NASA

National Aeronautics and Space Administration

Office of Inspector General

Office of Audits

REVIEW OF NASA'S PURCHASE AND TRAVEL CARD PROGRAMS

February 28, 2018

Office of Inspector General

RESULTS IN BRIEF
Review of NASA's Purchase and Travel Card Programs

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IG-18-014 (A-17-012-00)

WHY WE PERFORMED THIS REVIEW

Government charge card programs – both purchase and travel cards – can be efficient but are highly susceptible to misuse, fraud, waste, and abuse due to the large number of Federal employees with the ability to receive goods and services using the cards. During fiscal year (FY) 2017, NASA made over 112,000 purchase card transactions totaling more than $75 million and approximately 413,000 travel card transactions totaling about $62 million. Given the amount of taxpayer funds involved in these programs, effective internal controls are essential in mitigating risks of improper use.

Our objective in this audit was to examine whether key internal controls in NASA's charge card programs detect and prevent potentially illegal, improper, or erroneous transactions. To this end, we interviewed NASA officials responsible for purchase and travel card programs; reviewed relevant Federal laws, regulations, policies, and guidance; sampled charge card transactions; tested certain travel vouchers; and tested the design and effectiveness of key internal controls administered by the Agency.

WHAT WE FOUND

NASA's internal controls over its travel and purchase card programs generally were effective in detecting misuse, fraud, waste, and abuse. Overall, we found NASA employees did not charge personal transactions on their travel cards and purchase cards were generally used appropriately. However, weaknesses exist where travelers did not consistently use the travel card for official travel expenses as required. Further, some purchase card transactions lacked documentation supporting the request, goods receipt, and special approval. In addition, sales tax was improperly paid on several transactions and we found examples of purchase transactions split into smaller purchases to not exceed the cardholder's spending limit. While NASA mandates that all travel and purchase cardholders take training to ensure they fully understand their responsibilities, internal controls over these programs could be strengthened by revising NASA policy and enhancing cardholder training.

WHAT WE RECOMMENDED

To improve the effectiveness of internal controls within NASA's travel card program, we recommended that the Chief Financial Officer establish a procedure to monitor whether travelers are using their travel cards for all official travel expenses as required and remind NASA travel cardholders and require acknowledgement in writing of their understanding of cardholder use. Further, to increase the effectiveness of internal controls in the purchase card program, we recommended that the NSSC Executive Director reiterate to purchase cardholders the definitions and requirements related to split purchases, minimum documentation requirements, and recoupment of sales tax; and include the aforementioned requirements in the triennial purchase card training. Finally, we recommended that NASA's Assistant Administrator for Procurement specify in written policy the type of evidence that should be maintained as proof that goods ordered were received.

We provided a draft of this report to NASA management for their review and comment. Responding to our five recommendations, management concurred and described its planned actions. We consider management's comments responsive; therefore, the recommendations are resolved and will be closed upon completion and verification of the proposed corrective actions.

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Acronyms

APC	Agency Program Coordinator
ATM	Automated Teller Machine
CAPC	Center Agency Program Coordinator
CBA	Centrally Billed Account
CGE	Concur Government Edition
CIGIE	Council of the Inspectors General on Integrity and Efficiency
FAR	Federal Acquisition Regulation
FTR	Federal Travel Regulation
FY	Fiscal Year
GSA	General Services Administration
IBA	Individually Billed Account
JPMorgan	JPMorgan Chase & Co.
MCC	Merchant Category Code
NSSC	NASA Shared Services Center
OIG	Office of Inspector General
OMB	Office of Management and Budget

INTRODUCTION

Government charge card programs can be efficient but are highly susceptible to misuse, fraud, waste, and abuse due to the high number of Federal employees with the ability to receive goods and services using the cards. During fiscal year (FY) 2017, NASA made over 112,000 purchase card transactions totaling more than $75 million. Further, NASA employees spent an additional $62 million using both individually billed account (IBA) and centrally billed account (CBA) travel cards across approximately 238,000 and 175,000 transactions, respectively.[1] Given the amount of taxpayer funds involved in NASA's purchase and travel charge card programs, effective internal controls are essential in mitigating risks of improper use.

Our objective was to examine whether key internal controls in NASA's charge card programs detect and prevent potentially illegal, improper, or erroneous transactions. See Appendix A for details of the audit's scope and methodology and Appendix B for our sampling methodology.

Background

Established in 1998, the General Services Administration (GSA) SmartPay Program provides Federal Government agencies with charge card services to help reduce the administrative costs associated with processing small-dollar purchases and administering official travel. The program was designed to streamline transaction processing, increase accountability, and provide a more efficient and effective way for agencies to monitor spending and identify fraud, waste, and abuse. The GSA SmartPay program provides services to more than 560 Federal agencies, organizations, and Native American tribal governments. Charge cards are made available through master contracts with three major banks with JPMorgan Chase & Co. (JPMorgan) providing NASA's credit card service since 2008.

In October 2012, Congress enacted the Government Charge Card Abuse Prevention Act of 2012 (Charge Card Act) to improve internal controls and reinforce the need for Federal agencies to establish safeguards to prevent fraud, waste, and abuse in their charge card programs.[2] This law expanded requirements in Office of Management and Budget (OMB) guidance that sets forth policies and procedures for Federal agencies for card use and oversight.[3] Supplemental NASA policy implements the Charge Card Act and OMB guidance by establishing responsibilities, safeguards, and internal controls for the management, use, and evaluation of NASA charge cards.[4]

NASA Policy Directive 5104.1, "Government Charge Cards," effective August 2016, delegated overall responsibility for the NASA charge card programs, including purchase, travel, and fleet cards, to the Agency's Mission Support Directorate. Responsibility was delegated to the Office of the Chief Financial Officer for maintaining Agency-wide policy, regulation, requirements, processes, procedures, other

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[1] While NASA has only 27 CBA cards, its employees hold almost 15,000 IBA cards among its 17,000-plus employees.

