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# NASA'S LAUNCH SUPPORT AND INFRASTRUCTURE MODERNIZATION: COMMERCIAL SPACE LAUNCH ACTIVITIES AT KENNEDY SPACE CENTER

October 23, 2014

Report No. IG-15-003





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# RESULTS IN BRIEF

## NASA's Launch Support and Infrastructure Modernization: Commercial Space Launch Activities at Kennedy Space Center

October 23, 2014

IG-15-003 (A-13-020-01)

### WHY WE PERFORMED THIS AUDIT

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For more than 40 years, the Kennedy Space Center (Kennedy) has served as the launch site for NASA's most storied space exploration programs, including Apollo and the Space Shuttle. The largest of four Federal spaceports in the United States, Kennedy features two launch complexes, including Complex 39 with Launch Pads A and B. In anticipation of the Space Shuttle Program's retirement, Kennedy began to transition from a complex used solely for Government launches to a multiuser spaceport hosting both Government and commercial launches to reduce the cost of maintaining assets associated with the Shuttle Program for which NASA had no immediate need while encouraging development of the commercial space industry.

As part of this transition, Kennedy officials identified 23 underutilized assets suitable for lease to commercial partners ranging from launch pads to runways to Space Shuttle support buildings. In April 2014, Kennedy agreed to lease Launch Pad 39A to Space Exploration Technologies Corporation (SpaceX), one of two companies awarded a contract in September 2014 to develop commercial crew transportation services to the International Space Station and with whom NASA has a \$1.6 billion contract for cargo deliveries to the Station.

In this audit, we examined Kennedy's efforts to become a multiuser spaceport. Specifically, we assessed whether NASA has controls in place to enable full and open competition for underutilized Kennedy property and whether it effectively mitigated barriers that could inhibit private companies from operating at the site.

### WHAT WE FOUND

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We found Kennedy has made progress in its effort to become a multiuser spaceport with the Center having leased or in the process of leasing approximately half of the 23 underutilized assets. However, because NASA lacks clear guidance regarding soliciting and awarding lease agreements, Kennedy has not consistently provided interested parties with information regarding how Center officials would choose among prospective tenants. Provisions in the Federal Acquisition Regulation (FAR) designed to ensure fair and open competition when Federal agencies acquire goods and services do not apply when NASA makes underutilized assets available for lease. Although NASA guidance provides that lease agreements should be "competed as appropriate," it includes few specifics beyond this general admonition. Accordingly, Kennedy's solicitation process for leasing its underutilized assets has evolved over the years. For example, in a Notice of Availability concerning the Orbiter Processing Facility 3 in which NASA processed the Space Shuttles post-flight and the Parachute Processing Facility in which Shuttle parachutes were cleaned and repaired, Kennedy provided a general description of the properties but did not explain the criteria it would use to evaluate proposals. In contrast, a 2013 Announcement for Proposals concerning Launch Pad 39A included evaluation factors and more closely tracked the type of information typically found in a FAR-based solicitation.

We also found NASA clearly stated its evaluation criteria and provided reasonable justification for leasing Pad 39A to SpaceX, but that Kennedy's initial approach when soliciting interest in the facility and inconsistent communication with potential tenants engendered confusion. In our judgment, improved guidance on how and when to use competition for leasing coupled with improved communication with prospective tenants would help the process run more smoothly and lessen any perception of favoritism.

In addition, we found Kennedy faces growing competition from commercial spaceports operated by non-Federal entities. Indeed, in September 2012, Space Florida submitted to NASA a proposal on behalf of the state of Florida requesting transfer of approximately 150–200 acres of Kennedy property in the area generally known as Shiloh with the goal of creating a commercial spaceport at the Center's doorstep. NASA responded that while it supports Space Florida's efforts and would be willing to discuss making land available, the Shiloh property continues to serve the Agency's long-term mission requirements and therefore Kennedy does not consider it excess property available for transfer. Specifically, Kennedy officials contend the land serves as a buffer zone between NASA operations and local communities and is a potential site for future mission requirements. However, when we inquired about the issue Kennedy personnel were unable to provide any details as to the need for the buffer zone or information about specific future missions involving the property.

Commercial companies we spoke with identified four main constraints to operating at Kennedy: (1) possible conflicts between their operations and Federal missions, (2) the time consuming and bureaucratic nature of the Center's safety review process, (3) issues with getting personnel timely access to facilities, and (4) difficulty obtaining services such as specialized launch support equipment or technical consulting. Although Kennedy has taken steps to address these issues, company officials continue to express concern, noting that although these constraints have not yet deterred them from conducting business with Kennedy, this may change as the commercial space industry grows and additional non-Federal launch sites become available. Accordingly, the better Kennedy can position itself now as a commercial-friendly launch site, the more competitive it will be in the future.

## WHAT WE RECOMMENDED

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In order to ensure competition in the leasing process and address issues that may discourage commercial companies from leasing Kennedy property, we made three recommendations. In response to a draft of this report, NASA management concurred with our recommendations and described the corrective actions the Agency plans to take. We consider management's comments responsive; therefore, the recommendations are resolved and will be closed upon verification and completion of the proposed corrective actions.

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## Abbreviations

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FAA	Federal Aviation Administration
FAR	Federal Acquisition Regulation
GAO	Government Accountability Office
ISS	International Space Station
LEO	Low Earth Orbit
OPF	Orbiter Processing Facility
SLS	Space Launch System

# INTRODUCTION

For more than 40 years, Kennedy Space Center (Kennedy) has served as the launch site for NASA's most storied space programs, including Apollo and the Space Shuttle. With 140,000 acres of land along Florida's Atlantic coast – about 5 percent of which is developed – Kennedy is the largest of four Federal spaceports in the United States, and one of three on the East Coast.<sup>1</sup> The Center has two vertical launch pads – Pads A and B on Launch Complex 39 – suitable for launching the largest space vehicles.<sup>2</sup> These pads and other associated launch infrastructure lie within the secure 47,000-acre area of Kennedy accessible only to authorized personnel. Other facilities, including administrative offices, a laboratory, visitor complex, and a research and commerce park, sit on unsecured portions of the Center. In addition to extensive launch infrastructure, Kennedy offers a large buffer zone that provides separation from populated areas; restricted air space; proximity to surface, air, ocean, and space transportation infrastructure and academic institutions; and a highly skilled, technical workforce.

In this audit, we examined Kennedy's efforts to become a multiuser spaceport. Specifically, we assessed whether NASA has controls in place to enable full and open competition for underutilized Kennedy property and whether it effectively mitigated barriers that could inhibit private companies from operating at the site. See Appendix A for details of the audit's scope and methodology.

