The Honorable Christine Todd Whitman  
Governor of New Jersey

The Honorable Donald T. DiFrancesco  
President of the Senate

The Honorable Jack Collins  
Speaker of the General Assembly

Mr. Albert Porroni  
Executive Director  
Office of Legislative Services


If you would like a personal briefing, please call me at (609) 292-3700.

October 23, 2000
Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope</td>
<td>1</td>
</tr>
<tr>
<td>Objectives</td>
<td>1</td>
</tr>
<tr>
<td>Methodology</td>
<td>1</td>
</tr>
<tr>
<td>Conclusions</td>
<td>2</td>
</tr>
<tr>
<td>Auditee’s Response</td>
<td>6</td>
</tr>
</tbody>
</table>
State of New Jersey
Alternative Fuel Program

**Scope**

We have completed an audit of the State of New Jersey, Alternative Fuel Program for the period July 1, 1998 through September 22, 2000. Primarily, the information available from the Department of the Treasury, Central Motor Pool was used to compile, evaluate, and draw our conclusions.

The Energy Policy Act of 1992 (EPACT) mandated all 50 states purchase alternative fuel vehicles (AFVs) to reduce the nation’s use of petroleum fuels in the transportation sector and to improve air quality throughout the country. EPACT required that a certain percentage of the vehicles acquired each year by fleet operators be AFVs. For state fleets, the requirement increased from 10 percent in model year 1997 to 75 percent in model year 2001 and beyond. Additionally, the Governor’s Executive Order #94 increased the purchase requirements for New Jersey’s fleet by an additional 5 percent in model year 1999 and beyond.

The State of New Jersey selected compressed natural gas (CNG) as its alternative fuel. As of July 2000, there were 1,100 AFVs in the fleet; 1,000 dual-fuel vehicles which operate on regular unleaded gasoline or CNG, and 100 dedicated CNG law enforcement vehicles. Each of the AFVs costs an average of $5,000 more than conventional gasoline vehicles. The incremental expense to date is $5.5 million.

**Objectives**

The objectives of our audit were to determine whether the state has complied with significant laws and regulations applicable to the program and whether financial transactions were reasonable.

This audit was conducted pursuant to the State Auditor’s Responsibilities as set forth in Article VII, Section 1, Paragraph 6 of the State Constitution and Title 52 of the New Jersey Statutes.

**Methodology**

Our audit was conducted in accordance with *Government Auditing Standards*, issued by the Comptroller General of the United States.
In preparation for our testing, we studied legislation, Governor’s Executive Orders, federal regulations, and policies of the agency. Provisions that we considered significant were documented and compliance with those requirements was verified by interview, observation, and through our analysis. We also read the budget message and interviewed state personnel to obtain an understanding of the programs and internal controls. Our analysis was designed to provide conclusions about the validity of transactions as well as control and compliance attributes.

**Conclusion**

New Jersey has exceeded the federal and state purchasing mandate percentages as noted in the following chart.

![Compliance with AFV Purchase Requirements](chart.jpg)

However, we found limited use of CNG in the dual-fuel vehicles. In many cases, the cars have never been filled with the alternative fuel and continue to operate exclusively on unleaded gasoline. It should be noted that EPACT and the Governor’s Executive Order stipulates the purchase of AFVs,
but does not establish usage requirements for the alternative fuel. We further noted that New Jersey has restricted compliance of the federal regulations to the purchase of AFVs, even though the act provides for other options to meet the mandate. Consideration of other alternatives such as biodiesel fuel could result in cost savings to the state and still further the goals of the program.

As of July 2000, 73 percent of the state’s dual-fuel cars had never been filled with CNG and operated exclusively on unleaded gasoline. As illustrated in the following chart, only ten percent of the fleet used CNG on a regular basis.

