National Aeronautics and
Space Administration

Headquarters
Washington, D.C. 20546-0001

Reply to Attn of: W

December 27, 2001

TO: A/Acting Administrator

FROM: W/Inspector General

SUBJECT: Use of Photographic and Video Services at Kennedy Space Center, G-01-027

The Office of Inspector General (OIG) reviewed Kennedy's use of photographic and video services. Image services at Kennedy fall into two major categories, publicity images and engineering images. Separate electronic work order systems are used to identify and assign work to the contractors performing image services under the various contracts at Kennedy. We performed this review in response to allegations of waste submitted to several members of Congress, the General Accounting Office, NASA, and the NASA OIG.

Wasteful duplication of Government resources occurs when photographers from more than one contract are on hand to take similar images of an engineering activity. These incidents occur most often when one set of contractors is tasked to provide support to the public affairs office (PAO), while other photographers and/or videographers are tasked to support their contracts' engineering close-out activities. Such duplication is relatively infrequent, but we were able to confirm that it occurs from time to time. Several people familiar with image services told us that some image-gathering could be consolidated to satisfy both PAO and engineering requirements. This process should not be costly or difficult to implement because the major contracts that provide image services to Kennedy issue electronically generated work orders that could be readily coordinated.

We recommended that the Kennedy Center Director implement a tracking process to ensure that work orders and tasks for photographic and video products and services are managed in a manner that avoids unnecessary duplication and maximizes shared use. NASA management concurred with our recommendation (See Appendix B of the report). Although management indicated that revised procedures for minimizing duplication and maximizing shared use of images will be in place by February 28, 2002, specific actions

to implement our recommendation were not identified. We consider this recommendation open pending verification of corrective action.

[original signed by]

Roberta L. Gross

Enclosure
Use of Photographic and Video Services at Kennedy Space Center, G-01-027

National Aeronautics and
Space Administration

Headquarters
Washington, D.C. 20546-0001

Reply to Attn of: W

December 27, 2001

TO: Kennedy Space Center
Attn: AA/Director

FROM: W/Assistant Inspector General for Inspections, Administrative Investigations, and Assessments

SUBJECT: Use of Photographic and Video Services at Kennedy Space Center, G-01-027

The NASA Office of Inspector General (OIG) assessed whether the use of multiple contracts for photographic and video services[1] at Kennedy Space Center (Kennedy) was resulting in unnecessarily costly duplication of effort. We performed this review in response to allegations of waste submitted to several members of Congress, the General Accounting Office (GAO), NASA Management and the NASA OIG.

BACKGROUND

Kennedy is NASA's Center of Excellence for launch and payload processing systems and is also the Agency's lead center for acquisition and management of expendable launch vehicle services and payload carriers. Kennedy has utilized image services for several decades in support of its mission.

Concerns about the duplication of image services at Kennedy date back to the 1960's. In 1968, GAO recommended that NASA Kennedy and the Air Force's Eastern Test Range[2] consider consolidating photographic and video operations. As a result, the Air Force awarded a contract for consolidated image services in January 1969.[3] Appendix A provides a

[1] The photographic and video services we identified during our review include still and digital photography, videography, and motion picture quality image capture. Because of the variety of images, we have elected to use the terms "image services" and "image equipment" when referring to these various types of photographic and video products.

[2] The Eastern Test Range is now the 45th Space Wing.

[3] This contract and its predecessor contracts reflect one of the earliest attempts to consolidate requirements between the Air Force and Kennedy. The Joint Base Operations and Services Contract (JBOSC), awarded September 30, 1998, is an even larger form of such consolidations. We were told that consolidation of the VITC

chronology of subsequent image service reviews performed by various Government organizations.

Kennedy's approach to contracting in general has evolved since the 1968 GAO recommendation to consolidate imagery requirements. In the past, the Center used many small contracts to obtain a variety of specific services.[4] Today, Kennedy outsources the majority of its work under large consolidated contracts designed to accomplish major mission support activities (e.g., space flight operations, payload ground operations and base operations). These contracts provide wide-ranging programmatic mission support, including image services, to the Center and are considered to be performance based.[5] The shift from many small contracts to a few large ones is not unique to Kennedy; NASA has consolidated many contracts in recent years.[6]

The International Alliance of Theatrical Stage Employees (IATSE), which represents employees working for Johnson Controls World Service, Inc. (Johnson Controls) under the Visual Information Technical Contract (VITC), has requested three reviews of imagery services at Kennedy since the 1968 GAO recommendation. The most recent resulted in a 1992 GAO review of Kennedy's image support and equipment. This review found that it was appropriate for Kennedy to allow its major support contractors to perform image services related to their specific missions.

