National Aeronautics and
Space Administration

**Office of Inspector General**
Washington, DC 20546-0001

August 23, 2010

TO:       Dr. Eugene Trinh
           Director, NASA Management Office, Jet Propulsion Laboratory

FROM:    Paul K. Martin
           Inspector General

SUBJECT:  Final Memorandum on the Office of Inspector General's Review of the Fleet Management Program at the Jet Propulsion Laboratory (Report No. IG-10-021; Assignment No. S-10-002-00)

The Office of Inspector General (OIG) conducted a review of the General Services Administration (GSA) vehicle Fleet Management Program at the Jet Propulsion Laboratory (JPL).  We initiated this review at the request of the NASA Management Office (NMO) at JPL after an instance of vehicle misuse by a NASA employee.  The initial investigation by the OIG's Office of Investigations found that the NASA employee improperly used a Government vehicle for personal business on a continuing basis for at least 2 years without his supervisor's knowledge.  The investigation called into question management of the vehicle fleet by the California Institute of Technology (Caltech),[1] which operates JPL for NASA.  Subsequently, the OIG Office of Audits conducted this review to evaluate operation of JPL's Fleet Management Program and determine whether adequate internal controls existed to prevent additional misuse by Government or contractor employees.  (See Enclosure 1 for details on the review's scope and methodology.)

*Executive Summary*

We determined that Caltech could strengthen its internal controls in several areas and that NMO should strengthen its oversight to improve the overall effectiveness of the JPL Fleet Management Program.  Specifically, we found that Caltech fleet management did not enforce the requirement that all employees submit proper authorization forms regarding vehicle use, but instead relied on other control mechanisms such as work orders and project task numbers to track vehicle use.  These control mechanisms did not provide adequate assurance that vehicle usage was adequately tracked, accurately accounted for, and appropriately supervised.  For example, the NASA employee we

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[1] Caltech Administrative Operations Group manages the GSA Fleet Vehicle Program at JPL.

investigated drove the GSA vehicle an average of 40,000 miles per year, yet only 5,000 of those miles were for official use. Had the supervisor been required to pre-approve the rental request or received notification of the vehicle's use, NASA or Caltech management might have identified this misuse earlier and the annual cost of over $9,000 to lease the vehicle from GSA might have been avoided.

As part of this audit, we randomly selected 11 vehicles from the 101 GSA vehicles leased to Caltech and, based on our review of this sample, did not find other examples of vehicle misuse. However, we did find internal controls that need to be strengthened. To their credit, following notification of the incident described above, NMO management officials revised their procedures to ensure supervisory approval for short- and long-term use of GSA vehicles, and Caltech fleet management revised work order procedures to ensure proper accounting of GSA vehicles. However, we believe Caltech's internal controls could be further strengthened and in our July 29, 2010, draft of this memorandum we recommended that the NMO Director direct Caltech fleet management to require supervisory approval or notification for short-term use and require Caltech fleet management to immediately notify responsible NASA or Caltech management at JPL in instances of actual or suspected misuse.

We also found that Caltech's procedural controls did not include a formal authorization process for temporary use of vehicles and that Caltech did not have adequate procedures to consistently evaluate, justify, and account for the use of vehicles assigned on a long-term or permanent basis. In addition, we found that the mileage usage rates for approximately 78 percent of the Caltech GSA vehicle fleet were less than the minimum rate specified in GSA guidelines, indicating that Caltech had more vehicles than it needed and that NASA was paying for more vehicles than Agency work required.[2]

Our review also revealed opportunities for the NMO to improve its oversight of the JPL Fleet Management Program and guidance it provides to Caltech fleet management. For example, none of NASA's fleet vehicle program requirements are incorporated in the prime contract between NASA and Caltech. This lack of contractual requirements limits the authority of NMO personnel in providing adequate program oversight. In the draft of this memorandum, we recommended that NASA modify the JPL prime contract to include the NASA Policy Directives and Procedural Requirements relating to fleet management. We further recommended that NMO conduct annual reviews to ensure that Caltech is effectively managing the Fleet Management Program in accordance with NASA's policies.

Management's response to the draft of this memorandum is responsive to our findings and our three recommendations (see Enclosure 2). The recommendations are resolved, and we will close them upon completion and verification of management's corrective action.

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[2] In fiscal year (FY) 2009, NASA paid approximately $890,000 for GSA vehicle fleet operations at JPL.

*Background*

JPL is a NASA federally funded research and development center operated under contract by Caltech, a private nonprofit educational institution in Pasadena, California. The primary mission of JPL is to conduct Earth science and deep space and interplanetary exploration. JPL has a workforce of about 5,000 employees and an annual budget of approximately $2 billion.

