, hybrid, and compact energy-efficient vehicles where available.
- Effective January 1, 2008, all vehicles are using synthetic-blend oil. Oil changes increased from 5,000 miles or every six months to 7,500 miles or every six months for regular vehicles and from 3,000 miles to 5,000 miles for police pursuit vehicles.

- MVM has developed guidelines for all agencies and departments to reduce engine idle time.

- Customers are assigned the most fuel-efficient vehicle based on the specific needs of the customer (number of passengers, required cargo space, travel distance, etc.).

The Department of General Services' 2010 analysis of its petroleum reduction plan concluded that there was a 16% reduction in fuel usage. The department reported that obtaining access to E85 and B20 fuel has been a challenge and the availability of vendors supplying these fuels is limited.

Department of Transportation

The Department of Transportation (TDOT) submitted its 2010 Petroleum Reduction Plan and Analysis on August 31, 2010. The following is an update from the plan on the strategies TDOT has implemented to help achieve its goal:

- To help provide biofuels for state vehicles, TDOT has converted or installed infrastructure for B20 storage in all four regional facilities (Jackson, Nashville, Knoxville, and Chattanooga) and in district garages in Johnson City, Cookeville, Crossville, and Arlington. In March 2009, gasoline storage was converted to E85 at the Region 4 Jackson facility. During 2010, gasoline storage was converted to E85 in Knoxville, Chattanooga, and Crossville. Each of these facilities now offers both E85 and B20 for state vehicles. TDOT anticipates conversion to E85 in Nashville in late 2010.

- Fifteen district storage sites have been converted to dispense E10, and the remaining six are expected to be converted by the end of 2010. (E10 is 10% ethanol and 90% unleaded gasoline.)

- TDOT established the Green Fleet Program in March 2010 to encourage all employees to use E85 ethanol and B20 biodiesel whenever possible. The Green Fleet website on TDOT's intranet allows employees to track the progress of each work unit in meeting set goals. The website also lists E85 and B20 refueling sites that accept state fuel cards and includes a planning template to help employees plan trips around biofuel sites.

- TDOT and the Department of General Services have undertaken a joint initiative to use synthetic-blend motor oils and lubricants for gasoline-powered vehicles. TDOT implemented a purchasing policy requiring that motor oils and lubricants in gasoline vehicles contain at least 10% synthetic content.

- Seventy percent of TDOT's light-duty fleet consists of flexible-fuel vehicles which are capable of using an 85% ethanol blend.

The Department of Transportation's analysis of its Petroleum Reduction Plan concluded that there was a 5.2% reduction in petroleum usage. In addition to the increased inspection and other travel needs associated with nearly $487 million in highway infrastructure projects funded through the American Recovery and Reinvestment Act, a series of weather-related incidents contributed to increased fuel consumption, including rockslides, heavy snow and ice events, and the massive flooding in May 2010.

Tennessee Board of Regents System

The Tennessee Board of Regents (TBR) submitted its 2010 Petroleum Reduction Plan and Analysis on September 17, 2010. The plan applies to the Central Office and the 15 colleges within the TBR system that have fleets of ten or more motor vehicles. There are 4 colleges within the TBR system that have less than ten motor vehicles. The TBR Central Office reported that goals for petroleum reduction were set and has met or exceeded the legislative requirement. As for the 15 individual colleges, only 3 reported that they have met or exceeded the 20% petroleum reduction requirement, but all have plans and are making efforts to comply with the law. Several colleges reported they were not able to meet the 20% requirement due to budget constraints and the scarcity of available biofuels in some locations. The 15 institutions and the Central Office have instituted the following changes:

- required the use of ethanol fuel in all fleet vehicles,
- replaced vehicles with flex-fuel certified vehicles,
- increased oil change increments from 3,000 to 5,000,
- replaced fleet vehicles with vehicles that get better gas mileage, and
- replaced petroleum-based oil with synthetic or synthetic-blend oils for oil changes.

The University of Tennessee System

The University of Tennessee submitted its 2010 Petroleum Reduction Plan and Analysis on August 31, 2010. The University of Tennessee Transportation Service Department is charged with the responsibility for the procurement, operation, and disposal of motor vehicles for the University of Tennessee. This operation provides services for UT Chattanooga, UT Knoxville, UT Institute of Agriculture in Knoxville, UT Institute for Public Service in Knoxville, UT Space Institute in Tullahoma, and UT University-wide Administration. Since UT's last analysis, UT Martin and UT Health Science Center (UTHSC) in Memphis control and are responsible for their own vehicles and reporting. The UT Transportation Service Department has planned to do the following:

- Continue purchasing flex-fuel, electric, and hybrid vehicles. Currently, these vehicles make up 25.8% of their fleet.

- Increase the use of E85 fuel. The increased number of E85 vehicles along with the additional stations providing the fuel should substantially increase the use of E85. The university installed an E85 tank at the Knoxville location in April 2010.

- The university continues to incorporate campus transportation initiatives that reduce on-campus transportation needs.

UT's analysis of its Petroleum Reduction Plan concluded that the reduction in petroleum use has been minimal due to the previous lack of E85 fuel available. With the recent changes increasing the availability of E85, UT believes it is on course to reduce petroleum use 8% by the end of 2010.

The University of Tennessee Health Science Center did not submit a Petroleum Reduction Plan or Analysis but sent an e-mail on September 7, 2010, listing the following three strategies:

- Purchase E85 vehicles when they are viable options as replacements.

- As the budget permits, the university will purchase hybrid and electric vehicles as replacements.

- Encourage university employees to use E85 fueling stations and ethanol additive pumps when available.

The University of Tennessee Martin did not submit a Petroleum Reduction Plan or Analysis but sent an e-mail on October 12, 2010, stating plans to reduce fuel usage. Currently, UT Martin is purchasing vehicles that use flex fuels. The university is also using golf carts and utility vehicles for transportation around campus.

CONCLUSION

Our review of the reports submitted by the agencies to reduce their petroleum usage by at least 20% by January 2010 revealed that only the Board of Regents Central Office and three of its colleges and universities have met the 20% goal. The Department of Transportation reports that it has reduced petroleum usage by 5.2%, while the Department of General Services showed a 16% reduction. The University of Tennessee stated that its reduction in petroleum use has been minimal. Although the entities appear to have made considerable efforts to identify ways to comply with the statute, external factors such as the availability of alternative fuels and resources to purchase new vehicles are barriers to implementation. The entities report they have been increasing the use of alternative fuels, synthetic oils and lubricants, fuel-efficient or low-emission vehicles, and implementing more efficient driving habits for employees.

Since the deadline of January 1, 2010, has passed, the General Assembly may wish to reevaluate this law. It may wish to consider whether the 20% reduction is feasible in light of the resources available to purchase new fuel-efficient and hybrid cars and the availability of alternative fuels. It may wish to change the goal, change the deadline, or delete the law entirely. Even though the goal, established in 2007, has not been met, the law has encouraged state agencies to focus on conserving petroleum products.