[2] Public Law 112-194, "Government Charge Card Abuse Prevention Act of 2012," October 5, 2012.

[3] OMB Circular A-123, Appendix B, "Improving the Management of Government Charge Card Programs," revised January 15, 2009. Hereafter, "OMB guidance" refers to OMB Circular A-123, Appendix B, unless noted otherwise.

[4] NASA Policy Directive 5104.1, "Government Charge Cards," effective August 19, 2016.

guidance, safeguards, and internal controls, as necessary, for managing the Agency's travel card programs. Responsibility was delegated to the Office of Procurement for maintaining Agency-wide policy and regulation pertaining to the Agency's purchase card program. However, the NASA Shared Services Center (NSSC) oversees the implementation, use, and management of all of the Agency's charge card programs. For each charge card program, NSSC designates an Agency Program Coordinator (APC) to serve as the Agency's lead and subject matter expert for management of NASA charge card programs; foster relationships and maintain interactions with Agency offices responsible for maintaining Agency-wide policy and regulation pertaining to the NASA charge card programs; establish, foster, and maintain effective interactions with the financial institutions responsible for charge card accounts, statements, and reports; prepare and submit reports required by OMB; develop, implement, maintain, and manage processes, procedures, guidance, training, safeguards, and internal controls for NASA charge card programs; assist NASA Headquarters and Center officials assigned charge card responsibilities in the development and/or improvement of regulation and policy relating to NASA charge card activities; and serve as a liaison between cardholders, Center Agency Program Coordinators (CAPC), and the charge card bank contractor.[5] Each NASA cardholder must complete Government charge card training prior to being issued a card. Cardholders also must complete refresher training once every three years, as mandated by OMB guidance.

Purchase Card Program

Federal Acquisition Regulation (FAR) Part 13, allows purchase cards to be used to buy goods and services valued at or below the micro-purchase threshold of $3,500.[6] Additionally, the regulation gives agencies the authority to set contracting officers' purchase card limits above the micro-purchase threshold for payment of authorized purchases of supplies, services, or construction. Purchase cards are centrally billed accounts, meaning the agency – not the individual cardholder – is billed.

NASA's policy and guidance governing the purchase card program is outlined in the *NASA Purchase Card Procedures and Instructions*.[7] In addition, NASA established an internal review guide to identify the minimum oversight review requirements that each CAPC should conduct on their Center's purchase card activity to ensure compliance with NASA and OMB requirements. CAPCs are required to conduct regular reviews and to document the results of those reviews, which are to be maintained and made available upon request to the APC.

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[5] CAPCs manage and support various charge card activities, to include issuing charge cards, monitoring card transactions, handling card issues (e.g., delinquencies or inappropriate charges), and initiating the salary offset process if an employee fails to pay delinquent undisputed charges.

[6] FAR Part 13, "Simplified Acquisition Procedures," August 3, 2015. Public Law 115-91, "National Defense Authorization Act for Fiscal Year 2018," December 12, 2017, increased the micro-purchase threshold to $10,000.

[7] "NASA Purchase Card Procedures and Instructions," December 16, 2016, hereafter referred to as "P-card guidance."

P-Card Web Solutions (P-Card system) is NASA's official system of record to initiate, track, approve, and reconcile its purchase card transactions. Cardholders are required to create an order log within the P-Card system before the purchase is made.[8] PaymentNet, JPMorgan's electronic access system, is used by CAPCs to request, manage, and close purchase card accounts. Each CAPC generates reports from PaymentNet and the P-Card system to monitor purchase card activity for their Center.

Travel Card Program

NASA uses two types of travel cards:

1. Individually billed accounts (IBA), which are used to pay for meals, lodging, rental vehicles, and other official travel-related expenses; and

2. Centrally billed accounts (CBA), which are used to pay for passenger transportation such as air, rail, bus, and ship, as well as travel authorization and voucher processing fees.

Employees are personally responsible for payment of their IBAs and are reimbursed for Government-related travel charges, while CBAs are billed to and paid directly by the agency.

Public Law 105-264, "Travel and Transportation Reform Act of 1998," and Federal Travel Regulation (FTR) §301-51.1 require that Federal employees use Government travel cards for official Government travel unless specifically exempted. To monitor card use, an NSSC Process Work Instruction entitled *Travel Card Center Agency Program Coordinator (CAPC) Roles and Responsibilities* (NSPWI-9710-0001) identifies reports CAPCs should run to monitor employee accounts and transactions to verify compliance with Center, Agency, and Federal policies and procedures.

Similar to purchase cards, PaymentNet is used by CAPCs to request, manage, and close travel card accounts and generate reports to monitor charge card accounts and transactions. NASA also uses Concur Government Edition (CGE), a Government-wide Web-based travel management service to support all phases of travel including planning, authorizations, reservations, and expense vouchers.

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[8] An order log documents details about a purchase, i.e., vendor, transaction date, funding information, purpose of purchase, requester name, items purchased, and quantities ordered and received. Each order log is assigned an alpha-numeric identifier starting with "PC-" and followed by an 8-digit number for tracking.

NASA's internal controls over its travel card program generally were effective in detecting misuse, fraud, waste, and abuse. We found NASA employees did not charge personal transactions on their travel cards. However, weaknesses exist with IBAs where travelers did not consistently use the travel card for official travel expenses. While NASA mandates that all cardholders take training to ensure they fully understand their responsibilities, internal controls over the travel card programs could be strengthened by revising NASA policy and enhancing cardholder training.

Travel Card Not Consistently Used for Official Travel Expenses

Even though Federal law and regulation mandate that Government cardholders use the travel card for official travel expenses unless specifically exempted, NASA travel cardholders did not consistently pay for all official travel expenses with their Government-issued travel card.[9] Some travelers may be inclined to use a personal credit card in order to receive bonuses and rewards offered by credit card or hotel companies. We compared expenses claimed on a sample of 100 travel vouchers submitted between October 1, 2016, and March 31, 2017, and reports generated from PaymentNet of transactions charged on the travelers' travel card for the corresponding timeframe.

