



U.S. Department of Energy
Office of Inspector General
Office of Audits and Inspections

Audit Report


The Department's Fleet Vehicle Sustainability Initiatives at Selected Locations



Department of Energy
Washington, DC 20585

October 24, 2013

MEMORANDUM FOR THE SECRETARY

FROM: 
Gregory H. Friedman
Inspector General

SUBJECT: INFORMATION: Audit Report on "The Department's Fleet Vehicle Sustainability Initiatives at Selected Locations"

BACKGROUND

In Fiscal Year (FY) 2012, the Department of Energy's fleet consisted of 14,457 vehicles operated at an annual cost of approximately \$131 million. Nearly 72 percent of the vehicles were leased through the General Services Administration (GSA), with the remaining Department-owned and commercially leased. The vehicles, which are located throughout the complex, are managed by Federal and contractor site officials but are used primarily by the Department's nearly 100,000 contract employees.

In October 2009, the President issued Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, which called for a reduction in the use of fossil fuels by using alternative fuel vehicles (AFVs), optimizing the number of vehicles in the fleet, and reducing petroleum consumption by a minimum of 2 percent annually through the end of FY 2020 relative to a FY 2005 baseline. The *Energy Policy Act of 2005* requires that agencies operate AFVs exclusively on alternative fuels unless the Department waives the requirement.

In October 2010, the Department established the Sustainability Performance Office to promote its sustainability activities and requirements. That Office, the Office of Management, and Department Secretarial Officers, are responsible for the oversight of the Department's fleet sustainability initiatives. Those initiatives include reducing the Department's use of petroleum and optimizing the size of its fleet.

Because of the cost of operating the fleet and the Department's prominent role in encouraging U.S. efforts to reduce petroleum consumption, we initiated this audit to determine whether the three Department sites included in the review had effectively and efficiently implemented vehicle fleet sustainability initiatives.

RESULTS OF AUDIT

While Los Alamos National Laboratory (LANL) and the Bonneville Power Administration (Bonneville) had taken steps designed to improve economy and reduce emissions, they had not always managed their substantial vehicle fleets in a cost-effective or efficient manner, nor did

they take all prudent steps to advance the use of alternative fuels. Specifically, these organizations:

- Leased 854 flex-fuel vehicles, (522 at LANL and 332 at Bonneville) that were routinely fueled with regular gasoline instead of alternative fuels such as E-85. Ironically, the Department paid a premium of about \$700,000 to acquire these flex-fuel vehicles rather than purchasing conventionally-fueled vehicles.
- Retained about 25 percent of their fleets (269 and 564 vehicles and other mobile equipment, at LANL and Bonneville respectively) even though they did not meet minimum utilization standards. Despite retaining underutilized vehicles, LANL actually increased its inventory of other motorized equipment (small motorized equipment not suitable for use on public roadways).

The issues we identified occurred primarily because Departmental policies and procedures had not incorporated changes necessary to achieve optimal fleet inventory with regard to the type and number of vehicles. Further, the policies did not reflect the need for procedures to locate AFVs near alternative fueling stations. We noted that the Department set goals in accordance with the Executive Orders for overall fleet reductions, petroleum reductions and alternative fuel use increases; however, flow down of these goals to local sites, in terms of specific targets or directions, was not entirely effective. We also learned that, although required, the Department had never conducted a utilization survey to determine optimal fleet inventory, and that agency policies did not incorporate methodologies for determining the most efficient fleet size. While we recognize that a stringent "one size fits all" policy may not be practical in a diverse agency, the Department's decentralized approach permitted sites to manage individual fleets without sufficient focus on vehicle inventory levels and the commitment to alternative fuels.

The fleet management program at the Savannah River Site was also included in our audit scope. In contrast to the other two sites we visited, Savannah River's fleet vehicles program appeared to be effectively managed. Documentation provided by Savannah River revealed that its fleet of AFVs was appropriately sized and was supported by local alternative fueling stations.

During the course of our audit, we noted that the Department had taken some action to address the issues outlined in this report. While these were positive steps, additional effort is needed to address the problems we observed. To that end, the report includes several recommendations designed to enhance fleet management at LANL and Bonneville.

MANAGEMENT REACTION AND AUDITOR COMMENTS

The Office of Management and the National Nuclear Security Administration (NNSA) provided comments on the draft of this report. The Office of Management generally agreed with our findings and recommendations. NNSA initially disagreed with our findings and recommendations, citing several concerns with the report; however, after follow-up discussions with NNSA management to clarify our respective positions, NNSA generally agreed with the report's findings and recommendations. We consider management's planned corrective actions to be fully responsive to our findings and recommendations.

Attachment

cc: Deputy Secretary
Acting Under Secretary for Science and Energy
Acting Under Secretary for Nuclear Security
Acting Under Secretary for Management and Performance
Chief of Staff
Director, Office of Management
Director, Sustainability Performance Office

REPORT ON THE DEPARTMENT'S FLEET VEHICLE SUSTAINABILITY INITIATIVES AT SELECTED LOCATIONS

TABLE OF CONTENTS

Fleet Vehicle Sustainability Initiatives

Details of Finding1

Recommendations and Management Reaction.....7

Auditor Comments.....8

Appendices

1. Objective, Scope and Methodology10

2. Prior Reports12

3. Management Comments13

THE DEPARTMENT'S FLEET VEHICLE SUSTAINABILITY INITIATIVES AT SELECTED LOCATIONS

Fleet Vehicle Sustainability Initiatives

While the Department of Energy's (Department) fleet managers had made an effort to implement Executive Order 13514, *Federal Leadership in Environmental, Energy and Economic Performance*, pertaining to fleet vehicles and petroleum reduction, and Executive Order 13589, *Promoting Efficient Spending*, they had not always updated the vehicle fleet in a cost-effective or efficient manner at two of the three sites we reviewed. The fleets at Los Alamos National Laboratory (LANL) and Bonneville Power Administration (Bonneville) included flex-fuel vehicles, a type of alternative fuel vehicle (AFV) that could use either gasoline or ethanol fuel. However, these sites had very limited ethanol fuel availability and used gasoline in the majority of flex-fuel vehicles. This practice was inconsistent with the intent of Executive Order 13514 to decrease the consumption of petroleum. Further, both sites failed to optimize the size of their fleets and many of the vehicles that we examined were underutilized. Although they attempted to reduce the number of vehicles in the fleet, there was no defined optimal inventory plan or criteria in place to implement formal, specific vehicle reductions. Fleet managers at a third site, the Savannah River Site, properly managed their fleet by acquiring an appropriate number of AFVs based on alternative fuel availability at the site. Savannah River Site also had an active effort to reduce the size of its fleet.