## Background

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In anticipation of the end of the Space Shuttle Program, Kennedy began to transition from a Government-exclusive launch complex to a multiuser spaceport hosting both Government and commercial launches. The intent was to reduce the cost to NASA of maintaining assets associated with the Space Shuttle Program for which the Agency had no immediate need while encouraging development of the commercial space industry. The latter goal is consistent with long-standing direction in the 1984 Commercial Space Launch Act that Federal agencies facilitate development of commercial launch activities as a means of enabling the United States to retain its competitive position internationally while contributing to the national interest and economic well-being of the country.<sup>3</sup>

## NASA's Options for Managing Underutilized Infrastructure

NASA has several options to address infrastructure the Agency identifies as underutilized, including retaining it in an active state, placing it in an inactive state, making it available for lease, reporting it to the General Services Administration for sale or transfer, or marking it for demolition. Because maintaining seldom-used assets in an active state can be costly, NASA policy encourages centers to keep the minimum number of facilities required to conduct Agency programs and meet national responsibilities.

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<sup>1</sup> The other three spaceports are Cape Canaveral Air Force Station in Florida, Vandenberg Air Force Base in California, and Wallops Flight Facility in Virginia.

<sup>2</sup> Kennedy has leased its medium-lift vertical launch complex – Complex 41 – to the U.S. Air Force through 2021.

<sup>3</sup> Re-codified at Title 51, U.S. Code Chapter 509, "Commercial Space Launch Activities" (2012).

With respect to leasing underutilized assets to other Government agencies or private parties, NASA has authority pursuant to the National Aeronautics and Space Act of 1958 (Space Act) to enter into “such . . . leases . . . or other transactions as may be necessary in the conduct of its work and on such terms as it may deem appropriate . . . .”<sup>4</sup> NASA refers to agreements under the Space Act’s “other transactions” authority as Space Act Agreements and to signatories on those agreements as partners. In most cases, NASA guidance and Federal law require Centers using Space Act Agreements to recoup the full cost of their participation in the agreement and return all revenues in excess of that amount to the U.S. Treasury.<sup>5</sup> Under the Commercial Space Launch Act, NASA has authority to charge users of Agency launch, reentry, and support facilities any direct costs associated with making the facilities available. Finally, NASA also has Enhanced Use Lease authority pursuant to which it may lease underutilized property for fair market value and retain the resulting income.<sup>6</sup> NASA chooses among these different types of agreements based on the type of activity proposed, identity of the partner, and applicable policy.

Over the past decade, the Government Accountability Office (GAO), Congressional Research Service, and other organizations have examined Federal agencies’ use of other transactions authority. In general, these entities have noted that because these types of agreements are not subject to the Federal Acquisition Regulation (FAR), they may offer fewer overall protections for the Agency and decreased accountability for taxpayer funds. In addition, Congress has expressed concerns about NASA’s use of Space Act Agreements, which the Agency utilizes to lease its property. For example, at a February 2013 hearing, members of the U.S. House of Representatives Committee on Science, Space, and Technology voiced concerns about NASA’s ability to ensure fair competition; increase public awareness; and prevent fraud, waste, and abuse when using Space Act Agreements.

## Applicability of FAR Guidance

Federal agencies typically rely on the FAR and supplementary agency guidance to ensure fair and open competition, maximize value for the taxpayer, and minimize risks when purchasing goods and services. Generally, FAR policies and procedures are considered best practices. For example, to promote fair and open competition the FAR outlines processes that help ensure interested parties are not precluded from consideration and that the evaluation criteria the agencies use to determine best value is clearly described in solicitation documents. However, the FAR does not apply to leases pursuant to which the agencies make assets available to third parties rather than purchasing goods or services for their own use.

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<sup>4</sup> National and Commercial Space Programs, 51 U.S. Code § 20113.

<sup>5</sup> Space Act Agreements can be reimbursable or nonreimbursable. In reimbursable agreements, the partner reimburses NASA’s costs associated with the agreement. NASA often enters into reimbursable agreements when it has equipment, facilities, or services it is not fully utilizing.

<sup>6</sup> 51 U.S. Code § 20145.

## Kennedy's Transition to a Multiuser Spaceport

As of September 2014, Kennedy had 23 underutilized launch-related facilities suitable for commercial use and has leased or is in the process of leasing 13 of these facilities, including Launch Pad 39A. In April 2014, Kennedy agreed to lease Launch Pad 39A to Space Exploration Technologies Corporation (SpaceX), one of two companies awarded a contract in September 2014 to develop commercial crew transportation services to the International Space Station (ISS or Station) and with whom NASA has a \$1.6 billion contract for cargo deliveries to the Station.<sup>7</sup> Kennedy awarded the lease to SpaceX following dismissal of a protest filed by Blue Origin LLC (Blue Origin), another interested company.

The 23 facilities the Center identified are:<sup>8</sup>

- *Emergency Generator Building and Storage Facility.* This facility was used for general warehousing and storage.
- *Hangar N.* This facility supported inspection and testing associated with the Space Shuttle Program. (See Figure 1.)

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**Figure 1: Hangar N**



Source: NASA.

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<sup>7</sup> In September 2014, NASA awarded firm-fixed-price contracts to The Boeing Company for \$4.2 billion, and to SpaceX for \$2.6 billion to transport crew to the ISS.

<sup>8</sup> Facilities with similar purposes are grouped together.

- *Hypergolic Maintenance Facility.* This multi-building facility includes storage of hazards materials such as hypergolic propellants and engineering control rooms.<sup>9</sup>
- *Launch Control Center.* Built for the Apollo Program (Apollo) and modified for the Space Shuttle Program, the Launch Control Center contains four control rooms, engineering support areas, and administrative offices.
- *Launch Pads 39A and 39B.* Constructed for Apollo and modified for the Space Shuttle Program, the launch pads are supported by fluid and gas systems, and lightning protection towers. (See Figure 2.)

**Figure 2: Space Shuttles Atlantis and Endeavour on Launch Pads 39A and 39B**



Source: NASA.

<sup>9</sup> Hypergolic propellants are toxic liquids that react spontaneously and violently when they contact each other. These fluids are used in many different rocket and aircraft systems for propulsion and hydraulic power including orbiting satellites, manned spacecraft, military aircraft, and deep space probes.