The prime contract between NASA and Caltech includes Federal Acquisition Regulation Clause 52.251-2, which authorizes Caltech to obtain GSA vehicles and related services for use in the performance of its contract. Caltech obtains Government-owned vehicles through a subcontract with GSA and leases the vehicles from GSA. The monthly leasing and mileage rate includes fuel, routine maintenance, and repair. GSA requires agencies to report monthly odometer readings for each rented vehicle. GSA Fleet management then uses the odometer readings as the basis for customer billing.

Caltech's Administrative Operations Group manages 101 GSA-leased vehicles. At the time of our review, 70 vehicles were permanently assigned to JPL organizations as long-term assignments and 31 vehicles were kept in the motor pool for short-term rental assignment. For FY 2009, the GSA fleet operation costs were approximately $890,000, which included approximately $500,000 in GSA leasing costs and $390,000 in indirect (administrative) and maintenance costs. NASA ultimately pays for the lease of GSA vehicles through direct charges to JPL projects and indirect charges submitted for institutional use.

The Government Accountability Office, "Standards for Internal Control in the Federal Government," November 1999, states that access to resources should be limited to authorized individuals, and accountability for their custody and use should be assigned and maintained. In addition, monitoring should be done by periodically comparing resources against records accounting for the resources' whereabouts to minimize risk and identify errors, fraud, and misuse.

## Caltech Could Improve Internal Controls for Temporary Vehicle Use

We found that Caltech fleet management did not follow Caltech's internal procedures that require the submission of an Interoffice Memorandum to secure a vehicle. The Interoffice Memorandum is intended to serve as a permanent record documenting the purpose of the overnight or multiple-day use, the responsible party's name and telephone number, the driver's name and telephone number, and the onsite parking location for the vehicle. NASA staff members were allowed to use vehicles without submitting the Interoffice Memorandum because Caltech fleet management relied on other internal control measures intended to prevent and identify misuse. Specifically, Caltech fleet management required users to provide a project task number so that operating costs for the vehicle in question could be charged back to the requestor's project task number and, at the end of each month, the project supervisors would receive monthly billing

statements and thereby be made aware of the costs and use of Government vehicles by their employees. However, we found that this "charge back" procedure was not effective because Caltech fleet management allowed the motor pool dispatcher to assign vehicles without charging the use to a specific project. Caltech fleet management stated that the purpose of the "no-charge" work order was to avoid "double charging" a project for using a loaner vehicle when a long-term assigned vehicle was returned for maintenance or repair. In addition, Caltech fleet management applied "no charge" work orders to NASA employees and failed to require prior supervisor approval or notification when assigning motor pool vehicles for one-day or multiple-day use.

The consequence of this circumvention of internal controls was that supervisors of NASA civil service employees were not always aware when their employees were issued GSA vehicles. As a result, the NASA employee we investigated was able to use GSA-leased vehicles inappropriately for 2 years at an annual cost to NASA of over $9,000. The employee drove the GSA vehicles an average of 40,000 miles per year, yet only about 5,000 miles were documented as being for official use.

To their credit, after they became aware of this issue NMO management officials revised their procedures to ensure supervisory approval for short- and long-term use of GSA vehicles and Caltech fleet management revised work order procedures by eliminating the practice of applying "no-charge" work orders for NASA employees. Nevertheless, we believe that Caltech fleet management could further strengthen its internal controls by requiring supervisory approval or notification for short-term use and requiring immediate notification to responsible NASA or Caltech management at JPL in instances of actual or suspected misuse.

### *Caltech Could Improve Accountability and Justification for the Use of Vehicles Assigned on a Permanent Basis*

We found that Caltech fleet management did not have procedures in place to consistently evaluate, justify, and account for the use of vehicles assigned on a long-term or permanent basis. GSA Fleet Management Guidelines require that a Federal fleet manager ensure that agencies have established procedures that will monitor and control the use of GSA vehicles at all times. The fleet manager must maintain assignment and dispatch records to ensure necessary control and provide data for utilization reviews. In addition, the NASA Fleet Management Handbook requires that each Center ensure sufficient data is collected and maintained to monitor fleet usage.