The VITC contract has been re-competed several times since it was first consolidated in 1969. The current contract was awarded to Johnson Controls in July 1998. Like its predecessor contracts, the VITC statement of work is broad and flexible. Many different types of image services are available to the Government under the contract. Unlike predecessor contracts,

---

and JBOSC functions was not considered because VITC provides a tangible end product, e.g., photos, films, etc., while JBOSC provides basic support, such as fire and rescue, landscaping, and janitorial support.

[4] For example, separate engineering contracts supported different divisions at the Center. In addition, many support functions (such as medical services, janitorial services, and photographic services) were separately contracted.

[5] Per FAR 2.101(b), Performance-Based Contracting (PBC) is defined as structuring all aspects of an acquisition around the purpose of the work to be performed. Contract requirements are set forth in clear, specific, and objective terms with measurable outcomes as opposed to either the manner by which the work is to be performed or broad and imprecise statements of work.

[6] For example, in 1998, the Consolidated Space Operations Contract (CSOC) combined portions of 14 different contracts from several NASA Centers, including Kennedy, Johnson Space Center (Johnson), Goddard Space Flight Center (Goddard) and Marshall Space Flight Center (Marshall), to consolidate the management of all of NASA's data collection, telemetry and communications operations supporting Earth-orbiting satellites, planetary exploration and human space flight activities. Also, in 1996, the Space Flight Operations Contract (SFOC), which integrates all aspects of Space Shuttle processing at both Kennedy and Johnson, subsumed 12 contracts. NASA has been on the forefront of contract consolidation and commercialization (reference GovExec.com article, "Getting Out of Operations," by Anne Laurent, August 30, 1999).

which were cost reimbursable,[7] the current contract is an Indefinite Delivery/Indefinite Quantity (ID/IQ) contract.[8] ID/IQ contracts allow the Government to order services as needed at a firm fixed price. This type of contract only guarantees the contractor a minimum quantity of work over the life of the contract. The VITC contract is not a "requirements" contract[9] and therefore does not require the Agency to obtain all its image services from this source. NASA has met its minimum ordering requirements under the VITC contract for the life of the contract and continues to order services above the required minimum.[10]

From the Government's perspective, an ID/IQ contract is appropriate for these services because the type of work is well established, but the level of support required by the Government is uncertain. Under the current contract, the Government unilaterally places delivery orders for services as they are needed. If the Government does not have work for the contractor to perform, the contractor does not get paid. This change has resulted in a reduction of personnel employed under VITC.

I. IMAGE SERVICES AT KENNEDY

Image services at Kennedy fall into two major categories, publicity images and engineering images. Separate electronic work order systems are used to identify and assign work to the contractors performing image services under the various contracts at Kennedy.

We met with NASA management and line personnel involved with the various aspects of image gathering at Kennedy as well as managers and employees of all the contracts identified in the IATSE complaint. Some NASA personnel, while not characterizing duplication in image services as a problem, did indicate that they believed there was room for improvement in the process of assigning contractors to prevent possible duplication by different contractors.

A. Publicity Images

From a publicity standpoint, NASA values multi-level dissemination of space program images to the American public. Publicity images include still images, motion picture quality images, and television images. Kennedy provides more opportunities to obtain publicity images than any other NASA Center. We found that most publicity images are gathered by

---

[7] Per FAR 16.301-1, Cost-reimbursement types of contracts provide for payment of allowable incurred costs, to the extent prescribed in the contract. These contracts establish an estimate of total cost for the purpose of obligating funds and establishing a ceiling that the contractor may not exceed (except at its own risk) without the approval of the contracting officer.

[8] Per FAR 16.504(a), an indefinite-quantity contract is a type of indefinite-delivery contract that provides for an indefinite (within stated limits) of supplies or services during a fixed period. The Government places orders for individual requirements. Quantity limits may be stated as number of units or as dollar values.