- *Mobile Launch Platforms 1, 2, and 3.* Constructed for Apollo and modified for the Space Shuttle Program, these platforms are used for vertical launch vehicle assembly and launch operations.
- *Mobile Launcher.* Constructed for the Constellation Program for assembly and launch operations of the now-defunct Ares I vehicle. (See Figure 3.)
- *Multi-Payload Processing Facility.* This facility contains three major structures: a main building with a high bay, communications room, and administrative offices; a low bay; and an equipment airlock and two control centers.
- *Orbiter Processing Facilities 1 and 2 (OPF-1 and OPF-2).* Constructed for processing the Space Shuttle orbiters, these facilities contain control rooms and high bays and are suitable for processing hazardous fluids and gases.
- *Orbiter Processing Facility 3 (OPF-3).* Like OPF-1 and 2, this facility was used to process Space Shuttle orbiters. It has the same facilities as the other two OPFs as well as an area for engine processing known as the Space Shuttle Main Engine Shop.
- *Parachute Processing Facility.* This facility was used to clean and repair the parachutes used in Space Shuttle missions.
- *Payload Hazardous Servicing Facility.* This facility has three main structures: the high bay, suitable for hazardous operations; a support building with control rooms; and a storage building.
- *Processing Control Center.* Constructed to support off-line testing operations for the Space Shuttle Program, the center is three stories tall and contains administrative space and rooms with raised flooring to support computer systems.
- *Rotation Processing and Surge Facility.* A three-building complex constructed to support the Space Shuttle Program. The main facility contains an overhead crane to rotate fueled solid rocket booster segments and two additional buildings for storage.
- *Shuttle Landing Facility.* A 15,000-foot concrete runway oriented to the southeast and northwest.

**Figure 3: Mobile Launcher**



Source: NASA.

- *Solid Rocket Booster Assembly and Refurbishment Facility.* Constructed to support the Space Shuttle Program, the facility contains high bays and control rooms to process unfueled solid rocket booster segments, as well as office space and a testing area.
- *Space Station Processing Facility.* Constructed to support the ISS Program, this facility contains high, intermediate, and low bays, as well as laboratory space. (See Figure 4.)

**Figure 4: Space Station Processing Facility**



Source: NASA.

- *Thermal Protection System Facility.* Space Shuttle tiles were manufactured and repaired in this facility.
- *Vehicle Assembly Building.* Constructed for Apollo and modified for the Space Shuttle Program, the 526-foot tall building contains four high bays and is approximately 129 million cubic feet by volume.

Kennedy formed the Center Planning and Development Directorate (Planning Directorate) in 2008 to coordinate efforts to transform the Center into a multiuser spaceport. The Planning Directorate leads the development of commercial-friendly policies and processes and coordinates solicitations, awards,

and drafting of agreements. Additionally, as the Center partners with commercial launch companies, the Federal Aviation Administration (FAA) will continue to perform their oversight of launch and reentry traffic through national airspace and designated space access corridors. Kennedy currently coordinates launch and airspace activities with the Air Force under a 1963 interagency agreement.

In September 2012, the state of Florida asked NASA to transfer 150–200 acres on Kennedy to the state for it to develop a commercial launch facility. Known as Shiloh, the site is located to the north of the Center and encompassed within the Merritt Island National Wildlife Refuge managed by the U.S. Fish and Wildlife Service. Figure 5 shows the location of the Shiloh property.

**Figure 5: Map of Proposed Shiloh Launch Site**



Source: Kennedy Space Center 2012-2032 Master Plan.

Note: NASA Office of Inspector General added location captions and the oval that indicates the approximate size of the proposed site.

# ADDITIONAL GUIDANCE COULD IMPROVE LEASE PROCESS AT KENNEDY

Kennedy's solicitation process to find tenants for its underutilized assets has evolved over the years, with the Center using three different vehicles to compete leasing opportunities. Although all three vehicles provided for some level of competition between prospective tenants, with each iteration Kennedy officials supplied more information regarding the process and the criteria they would use to make a selection. Nevertheless, Congress and a competing company – Blue Origin – expressed concern about Kennedy's decision to lease Launch Pad 39A to SpaceX. We found that NASA clearly stated its evaluation criteria and provided reasonable justification for selecting SpaceX for the lease, but the Agency's initial approach to soliciting interest in Launch Pad 39A and inconsistent communication with potential tenants engendered confusion. In our judgment, providing prospective tenants with evaluation criteria improves the transparency of the leasing process and lessens any perception of favoritism. Consequently, improving guidance on how and when to use competition for leasing would help the process run more smoothly.

## Solicitation Process Continues to Evolve

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Because the FAR does not apply, NASA has discretion when making underutilized assets available for lease. Although Agency guidance provides that lease agreements should be "competed as appropriate," it provides few specifics on how to conduct the process beyond this general admonition.<sup>10</sup> Accordingly, Kennedy's solicitation process has evolved over the past several years, with the Center using three different vehicles to "compete" various leasing opportunities:

- Notice of Availability listing over 20 assets in 2011;
- Requests for Information in February, July, and August 2012 regarding three assets; and
- Announcement for Proposals in May 2013 for Launch Pad 39A.<sup>11</sup>

However, Kennedy's solicitations have not consistently communicated to potential commercial partners how the Agency would determine which proposal offered the best value. Table 1 shows the types of solicitations Kennedy used to lease nine assets to commercial partners since 2011 and planned solicitations for four more assets.

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<sup>10</sup> NASA Procedural Requirements 8800.15B, "Real Estate Management Program," June 21, 2010.

<sup>11</sup> Kennedy also released a Request for Information in 2010 to assess interest in all assets that would be available after termination of the Space Shuttle Program. Although the document prompted informal discussions between Kennedy and potential partners regarding various assets, the Center made no awards under the solicitation.

**Table 1: Solicitations Used at Kennedy to Lease Underutilized Assets**

Solicitation Type	Underutilized Asset	Commercial Partner	Lease Agreement Authority
January 2011 Notice of Availability	Emergency Generator Building and Storage Facility	SpaceX	Commercial Space Launch Act
	OPF-3	Space Florida	Space Act
	Parachute Processing Facility	Ballistic Recovery	Enhanced Use Lease
	Processing Control Center	Space Florida	Space Act
	Space Station Processing Facility	Micro Aero Space Solutions	Space Act
February 2012 Request for Information	Hypergolic Maintenance Facility	United Paradyne	Enhanced Use Lease
July 2012 Request for Information	Hangar N	PaR Systems	Enhanced Use Lease
August 2012 Request for Information	Shuttle Landing Facility	Space Florida	To Be Determined
May 2013 Announcement for Proposals	Launch Pad 39A	SpaceX	Commercial Space Launch Act
Proposed 2014 Announcement for Proposals	Vehicle Assembly Building	To Be Determined	To Be Determined
Proposed 2014 Announcement for Proposals	Mobile Launch Platforms 1, 2, and 3	To Be Determined	To Be Determined

Source: NASA solicitations and lease agreements.