**Dual Fuel Vehicles - CNG**

*Lifetime usage through July 2000*

![Chart showing usage of CNG in dual-fuel vehicles]

As a result, the state incurred $3.6 million in incremental costs for vehicles being operated solely on gasoline from which it received no environmental benefit. Assuming the usage remain constant and the state continues to purchase 900 AFVs annually, the projected non-beneficial incremental costs for those vehicles would be $3 million yearly.
Although emergency and law enforcement vehicles are exempt from the requirements, the state purchased 100 dedicated CNG cruisers for the Department of Law and Public Safety. Our review of these vehicles found 28 state police cruisers, which were available for use since March 2000, had not been used as of September. These vehicles were equipped with video cameras, radios and lights, resulting in a cost of $32,000 each. The remaining vehicles, which were assigned to Divisions of Criminal Justice, Gaming Enforcement, and State Police, were utilized an average of less than 20 miles per day.

A major contributing factor to the under-utilization of CNG is the lack of fueling stations. Currently, there are only two refueling stations for New Jersey’s fleet of alternate fuel vehicles; one located at the Department of Transportation in the Trenton area and the other in Hackensack, which became available in June 2000 servicing 45 vehicles. A report issued by the Advanced Technology Task Force in September 1999 estimated the cost to build fueling stations ranged from $125,000 to $500,000 each. Due to the cost, efforts were made by state officials to utilize existing federal, local, and private facilities. However, minimal success occurred as a result of those efforts and no additional stations have been built. A report issued by the United States General Accounting Office in February 2000 indicates that New Jersey faces the same dilemma as other states in which a lack of refueling infrastructure represents a major impediment to using alternative fuels.

New Jersey has chosen to meet EPACT by purchasing alternative fuel vehicles, even though the federal regulations provide for other options to meet its mandate. Recognizing that some fleets might face obstacles in complying with the federal regulations, EPACT provides for temporary relief. Relief from purchasing vehicles is granted on a per year basis and takes the form of either exemptions or credits. The following options were available to New Jersey.
Exemptions can be granted in areas where the alternative fuel is not available to the fleet as a result of one or more of the following reasons: 1) distance from the vehicle location, 2) lack of station accessibility, and 3) unreasonable amounts of time necessary to travel in order to refuel.

AFV credits are accumulated when the minimum federal purchase requirements have been exceeded for any given model year. New Jersey has amassed over 200 credits because of their commitment to exceed the minimum. In addition, EPACT allows for the buying and selling of AFV credits between qualifying fleets. Those credits can be used to offset future year purchase requirements. Our research indicates that the market price to purchase credits from others is significantly less than the incremental cost required to purchase an AFV.

EPACT allows states to earn AFV credits for using biodiesel fuel (fuels derived from biological materials mixture) in medium and heavy duty vehicles. Those credits can then be used to offset current year purchase requirements up to 50 percent of the total. Based upon the estimated usage of one million gallons of diesel fuel annually, New Jersey could be eligible for over 400 AFV credits each model year. It should be noted that New Jersey has recently contracted with a vendor to supply biodiesel fuel (effective July 2000). However, as of September, no orders have been placed with the vendor.

If the aforementioned options were considered and acted upon, the state would be able to reduce the purchase of AFVs until adequate fueling stations or new technologies are available. This would also permit the state to save millions of dollars and derive environmental benefit from the increased use of biodiesel fuel.

**Recommendation**

As a stopgap measure, we recommend that the Governor’s Executive Order be modified to permit the state to avail itself of the options available under EPACT. The state should pursue these alternatives until an adequate infrastructure is developed for the AFV fleet. We further recommend that the state encourage the increased usage of biodiesel fuel.
Auditee’s Response

The Department of the Treasury appreciates the efforts of your staff in its review of the program. The Department disagrees with some of the findings of the report and the recommendation to modify Governor Whitman’s Executive Order. However, the Department appreciates the suggestions offered and I trust you will see in the departmental response, that the Department has extensive plans developed to remedy the issues identified in the audit.

The State Auditor conducted an audit of the State’s alternative fuel program to determine the State’s compliance with the provisions of the federal Energy Policy Act of 1992 (EPAct) and with Executive Order No. 94, signed by Governor Whitman in April 1999. EPAct requires the State, as a fleet operator, to purchase a specific percentage of alternate fuel vehicles (AFVs) when replacing fleet vehicles. The percentage has increased on an annual basis from 10% in model year 1997 to 75% in model years 2001 and beyond. Executive Order No. 94 added 5% to EPAct purchase requirements for model years 1999 and beyond.