Alternative Fuel Vehicles

LANL and Bonneville used regular gasoline in a significant portion of their flex-fuel equipped vehicles, a practice that provided little or no environmental or economic benefit. In fact, LANL submitted and the Department granted waivers for 482 of its 486 flex-fuel vehicles in 2011, citing a lack of alternative fuel availability. Bonneville also was granted waivers for 124 of its 311 flex-fuel vehicles in 2011. According to the waivers, the sites had very limited ethanol fuel availability and, as such, used gasoline in the majority of the flex-fuel vehicles. The *Energy Policy Act of 2005* (EPAct) requires that dual-fueled vehicles use only alternative fuel unless a waiver is acquired from the Department's Federal Energy Management Program (FEMP). A waiver may be granted for AFVs located more than 5 miles or a 15-minute drive from an ethanol refueling station. Although technically permitted, the waivers provided in these cases appeared to frustrate the Department's stated goal of reducing the use of fossil fuels and associated emissions.

Although access to ethanol fuel remained an issue, LANL and Bonneville continued to increase the number of flex-fuel vehicles in their fleets. As of September 2012, LANL's overall fleet had decreased by 9 vehicles, while the number of flex-fuel vehicles had grown to 587. According to LANL officials, LANL used a tanker truck to bring fuel to LANL to fill approximately 65 security vehicles with ethanol fuel. The tanker truck operated approximately 3 hours per day, 5 days per week, and the weekly labor costs to operate the truck were \$1,200. Additionally, LANL spent \$3,760 on maintenance and repair of the truck in calendar year 2012. The total cost of maintaining and operating the truck, excluding fuel costs, was approximately \$66,000 for calendar year 2012.

In an effort to reduce the use of gasoline in AFVs, the Department moved to address the high number of waivers in effect at LANL and Bonneville. In September 2012, FEMP denied the requests for waivers for 419 flex-fuel vehicles submitted by LANL in 2012. FEMP officials stated that the waivers were denied because the ethanol fuel truck was considered a source of ethanol fuel and, therefore, the flex-fuel vehicles had access to alternative fuel and did not need waivers. However, LANL fleet managers stated that the fuel truck was intended to fuel a pilot group of 65 vehicles and was insufficient to fuel the entire fleet of AFVs.

Similarly, as of December 2012, Bonneville's fleet of flex-fuel vehicles had grown to 375 and Bonneville submitted waiver requests for 347 of those vehicles. FEMP disapproved 172 of those requests because FEMP found that an alternative fuel station was located within 5 miles of the vehicle locations cited by Bonneville, although Bonneville stated that many of the vehicles operated in remote field locations with no access to ethanol fuel. Department fleet managers indicated that they would appeal FEMP's decision to disapprove the waivers. However, FEMP officials told us that they never received an appeal and, as of May 2013, FEMP continued to deny the waivers and noted that FEMP had no intention of reversing its decision. Consequently, AFVs at LANL and Bonneville continued to operate on gasoline, despite not having the required waiver.

Although we identified modest increases in the use of alternative fuels at both LANL and Bonneville, the increases were not commensurate with the growth of the AFV fleet at both organizations. Bonneville increased alternative fuel consumption between 2009 through 2012; however, the alternative fuel use accounted for only 3 percent of all fuel consumed, whereas 41 percent of Bonneville's vehicle inventory were AFVs. Similarly, LANL increased its alternative fuel use between 2009 and 2012; however, the alternative fuel accounted for only 4 percent of all fuel used and the fleet consisted of approximately 40 percent AFVs.

In contrast, Savannah River Site maintained an appropriately sized fleet of AFVs that could be supported by the availability of alternative fuel. Savannah River Site maintained alternative fuel stations on site and the site Management and Operating contractor, Savannah River Nuclear Solutions, was able to effectively fuel its 370 AFVs. Its fleet of 1,002 vehicles consisted of approximately 37 percent AFVs and alternative fuel consumption represented approximately 27 percent of the fleet's total fuel consumption. None of the users of the site's AFVs submitted waivers requesting exemption from using alternative fuels.

Fleet Optimization

Neither LANL nor Bonneville effectively optimized fleet size to meet sustainability initiatives. As an aid in determining optimal fleet inventory, the General Services Administration (GSA) issued GSA Bulletin FMR B-30, *Motor Vehicle Management*, in 2011. This bulletin directs agencies to specifically identify vehicles that fall below pre-established minimum utilization criteria and to dispose of or reassign those vehicles. The Department's Personal Property Management Guide establishes utilization standards for motor vehicles, including sedans, light trucks, sports utility vehicles, medium trucks and heavy trucks. However, the guide allows for local objectives to be established when the utilization of individual motor vehicles cannot be measured or evaluated strictly on the basis of miles operated or against any Department-wide

mileage standards. The objectives should be based on past performance, future requirements, geographic considerations and special operating requirements. The GSA Bulletin addressed issues we observed in our report on *The Department's Utilization of Fleet Vehicles* (DOE/IG-0728, May 2006). During that audit we found that about 28 percent of the vehicles in the audit sample, which did not include vehicles at LANL or Bonneville, did not meet local use standards for Fiscal Years (FY) 2004 and 2005. Additionally, we found that utilization rates may have declined at certain sites because these facilities were permitted to acquire and use other motorized equipment without making a corresponding reduction in fleet vehicles. Despite those findings and increased scrutiny across the Federal government, our current findings suggest that problems with optimizing the size of vehicle fleets persist.