## Notice of Availability

In January 2011, Kennedy released a Notice of Availability regarding availability of over 20 facilities that once supported the Space Shuttle Program. The Notice of Availability did not describe the evaluation criteria Kennedy officials would use to decide among interested tenants. In an August 2012 report, we questioned whether the notice allowed Kennedy to award one of its orbiter processing facilities (OPF-3) to Space Florida based on the Center’s long-standing partnership with that entity rather than sound evaluation factors.<sup>12</sup> Kennedy officials told us that in deciding among potential tenants, their primary consideration was who would be ready to use the facility as soon as it became available. However, as we noted in our report, Space Florida’s proposed start date for the lease was about a year before NASA would vacate the entire facility. Therefore, other parties may have been ready to utilize the property by the time it was fully available. We concluded that had Kennedy outlined evaluation factors in its solicitation, including its proposed schedule, the award process would have been more transparent and the appearance of favoritism reduced.<sup>13</sup>

<sup>12</sup> Space Florida is the state of Florida’s aerospace economic development agency.

<sup>13</sup> NASA Office of Inspector General, “NASA’s Infrastructure and Facilities: An Assessment of the Agency’s Real Property Leasing Practices” (IG-12-020, August 9, 2012).

## Requests for Information

In 2012, Kennedy advertised the availability of the Hypergolic Maintenance Facility, Hangar N, and Shuttle Landing Facility in a series of Requests for Information. Kennedy attempted to provide potential bidders with more insight into how the Center would evaluate proposals by describing the broad objective for the leases in these documents. However, Kennedy officials said when advertising the Shuttle Landing Facility they realized the stated objective – “to identify industry interest to operate and maintain the Facility through a long-term agreement that would allow NASA continued access to the facility [for other customers]” – was too broad to allow them to meaningfully discriminate between the final two proposals. Accordingly, Kennedy established additional, more specific evaluation criteria after the Request for Information was released. Specifically, they developed lease terms and conditions (e.g., bidders’ ability to honor existing agreements, scheduling practices, and naming rights) to help evaluate the proposals; however, the goal of promoting space launch activities was not included as an evaluation criterion.

## Announcement for Proposals

In May 2013, Kennedy released the Announcement for Proposals regarding Launch Pad 39A. Unlike the earlier solicitations, this document clearly stated the grounds on which Center officials would evaluate responding proposals. According to the FAR, a solicitation for bids describes the Government’s requirements, anticipated terms and conditions, information required to be in proposals, and evaluation factors.<sup>14</sup> The Announcement for Proposals contained all of these elements. For example, the announcement stated that NASA required a proposal that would maximize use of Launch Pad 39A and described its evaluation factors as financial stability, experience, and extent to which the proposal promoted commercial space launch activities. While the Announcement for Proposals led to some confusion about whether the Agency preferred a tenant that would operate Launch Pad 39A exclusively for its own use or as a multiuser facility, it nevertheless clearly described the evaluation factors and how Kennedy officials would determine the best proposal. Kennedy officials told us they plan to model future solicitations for other assets, including the Vehicle Assembly Building and Mobile Launch Platforms, on the Launch Pad 39A Announcement.

## Events that Preceded May 2013 Announcement for Proposals Demonstrate Need for Transparent Solicitation Process

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While we found that NASA clearly stated its evaluation criteria and provided reasonable justification for selecting SpaceX for the lease of Launch Pad 39A, we also found Kennedy’s approach to soliciting interest and inconsistent communication with potential tenants engendered confusion. Furthermore, inconsistent communication about the terms and conditions acceptable to NASA played a role in Blue Origin’s decision to protest Kennedy’s approach for evaluating proposals.

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<sup>14</sup> FAR Subpart 15.203(a).

In 2010, Kennedy released a Request for Information to assess interest in all assets that would be available after termination of the Space Shuttle Program. Thereafter, Alliant Techsystems, Blue Origin, Orbital Sciences Corporation (Orbital), Sierra Nevada, SpaceX, and United Launch Alliance expressed interest in Launch Pad 39A, and by 2011 Kennedy had initiated informal discussions with the companies concerning the Pad. At the time, the discussions were based on the premise that the companies would use the Pad on a per-launch basis. Following these discussions, SpaceX and United Launch Alliance requested additional information from Kennedy about Launch Pad 39A, and in 2011, Kennedy provided each company with a high-level Concept of Operations study outlining possible ways in which they could use the facility.<sup>15</sup> Alliant Techsystems made and the Center responded to a similar request in 2012. Blue Origin and Sierra Nevada did not request or receive similar studies, and Blue Origin officials told us they did not make a request because they did not plan to launch a vehicle for at least 7 years.

In early 2013, NASA decided it needed to award a lease for Launch Pad 39A by the end of that fiscal year when operation and maintenance funds for the Pad would expire. Accordingly, Kennedy officials evaluated the ability of the six companies that had expressed interest in the Pad and made a preliminary decision in April to lease the Pad to SpaceX. However, concerned that the Kennedy process had not provided an adequate level of competition and that some of the underlying assumptions for potential operational plans had changed, NASA Headquarters instructed the Center to hold a more formal award process, which resulted in release of the Announcement for Proposals. Only Blue Origin and SpaceX submitted proposals in response to the Announcement.

## **Inconsistent Communication with Potential Commercial Partners**

We found Kennedy officials did not adequately communicate changes to the terms and conditions pursuant to which it would consider leasing Launch Pad 39A to all potential partners. In 2011, Kennedy officials internally discussed leasing the Pad on a per-launch basis so that the Agency could retain access to it for the Space Launch System (SLS) Program.<sup>16</sup> Kennedy officials referred to this arrangement as a multiuse concept of operations. About a year later, Kennedy decided that the lease would be for a multiuse operation and a term of 5 years. In early 2013, Kennedy extended the lease term up to 20 years and, because it no longer planned to use Launch Pad 39A for the SLS Program, the Center would also consider proposals outlining an exclusive-use concept of operations.

Although Kennedy officials stated that they never formally communicated potential lease terms to interested commercial companies, we found that they had informal discussions with some of the interested companies about Launch Pad 39A. SpaceX officials told us they learned about the potential for a longer lease and exclusive use in early 2013. However, Blue Origin representatives stated they did not learn about the potential for a 20-year term and exclusive-use concept of operations until April 2013 while they were touring the Center and examining the Pad. From Blue Origin's perspective, not learning this information until April placed the company at a competitive disadvantage because it had less time to develop a responsive proposal.