[9] Per FAR 16.503(a), a requirements contract provides for filling **all** purchase requirements of designated Government activities for supplies or services during a specified contract period, with deliveries or performance to be scheduled by placing orders with one contractor.

[10] The total sum expended under the VITC contract since July 1998 through September 2001 is $9.5M.

Johnson Controls using fixed priced delivery orders under the VITC contract. Official publicity images of space program events, in particular shuttle launches, are the responsibility of VITC and Kennedy Public Affairs Office (PAO) personnel. We did not find evidence of duplication related to official publicity images of space program events.

Publicity images also include those gathered as part of employee oriented events, such as conferences or award ceremonies. Although VITC personnel are the primary source of support for official images of employee oriented events for PAO, personnel supporting other contracts and/or civil service employees are also providing images in support of their own organizations. Images taken by these other organizations are not official NASA photos and are normally being taken by people who are not attending the event solely for the purpose of taking pictures. We recognize that there is some duplication of employee oriented publicity images, but it did not appear to result in a significant waste of Government resources.

Television images suitable for broadcast are the only significant publicity images not provided for under VITC. Television support is currently being provided under the Space Flight Operations Contract (SFOC),[11] and is being transitioned to the Consolidated Space Operations Contract (CSOC).[12] We did not find any duplication of services provided for motion picture quality images or television images.

B. Engineering Images

Engineering images constitute the majority of Center images. NASA gathers these images and contractor personnel involved in shuttle payload processing and integration and mating of the Shuttle with payloads and other components. Most of these images are used by NASA and its contractors to document the status of a piece of hardware at a particular point in time. These "close out photos" are normally used to support safety or quality assurance activities related to engineering efforts. These images are then archived for future use and are used for review if there are ever any questions as to a particular component's position or condition at any point in the assembly process.

Another significant component of engineering images at Kennedy is the documentation of space shuttle liftoffs and landings. These images normally require a higher level of image quality than other engineering images.

---

[11] SFOC, identified by contract number NAS9-20000, is the prime contract for all aspects of Space Shuttle processing at both Kennedy and the Johnson Space Center. SFOC was awarded in September 1996, under a cost plus incentive/performance fee arrangement to the United Space Alliance (USA), a joint venture between Lockheed Martin and Boeing. The current contract, valued at approximately $11 billion is expected to continue through 2012.

[12] CSOC, identified by contract number NAS9-98100, is the prime contract for the consolidation and management of all of NASA's data collection, telemetry and communications operations supporting Earth-orbiting satellites, planetary exploration and human space flight activities. CSOC was awarded on September 30, 1998, under a cost plus award fee arrangement to Lockheed Martin Space Operations. The current contract has a basic value of $1.9 billion over a five year period of performance. Additional options totaling $1.54 billion may be exercised on the contract allowing for services to be extended through December 2008.

Engineering images related to shuttle liftoff and landing are provided entirely under the VITC contract. The gathering of other engineering images has been integrated into Kennedy's major support contracts. The majority of such images are being obtained under SFOC, Payload Ground Operations Contract (PGOC),[13] and the International Space Station (ISS) Contract.[14] Some of the image services being performed under the SFOC contract are in the process of being placed under CSOC. The imagery requirements being performed under the ISS and PGOC contracts will be placed under the Checkout, Assembly and Payload Processing Services Contract once it is awarded in 2002. Both of these shifts have been designed to further consolidate contract support of various functions, including image services.

Engineering images under these contracts may be obtained by safety or quality assurance personnel, by technical engineers coordinating image streams, or by professional photographers. Safety or quality assurance personnel obtaining images do so as a task incidental to the larger safety or quality assurance task they are performing. Technical engineers who do videography work as their primary task are technical experts trained in timing and video engineering functions. Professional photographers who obtain images do so for safety or quality assurance purposes and actually spend the majority of their time engaged in the computer processing and archiving of those images.

Wasteful duplication of Government resources occurs when photographers from more than one contract are on hand to take similar images of an engineering activity. Such incidents occurred most often when Johnson Controls employees are tasked to provide support to the PAO, while other photographers and/or videographers were tasked to support their contracts' engineering closeout activities. Such duplication is relatively infrequent, but we were able to confirm that it occurs from time to time.[15] Several people familiar with image services told us that some image-gathering could be consolidated to satisfy both PAO and engineering. This process should not be costly or difficult to implement because the major contracts that provide image services to Kennedy issue electronically generated work orders that could be readily coordinated.