We found that when assessed by GSA minimum use guidelines and utilization standards,[3] Caltech's GSA vehicles were generally underutilized in FY 2009. GSA's

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[3] Title 41, Code of Federal Regulations, Subpart 101-39.301 requires that an agency be able to justify a full-time vehicle assignment and provides the following mileage guidelines: from 7,500 miles per year for trucks to 12,000 miles per year for passenger cars. The Regulations also note that other utilization factors, such as days used, agency mission, and the relative costs of alternatives to a full-time vehicle assignment, may be considered as justification where miles traveled guidelines are not met.

minimum utilization guideline is 7,500 to 12,000 miles per year. Our analysis revealed that the overall usage for approximately 78 percent of the GSA vehicles was less than the GSA minimum utilization guidelines by 41 percent on average. In addition, the usage rate for permanently assigned vehicles such as light trucks and sedans was 70 percent lower than the utilization guideline. Table 1 shows vehicle fleet usage by vehicle category.

| Table 1.  FY 2009 GSA Vehicle Usage, by Category, at the Jet Propulsion Laboratory | | | | | |
|---|---|---|---|---|---|
| | Permanent Assignment | | Short-Term Rental | | |
| Vehicle Category | Number of Vehicles | Average Annual Mileage | Number of Vehicles | Average Annual Mileage | GSA Annual Utilization Guideline (miles) |
| Ambulance | 2 | 1,597 | | | 7,500 |
| Heavy Truck | 3 | 2,847 | | | 7,500 |
| Bus | 5 | 12,636 | 3 | 5,856 | 7,500 |
| Medium Truck | 13 | 5,079 | 2 | 15,496 | 7,500 |
| Light Truck | 36 | 2,986 | 15 | 6,302 | 10,000 |
| Sedan | 11 | 3,456 | 11 | 13,444 | 12,000 |
| **Total** | **70** | **4,092** | **31** | **9,386** | |

Caltech fleet management had established 100 miles per month (1,200 miles per year) as the minimum utilization guideline Caltech would follow, which is 10 percent to 16 percent of GSA's guideline, depending on vehicle category. Furthermore, fleet management did not establish procedures to monitor the use of permanently assigned vehicles and did not establish utilization criteria such as trips per day, passengers per trip, and cargo per trip that would be critical to justify keeping vehicles with utilization rates less than the GSA mileage criteria. For example, our review of 8 vehicles sampled from the 70 permanently assigned vehicles revealed that 5 did not record travel utilization data at all. Without complete vehicle utilization data, fleet management had no basis to support the need for long-term vehicle assignments.

In addition, we found that approvals for permanently assigned vehicles were not handled in a timely manner. Caltech fleet management uses a Triennial Vehicle Justification Form to justify permanently assigning vehicles. Caltech policy states that the employee's supervisor and JPL Transportation Committee Management are required to approve this form in advance of obtaining the car. However, for the eight vehicles we reviewed, one vehicle did not have documented approval and the other approvals occurred 3 to 7 months after fleet management assigned the vehicle. In addition, based on our interviews of long-term vehicle assignees, JPL's Transportation Committee has never turned down a request for long-term vehicle assignment.

Ineffective controls increase the risk of vehicle misuse.  Without complete and accurate information about the mileage driven and the frequency of vehicle use, fleet managers cannot adequately assess vehicle utilization.  Monitoring utilization can help identify potential misuse and improve the accountability of vehicle usage.  Accordingly, Caltech fleet management should implement controls for evaluating, justifying, and accounting for vehicles assigned on a long-term or permanent basis.

### *NMO Should Incorporate NASA Fleet Vehicle Management Requirements in the Prime Contract*

We found that NASA did not incorporate NASA Policy Directive (NPD) 6000.1C, "Transportation Management," October 8, 2009; NASA Procedural Requirements (NPR) 6200.1C, "NASA Transportation and General Traffic Management," October 8, 2008; or the "NASA Official Fleet Management Handbook," August 1, 2005, into the JPL prime contract.

NPD 6000.1C requires NASA Center Directors to establish processes and procedures to monitor and control the use of transportation vehicles.  NPR 6200.1C requires Center Transportation Officers/Transportation Managers to complete an annual vehicle review, in conjunction with their contractors, to validate the type and quantity of Government-owned and contractor-operated vehicles required to ensure vehicle resources are properly used.

The NASA Official Fleet Management Handbook provides policies and procedures to guide NASA fleet managers.  Because these policies and procedures are not referenced in the JPL prime contract, Caltech is under no legal obligation to comply with them.  Consequently, the NMO has less leverage to enforce these policies.

The NMO should incorporate NASA's fleet management policies, procedures, and Handbook into the prime contract to ensure that Caltech fleet management follows  these rules to help perform effective fleet management.

### *Recommendations, Management's Response, and Evaluation of Management's Response*

**Recommendation 1.**  We recommended that the NMO Director direct Caltech fleet management to implement a formal authorization process for temporary use of vehicles and to immediately contact site management when there is evidence of actual or suspected misuse.