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<sup>15</sup> A Concept of Operations is a document that describes characteristics of a proposed system from a user's perspective as well as the user's organization, mission, and objectives. Such a document is also used to communicate overall quantitative and qualitative system characteristics to stakeholders.

<sup>16</sup> NASA's SLS is a launch vehicle that will carry the Agency's Orion Multi-Purpose Crew Vehicle, crew, and cargo to deep space.

In addition, Blue Origin stated that Kennedy did not provide the company with information similar to the Concept of Operations study provided to SpaceX in 2011. Blue Origin representatives contend this placed the company at a further disadvantage because it had less information than SpaceX on which to develop a proposal. Kennedy officials responded that they mitigated any advantage the 2011 study may have given SpaceX by providing all the information necessary to develop a proposal in the May 2013 Announcement for Proposals, including a map and list of Launch Pad 39A's facilities and systems, a list of adjacent supporting facilities and NASA-maintained systems, and an outline of lease terms. In addition, the proposal process included a 2-week question and answer period during which companies could seek clarification on the Announcement. According to Kennedy officials, Center lawyers advised them not to share the 2011 SpaceX study with Blue Origin because the amount of effort needed to identify and segregate propriety information in the study outweighed the value of doing so given that all essential information had been provided in the Announcement for Proposals.

The source selection authority for the Launch Pad 39A award identified two weaknesses in Blue Origin's proposal – a lack of firm commitments from the companies Blue Origin identified in its proposed launch manifest and insufficient identification of the architecture and requirements those companies would need to share Launch Pad 39A. We reviewed the SpaceX 2011 Concept of Operations study and found no information likely to have helped Blue Origin address these weaknesses. Specifically, the study contained no information that described how a commercial partner would develop and manage a launch pad for multiple commercial partners. Rather, the study provided a high-level description of how SpaceX could use Launch Pad 39A. Moreover, most of the information in the study was available to Blue Origin in other documents Kennedy released in connection with the Announcement for Proposals.

## **Protest and Award**

Blue Origin filed a protest with GAO in September 2013 concerning the application of evaluation factors for Launch Pad 39A prior to NASA announcing it had chosen SpaceX as the tenant. GAO denied the protest in December 2013, finding that NASA's interpretation of the evaluation factors was reasonable and showed no preference between multiuse and exclusive use of the Pad.<sup>17</sup> In April 2014, SpaceX and NASA signed a 20-year lease for the Pad. In examining NASA's decision, we determined that Kennedy's award to SpaceX was reasonable and consistent with the Agency's stated goal in the Announcement for Proposals to promote commercial space launch activity at the Center as quickly as possible. Specifically, SpaceX had a confirmed manifest and history of successful launches, whereas Blue Origin did not expect its first launch until after 2017. In addition, Blue Origin was unable to support its proposed launch manifest with firm commitments from other companies.

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<sup>17</sup> Blue Origin, B-408823, December 12, 2013.

## Guidance on the Use of Competition to Lease Underutilized Assets is Inadequate

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In our 2012 report, we noted NASA guidance did not explain when it is appropriate to compete lease opportunities and how any such competition should be conducted. Specifically, we found a variety of internal control weaknesses that hindered NASA's ability to ensure real property leases provided the best value to the Government and were fair to all potentially interested parties. These internal control weaknesses, including a lack of training, guidance, and documentation, resulted in uncertainty by Center personnel about how and when to use competition related to leasing. Consequently, we recommended NASA develop guidance to improve marketing opportunities to non-Federal entities and ensure the widest possible publication of leasing opportunities and competition when appropriate. The Agency partially concurred with our recommendations, agreeing that it could strengthen existing policy.<sup>18</sup> Although NASA is updating its training, guidance, and documentation, the recommendations remain open as of October 2014. In our judgment, improved guidance could have helped the Launch Pad 39A lease process proceed more smoothly.

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<sup>18</sup> NASA Office of Inspector General, "NASA's Infrastructure and Facilities: An Assessment of the Agency's Real Property Leasing Practices" (IG-12-020, August 9, 2012).

# CONSTRAINTS INHERENT TO OPERATING ON FEDERAL FACILITIES MAY AFFECT KENNEDY'S ABILITY TO CONTINUE TO ATTRACT COMMERCIAL PARTNERS AS NON-FEDERAL LAUNCH SITES ARE ESTABLISHED

Commercial companies we spoke with described four main constraints to operating at a Federal facility such as Kennedy: (1) possible conflicts between their operations and Federal missions, (2) the time consuming and bureaucratic nature of the Center's safety review process, (3) obtaining timely access to facilities for company personnel, and (4) difficulty obtaining services. While Kennedy has taken steps to address each of these issues, company officials continue to express concern, noting that although these issues have not deterred them from conducting business with the Center to date, this may change as the commercial space industry grows and additional non-Federal launch sites without these constraints become available.

## Constraints Commercial Companies Face When Using Facilities and Services at Kennedy

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We spoke with representatives from seven current and developing commercial launch and support providers – Alliant Techsystems, Blue Origin, Sierra Nevada, Space Florida, SpaceX, United Launch Alliance, and United Paradyne – about their interest in and experiences using Kennedy facilities. Many of the four main constraints described below mirrored weaknesses Kennedy officials identified as part of a self-review process in May 2012.

### Conflicts with Federal Mission Requirements

NASA policy requires inclusion of a "Priority of Use" clause in most agreements with commercial partners. This clause gives priority to NASA operations over commercial activities and allows the Agency to determine which company has priority when conflicts arise between two commercial partners. Representatives from five of the seven entities we interviewed noted the clause reduces partners' control over their activities and increases the risk operations will be delayed, which can negatively affect profits and overall competitiveness in the market. Moreover, they said their companies are under market pressure to conduct timely and cost-efficient operations and that if launch sites where they have more control over schedules become available, they may prefer those sites to Kennedy.

For example, the Blue Origin representative explained his company entered into an agreement with NASA in 2011 to use certain equipment at Stennis Space Center (Stennis) to perform engine tests. At the time it entered into the agreement, Blue Origin was aware that Orbital had an active NASA contract and would be performing tests in close proximity to Blue Origin's operations. Although NASA initially approved both companies' test plans, Stennis officials later identified a safety concern with simultaneous testing. In April 2012, immediately before Blue Origin was to begin testing, NASA gave priority to Orbital because its testing supported an active NASA contract. The Blue Origin representative estimated NASA's decision delayed the company's testing by approximately 6 months.