One exemption to the rule is if use of the travel card is impractical (e.g., a vendor does not accept credit cards).[10] If use of a travel card is impractical then alternative forms of payment (e.g., use of personal cash and credit cards or travel advances via Automated Teller Machine (ATM) cash withdrawals using the travel card) may be used. However, NASA Travel Policy Advisory 17-01 reiterated that ATM withdrawals should be limited because most NASA employees are issued a travel card.[11]

We found that a travel card was not used on 21 occasions, with no indication that use of the card was exempted, for the vouchers we reviewed for charges related to lodging, rental vehicles, baggage services at airlines, parking at lodging facilities and airports, and internet access.[12] Further, one traveler claimed ATM fees even though the Government travel card was not used for an advance. Another traveler claimed foreign transaction fees in excess of the amount charged to the travel card, further supporting that travelers sometimes use personal credit cards for official travel expenses. Table 1 reflects the expenses not paid with a travel card by type and whether it was a foreign or domestic trip.

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[9] Public Law 105-264, "Travel and Transportation Reform Act of 1998," October 19, 1998 and FTR §301-51, "Paying Travel Expenses."

[10] FTR §301 51.2 stipulates that use of the Government travel card is mandatory for official travel expenses unless use of the card is impractical (e.g., vendor does not accept credit cards) or imposes unreasonable burden or costs (e.g., fees are charged for using the card).

[11] NASA Travel Policy Advisory 17-01, "Advisory on Implementation of FTR Amendments 16-01 and 16-02," October 11, 2016.

[12] Multiple transactions for the same expense type on a single voucher were only counted once.

Table 1: Expenses by Type Not Paid with Government Travel Card

Expense Type	Foreign	Domestic	Total
Lodging	5	2	7
Rental Vehicles	0	2	2
Baggage Services	3	0	3
Airport / Hotel Parking	3	3	6
Internet Access	3	0	3
Cash Advances / Transaction Fees	2	0	2
Totals	16	7	23

Source: NASA Office of Inspector General (OIG).

We found 30 additional transactions where the travel card was not used for payment of the following services: parking at a location other than airport or lodging facility; taxi and shuttle services; fuel for rental vehicles; laundry; and airfare on a foreign carrier acquired under emergency circumstances.[13] Taxi and shuttle services accounted for 19 of the 30 transactions. Since we were unable to determine the specific reasons why the travel card was not used for these purchases, we are unable to definitely state how many of these should have been paid with the travel card.

Determining the frequency with which travelers purchase meals without using their travel cards is more complicated. For instance, the FTR does not require travelers to submit receipts for meals that are reimbursed at a predetermined rate based on travel location; the number of meals purchased on any given day can vary by a traveler; and personal cash or cash advances may be used if a vendor does not accept credit cards. However, we noted that 7 travelers did not charge at least one meal or take a cash advance for their trips on their Government travel cards. We find this to be a strong indication that the travelers did not use their travel card for official travel expenses.

We polled 9 NASA Centers and each confirmed specific procedures were not in place to monitor whether travelers were using their Government travel card for all official travel expenses or were using another means of payment (i.e., a personal credit card). However, one Center indicated that it checked for certain high-dollar expenses such as lodging and rental cars, by reviewing the voucher and then reviewing the traveler's IBA for a corresponding charge. Furthermore, validation of the traveler's expenses paid with the traveler's Government travel card is not part of NSSC's pre-payment and post payment review processes.[14]

When travel cards are not used for payment of official travel expenses, not only are NASA travelers not complying with Federal requirements, but sales refunds received by NASA from JPMorgan are reduced since they are based on the dollar or "spend volume" on the credit cards during a specified time period.

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[13] Multiple transactions for the same expense type on a single voucher were only counted once.

[14] NSSC performs pre-payment review on all foreign vouchers, post-payment review on all domestic vouchers greater than $2,500, and post-payment review on a statistical sample of vouchers less than $2,500.

PURCHASE CARD TRANSACTIONS GENERALLY PROPER BUT CONTROL WEAKNESSES EXIST

NASA's internal controls over its purchase card program were generally effective in detecting misuse, fraud, waste, and abuse by the cardholders. We found that NASA employees generally used their purchase cards appropriately. However, while NASA mandates and cardholders participated in training about their responsibilities under the program, we identified several areas where internal controls over the purchase card programs could be strengthened by revising NASA policy and enhancing cardholder training. The lack of documentation was the most prevalent weakness. Specifically, transaction records did not include information regarding who requested the purchase 24 percent of the time nor did records include evidence the goods were received 14 percent of the time. Further, special approval for a "sensitive" purchase, a camera, was not obtained for one transaction in our sample.[15] In addition to the documentation weaknesses, we found one cardholder who made multiple purchases to the same vendor on the same day that in aggregate exceeded the cardholder's single purchase limit. We also found lack of recovery for sales tax paid for several transactions.

Records Lacked Adequate Documentation to Support Transactions

NASA did not consistently follow its policies and controls governing documentation of purchase card purchases and approvals. Specifically, the individual requesting the purchase could not be identified for 24 transactions, and evidence that purchases were received was missing for 14 transactions. In addition, advance special approval was not obtained for one purchase classified as a sensitive item. Each of these transactions was reviewed by an Approving Official who apparently failed to identify the lack of documentation. The potential for fraud, waste, and abuse stemming from inappropriate purchases increases if inadequate reviews are performed to ensure documentation (e.g., receipt of goods and special approvals) is obtained and retained.