> **Management's Response.**  The NMO Director concurred, stating that he will verify that JPL Fleet Management (Caltech fleet management) has revised work order procedures, captured and reviewed vehicle assignment and usage, and provided quarterly vehicle usage information to immediate supervisors of vehicle assignees.  In addition, JPL Fleet Management will contact site management whenever there is

evidence of actual or suspected misuse. Management expects to complete the proposed actions by October 1, 2010.

> **Evaluation of Management's Response.** Management's planned actions are responsive. The recommendation is resolved and will be closed after we verify completion of the corrective actions.

**Recommendation 2.** We recommended that the NMO Director ensure that Caltech fleet management establishes procedures to evaluate, justify, and account for long-term and permanent vehicle assignments and utilization.

> **Management's Response.** The NMO Director concurred, stating that JPL Fleet Management will update its internal procedures document to reflect the procedural changes noted in Recommendation 1 and implement an annual vehicle justification review process. Management expects to implement the proposed actions by October 1, 2010.

> **Evaluation of Management's Response.** Management's planned action is responsive. The recommendation is resolved and will be closed after we verify completion of the corrective action.

**Recommendation 3.** We recommended that the NMO Director modify the JPL prime contract to include NASA Policy Directives, NASA Procedural Requirements, and other applicable fleet management procedures and conduct annual reviews to ensure Caltech is effectively using GSA vehicles.

> **Management's Response.** The NMO Director partially concurred, stating that incorporating requirements of the policy directives into the current contract with Caltech (which expires on March 30, 2012) may not be cost effective. The Director stated that he will evaluate the impact of changes brought about as the result of our review and decide whether to include the relevant documents in any follow-on contract. He also stated that he will include Agency-owned vehicles in the annual vehicle utilization reviews.

> **Evaluation of Management's Response.** Management's planned action is responsive and the recommendation is resolved. We expect to review the results of the Director's evaluation concerning incorporation of fleet management policy documents into a new JPL contract prior to March 30, 2012. The recommendation will remain open until that time.

We appreciate the courtesies extended during our review. If you have any questions or need additional information, please contact Raymond Tolomeo, Science and Aeronautics Research Director, Office of Audits, at (202) 358-7227.

2 Enclosures

# Scope and Methodology

We performed this review from February 2010 through July 2010 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform our work to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on the objectives. We believe that the evidence obtained during this review provides a reasonable basis for our findings and conclusions based on our objectives.

We reviewed applicable sections of the Code of Federal Regulations, GSA fleet management guidance to identify criteria applicable to the management of leased vehicles, and NASA guidance pertaining to vehicle use. We interviewed vehicle users, fleet managers, and the Agency fleet manager.

We obtained vehicle data generated from the GSA Interagency Fleet Management System Detailed Billing Register as of September 30, 2009. We assessed GSA billing data to determine if vehicles were underutilized, and compared total miles each vehicle was driven during FY 2009 with Federal minimum mileage standards. We excluded 2 ambulances and 8 buses, considered as having a low probability of misuse, from the 101 vehicle population and randomly selected 11 vehicles (8 permanently assigned and 3 motor pool vehicles) out of 91 vehicles using WinSTAT, the statistics Add-In for Microsoft Excel. We then reviewed the transaction data and supporting documents for the selected sample vehicles to determine whether JPL had adequate internal controls in place to prevent misuse and/or abuse of GSA vehicles.

## Computer-Processed Data

We used computer-processed data to perform this audit. The JPL's usage transactions were entered into JPL Fleet Management Systems and we traced the transaction data to the original trips reports and compared the information in the key data fields. We believe the data to be reliable based on our tracking and comparison.

## Review of Internal Controls

We reviewed and evaluated the internal controls associated with JPL's GSA fleet management process. We also reviewed NASA Policy Directives and NASA Procedural Requirements. We found that JPL could strengthen the effectiveness and control over management of GSA fleets.

## Prior Coverage

During the last 5 years, neither the NASA Office of Inspector General nor the Government Accountability Office has issued a report related to the subject of this memorandum.

# Management's Comments

National Aeronautics and Space Administration
Agency Operations

**NASA Management Office**

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Reply to Attn of::  NMO                                                    18 August 2010

TO:        Jim Morrison
           Assistant Inspector General for Audits

FROM:      E. Trinh
           Director, NASA Management Office (NMO)

SUBJECT:   Response to the Draft Memorandum on the Office of Inspector General's
           Review of the Fleet Management Program at the Jet Propulsion Laboratory
           (Assignment No. S-10-002-00)

Thank you for the opportunity to respond to your draft memorandum titled "Review of the
Fleet Management Program at the Jet Propulsion Laboratory"; Assignment No. S-10-002-
00, dated July 29, 2010. We commend the OIG for the sound methodology used in this
audit.