Kennedy personnel said they are aware of the companies' concerns and are working with the Air Force's Eastern Range (which schedules launches) and commercial partners to ensure all launches can be accommodated. Kennedy personnel stated that because of their efforts it is unlikely that conflicts like the one that occurred at Stennis would occur at the Center. However, as noted in Kennedy's own review, national mission requirements can be unpredictable. In addition, given the increasing number of commercial and military launches at Kennedy and the adjoining Air Force facility at Cape Canaveral, we believe the possibility of schedule conflicts remains a concern.

## **Kennedy's Safety Review Process**

The company representatives we spoke with described Kennedy's safety review process as lengthy (as much as 23 months) and inefficient. To conduct operations at Kennedy, partners were required to submit and gain Center approval of a Concept of Operations plan identifying anticipated hazards and the controls in place to mitigate them.<sup>19</sup> Partners were also required to obtain approval from the Center's Safety and Mission Assurance Directorate before making any changes to their plans. Kennedy safety personnel told us the Center required this because it is responsible for the safety of the Federal employees, contractor personnel, and other partners on Center.

Kennedy officials acknowledged the Center's safety review process could be improved and have started to streamline the requirements they impose on commercial companies. For example, beginning in June 2012, Kennedy personnel created three different levels of requirements with varying degrees of difficulty based on the nature of the relationship between the operating entity and NASA in an attempt to alleviate some of the requirements placed on partners operating Center facilities for their exclusive use.<sup>20</sup> However, even with this revision, all of the commercial partners we spoke with expressed concerns about the timeliness of the Center's reviews. Partners also told us that having to obtain Center approval for every operational change impedes their ability to modify operations quickly to adjust to market forces. After we brought this to the attention of Center officials, Kennedy's Safety and Mission Assurance Directorate revised its policies to allow partners to implement changes to operations prior to obtaining an official approval of their Concept of Operations plans.

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<sup>19</sup> In addition to the Concept of Operations plan, commercial partners also must satisfy safety requirements related to ground-based pressure vessels and pressurized systems; flight hardware pressure vessels; explosives, propellants, and pyrotechnics; and lifting devices and equipment.

<sup>20</sup> The nature of the relationships are civil servants and NASA contractors, partner organizations operating joint-use facilities, and partner organizations operating exclusive-use facilities.

## Gaining Access to Federal Facilities for Commercial Personnel

To comply with common identification standards, Kennedy requires most individuals seeking access to the Center to complete an identity verification process and receive a badge.<sup>21</sup> Individuals are required to produce two acceptable forms of identification and other personal data to verify their identity. In addition, foreign nationals undergo a background investigation that takes at least 14 days to complete. Kennedy has taken steps to minimize the burden this process places on commercial partners. For example, in 2012 the Center moved a security fence line so the Space Life Science Lab and Exploration Park are now located outside the Center's secured area. This adjustment eliminated the need for personnel entering these buildings to obtain a badge from the Center. However, all the 23 remaining assets available to commercial entities are within secured areas of the Center.

Commercial partners that have been long-term tenants in these areas noted that gaining access for a U.S. citizen or permanent resident can take up to 3 days because the process requires visitors to have two forms of identification, which some people do not readily have. According to the partners, this can cause problems when they need to bring an individual on Center unexpectedly, for example to complete an unanticipated repair. However, when necessary, Kennedy can issue, in less than an hour, a temporary badge with only one form of identification that requires an escort.

Commercial partners also told us that it can take up to 2-3 months for foreign nationals to be granted access to the Center. In addition, partners indicated that some of their customers are foreign companies and that they often need to bring foreign nationals on Center. According to the commercial partners, the extra time it takes for their personnel to gain access reduces efficiency and increases costs. Kennedy security officials acknowledged that the process for foreign national access is time consuming. However, they explained that they must comply with the requirements that were developed to implement Homeland Security Presidential Directive 12. As such, they said that it would be difficult to reduce the time it takes to complete the process.

Furthermore, in addition to Kennedy's badging and identity verification process, the commercial partners must comply with FAA rules relating to access to launch complexes and landing facilities. Consequently, expenses associated with meeting Kennedy's security requirements are in addition to the money partners must spend to comply with FAA requirements.

## Obtaining Center Services

Kennedy has a variety of equipment, personnel, and contractors through which it can provide services and has made some of these services available to commercial companies doing business on the Center. However, commercial partners told us that acquiring services from the Center is often more time consuming than it would be to acquire services on the commercial market.<sup>22</sup> Commonly requested services include:

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<sup>21</sup> "Homeland Security Presidential Directive 12: Policy for a Common Identification Standard for Federal Employees and Contractors," August 2004, implements a Government-wide standard for secure and reliable forms of identification issued by the Federal Government to its employees and contractors. Kennedy does not require badges for visitors taking bus tours of the Center.

<sup>22</sup> Unless otherwise specified by law, such as charging direct costs under authority of the Commercial Space Launch Act, it is NASA's policy to not compete with the private sector when providing services to non-Federal entities that are available on the commercial market.

- *Consulting*: engineering support, service technicians, and technical training.
- *Consumables*: utilities, liquid oxygen, and liquid hydrogen.
- *Disposal*: trash pickup and hazardous material removal.
- *Mechanical*: specialized equipment, cranes, and lifts.

Acquiring services from Kennedy requires a company to have an umbrella agreement and to execute individual task orders for each service request.<sup>23</sup> According to commercial partners, the task order process generally takes at least 2 weeks per request. Moreover, although the price for some services, such as utilities, can be easily determined, many other services are difficult to price. For example, one commercial partner expressed interest in using Center equipment to move large items, requiring Kennedy officials to undertake a lengthy process to determine the appropriate price to charge.

During our audit, Kennedy officials made changes to how commercial partners procure Center services by developing a pricing list for commonly used services and the number of approvals required. In addition, on a trial basis, Kennedy is allowing some commercial partners to directly contract with Center service providers. Although it is too early to determine the impact of these changes, Kennedy officials expect they will shorten the time and expense associated with the process.

## Kennedy Faces Growing Competition for Commercial Launches

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In the past, the United States dominated the global market for commercial satellite launches; however, lower costs and better schedule reliability of foreign competitors – particularly Russian and European launch providers – have eroded that dominance over the past 20 years. Nevertheless, Kennedy has several advantages that could attract launch business back to the United States. First, Federal launch sites like Kennedy generally do not require the FAA site operator’s launch license for private commercial launch operations. Second, Kennedy is capable of launching medium or heavy vertical lift vehicles.<sup>24</sup> Finally, because the launch infrastructure already exists, commercial partners do not have to absorb the costs or time required to build a launch site.