In its report, the State Auditor made several findings concerning the State’s compliance with EPAct and Executive Order No. 94. Generally, the report found that the State has complied with both EPAct and the Executive order in its purchases of alternate fuel vehicles (that is, compressed natural gas (CNG)/gasoline, and propane/gasoline). However, the report reflected that the AFVs are being driven predominately on gasoline due to a lack of CNG fueling stations. Thus, the auditors found the incremental costs of AFVs to be “non-beneficial”. Additionally, the auditors determined that Executive Order No. 94 requires the State to comply with EPAct solely through the purchase of AFVs. Therefore, the report concluded that the State is not taking advantage of less costly alternatives.

In light of these findings, the auditors made two recommendations: 1) modify Executive Order No. 94 to allow the State to comply with EPAct, other than through the procurement of vehicles until the AFT infrastructure is implemented; and 2) encourage the increased use of biodiesel fuel. The State respectively disagrees with the first recommendation, and agrees with the second.
Executive Order No. 94 represents a declaration of the State’s commitment to leading the advancement of clean air technologies. To that end, the Executive Order increases by 5% the EPAct percentage requirements for the purchase of AFVs and further permits the purchase of advanced technology vehicles (ATVs), which do not qualify under EPAct. Further, through the creation of an Advanced Technology Vehicle Task Force, the Order establishes a multi-agency body to assist in the coordination of issues and responses that crosscut departmental boundaries. The Order does not restrict the State’s compliance with EPAct to the purchase of vehicles. Thus it is unnecessary to modify the Executive Order.

The audit report suggested that the State consider the use of AFV credits and the increased use of biodiesel fuel in its compliance efforts with EPAct and the Executive Order. The State has accumulated credits that will be applied against the purchase requirements for this fiscal year. Further, the State will explore opportunities to secure AFV credits. In addition, the Division of Purchase and Property is preparing bidding specifications for hybrid electric vehicles, which satisfy Executive Order No. 94.

Further, the State anticipates substantial use of the existing biodiesel contract. The Department of Transportation is committed to the use of the more expensive fuel. DOT is finalizing an agreement with the Board of Public Utilities (BPU) to identify funds to support the purchase of biodiesel fuel in this rapidly rising fuel market.

The State recognizes that the underutilization of the fleet’s CNGs reflects the need for additional fueling stations. However, the State disagrees with the report’s characterization that continued compliance with the purchasing requirements of EPAct and the Executive Order result in “non-beneficial incremental costs”. The State clearly benefits from compliance with the applicable law. The State’s fleet is positioned to accommodate the use of AFVs upon the implementation of the necessary infrastructure.

The State has developed a multi-prong strategy to implement an appropriate infrastructure. The strategy involves the use of private sector AFV facilities through contract, and the
installation of necessary improvements at facilities of the Departments of the Treasury and Transportation. The Department of the Treasury, Division of Purchase and Property recently concluded the details of an agreement with New Jersey Natural Gas Company for the use of its Wall Township facility to fuel law enforcement vehicles of the Department of Law and Public Safety (L&PS). Some of the law enforcement vehicles referenced in the audit report will be deployed to staff assigned near Wall Township, with the remaining law enforcement vehicles assigned within L&PS.

Further, the Division of Purchase and Property is presently negotiating modifications to an agreement with Public Service Gas & Electric Co. for the use of four of its facilities as fueling stations for the State’s CNG fleet. The Division anticipates implementation in the first quarter of 2001.

The State also expects to install CNG fueling equipment at two DOT facilities and to upgrade the equipment at the DOT Fernwood facility in this fiscal year. The Department of the Treasury will request capital appropriations for next fiscal year to permit the installation of CNG fueling equipment at two or three additional DOT facilities.

In addition, the Department of the Treasury is planning building modifications to a Central Motor Pool facility to allow for the repair of CNG vehicles. Further, a second Central Motor Pool facility is expected to come on-line as a propane fueling facility by the end of the first quarter of 2001.