We have not identified any sensitive information that would not be publically releasable.

Please see below our response to the listed recommendations. This response incorporates
input from the Jet Propulsion Laboratory describing the measures that have been taken, or
will be implemented in the near future, in response to the audit findings.

*Recommendation 1:*
*Direct Caltech fleet management to implement a formal authorization process for temporary*
*use of vehicles, and to immediately contact site management when there is evidence of actual*
*or suspected misuse.*

NASA concurs and will verify the implementation of the following JPL actions:
The JPL Fleet Management Program has revised work order procedures regarding
temporary vehicle usage to include more detailed usage rationale (e.g. "No charge for
vehicles on Temporary Loan Due to Maintenance and Repair"). JPL Fleet Management
currently captures and reviews vehicle assignment/dispatch, mileage, fuel usage,
maintenance, and billing data to prevent potential misuse. JPL Fleet Management will
begin maintaining quarterly records to support their assessment of this data. Also, to

strengthen the monitoring of vehicle usage, JPL Fleet Management will provide quarterly vehicle usage information to the immediate supervisor of vehicle assignees and require section manager-level authorization and documented justification for all vehicle assignments. Lastly, JPL Fleet Management will immediately contact site management when there is evidence of actual or suspected misuse. All actions will be implemented by October 1, 2010.

*Recommendation 2:*
*Ensure that Caltech fleet management establishes procedures to evaluate, justify, and account for long-term and permanent vehicle assignments and utilization.*

NASA concurs and will verify the following JPL actions:
JPL Fleet Management will update JPL Rules DocID 14575 "Use of JPL/GSA Vehicles to document all the procedural changes noted in the response to Recommendation 1 above. JPL believes its triennial vehicle justification process provides sufficient basis to justify the long-term assignment of vehicles; including cost avoidance and mission-critical support, passenger usage, property transport usage, support of Executive Orders, etc… However, to further strengthen related controls, this process will be changed to an annual vehicle justification process, effective FY-2011.

*Recommendation 3:*
*Modify the JPL prime contract to include NASA Policy Directives, NASA Procedural Requirements, and other applicable fleet management procedures and conduct annual reviews to ensure Caltech is effectively using GSA vehicles.*

We would like to suggest including Agency-owned vehicles to the recommendation to conduct annual reviews of effective utilization.

NASA partially concurs with this last recommendation for the following reasons:
- Inclusion of the policy directives to the current NASA/Caltech prime contract which expires on March 30, 2012, may not be worth the significant resources required for negotiations with Caltech. We prefer not initiating such action at this time.
- We would like to take the time to evaluate the impact of the changes brought about by this audit, and to analyze various other approaches to deal with the issues raised in this memorandum. Depending upon the results of the evaluation, we will decide whether to include the relevant NPDs and NPRs in the new contract.

We would like to assess whether current JPL fleet management policies and procedures, especially with the changes to be implemented as the results of this audit, will be sufficient to meet the requirements for increased visibility and strengthened controls in the vehicle

use area. The OIG memorandum notes that no incidence of misuse by JPL personnel has been found. The exceptional circumstances allowing the instance of misuse by a civil servant have been remedied by NMO actions in combination with the new enhanced JPL administrative measures.

Controls currently in place which ensure that JPL's fleet management program remains aligned with Government-wide and Industry best practice include:

- The JPL Fleet Management Manager regularly participates in the NASA Transportation Officers Conference and other similar meetings to ensure that JPL Fleet Management remains aligned with Government-wide initiatives and policies.
- JPL's Fleet Management program is subjected to an annual review under the Property Control System Analysis (PCSA), conducted by NMO and DCMA.
- JPL Fleet Management provides a quarterly assessment of the Laboratory's low-usage vehicles, including any necessary mitigating efforts, to the NMO Transportation Officer and the NASA Transportation Manager.

We also note that the results of the annual PCSA and annual submittal of the Federal Automotive Statistical Tool (FAST) report to NASA have consistently demonstrated that JPL is adequately monitoring and controlling the use of GSA vehicles at JPL. It is also NMO's belief that JPL would be forthcoming with the requisite information should NMO establish the need for close and specific vehicle management oversight.

Cc: A. Castillo, NMO
T. Howell, NMO
E. Lau, NMO
Lou Becker, Assistant Administrator for Internal Control and Management Systems