At the same time, a growing number of domestic commercial spaceports are seeking licenses from the FAA, including one at Kennedy’s doorstep. In September 2012, Space Florida submitted to NASA an unsolicited proposal on behalf of the state of Florida requesting transfer of approximately 150–200 acres of Kennedy property in the area generally known as Shiloh. As proposed, the Shiloh Launch Complex would be located to the north of the Center, straddling Brevard and Volusia Counties, in an area of the Center encompassed within the Merritt Island National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service.

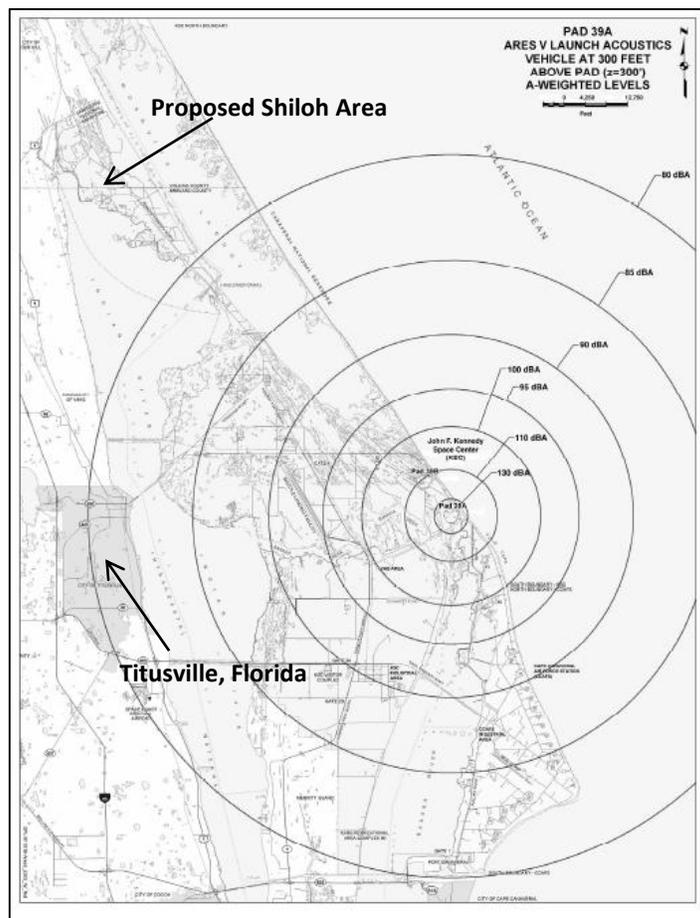
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<sup>23</sup> NASA uses umbrella agreements to provide a mechanism for parties to agree to a series of related or phased activities using a single instrument that contains all common terms and condition and establishes the governing legal framework. Task orders provide details about individual tasks to be completed under the agreements.

<sup>24</sup> A small-lift launch vehicle is capable of lifting up to 2 metric tons of payload into low Earth orbit (LEO). A medium-lift launch vehicle is capable of lifting between 2 and 20 metric tons of payload into LEO. A heavy-lift launch vehicle is capable of lifting between 20 and 50 metric tons of payload into LEO. A super-heavy lift vehicle is capable of lifting more than 50 metric tons of payload into LEO.

NASA responded to the request by stating that while it supports Space Florida’s efforts and would be willing to discuss making land available for the proposed spaceport, the Shiloh property continues to serve the Agency’s long-term mission requirements, and therefore NASA does not consider it excess property available for transfer.<sup>25</sup> Kennedy officials contend the land serves as a buffer zone between NASA operations and local communities and is a potential site for future mission requirements. However, when we inquired about the issue, Kennedy personnel were unable to provide any details as to the need for the buffer zone or information about specific future missions involving the property. Moreover, as shown in Figure 6, the Shiloh property is farther away from the existing community of Titusville than Kennedy’s existing launch pads.

**Figure 6: Distance Comparison from Launch Pad 39A to the Proposed Shiloh Area and Titusville, Florida**



Source: NASA’s Final Constellation Programmatic Environmental Impact Statement, January 2008, “Weighted Maximum Sound Pressure Level Contours for an Ares V Launch.” NASA Office of Inspector General added the location captions.

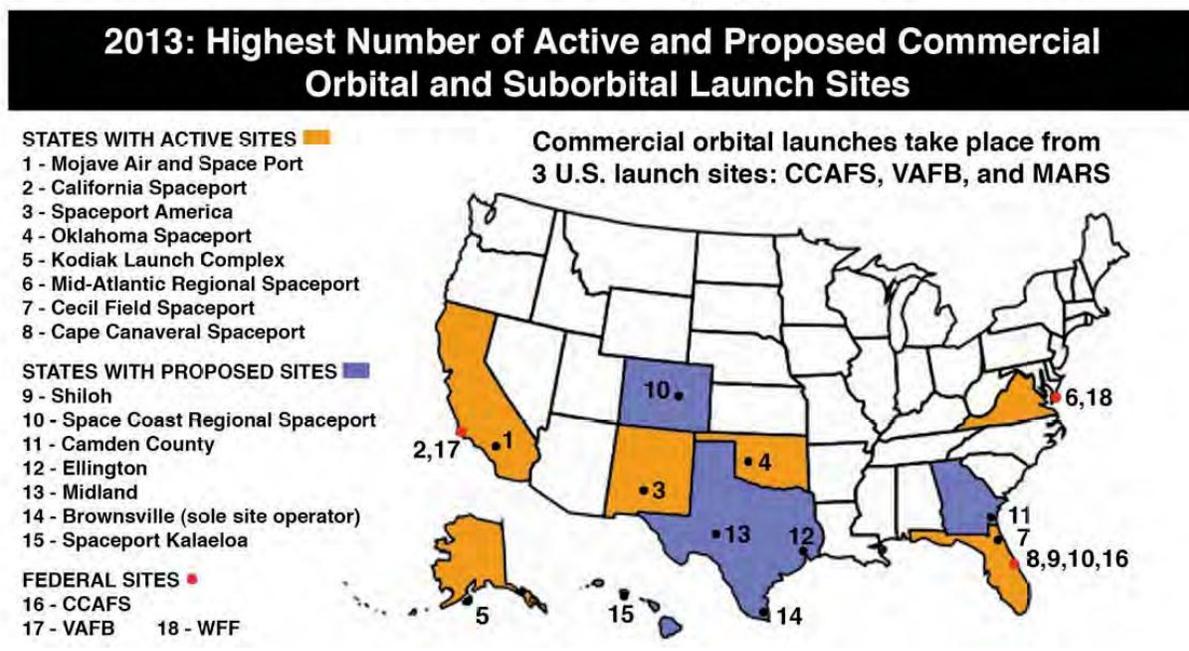
Note: This figure depicts the estimated weighted maximum noise levels generated from the Ares V launch vehicle. Although NASA is in the process of completing a new environmental impact statement for the SLS, for the time being NASA has adopted the Constellation Programmatic Environmental Impact Statement, January 2008, because the proposed SLS vehicle and Ares V launch vehicle have similar characteristics.