---

[13] PGOC, identified by contract number NAS10-11400, is the prime contract for all support related to Space Shuttle payload ground operations. This cost plus award fee contract was awarded in January 1987 to McDonnell Douglas Corporation, a subsidiary of Boeing. This contract is currently valued at $1.9 billion and is being re-competed. The follow-on contract, entitled Checkout, Assembly and Payload Processing Services, is scheduled for award in April 2002.

[14] ISS, identified by contract number NAS15-10000, is the prime contract for the design, development, manufacture, integration, test, verification, and delivery to NASA of the U.S. on-orbit segment of the International Space Station. This cost plus award/incentive fee contract was awarded to Boeing Corporation in November 1993 and is currently valued at approximately $9.7 billion. This ten year contract is scheduled to be completed at the end of 2003.

[15] One VITC employee recalled nine instances during the nine-month period of June 2000 through March 2001 when there were two sets of photographers and/or videographers taking similar images of the same engineering activity. We were able to confirm through other sources that such incidents have occurred. No one we spoke with specifically tracked incidents in which multiple contractors were asked to provide support for the same activity.

Recommendation: The Kennedy Center Director should implement a tracking process to ensure that work orders and tasks for photographic and video products and services are managed in a manner that avoids unnecessary duplication and maximizes shared use.

II. IMAGE EQUIPMENT AT KENNEDY

NASA and its major contractors oversee a large amount of image equipment at Kennedy. Digital camera equipment, like computer equipment, can quickly become obsolete. Like the cost of computer equipment, the cost of image equipment (including the computer workstations used to process digital images) has decreased dramatically in recent years. In order to take advantage of the benefits afforded by enhanced technologies, Kennedy has made significant investments in image technologies. We were shown many sophisticated pieces of equipment used for capturing, processing, and delivering images. Most of this equipment is dedicated to the performance of specialized image functions.[16] We found that there is not a significant amount of duplicative sophisticated image equipment at Kennedy.

We did identify two areas related to property controls where NASA can make improvements. First, in some cases it was not clear who owns the property being used under a contract.[17] Some of the equipment has changed hands several times from contractor to contractor. It is not unusual for a piece of equipment to be have two or three inventory control tags reflecting different ownership. Other equipment pieces did not appear to have any tags. Contractors we spoke with were sometimes uncertain about who owns the equipment in their control. Second, some equipment being stored in contractor space appeared to be obsolete. Management of this equipment resides with the contractors. The OIG Audits organization is currently performing two audit activities related to NASA management of contractor-held property.[18] We have briefed the audit team on our findings and observations and so will make no recommendations on this topic.

SUMMARY AND EVALUATION OF NASA MANAGEMENT RESPONSE

NASA management concurred with our recommendation (See Appendix B), however NASA has not yet provided planned actions for implementing this recommendation. Revised

---

[16] For example, the equipment supporting television up-links is dedicated to this function.

[17] The majority of image equipment at Kennedy is under the control of contractors. Kennedy furnishes most of the equipment used under its contracts. However, in some cases, contractors furnish some of the equipment they use. In recent years, Government equipment has been transitioned to contractors, with the understanding that the equipment is in "as is" condition and that the contractor is required to provide replacements for the equipment as needed to perform their work.

[18] The Office of Audits is currently conducting two property audits of contracts at Kennedy. Audit A-00-007-01, *Property Control System Analysis Reporting on the Space Flight Operations Contract Subcontractors*, and audit A-00-007-03, *NASA Management of Contractor-Held Property*, are both in varying stages of the audit process.

procedures for minimizing duplication and maximizing shared use of images will in place by February 28, 2002. We consider this recommendation open pending verification of corrective action.

CONCLUSION

Multiple contractors at Kennedy are responsible for gathering images in support of the Center's mission. We found that NASA's approach to contracting for image gathering was appropriate and in keeping with current government contracting practices. Moreover, we did not find a need to consolidate image services under one contract. We recommended that NASA implement a tracking system to ensure that work orders and tasks for photographic and video products and services are placed in a manner to avoid unnecessary duplication and to maximize shared use. Further, although we found that there is a significant amount of government-furnished and contractor-provided image equipment at Kennedy, there is not a significant amount of duplicative high-end image equipment at the Center.