Requester Information was Not Documented in the Transaction Records

Twenty-four out of 100 purchase card transactions we examined did not document the requester information in the purchase card file. Of these 24 purchase card transactions, 9 were self-generated purchases in which prior approval by a supervisor should have been documented but was not. Figure 1 shows the number of transactions without purchase request documentation by each NASA Center. OMB guidance stipulates that "[t]o the maximum extent possible, agency personnel requesting a cardholder to acquire an item(s) with a purchase card should provide written requests to the purchase

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[15] OMB guidance defines "sensitive" as "All property, regardless of value, that requires special control and accountability due to unusual rates of loss, theft, or misuse . . . Such property includes: weapons, ammunition, explosives, information technology equipment with memory capability, cameras, and communications equipment."

cardholder for the items. If it is not possible for the requester to make the request in writing, the purchase cardholder should document in their file the requester's name . . . and obtain prior approval before making self-generated purchases." Approximately 24 percent of the transactions in our sampling frame have this same issue.[16] See Appendix C for our projection methodology.

Figure 1: Instances of Missing Request Documentation by Location
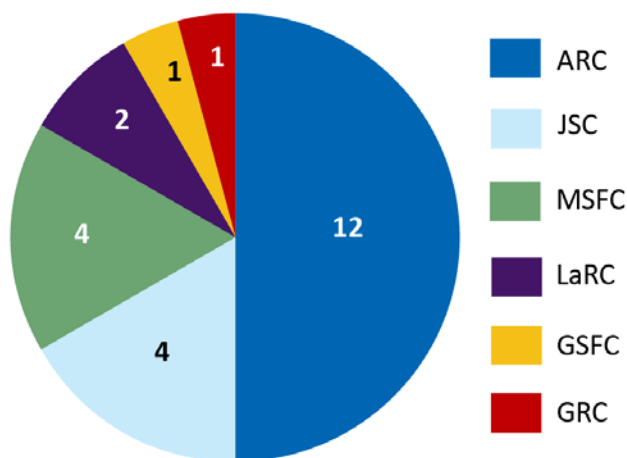
Source: NASA OIG.

Transaction Records Lacked Documentation Supporting that Goods Were Received

We found 14 transactions where no evidence was maintained to document that goods purchased were received, including confirmation or notation from the cardholder. Of these 14 transactions, 4 were above $500 and did not include third party verification that the items were received, as required by NASA's P-card guidance. Specifically, section 12.0 stated: "[f]or all items over $500, cardholders shall obtain 3rd party (other than the cardholder or the approving official) independent verification that the item ordered has been received . . . Verification of receipt shall be documented in the cardholder's records." While section 7.0 of that same guidance stipulates that a hard copy or an electronic copy of the order log and other supporting documentation, such as receipts, must be kept in the purchase card files for three years from the date of final payment, it does not specifically state that documentation supporting the receipt of purchases under $500 is required. The lack of specificity in the guidance may have led to such documentation not being obtained or retained.

During the course of our fieldwork, NASA revised section 12.0 of its P-card guidance and removed the verification for all goods over $500. The revised guidance now only requires third party independent verification when <u>equipment</u> is received at a location other than a central receiving location.[17] Not only does the new guidance remove the $500 threshold, it appears to limit the requirement to only

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[16] As detailed in Appendices B and C, the sampling frame was the top 25 percent, or 2,461, of the riskiest transactions based on the data analytics used.

[17] Procurement Notice 17-08, "Revisions to the NASA Purchase Card Procedures and Instructions," May 30, 2017

equipment for accountability purposes and does not cover items received at a central receiving location or goods such as supplies delivered directly to a cardholder or end-user.

Verifying receipt provides a level of assurance that goods purchased are being put to Government use. Figure 2 reflects, by Center, the number of transactions in which documentation to support the receipt of goods was missing and the number above and below the threshold requiring third party verification. Based on the number of exceptions in our purchase card sample, the frequency of transactions with this same issue was projected to be approximately 14 percent across our sampling frame.

Figure 2: Instances of Missing Receipt of Goods Documentation by Location
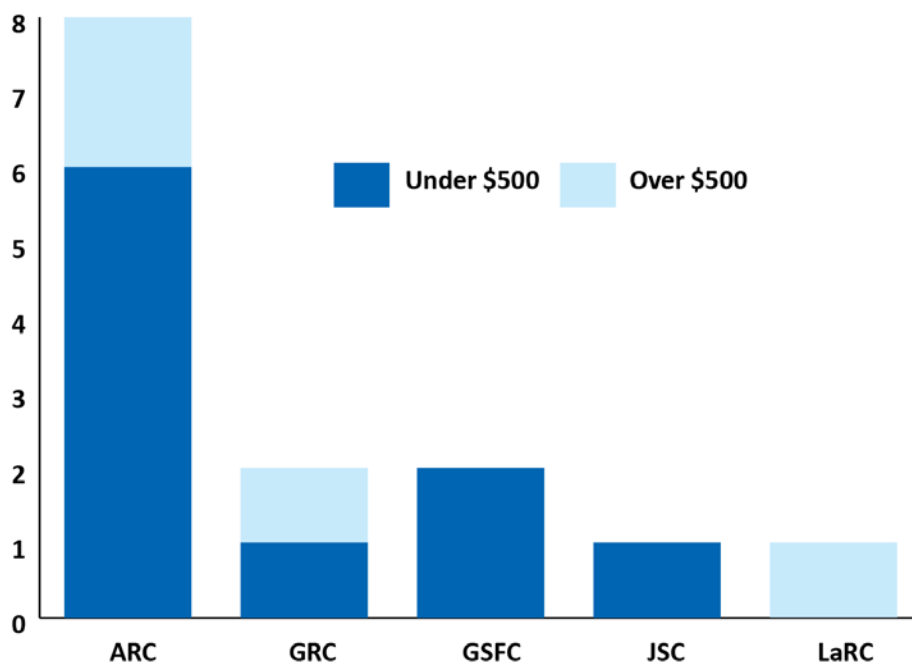
Source: NASA OIG.

Special Approval Not Obtained and Documented Prior to Purchase

We found one instance where approval was not obtained prior to purchase of a sensitive item (a camera) but was approved two months after the order was placed. Even though the transaction was reviewed by an approving official, the official failed to identify the lack of special approval. To ensure good property management practices, OMB guidance requires agencies to develop policies and procedures that address the handling of items classified as "sensitive" and NASA's P-card guidance requires cardholders to obtain special approval before placing such orders.