Many of the vehicles at LANL and Bonneville were underutilized. Although Bonneville had a process for identifying and addressing underutilized vehicles, this process was not followed and fleet vehicle utilization had not historically been monitored, as required. Bonneville conducted an initial utilization assessment in 2012 and calculated that it had a utilization rate of approximately 75 percent for its 2,230 vehicles and mobile equipment based on local, informal utilization standards established during the course of that assessment. Consequently, 564 vehicles and other mobile equipment, approximately 25 percent, were retained despite not meeting the locally developed utilization standards. Subsequent to this assessment, Bonneville reduced the vehicle and mobile equipment inventory by 87, to 2,143 as of April 2013. Bonneville fleet managers stated that they planned to conduct future assessments and would use the data to establish formal local utilization standards.

LANL had also established local utilization objectives for its fleet. To be considered fully utilized at LANL, a vehicle must travel an average of 205 miles per month or make 6 trips per working day. According to documents provided by LANL officials, a utilization rate of less than 93 percent, meaning that less than 93 percent of fleet vehicles meet these utilization standards, is considered "unsatisfactory." During FYs 2009 through 2011, LANL's utilization rate was between 75 and 77 percent. For example, in FY 2011, LANL had a utilization rate of 76 percent meaning that 269 of 1,115 vehicles, or approximately 24 percent, were retained even though those vehicles did not meet the local utilization objectives. Subsequent to the issuance of a draft of this report, National Nuclear Security Administration (NNSA) fleet managers stated that they are implementing right-sizing initiatives across the complex and are specifically requiring fleet managers to justify a need for every leased vehicle.

Furthermore, users submitted written justification for retaining only 35 of the 269 underutilized vehicles at LANL. However, some of the justifications were very vague and did not sufficiently explain why the user organization needed to retain the vehicles instead of downsizing their fleet. One justification for retaining two underutilized vehicles stated, "because of the amount of employees and locations of employees, they would like to keep both vehicles. The plan is to switch them every 6 months to make sure we put enough mileage on both vehicles." When addressing underutilized vehicles, we noted the emphasis was often on increasing utilization as opposed to downsizing the fleet and, therefore, reducing costs. In regard to eight other underutilized vehicles, the justification stated, "all managers have devised a plan to increase the utilization of their vehicles and do not plan to turn any in at this time."

Additionally, in spite of the significant number of underutilized vehicles, we found a substantial increase in other motorized equipment at LANL, including motorized carts, trucks and vans that are not licensed for use on public roads or "officially" counted in the fleet vehicle inventory. Since 2007, the inventory of other motorized equipment at LANL had increased by 59 percent, from 93 items in 2007 to 148 items in 2012. The acquisition cost was significant, ranging from \$10,000 to \$22,285 for various items. In addition, LANL was responsible for maintenance and fuel costs for other motorized equipment, unlike fleet vehicles leased from GSA that include these costs in the leasing rates. LANL fleet managers did not track the utilization or fuel use of these other motorized equipment.

In contrast to Bonneville and LANL, the Savannah River Site proactively managed its fleet inventory, adjusting its inventory to ensure it maintained what it considered to be optimal fleet size. The Savannah River Site had established a fleet utilization goal of 94 percent and had implemented fleet reduction plans, as appropriate, to ensure effective utilization rates. Consequently, Savannah River Nuclear Solutions had a utilization rate of approximately 90 percent for FY 2012, with a monthly utilization rate of at least 94 percent for the last 4 months of the year.

Management of Fleet Sustainability Initiatives

These issues occurred, in part, because the Department had not effectively managed its fleet sustainability initiatives. Specifically, policies and procedures had not been updated to reflect changes necessary to achieve optimal fleet inventory with regard to the type and number of vehicles and availability of alternative fuels. In addition, rather than flow down sustainability goals to various sites, the Department chose to use a decentralized approach to fleet management, with each Program Office responsible for setting fleet management goals.

Department Policies and Procedures

The Department's fleet management policies and procedures were not entirely effective. In accordance with the Executive Order 13514, FEMP and GSA issued Government-wide guidance and an implementing handbook that provided specific methodologies and procedures which agency fleet managers could use to select and implement optimal petroleum reduction strategies. However, this guidance had not been incorporated into Department policy. Although Department managers were aware of the guidance, the fleet administrator and fleet managers that we interviewed stated that they rarely used it. Further, GSA Bulletin FMR B-30 requires that agencies conduct a utilization survey as part of a vehicle allocation methodology to determine optimal fleet inventory and to develop and incorporate strategies for achieving optimal inventories into the Department's internal policies. The utilization survey was to include the evaluation of fleet vehicles against objective utilization criteria and consider additional subjective information, such as the tasks accomplished by each vehicle and whether it is critical to its owner's mission. According to the Department's Fleet Administrator, the Department had never conducted a utilization survey and agency fleet policies had not been updated.

Furthermore, the Department's recently developed 2012 Fleet Management Plan contained only a general blueprint regarding the location and support for AFVs. Specifically, the plan stated that Department's Fleet Management would coordinate closely with FEMP and GSA to ensure that

AFVs would have proximity and access to alternative fueling stations. The plan further stated that the Department would "arrange its acquisition process in a manner that verifies that AFVs have access to alternative fuel relative to its reported garage location." However, no specific guidance or direction had been provided on how this would be accomplished. In fact, a Department manager stated that flex-fuel vehicles were located at LANL in order to attract commercial vendors to provide alternative fuel. Despite that goal, LANL fleet and sustainability managers stated that they had attempted to work with area commercial vendors, yet there had been no interest in providing access to alternative fuel. Although the 2012 Fleet Management Plan suggests that AFVs be located near alternative fuel stations, little effort had been made at Department Headquarters to analyze and alter AFV locations based on alternative fuel availability.