[original signed by]

David M. Cushing

4 Enclosures:
Appendix A: Chronology of Kennedy Image Service Reviews
Appendix B: NASA Management Response
Appendix C: Report Distribution
NASA Office of Inspector General Reader Survey

MAJOR CONTRIBUTORS TO THIS REPORT

Diane Frazier, Procurement Analyst (team leader)
Andrea Pawley, Management Analyst

Appendix A

Chronology of Image Service Reviews at Kennedy

Chronology of Image Service Reviews at Kennedy[19]

January 1968	GAO recommends that NASA and the Air Force consider consolidating photographic operations at the John F. Kennedy Space Center (Kennedy) and the Air Force Eastern Test Range (now the 45th Space Wing).
January 1969	Air Force awards a contract for consolidated photographic support at Kennedy and the Eastern Test Range.
Early 1983	Kennedy issues a request for proposal for the Shuttle processing contract. The contract requires the contractor to be responsible for operational and engineering still photography in support of Shuttle processing operations.
July 1983	Locals 666 and 780 of the International Alliance of Theatrical Stage Employees (IATSE) and Moving Picture Machine Operators file suit in Federal Court. The union alleges that NASA violated the Service Contract Act (41 U.S.C. 351 et seq.) by allowing still photography and film processing to be included in the Shuttle processing contract without submitting the positions of the still photographer and film processor to the Secretary of Labor for wage determination under section 4(c) of the Act. The purpose of the Act was to guarantee that successor contractors would not pay lower wage rates of the same work performed under prior Government contracts.
December 1983	The Federal District Court for the Northern District of Illinois, Eastern Division, rules that the union did not have standing to sue because it did not represent Shuttle processing contractor employees. The union files an appeal with the U.S. Court of Appeals, Seventh Circuit (Chicago).
March 1984	Photographic support contractor employees write Congressman Bill Nelson alleging that including the photographic requirements in the Shuttle processing contract was a waste of taxpayer money and was jeopardizing the employees' jobs and national security.
April 1984	Congressman Nelson asks Kennedy management to investigate the employees' complaints. Kennedy's April 17 response declines to discuss those aspects of the complaint dealing specifically with the Shuttle processing contract because of the pending litigation. However, the Center Director points out that the availability of simple-to-use photographic equipment has resulted in a gradual shift toward the use of such equipment by skilled operational personnel as an incidental part of their normal job. This resulted in productivity efficiency at minimal additional equipment cost, according to the Center Director.
December 1984	The Department of Labor notifies the Shuttle processing contractor that work previously performed by the photographic support contractor and incorporated into the Shuttle processing contract falls under section 4 (c) of the Service Contract Act. The Department instructs the contractor to notify the Department of its intentions to reimburse its employees for time actually spent performing these functions at the rates established in the photographic support contract. The wage determination is for a 1-year period only.

[19] This appendix is an updated version of Appendix I, which was included in GAO's 1992 report entitled, *Kennedy Space Center – Decision on Photographic Requirements Appears Justified*.

April 1985	The Court of Appeals, Seventh Circuit (Chicago) upholds the District Court's decision to dismiss the union's suit. In its decision, the Appeals Court notes that "the same work is not being performed by others at lower wage rates. NASA no longer requires the sophisticated photographic services that it needed during the Space Shuttle's development phase engineers, technicians, and inspectors now fulfill the limited photography services as an incidental part of their duties, using highly automated cameras that do not require special expertise. The former positions have been eliminated rather than reclassified as the union alleges."
November 1985	The U.S. Supreme Court refuses to hear a further appeal by the union.
December 1985	NASA's Office of the Inspector General reports on its review of photographic operations at Kennedy. The report concludes that photography costs incurred by the three mission contractors were more than offset by savings realized in the photographic support contract.
April 1992	GAO reviewed Kennedy's decision to include photographic requirements as part of its mission contracts, the cost of photography performed by these contractors, and the quality of the contractors' photographs. This review was performed at the request of Congressman Jim Bacchus in response to allegations of potentially wasteful duplication of photographic services at Kennedy. GAO determined that NASA's decision to transfer some photography work from the photographic support contractor to the shuttle processing, payload ground operations, and base operations contractors appeared justified.
February 2001 & May 2001	IATSE requested a GAO review of photo and video services at Kennedy and the Air Force 45th Space Wing. This request was sent to several members of Congress, the GAO, NASA and Air Force management and the NASA OIG.