Split Purchases

FAR Part 13 encourages Federal agencies to use the Government-wide commercial purchase card to pay for orders within the cardholder's authority. As part of this authority, each cardholder is assigned a dollar amount that should not be exceeded for a single purchase known as a single purchase limit. Cardholders are prohibited from splitting larger purchases into smaller purchases in order to circumvent the single purchase limit. In addition, NASA's P-card guidance states that cardholders should plan their orders to combine requirements in order to qualify for volume discounts and to realize administrative savings.

We noted an instance where one cardholder made multiple purchases with the same vendor on the same day, which in total exceeded the cardholder's single purchase limit. Even though the multiple purchases were made for three different employees, the individual requirements were known at the time the first purchase was made. As such, the individual requirements should have been combined and purchased in a single transaction by an individual with the authority and a higher purchasing threshold.

Failure to comply with the single purchase policy resulted in misuse of the government purchase card and enabled circumvention of the single purchase limit. Based on the number of exceptions in our purchase card sample, the frequency of transactions with this issue was projected to be very low, approximately 1.1 percent across the sampling frame.

Sales Tax Paid and Not Recovered

OMB guidance states that "Federal Government transactions, for which any of the government charge cards are used, are exempt from State and local taxes." OMB guidance further stipulates that if sales tax is paid, agencies are required to make good-faith attempts to recover the amount. Additionally, NASA's P-card guidance states, "[i]f a vendor insists on charging tax, the cardholder should not place the order unless there is no alternative. If taxes are paid, the cardholder shall enter this as a separate line item within the purchase order log and explain why taxes were paid in the 'comments' section."

Sales tax was paid and not recovered for 7 transactions we reviewed with the reason for the payment not included in the P-Card system. While the sales tax for these 7 transactions only amounted to approximately $54, the projected frequency across the sampling frame in which sales tax was paid and not recaptured without annotation was roughly 7 percent. An approving official reviewed the transactions in question but apparently failed to identify sales tax was paid. Failure to recapture sales tax payments increases the cost of the Agency's charge card purchases.

CONCLUSION

Based on our testing of transactions charged during the first half of FY 2017, NASA's internal controls over its purchase and travel card programs were generally effective in detecting misuse, fraud, waste, and abuse. However, within NASA's travel card program, we determined travelers did not consistently use their IBA travel card for official travel expenses. Within NASA's purchase card program we identified instances where required documentation was not maintained to fully support the transaction; the single purchase limit was circumvented; and sales tax was paid on purchases without a recovery attempt. Revisions to NASA policy and enhancement of cardholder training should provide cardholders with a more comprehensive understanding of purchase and travel card policy, thereby further reducing the likelihood of fraudulent and improper activity in NASA's purchase and travel card programs.

RECOMMENDATIONS, MANAGEMENT'S RESPONSE, AND OUR EVALUATION

To improve the effectiveness of internal controls within NASA's travel card program, we recommend the Chief Financial Officer in collaboration with the NSSC Executive Director:

1. Establish a procedure, which may be risk-based, to monitor whether travelers are using their travel cards for all official travel expenses. Possible options include, but are not limited to: (a) modifying NSSC's existing pre- and post-payment procedures performed on travel vouchers and (b) instructing CAPCs to include this review as part of their oversight responsibilities.

2. Remind NASA travel cardholders, and require acknowledgement in writing of their understanding, of the following requirements.

    a. All official travel expenses are to be paid with the travel card unless an exemption applies in which case the travel voucher or supporting documentation should include an explanation.

    b. Cash advances should not exceed the amount anticipated that cannot be paid with the travel card.

In order to increase the effectiveness of internal controls within NASA's purchase card program, we recommend the NSSC Executive Director:

3. Reiterate to purchase cardholders:
    a. The definition of a split purchase and emphasize the requirement to combine known purchases to the same vendor on the same day into a single purchase.

    b. The minimum documentation requirements for the purchase card transaction file, to include:
        i. Written evidence of request for items ordered, when available, or a notation in the purchase card log detailing for whom and for what purpose the items were ordered;
        ii. Documentation that provides evidence goods ordered were received; and
        iii. Written evidence of special approvals for purchase of sensitive items.

    c. NASA's procedures for recoupment of sales tax and documentation requirements when payment is unavoidable.

4. Include the aforementioned requirements in the triennial purchase card training.

In addition, we recommend NASA's Assistant Administrator for Procurement:

5.   Revise its existing policy specifying the type of evidence that should be maintained as proof that goods ordered were received.

We provided a draft of this report to NASA management for their review and comment. Responding to our five recommendations, management concurred and described its planned actions. We consider management's comments responsive; therefore, the recommendations are resolved and will be closed upon completion and verification of the proposed corrective actions.

Management's full response to our report is reproduced in Appendix D. Technical comments provided by management have been incorporated, as appropriate.

Major contributors to this report include Mark Jenson, Financial Management Director; Regina Dull Project Manager; GaNelle Flemons; and Bret Skalsky. Shari Bergstein provided sampling and projection assistance and Matt Ward provided editorial and graphics assistance.

If you have questions about this report or wish to comment on the quality or usefulness of this report, contact Laurence Hawkins, Audit Operations and Quality Assurance Director, at 202-358-1543 or laurence.b.hawkins@nasa.gov.

Paul K. Martin
Inspector General

APPENDIX A: SCOPE AND METHODOLOGY

We performed this audit from May 2017 through January 2018 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 objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Our objective was to determine whether the key internal controls within the Agency's charge card programs prevent potentially illegal, improper, or erroneous transactions. Our review of NASA's purchase charge card program supports a broader Council of the Inspectors General on Integrity and Efficiency (CIGIE) cross-cutting project involving dozens of Inspectors General across the Federal Government.