Similarly, the Department's FY 2012 Fleet Management Plan also defined fleet reduction goals for each year through FY 2014. However, no additional guidance was provided on specific methodologies or targets that fleet managers could use to conduct a utilization survey and reduce the fleet to achieve optimal inventory size. Instead, the Plan cited ambiguous methodologies for achieving the planned reductions. For example, the Plan stated that the first methodology to achieve the reductions would be to increase the use of low-speed vehicles because they do not "officially" count towards the Department's fleet vehicle inventory size. LANL classified low-speed vehicles as other motorized equipment and did not include them in the Laboratory's fleet vehicle inventory. While the use of other motor equipment may contribute to "reducing" the fleet inventory on paper, there was no way to determine whether this methodology was effective in reducing fleet costs or petroleum consumption.

Decentralized Fleet Management

In addition, the Department managed its fleet in a decentralized manner, with each Program Office responsible for managing the funding for vehicles. Although the Department set broad goals for overall fleet reductions, petroleum reductions and alternative fuel increases, these goals had not always flowed down to the sites in terms of specific targets or directions to site fleet managers to implement actions to achieve the goals. Department Order 436.1, *Departmental Sustainability*, May 2011, assigns responsibility to Department Under Secretaries and Program Secretarial Offices for the planning and management of goal attainment within their respective organizations; however, the Office of Management is responsible for Department-wide property management policy and guidance promulgation. The Office of Management is the primary point of contact for GSA's Office of Motor Vehicle Management. Although the Headquarters Fleet Administrator within the Office of Management was responsible for developing and issuing Departmental fleet policies and procedures, some site fleet managers expressed frustration with the lack of guidance provided by the Fleet Administrator on how to structure and update the fleet. Several offices within Headquarters created fleet reduction plans; however, the Fleet Administrator stated that he had not seen the plans. Consequently, efforts to downsize the fleet depended on the cooperation of the vehicle end users at individual sites.

Notably, the Office of Environmental Management created a detailed fleet reduction plan that included methods for evaluating utilization data and provided the plan to site fleet managers. The Savannah River Site then created a detailed implementation plan that resulted in improved utilization rates. In contrast, LANL fleet managers stated that they had no reduction mandates

and LANL did not have a detailed fleet reduction plan. LANL did undertake an effort to reduce its fleet size and achieve cost savings, but the effort was met with resistance. For example, one user organization advised LANL fleet management that it would not be participating in the vehicle reduction effort because its business required it to maintain a "fair" amount of vehicles due to the locations of staff and customers. However, the user organization did not provide any further analysis or explanation of what was considered a "fair" amount of vehicles.

Fleet managers expressed frustration that, without Department policy from Headquarters, they had no "teeth" to enforce the vehicle reductions. They also noted that because the user organizations controlled the funding, it was very difficult to get the organizations to turn in vehicles. In spite of some resistance by user organizations, LANL fleet managers noted that for the FY 2013 vehicle ordering cycle, LANL successfully reduced the fleet by 20 vehicles and downsized 34 sports utility vehicles to sedans by requiring user organizations to justify the retention and specific type of each vehicle.

Opportunities for Improvement

As part of an overall strategy to reduce greenhouse gas emissions, Executive Order 13514 states that agencies should reduce the use of fossil fuels by using AFVs to decrease the total consumption of petroleum products. By acquiring AFVs but continuing to fuel these vehicles with petroleum at LANL and Bonneville, the Department is not maximizing the reduction of greenhouse gas emissions. As such, there may be missed opportunities for petroleum reductions and alternative fuel consumptions by locating AFVs in areas with no alternative fuel available, instead of areas where the alternative fuel would be consumed.

Also, without a defined fleet management plan in place to help sites achieve optimal fleet size and without requirements that flowed down to the sites, execution among sites was inconsistent. While individual organizations may have been aware of general requirements, they were able to manage individual fleets with insufficient focus on optimal vehicle inventory levels, environmental concerns or other factors. Additionally, by retaining underutilized vehicles, the Department may be paying unnecessary monthly leasing costs for vehicles that are rarely used. This may also result in missed opportunities for fleet and petroleum reductions. Further, alternative approaches, such as the use of other motorized equipment, may have some impact in reducing the size of the Department's inventory reported in the Federal Automotive Statistical Tool database; however, these approaches circumvent the intent of the regulations to reduce the number of vehicles used by Federal agencies.

Furthermore, as a result of acquiring 854 AFVs, (522 at LANL and 332 at Bonneville) and fueling them with gasoline, the Department spent at least \$700,000 more than necessary. Agencies are required to pay incremental costs associated with AFVs. The AFV incremental cost is the actual cost of an AFV compared to the low bid for a conventional vehicle in a similar vehicle class. The EPO Act requires GSA to charge all customer agencies a surcharge to recover AFV incremental costs. Consequently, the Department paid incremental costs totaling at least \$700,000 for flex-fuel vehicles at LANL and Bonneville; however, failed to obtain the environmental benefits or further Departmental goals of increasing alternative fuel use and reducing petroleum use.

Additionally, although there is no immediate penalty for violating the EPAct by using gasoline in an AFV without obtaining a waiver, the waiver and fuel use data is submitted to and reviewed by the U.S. Office of Management and Budget. Department officials acknowledged that violations of the EPAct could have budgetary impacts in future years.