Appendix B

NASA Management Response

National Aeronautics and
Space Administration

John F. Kennedy Space Center
Kennedy Space Center, FL 32899

DEC 1 0 2001

Reply to Attn of QA-D

TO: NASA Headquarters
Attn: W/Assistant Inspector General for Inspections, Administrative Investigations, and Assessments

FROM: AA/Director

SUBJECT: Draft Report on Assessment of Photographic and Video Services at KSC, G-01-027

Regarding your letter dated October 26, 2001, subject as above, KSC has considered the recommendation made in the draft report.

Our specific comments related to this matter are enclosed.

Roy D. Bridges, Jr.

Enclosure

cc:
KSC/OP/C. Pino
KSC/QA/S. Bartell
KSC/QA-D/J. Nary
KSC/QA-D/R. Tilley
KSC/TA/C. Fairey
KSC/TA-A/G. Perry
KSC/TA-B2-C/C. Brown
KSC/XA/J. Morgan
KSC/XA-E/L. Malone
KSC/XA-E1/B. Buckingham
HQ/M/J. Rothenberg
HQ/MX/G. Gabourel
HQ/W/KSC-OIG/D. Frazier
HQ/W/KSC-OIG/A. Pawley

RECOMMENDATION 1

The Kennedy Space Center Director should implement a tracking process to ensure that work orders and tasks for photographic and video products and services are managed in a manner that avoids unnecessary duplication and maximizes shared use.

KSC RESPONSE

The Communications Services Branch of Spaceport Services Directorate (TA-B2), has initiated action with the Public Communications Division of the External Relations and Business Development Directorate (XA-E), and representatives of the other KSC organizations who provide pertinent photographic acquisition support, to improve procedures for minimizing duplication of images, and maximizing shared use.

The revised procedures will be in place by February 28, 2002.

Appendix C

Report Distribution

Distribution

National Aeronautics and Space Administration (NASA) Officials:

A/Acting Administrator
AA/Chief of Staff and White House Liaison
AB/Associate Deputy Administrator for Institutions
AI/Associate Deputy Administrator
B/Acting Chief Financial Officer
B/Comptroller
G/General Counsel
H/Associate Administrator for Procurement
I/Associate Administrator for External Relations
J/Associate Administrator for Management Systems
JM/Director, Management Assessment Division
K/Associate Administrator for Small & Disadvantaged Business Utilization
L/Associate Administrator for Legislative Affairs
M/Associate Administrator for Space Flight
P/Associate Administrator for Public Affairs
Q/Associate Administrator for Safety & Mission Assurance
Program Manager, Financial Statement Audit Oversight, Training, and Policy/Marshall Space Flight Center

NASA Advisory Official:

Chairman, NASA Advisory Committee

Non-NASA Federal Organizations and Individuals:

Assistant to the President for Science and Technology Policy
Deputy Associate Director, Energy and Science Division, Office of Management and Budget
Budget Examiner, Energy Science Division, Office of Management and Budget
Comptroller General, General Accounting Office
Professional Assistant, Senate Subcommittee on Science, Technology, and Space

Chairman and Ranking Minority Member of each of the following Congressional Committees and Subcommittees:

Senate Committee on Appropriations
Senate Subcommittee on VA-HUD-Independent Agencies
Senate Committee on Commerce, Science and Transportation
Senate Subcommittee on Science, Technology and Space
Senate Committee on Governmental Affairs
House Committee on Appropriations
House Subcommittee on VA-HUD-Independent Agencies
House Committee on Government Reform and Oversight
House Subcommittee on National Security, International Affairs, and Criminal Justice
House Committee on Science
House Subcommittee on Space and Aeronautics

Congressional Members:

Honorable Bob Graham, U.S. Senate
Honorable Bill Nelson, U.S. Senate
Honorable Pete Sessions, U.S. House of Representatives
Honorable Peter Visclosky, U.S. House of Representatives
Honorable David Weldon, U.S. House of Representatives

Public Distribution:

NASA Office of Inspector General Internet Site:
http://www.hq.nasa.gov/office/oig/hq/inspections/closed.html