To accomplish our objective, we interviewed officials responsible for purchase and travel card programs at the NSSC and various Centers to obtain an understanding of the process for monitoring purchase and travel cardholders' activities and the review and approval of purchase card transactions, travel authorizations, and travel vouchers. Additionally, we reviewed relevant Federal laws, regulations, policies, and guidance (see detailed list below). Further, we selected samples of transactions charged during the first two quarters of FY 2017 to purchase cards and IBA and CBA travel cards using data mining techniques (see Appendix B for our sampling methodology). In addition, we tested the travel vouchers associated with the IBA transaction sample. We tested the design and effectiveness of the key internal controls within NASA's purchase and travel card programs by examining documentation supporting each transaction. For additional information, see the section below titled "Review of Internal Controls."

Federal Laws, Regulations, Policies, and Guidance

As part of our tests of internal controls, we reviewed applicable federal laws and regulations related to purchase and travel card uses. Additionally, we reviewed NASA purchase and travel card policies and guidance. This review included, but was not limited to, the following:

- Pub. L. No. 112-194, "Government Charge Card Abuse Prevention Act of 2012," October 5, 2012

- Pub. L. No. 105-264, "Travel and Transportation Reform Act of 1998," October 19, 1998

- Federal Acquisition Regulation (FAR) Part 13, "Simplified Acquisition Procedures," August 3, 2015

- Federal Travel Regulation (FTR), Chapter 300 "General" and Chapter 301 "Temporary Duty (TDY) Travel Allowances," (current through FTR Amendment 2016-02), September 2016

- Office of Management and Budget (OMB) Circular A-123, Appendix B, "Improving the Management of Government Charge Card Programs," January 15, 2009

- OMB Memorandum M-13-21, "Implementation of the Government Charge Card Abuse Prevention Act of 2012," September 6, 2013

- NASA Policy Directive 5104.1, "Government Charge Cards," August 19, 2016

- NASA Interim Directive 9700.2, "NASA Interim Directive for Travel NPR 9700.1, Appendix A, NASA Travel Regulations Supplement," June 18, 2014

- NASA FAR Supplement, Subpart 1813.301, "Governmentwide Commercial Purchase Card," revised December 16, 2016

- "NASA Purchase Card Procedures and Instructions," December 16, 2016

- NASA Travel Policy Advisory 17-01, "Advisory on Implementation of FTR Amendments 16-01 and 16-02," October 11, 2016

- NASA Procurement Notice 17-08 "Revisions to the NASA Purchase Card Procedures and Instructions," May 30, 2017

Use of Computer-Processed Data

We obtained populations of purchase and travel card transactions directly from JPMorgan's PaymentNet® system which were used to select samples for each card type. We confirmed the overall completeness of the purchase and travel card populations by obtaining an understanding of the data system and known potential issues, obtaining a description of the record layout and record unit, obtaining a data dictionary, and confirming the delivery method and characteristics of the delivered dataset. After confirming completeness of the data we determined the data was accurate by performing validation testing which included identifying obvious errors (e.g., data missing in key fields and data outside of valid timeframes) and conducting detailed testing. In addition, we verified the accuracy of the data by tracing a sample of the transactions to source documents maintained in NASA's purchase card and travel systems. We concluded that the data were sufficiently reliable for the purposes of our report.

Review of Internal Controls

We reviewed internal controls for the purchase and travel card programs. Any control weaknesses we identified are discussed in this report. Our recommendations, if implemented effectively, should correct the identified control weaknesses.

Purchase Card

Our audit of key internal controls focused on whether transactions appeared to be for official Government use, were properly authorized and supported, and whether the goods and services acquired were independently received and accepted. Furthermore, we inquired of and obtained additional information on transactions that occurred on the same day to the same vendor that exceeded the micro-purchase threshold of $3,500 to ensure that purchases were not split into multiple transactions in order to circumvent FAR requirements. For purchases exceeding the micro purchase threshold of $3,500, we tested FAR requirements to determine whether the cardholder had the appropriate delegated authority to make the purchase.

Travel Card

Our audit of key internal controls focused on whether transactions appeared to be for official Government travel, were properly supported, and whether the travel card was used for all expenses while on official Government travel. Specifically, for the data mining samples selected from the transactions charged to IBA cards, we verified whether purchases occurred while the traveler was on official Government travel; were travel-related, authorized, and allowable; were supported by a receipt if over $75; and were not for a personal expense (e.g., seat upgrade) or should have been made on the CBA card. Additionally, if a transaction was for a travel advance, we verified whether the advance was obtained no more than 3 days before travel and not at any time after travel. For the data mining samples selected from the transactions charged to CBA cards, we verified whether purchases only related to common carrier (e.g., plane or train) transportation for travelers on official travel; were authorized and allowable, and were supported by a receipt if over $75. For voucher samples, we verified whether the travel card was used for personal expenses while the cardholder was on official travel by tracing transactions charged to the IBA travel card per PaymentNet to the travel voucher. Additionally, we verified that the IBA travel card was used to pay for all official travel expenses, excluding those expenses not expected to be paid with an IBA travel card (i.e., airfare, administrative charges, public transportation other than taxi, tolls, and privately owned vehicle mileage) by tracing transactions from the travel voucher to PaymentNet.

Prior Coverage

During the last 5 years, the NASA Office of Inspector General (OIG) and the Government Accountability Office have issued four reports of significant relevance to the subject of this report. Unrestricted reports can be accessed at https://oig.nasa.gov/audits/reports/FY18/index.html and http://www.gao.gov, respectively.

NASA Office of Inspector General

Audit of NASA's Premium Air Travel (IG-15-002, October 21, 2014)

Audit of NASA's Purchase and Travel Card Programs (IG-12-010, February 16, 2012)

Government Accountability Office

Government Purchase Cards: Little Evidence of Potential Fraud found in Small Purchases, but Documentation Issues Exist (GAO-17-276, February 14, 2017)

Government Purchase Cards: Opportunities Exist to Leverage Buying Power (GAO-16-526, May 19, 2016)

APPENDIX B: SAMPLING METHODOLOGY

For our audit, we used data mining sampling techniques to select our samples based upon multiple indicators of suspicious or inappropriate activity. We obtained purchase and travel card transactions for the 6-month audit period of October 1, 2016, to March 31, 2017, directly from JPMorgan.