RECOMMENDATIONS

Agencies must act in a fiscally responsible manner, which includes minimizing costs in order to perform mission-critical functions in the most efficient, cost-effective way. Department fleet managers must consider both environmental benefits and financial costs when making decisions. Thus it is important that Headquarters fleet management take an active role in managing the entire fleet to ensure that the number and type of vehicles are appropriately allocated across different sites in the most cost effective and environmentally beneficial manner. Accordingly, to strengthen controls over fleet management to achieve sustainability, we recommend that the Acting Under Secretary for Management and Performance, in conjunction with the Acting Under Secretary for Nuclear Security, and the Acting Under Secretary for Science and Energy:

1. Update Department fleet management policies and procedures, to include procedures to evaluate petroleum reduction strategies and tactics for each fleet location, based on an evaluation of site-specific characteristics, including availability of alternative fuel, fleet size and fleet vehicle composition.
2. Conduct an agency level utilization survey, as required by GSA Bulletin FMR B-30, and direct sites to conduct a fleet utilization survey and determine optimal fleet inventory as part of a vehicle allocation methodology.
3. Ensure that targets and procedures for achieving Department goals for petroleum reduction and optimal fleet inventory flow down to field sites, with consideration given to other motorized equipment inventory that may offset the need for motor vehicles and procedures to locate alternative fuel vehicles near appropriate infrastructure.

MANAGEMENT REACTION

The Office of Management and NNSA provided comments on the draft of this report. The Office of Management generally agreed with our findings and recommendations. NNSA initially disagreed, citing several concerns with the report; however, after follow-up discussions with NNSA management to clarify our respective positions, NNSA generally agreed with the report's findings and recommendations. Specifically, in its initial comments NNSA indicated that LANL is an isolated site compared to other sites, with a much smaller population, and less alternative fuel availability. NNSA stated that the use of gasoline in flex-fuel vehicles at LANL provided cost avoidances because E-85 fuel cost is double that of gasoline in that area. Additionally, NNSA asserted that flex-fuel vehicles using gasoline versus E-85 fuel produce about the same grams of carbon dioxide emissions per mile and have little to no impact on meeting environmental goals for carbon dioxide reductions. Furthermore, NNSA stated that flex-fuel vehicles use gasoline more efficiently than traditional vehicles, obtaining higher miles per gallons, thus contributing to petroleum reduction goals.

AUDITOR COMMENTS

We recognize the difficulties in fueling AFVs in remote areas with limited alternative fuel availability. However, NNSA's assertion that LANL is an isolated site with limited alternative fuel availability further supports our conclusion that the Department should make every effort to locate AFVs in proximity to fueling stations with available alternative fuels. In the May 24, 2011 Presidential Memorandum, *Federal Fleet Performance*, the President required that agency AFVs must be located in proximity to fueling stations with available alternative fuels, and be operated on the alternative fuel for which the vehicle is designed. The President explicitly stated that the Federal government "owe[s] a responsibility to American citizens to lead by example and contribute to meeting our national goals of reducing oil imports by one-third by 2025" and that "living up to that responsibility means... reducing petroleum consumption through efficiency and alternative fuels." The Department's continued use of gasoline in flex-fuel vehicles is contrary to the President's intentions of reducing petroleum consumption. Notably, in our follow-up discussions with NNSA, officials stated that LANL had recently taken delivery of two new Chevrolet Volts to determine the feasibility of using electric vehicles at the site.

Furthermore, NNSA's claim that E-85 fuel cost is double that of gasoline in that area is not supported by fuel price data. For example, as of August 10, 2013, the price of E-85 fuel at the Nambe Falls Travel Center, located 30 miles from LANL, was \$2.56 per gallon, while the regular gasoline price was \$3.29. When taking into account the lower fuel efficiency of E-85 fuel versus the same volume of regular gasoline, we found that the net cost of E-85 fuel and regular gasoline was about the same for the vehicles in LANL's fleet. When acquiring flex-fuel vehicles at increased costs, the Department should ensure that it is receiving the intended environmental benefit by locating vehicles near appropriate infrastructures and fueling them with alternative fuel. It should be noted that after receiving NNSA's initial comments, we met with the NNSA fleet manager to discuss our methodology and data sources supporting our findings in this matter. The NNSA fleet manager indicated that NNSA used cost data taken from the Federal Automotive Statistical Tool (FAST) for E-85 fuel and regular gasoline, whereas we used fuel cost data obtained directly from a local fueling station in our cost comparison. The NNSA fleet manager stated that the cost data in FAST was computer-generated based on information input by local fleet managers and likely included costs of operating and maintaining an E-85 fuel truck at LANL.

Also, NNSA's statements regarding the benefits of gasoline versus E-85 fuel are not consistent with findings by the Department. The Department found that the use of high-level ethanol blends, such as E-85, generally results in lower emission levels when compared to gasoline. According to the Office of Energy Efficiency and Renewable Energy (EERE), using ethanol as a vehicle fuel has measurable greenhouse gas emissions benefits compared with using gasoline. The EERE Alternative Fuels Data Center found that carbon dioxide released when ethanol is used in vehicles is offset by the carbon dioxide captured when crops used to make the ethanol are grown. As a result, flex-fuel vehicles running on ethanol produce less net carbon dioxide than conventional vehicles per mile traveled. A 2007 study by Argonne National Laboratory found that when these entire fuel life cycles are considered, using corn-based ethanol instead of gasoline reduces life cycle greenhouse gas emissions by 19 to 52 percent, depending on the

source of energy used during ethanol production. The study also found the well-to-wheel petroleum use reduction to be more than 70 percent. According to EERE, numerous studies have compared the emissions of E-85 and gasoline and found that E-85 reduces emissions of carbon dioxide, as well as the emissions of many other harmful toxins.

Additionally, NNSA's statement that flex-fuel vehicles have enhanced fuel economy over conventional vehicles when using gasoline is not supported by fuel economy data from EERE and the Environmental Protection Agency. When looking at the comparison of miles per gallon (MPG) of gasoline for both a flex-fuel vehicle and the conventional version of the same vehicle, we found that the fuel economy for the majority of flex-fuel vehicles in LANL's fleet when using gasoline was the same or slightly worse than the fuel economy for a conventional vehicle counterpart. We identified 63 vehicle models in the LANL fleet for which EERE had data for both the flex-fuel and conventional versions of the same vehicle. We found that the MPGs for the majority of the flex-fuel and conventional vehicles were the same. However, for instances when the fuel economy differed between the conventional and flex-fuel vehicles, the differences were minimal, generally 1 or 2 MPG.

We modified our report, as necessary, in response to management's comments. Based on data and methodology clarifications provided during the follow-up discussions with the NNSA fleet manager, NNSA agreed with the recommendations in the report. Management's comments are included in Appendix 3.

OBJECTIVE, SCOPE AND METHODOLOGY

OBJECTIVE

The objective of the audit was to determine whether the Department of Energy (Department) has effectively and efficiently updated its fleet vehicles to implement sustainability initiatives at selected locations.

SCOPE

This audit was conducted between August 2012 and September 2013, at Department Headquarters in Washington, DC and Los Alamos National Laboratory (LANL) in Los Alamos, New Mexico. We focused on the Department's efforts to update fleet vehicles to meet the intent of Executive Order 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, and Executive Order 13589, *Promoting Efficient Spending*, and other requirements. We examined fleet data for 3,704 vehicles, or approximately 26 percent of the Department's total fleet, from LANL, Bonneville Power Administration (Bonneville) and Savannah River Site.

METHODOLOGY

To accomplish our audit objective, we:

- Judgmentally selected a sample of three Department vehicle fleets from a universe of 93 vehicle fleets managed by the Department. This selection was based on vehicle inventory, fuel consumption data and fleet operating costs. Because a judgmental sample of Department fleets was used, results are limited to the sites or locations selected.
- Reviewed applicable laws and regulations pertaining to fleet vehicles.
- Reviewed prior audits pertaining to fleet vehicles.
- Reviewed Department sustainability and vehicle management plans.
- Interviewed fleet management personnel from Department and National Nuclear Security Administration Headquarters, LANL, Bonneville and Savannah River Site.
- Interviewed General Services Administration personnel, Federal Energy Management Program personnel and Sustainability Performance Office personnel.
- Obtained vehicle and equipment inventories and vehicle utilization records from LANL, Bonneville and Savannah River Site.

Appendix 1 (continued)

- Obtained and reviewed Federal Energy Management Program performance data and General Services Administration alternative fuel vehicles guides.

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. Accordingly, the audit included tests of controls and compliance with laws and regulations necessary to satisfy the audit objective. In particular, we assessed compliance with the *GPRA Modernization Act of 2010* and found that the Department had established performance measures for fleet management. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit. We did not rely on computer-processed information to achieve our audit objective.

We held exit conferences with the Office of Management and the National Nuclear Security Administration on September 26, 2013.

PRIOR REPORTS

- Audit Report on the [*Special Review on Petroleum-Based Fuels Use*](#) (OAS-L-08-17, September 2008). This review found that the Department of Energy (Department) was aggressively pursuing a strategy to reduce its use of petroleum-based fuels and that it appeared to be on track to meet or exceed previously established goals in that area. However, the review identified two actions that, if promptly addressed, may help the Department further reduce fuel use and better prepare it to adjust to budget and mission impacts associated with volatile fuel prices. In particular, the review found that Headquarters program officials had stressed the importance of previously established goals, but had not taken specific action in response to recent fuel price increases to promote the Department-wide use of site-developed conservation techniques. The review also found that the Department had not developed an overall agency-level projection or attempted to forecast and formally address the impact of petroleum price increases on future operations.
- Audit Report on [*The Department's Utilization of Fleet Vehicles*](#) (DOE/IG-0728, May 2006). This audit found that fleet managers at the sites they reviewed were not always adequately managing fleet vehicles. Based on a comparison of local use standards, the audit determined that many of the fleet vehicles maintained by 18 separate organizations were underused. Specifically, on average, about 28 percent of the over 1,700 vehicles in the audit sample did not meet local use standards for Fiscal Years 2004 and 2005. Additionally, the audit identified standards and recordkeeping issues. The audit found that fleet managers seldom took action to reassign, dispose of, or seek Federal approval to retain underutilized vehicles. The audit also noted that fleet utilization rates may have declined at certain contractors because they were permitted to acquire and use small motorized carts, trucks and vans not licensed for use on public roads to perform cargo and passenger carrying tasks without making a corresponding reduction in fleet vehicles. Finally, the audit observed that Federal fleet managers did not require detailed vehicle utilization reports to be submitted, which could have allowed them to identify and correct underutilization.



Department of Energy
National Nuclear Security Administration
Washington, DC 20585



July 23, 2013

MEMORANDUM FOR RICKEY R. HASS
DEPUTY INSPECTOR GENERAL
FOR AUDITS AND INSPECTIONS
OFFICE OF INSPECTOR GENERAL

FROM: CYNTHIA BERSTEN
ASSOCIATE ADMINISTRATOR
FOR MANAGEMENT AND BUDGET

SUBJECT: Comments on the Office of Inspector General Draft Report Titled "*The Department's Fleet Vehicle Sustainability Initiatives*"
(A12GT051/ 2012-01983)

Thank you for the opportunity to review and comment on the subject draft report. The National Nuclear Security Administration (NNSA) appreciates the Office of Inspector General's (IG) efforts to review this challenging topic. However, we are concerned that the draft report does not reflect an accurate or balanced perspective of the fleet management program at NNSA. While the IG focuses on specific aspects of the Los Alamos fleet, NNSA manages its fleet as a portfolio at the corporate level. NNSA has exceeded targets for petroleum reduction (Goal is 14% reduction – NNSA has reduced 43%) and increased use of alternative fuels (Goal is 95% increase – NNSA has increased 228%). The report does not balance the discussion with actual results. Further, the report draws conclusions based on incorrect assumptions; misinterpretations of requirements; and failure to recognize the need to balance criteria such as mission application, environmental impacts, fuel availability and economy, and cost when making fleet decisions. NNSA's key concerns and responses to the IG's recommendations are as follows:

- 1) Limited View of Fleet Management – The IG reviewed three sites' fleet management programs, with only one (Los Alamos) falling under NNSA's purview. However, the report draws broad conclusions based on this limited scope and does not consider the overall positive performance and successes of NNSA in meeting its targets. As noted above, NNSA manages its fleet as a portfolio, with different sites contributing more substantially to different goals in some cases. As such, focusing on an isolated site such as Los Alamos (and DOE sites with decentralized management) and projecting those findings and conclusions to the overall NNSA fleet program are misleading and do not accurately reflect NNSA's program management. We would request the report balance discussion of NNSA's



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Appendix 3 (continued)

overall fleet performance and temper any recommendations to NNSA commensurate with that performance.