Purchase Card

We ran the JPMorgan purchase card transactions through nine independent analytics. Each analytic was weighted (from 0-3) based on its significance. For details concerning our analytics see table 2 below. A transaction's score was the sum of the weights of the analytics it failed. All transactions were ranked in descending order by score and then by billing amount for each quarter.

The top 25 percent of these ordered transactions were extracted to make up our sampling frame. We assigned each transaction in our sampling frame a random number provided by CIGIE and reordered the transactions in ascending order based on the value of its associated random number. The first 50 transactions from each quarter based on the value of its associated random number were selected as the sample.

Table 2: Purchase Card Analytics

Risk Indicator	Risk Explanation
Over Single Purchase Limit	Identifies transactions exceeding the cardholder's single purchase limit.
Prohibited Merchant Category Code (MCC)	Search matches of MCCs prohibited by NASA.
Questionable MCC	Search matches of MCCs considered risky by NASA.
Weekend/Holiday Transactions	Identifies transactions that occurred on weekends or holidays.
Transaction with Tax	Identifies transactions with sales tax above $0.01 and greater than 20% of the total billing amount.
Transaction from Closed Accounts	Identifies transactions associated with closed accounts.
Potential Unauthorized Merchant	Identifies transactions from potential unauthorized merchants such as Amazon and PayPal.
Potential Split Transaction	Identifies transactions whose cardholders made multiple purchases to a single vendor in a single day which in the aggregate exceeded the cardholders single purchase limit.
Matched Keywords	Search for keywords of concern in the item description field.

Source: NASA OIG.

Travel Card

We ran the JPMorgan IBA travel card transactions through eight independent analytics and the CBA travel card transactions through two independent analytics. For details of the analytics see Table 3. Each analytic was weighted according to significance. A transaction's score was the sum of the weights of the analytics it failed. For each travel card type (i.e., IBA and CBA), we ranked all transactions in descending order by score and then by billing amount for each quarter.

The top 25 percent of these ordered transactions were extracted to make up our sampling frame. Each transaction in our sampling frame was assigned a random number (using Excel's RAND function) and reordered in ascending order based on the value of its associated random number. We selected a sample size of 50 for IBA transactions for each quarter. If replacements were needed, the team continued down the same spreadsheet in the order in which the transactions appear. Although the intent was to select a consistent sample size across travel card types, we were unable to choose a sample of 50 transactions for each quarter from the CBA data since the CBA sampling frame was less than 50 transactions. Therefore, we selected all of the transactions in the CBA sampling frame resulting in sample sizes of 29 and 31 transactions for the first and second quarters, respectively.

Table 3: Travel Card Analytics

Risk Indicator	Risk Explanation
IBA	
Over Single Purchase Limit	Identify transactions that exceed a cardholder's single transaction purchase limit.
Blocked/Prohibited MCC	Search matches to identified MCCs prohibited by NASA.
Questionable MCC	Search matches to identified MCCs considered risky by NASA.
Financial MCC	Search matches to identified MCCs related to financial institutions.
Unknown MCC	Search for transactions with missing MCCs.
Suspicious Third Party	Identifies purchases from potential unauthorized merchants such as Amazon and PayPal.
High Airline Fee	Identifies transactions over $100 to an airline.
Potential Split Transaction	Identifies cardholders whose multiple purchases to a single vendor in a single day total to within $50 of the single purchase limit.
CBA	
Unknown MCC	Search for transactions with missing MCCs.
Non-Airline MCC	Search for transactions with identified MCC not related to airlines.

Source: NASA OIG.

APPENDIX C: PROJECTION METHODOLOGY

The audit team projected the results of the purchase card detailed testing. Projections were only applied to the sampling frame, which were the records from which we applied data mining techniques that had a probability of selection greater than 0 and that made up the top 25 percent riskiest transactions (see Appendix B). Our sampling frame consisted of 2,461 records. Projections were not applied to the full population of all purchase card transactions in the first two quarters of FY 2017.

After accounting for the complex sampling design, weighting results to account for unequal probabilities of selection between first and second quarter transactions and taking into consideration that when computing estimates each record could only be selected once, we identified what we believe with 95 percent confidence to be the range of error among the top 25 percent riskiest purchase card transactions in the first two quarters for FY 2017 for each issue found. The mean failure rate is the average of the lower and upper bounds of that range of error (see Table 4).

Table 4: Projections of Test Failure Rates Based on Purchase Card Sample Results

Test	Number that Failed out of 100	Mean Failure Rate	Confidence Interval – Lower Bound	Confidence Interval – Upper Bound
Documentation	24	23.8%	15.6%	32%
Evidence	14	14.2%	7.4%	21%
Special Approval	1	1.1%	0%	3.2%
Split Purchase	1	1.1%	0%	3.2%
Taxes	7	6.9%	2%	11.8%

Source: NASA OIG.

We determined the number of failed transactions for each test by multiplying the mean failure rate by the sampling frame of 2,461 records. For example, the mean or average failed transactions for the documentation test is 586 (2,461 x 23.8%). These results mean that we are 95 percent confident that the true documentation error rate among the top 25 percent riskiest purchase card transactions in the first two quarters of FY 2017 is between 15.6 percent and 32.0 percent – or between 384 (2,461 x 15.6%) and 788 (2,461 x 32%) transactions. This formula can be applied to each test to determine the number of failed transactions for each individual test. However, because the audit team performed all of the above tests on each of the 100 transactions in the sample and a single transaction could fail multiple tests, we cannot simply add the mean failed transactions for each test to come up with a total of failed transactions out of the sampling frame because the tests are not mutually exclusive.