- 2) Incorrect/Misleading Information on Fuel Selection and Cost Benefit - The report makes incorrect statements regarding the impact of fleet decisions on greenhouse gas emissions. Specifically, the Inspector General states that NNSA is not maximizing the reduction of greenhouse gas emissions by using gasoline in flex-fueled vehicles (FFVs) in certain applications. This is incorrect as FFVs using gasoline versus E-85 fuel produce about the same grams of CO² emissions per mile and have little to no impact on meeting environmental goals for CO² reduction.

At the same time, the IG incorrectly states that Los Alamos [and Bonneville Power Administration (BPA)] spent \$700,000 more than necessary by fueling FFVs with gasoline. While NNSA cannot speak for BPA, Los Alamos actually provided a cost avoidance/reduction when using gasoline, as E85 fuel cost is double that of gasoline in that area, and gasoline provides more miles per gallon. The IG's conclusion implies there is no benefit to FFVs beyond the use of E85 fuel.

By definition, flex-fueled vehicles are designed to use gasoline, E85 or a mixture to support the flexibility in using the fuels that best meet the consumer's needs. In determining which fuels to use in certain fleet vehicles, managers must balance a number of factors including mission application, environmental impact, fuel availability and economy, and cost. NNSA has balanced those considerations effectively in its decisions as reflected in its performance metrics. NNSA believes the IG's statements in this regard should be deleted.

- 3) Incorrect/Misleading Information on Cost of FFVs - The report uses incorrect terminology regarding the costs of acquiring and operating the vehicle fleet, thereby providing a misleading perception that costs are not being effectively managed. In particular, the IG states that FFVs were acquired [at Los Alamos and BPA] at an "incremental cost markup" of \$700,000. The use of the term markup is inaccurate and misleading. This implies a premium and special upcharge for FFVs. The incremental cost is merely the difference between the cost of a FFV compared to the low bid for a conventional vehicle in a similar vehicle class.

In addition, the IG implies that the higher cost for some of these vehicles was not justified by stating Los Alamos and BPA "...failed to obtain the environmental benefits or further Departmental goals of increasing alternative fuel use and reducing petroleum use..." However, this statement incorrectly infers that environmental benefits from FFVs are limited to the use of E85, and does not recognize benefits of enhanced fuel economy (even with the use of gasoline) or NNSA's overall success in exceeding goals for petroleum reduction and use of alternative fuels. As such, this statement should be deleted as inaccurate.

- 4) Invalid Monetary Impact - Consistent comments above, the Monetary Impact Statement accompanying the report is inaccurate and misleading in a number of respects. First, as

noted in comment three above, the use of the term “markup” to describe the cost of FFVs is inaccurate and misleading. Most importantly, the IG claims \$700,000 of potential “cost avoidance” because Los Alamos and BPA purchased FFV’s at a higher incremental cost “...without obtaining environmental benefits from the vehicles” because some continued to be fueled with gasoline in lieu of E85.

The fact that gasoline was used versus E85 (a decision based on a number of factors including availability of E85 at Los Alamos) does not mean NNSA missed the opportunity to gain environmental benefits. As noted previously, both gasoline and E85 produce about the same grams of CO² emissions per mile, thereby providing little to no difference in environmental impact from that perspective. In addition, FFVs use gasoline more efficiently than traditional vehicles, obtaining higher miles per gallon (MPGs), thereby helping to reduce the use of petroleum. Finally, the operational cost is reduced as gasoline is significantly less expensive in the Los Alamos area than E85, and further cost savings come from the improved fuel economy over traditional vehicles.

Further, each fleet location pays a monthly Alternative Fuel vehicle (AFV) surcharge on all vehicles in the inventory, regardless of fuel type. This surcharge rolls up into an AFV fund for DOE that the General Services Administration uses when buying new vehicles for DOE to offset any incremental charge difference for buying FFVs. There is not a specific surcharge just for FFVs.

Finally, a valid monetary impact analysis must not consider only acquisition cost and one specific goal (such as use of E85), but a wide range of factors to include operational costs (such as fuel prices and maintenance), offsets, fuel economy, and impact on multiple environmental goals. As such, NNSA believes the IG should remove the monetary impact or perform a true impact analysis factoring in all relevant information.

- 5) Recommendation 1 / Policy - The IG recommends DOE and NNSA “Update Department fleet management policies and procedures, to include procedures to evaluate petroleum reduction strategies and tactics for each fleet location, based on an evaluation of site-specific characteristics, including availability of alternative fuel, fleet size and fleet vehicle composition.” NNSA believes current fleet management policies and procedures are more than adequate to cover these areas. These include the DOE fleet guidance document and accompanying handbook; the Federal Energy Management Program (FEMP) Sustainable Federal Fleet website; and applicable external policies and executive orders. These resources establish the overall requirements for both the “Agency Headquarters Fleet Manager” and the “Agency Fleet Location Managers” to include strategies for rightsizing the fleet and addressing reduction/right-sizing goals for petroleum use and other targets. As a result, NNSA does not concur and considers this recommendation closed.
- 6) Recommendation 2 / Fleet Surveys - The IG recommends DOE and NNSA “Direct sites to conduct a fleet utilization survey and determine optimal fleet inventory as part of a vehicle allocation methodology, as required by GSA Bulletin FMR B-30.” NNSA agrees with the recommendation as it reflects a standing requirement; however, we question its usefulness and intent as NNSA already directs its sites to conduct the required surveys. With that said,

the discussion in the report would tend to imply that fleet “optimization” determinations should be based solely on limited, quantitative utilization criteria such as mileage. If that is the intent of the recommendation, NNSA would disagree. Per a May 24, 2011, Presidential memorandum regarding federal fleet performance, a Vehicle Allocation Methodology (VAM) for determining optimum inventory should address compositions for agencies’ fleets based on their missions. This is a critical criterion to be balanced with other quantitative criteria in determining fleet optimization. Based on these factors, NNSA considers this recommendation closed.

- 7) Recommendation 3 / Flow Down of Targets and Goals - The IG recommends DOE and NNSA “Ensure that targets and procedures for achieving Department goals for petroleum reduction and optimal fleet inventory flow down to field sites, with considerations given to other motorized equipment inventory and procedures to locate alternative fuel vehicles near appropriate infrastructure.” NNSA agrees that targets and procedures should flow down to field sites and, through its centralized Fleet Manager, NNSA already ensures this occurs. However, we disagree with the proposal to apply vehicle fleet requirements and targets to other motorized equipment.

To date, the Federal Government has separated equipment management from vehicle management per 41 CFR 109-38.5104 which states “...No utilization standards are established for motor equipment other than motor vehicles.” As a result, NNSA concurs with the recommendation, excluding the consideration of other motorized equipment, and considers this recommendation closed based on prior implementation of processes to flow targets and procedures to sites..

NNSA is committed to managing effectively to Departmental and external requirements, while implementing a balanced approach to rightsizing our FFV fleet and ensuring continued success in meeting or exceeding established targets. In addition to the comments above, we have attached general and technical comments for your consideration to improve the clarity and factual accuracy of the information presented in the report. If you have any questions regarding this response, please contact Dean Childs, Director, Audit Coordination and Internal Affairs, at (301) 903-1341.

Attachment



Department of Energy
Washington, DC 20585

July 23, 2013

MEMORANDUM FOR SANDRA D. BRUCE
ASSISTANT INSPECTOR GENERAL
FOR INSPECTIONS
OFFICE OF INSPECTOR GENERAL

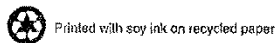
FROM: PAUL BOSCO *PBos*
DIRECTOR
OFFICE OF ACQUISITION AND
PROJECT MANAGEMENT

SUBJECT: Draft Audit Report on "The Department's Fleet Vehicle
Sustainability Initiatives"

The Office of Acquisition and Project Management reviewed the subject draft report and offer the following comments. Program Element comments attached:

General Comments:

1. DOE Order 436.1 assigns responsibility to DOE Under Secretaries and Program Secretarial Offices for the planning and management of goal attainment within their respective organizations. The Office of Management is responsible for DOE-wide property management policy and guidance promulgation, as well as being the primary point of contact for the General Services Administration's Office of Motor Vehicle Management. This needs to be reflected in the report.
2. The audit was conducted at three (3) distinctly different sites with vastly differing missions and fleet management environments. Although findings were generally reported as specific to the site, the presumed root cause(s) and recommendations were presented as requiring Department-wide solution or an overarching fleet management policy correction. This may not always be accurate or appropriate.
3. Although the recommendations acknowledge the importance of "minimizing costs in order to perform mission critical functions...", the report does not adequately address the impact of the unique or critical mission need on vehicle selection or management decision making. As such, the generalized finding that DOE sites "...had not always updated the vehicle fleet in a cost-effective or



efficient manner to achieve sustainability” is probably not an accurate statement.

4. The Department of Energy (DOE) established the Sustainability Performance Office (SPO) in October 2010 to provide for the long term implementation, coordination, and oversight of the Department’s sustainability activities and requirements. SPO, along with the Office of Management and DOE Under Secretaries and Program Secretarial Offices, should be cited as oversight office for the fleet sustainability initiatives.

Specific Comments:

Recommendation 1: Update Department fleet management policies and procedures, to include procedures to evaluate petroleum reduction strategies and tactics for each fleet location, based on an evaluation of site-specific characteristics, including availability of alternative fuel, fleet size and fleet vehicle composition.

Management Comment – Concur, contingent on incorporation of the following:

Change Recommendation 1 to read: “1. Update Department fleet management policies and procedures to include strategies for petroleum reduction, fleet size and fleet vehicle composition, and selection of alternative fuel vehicles.”

Rationale: The DOE Personal Property Policy Office is responsible for personal property (to include fleet) policy and administration. It is our understanding that these site-specific studies and management assessments are being executed at the site level, as is more appropriate.

Recommendation 2: Direct sites to conduct a fleet utilization survey and determine optimal fleet inventory as part of a vehicle allocation methodology, as required by GSA Bulletin FMR B-30.

Management Comment – Concur, contingent on incorporation of the following:

Change Recommendation 2 to read: “2. As a complement to agency level requirements prescribed by GSA Bulletin FMR B-30, direct sites to conduct a fleet utilization survey and determine optimal fleet inventory as part of a vehicle allocation methodology.”

Rationale: The FMR B-30 does not directly require site-level surveys/methodologies; these are to be performed at an agency level. The above change to Recommendation 2 will promote and encourage the intended correction to DOE fleet sustainability and management.

Recommendation 3: Ensure that targets and procedures for achieving Department goals for petroleum reduction and optimal fleet inventory flow down to field sites, with considerations given to other motorized equipment inventory and procedures to locate alternative fuel vehicles near appropriate infrastructure.

Management Comment – Concur, contingent on incorporation of the following:

Change Recommendation 3 to read: “3: Fleet Management leads for DOE Under Secretaries and Program Secretarial Offices, with assistance from the Sustainability Performance Office, are to see that targets and procedures for achieving Department goals for petroleum reduction and optimal fleet inventory flow down to field sites, with considerations given to other motorized equipment inventory and locating alternative fuel vehicles near appropriate infrastructure.”

Rationale: The DOE Personal Property Policy Office is responsible for personal property (to include fleet) policy and administration. The precise vehicle, fuel type, and/or location selected for vehicle, and the adequacy of the infrastructure to support this, is a program or site fleet management determination.

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