APPENDIX D: MANAGEMENT'S COMMENTS

National Aeronautics and Space Administration

Headquarters
Washington, DC 20546-0001

FEB 23 2018

Reply to Attn of: Office of the Chief Financial Officer

TO: Assistant Inspector General for Audits

FROM: Acting Chief Financial Officer
                Assistant Administrator for Procurement
                Acting Executive Director, NASA Shared Services Center

SUBJECT: Agency Response to OIG Draft Report, "Review of NASA's Purchase and
                Travel Charge Card Programs" (A-17-012-00)

NASA appreciates the opportunity to review and comment on the Office of Inspector
General (OIG) draft report entitled, "Review of NASA's Purchase and Travel
Charge Card Programs" (A-17-012-00), dated January 31, 2018.

In the draft report, the OIG makes five recommendations intended to enhance the
effectiveness of internal controls of the travel card and purchase card programs.

Specifically, the OIG recommends the following:

To improve the effectiveness of internal controls within NASA's travel card program, the
OIG recommends the Chief Financial Officer (CFO) in collaboration with the NASA Shared
Services Center (NSSC) Executive Director:

> **Recommendation 1:** Establish a procedure, which may be risk-based, to monitor
> whether travelers are using their travel cards for all official travel expenses. Possible
> options include, but are not limited to: (a) modifying NSSC's existing pre- and post-
> payment procedures performed on travel vouchers and; (b) instructing Center
> Agency Program Coordinators (CAPCs) to include this review as part of their
> oversight responsibilities.
>
> **Management's Response:** Concur. NASA will establish a risk-based approach to
> monitoring travelers' usage of their travel cards for all official travel expenses.
> These measures will also include enhanced communication and training on the use of
> travel cards.
>
> **Estimated Completion Date:** February 1, 2019

Recommendation 2: Remind NASA travel cardholders of the following requirements and ensure that future training in this area covers the relevant subject matter.

  a. All official travel expenses are to be paid with the travel card unless an exemption applies in which case the travel voucher or supporting documentation should include an explanation.

  b. Cash advances should not exceed the amount anticipated that cannot be paid with the travel card.

Management's Response: Concur. NASA will consider the best approach to ensuring that traveler's understand the requirements aforementioned. NASA is committed to ensuring that travelers are aware of the proper use of their travel cards as well as cash advances in anticipation of travel.

Estimated Completion Date: February 1, 2019

In order to increase the effectiveness of internal controls in the purchase card program, the OIG recommends the NSSC Executive Director:

Recommendation 3: Reiterate to purchase cardholders:

  a. The definition of a split purchase and emphasize the requirement to combine known purchase to the same vendor on the same day into a single purchase.

  b. The minimum documentation requirements for the purchase card transaction file, to include:

      i. Written evidence of request for items ordered, when available, or a notation in the purchase card log detailing for whom and for what purpose the items were ordered;
     ii. Documentation that provides evidence goods ordered were received; and
    iii. Written evidence of special approvals for purchase of sensitive items.

  c. NASA's procedures for recoupment of sales tax and documentation requirements when payment is unavoidable.

Management's Response: NASA concurs with the OIG's recommendation to reiterate to cardholders the definition and requirements for split purchases; the minimum required documentation to support the purchase card transaction file (to include evidence for items ordered and special approval, where necessary, as well as documentation for receipt of items); and NASA's procedures for recoupment of sales tax and documentation requirements when payment is unavoidable. NASA will

consider the best solution to ensure that the requirements above are communicated to purchase card holders in an effective and efficient manner.

Estimated Completion Date: December 1, 2018

Recommendation 4: Include the aforementioned requirements in the triennial purchase card training.

Management's Response: NASA concurs with the OIG's recommendation to include the requirements in Recommendation 3 in the triennial purchase card training. NASA will continue to update and refresh the purchase card course to include the necessary updates to communicate any missing requirements.

Estimated Completion Date: February 1, 2019

In addition, the OIG recommends NASA's Assistant Administrator for Procurement:

Recommendation 5: Revise its existing policy specifying the type of evidence that should be maintained as proof that goods ordered were received.
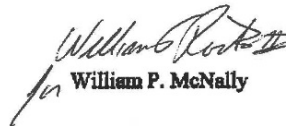
Management's Response: NASA concurs with the OIG's recommendation to revise its existing policy to specify the evidence that should be maintained as proof that goods ordered were received. NASA will determine the best way to incorporate the type of evidence that should be maintained for goods ordered.

Estimated Completion Date: February 1, 2019

We have reviewed the draft report for information that should not be publicly released. As a result of this review, we have not identified any information that should not be publicly released.

Once again, thank you for the opportunity to review and comment on the subject draft report. If you have any questions or require additional information regarding this response, please contact Michelle Jenkins on (228) 813-6236.

for Andrew J. Hunter   for William P. McNally   Anita F. Harrell

APPENDIX E: REPORT DISTRIBUTION

National Aeronautics and Space Administration

Acting Administrator
Acting Deputy Administrator
Associate Administrator for Strategy and Plans
Associate Administrator, Mission Support Directorate
Acting Chief Financial Officer
Assistant Administrator, Procurement
Acting Executive Director, NASA Shared Services Center

Non-NASA Organizations and Individuals

Office of Management and Budget
    Deputy Associate Director, Energy and Space Programs Division

Government Accountability Office
    Managing Director, Office of Financial Management and Assurance
    Director, Office of Acquisition and Sourcing Management

Congressional Committees and Subcommittees, Chairman and Ranking Member

Senate Committee on Appropriations
    Subcommittee on Commerce, Justice, Science, and Related Agencies

Senate Committee on Commerce, Science, and Transportation
    Subcommittee on Space, Science, and Competitiveness

Senate Committee on Homeland Security and Governmental Affairs

House Committee on Appropriations
    Subcommittee on Commerce, Justice, Science, and Related Agencies

House Committee on Oversight and Government Reform
    Subcommittee on Government Operations

House Committee on Science, Space, and Technology
    Subcommittee on Oversight
    Subcommittee on Space

(Assignment No. A-17-012-00)