<sup>25</sup> Kennedy personnel have identified other possible locations for privately operated launch sites next to Launch Pads 39A and 39B; however, these sites would be subject to many of the constraints of operating on a Federal facility.

Notwithstanding NASA’s position, the Kennedy Center Director agreed to allow the FAA to conduct an environmental review, and in December 2013 the FAA initiated an examination of the potential environmental impacts of Space Florida’s proposed operations in the Shiloh area. As of August 2014, the Fish and Wildlife Service had identified multiple issues, including potential adverse effects on wildlife, habitat, wetlands, fishery resources, cultural resources, recreational use, and operations at the Merritt Island National Wildlife Refuge.<sup>26</sup>

In addition to Space Florida’s efforts, in August 2014 SpaceX announced plans to build a new commercial vertical launch site in Brownsville, Texas, and as shown in Figure 7, several other sites are under consideration, many of which will compete directly with Kennedy for commercial launches.<sup>27</sup>

**Figure 7: Current and Proposed U.S. Launch Sites**



Source: FAA’s “Annual Compendium of Commercial Space Transportation: 2013,” February 2014.

Notes: Although not indicated on the map legend, the location numbered 10 in the state of Colorado refers to a proposed launch site just to the east of Denver and is known as Front Range Spaceport.

CCAFS refers to Cape Canaveral Air Force Station, VAFB refers to Vandenberg Air Force Base, MARS refers to MidAtlantic Regional Spaceport, and WFF refers to Wallops Flight Facility.

<sup>26</sup> In addition to possible environmental issues, any transfer to the state of Florida would have to proceed through the General Services Administration property disposal procedures. Pursuant to these procedures, other Federal entities, including the U.S. Air Force and the Fish and Wildlife Service, would likely have an opportunity to claim the land before it could be made available to the State.

<sup>27</sup> News reports have indicated that Puerto Rico may also be considering building a commercial launch site.

In transitioning from a Government launch complex to a multiuser spaceport, Kennedy has modified its operations in an attempt to become more business friendly. However, cultural, policy, and legislative barriers limit the amount of change possible. For example, NASA appears to be treating commercial launch service partners similarly to the way it has historically managed contractors requiring them to comply with NASA's administrative and operational requirements in addition to the partners' own procedures. However, when NASA imposes additional operational requirements on a contractor, the Agency pays for the associated costs. In contrast, when NASA requires commercial partners to comply with the requirements, the partners pay the additional compliance costs.

The commercial companies we spoke with noted that while the issues discussed previously can result in operational delays and increased costs, given the current lack of alternatives, they have not been discouraged from leasing Kennedy's underutilized assets. However, as the number of domestic launch sites increases, Kennedy will be competing with other non-Federal launch sites that may operate without many of these constraints. The better Kennedy can position itself now as a commercial-friendly launch site, the more competitive it will be in the future.

# CONCLUSION

Kennedy is in the midst of transforming from an exclusively Government launch complex to a multiuser spaceport supporting a broader range of activities and commercial and Government customers. As part of this transformation, the Center is making underutilized assets available to commercial companies and other Government entities and as of September 2014 has leased or is in the process of leasing about half of these 23 assets. As it moves forward in its transformation, we are encouraged that Kennedy has moved toward a more open and informative leasing process and taken steps to address barriers that inhibit private companies' interest in conducting business on the Center. However, the market for launch sites will become more competitive as the number of domestic launch sites increases. Accordingly, to attract commercial tenants, Kennedy will need to continue revising its management and business processes to reduce obstacles inherent in doing business with the Federal Government.

# RECOMMENDATIONS, MANAGEMENT'S RESPONSE, AND OUR EVALUATION

In order to promote full and open competition for NASA leasing opportunities and incorporate lessons learned, we recommended the Associate Administrator for Mission Support:

1. Develop additional guidance specifying the circumstances under which competition is appropriate when leasing NASA's assets to commercial partners and clarifying the procedures that should be used in such competitions, including providing a clear statement of evaluation factors in the solicitation.
2. Institute a robust communication strategy that ensures all potential commercial partners remain aware of changes to lease terms and conditions that may affect the development of proposals.

In order to better facilitate commercial activities at Kennedy, we recommended the Associate Administrator for Mission Support:

3. Examine ways to amend policies and practices that govern commercial space activities with the goal of reducing the costs and burdens on commercial partners interested in conducting business at Kennedy while ensuring the appropriate level of safety and security.

We provided a draft of this report to NASA management for review and comment, and they concurred with our recommendations and described the corrective action they plan to take. We consider management's planned action responsive to our recommendations. Accordingly, the recommendations are resolved and will be closed upon verification and completion of the proposed actions. Management's full response to our report is reproduced in Appendix B.

Major contributors to this report include Ridge Bowman, Space Operations Director; G. Paul Johnson, Project Manager; Troy Zigler, Team Lead; and Rebecca Wilson, Management Analyst.

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



Paul K. Martin  
Inspector General

## APPENDIX A: SCOPE AND METHODOLOGY

We performed this review from August 2013 through September 2014 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.

To determine the extent to which Kennedy has effective controls in place to ensure that the process to transfer or share facilities is fair and open, we reviewed Agency policies and guidance related to the solicitations and the evaluation of proposals for property lease agreements. We identified 23 underutilized assets at Kennedy based on Planning and Ground Systems Development assessments. We also reviewed solicitation documents since 2010 when the Space Shuttle Program was scheduled for termination. Solicitation documentation included announcements, award justifications, protests, and signed agreements as available. We chose to primarily focus on the May 2013 solicitation for Launch Pad 39A because of its high-profile image and use of the Announcement for Proposals process, which Kennedy plans to continue to use for the remaining assets. We also reviewed Concept of Operations studies that Kennedy provided to commercial companies under a 2010 Request for Information. Additionally, we interviewed staff from NASA Office of the General Counsel, Office of the Financial Officer, and Integrated Asset Management Division. At Kennedy, we spoke with Planning Directorate officials and Chief Counsel.

To examine how NASA mitigates barriers when partnering with commercial entities to use services or property at Kennedy, we selected and interviewed seven commercial companies – Alliant Techsystems, Blue Origin, Sierra Nevada, Space Florida, SpaceX, United Launch Alliance, and United Paradyne. We also spoke with Kennedy’s Director, Planning Directorate, Security Office, and Management personnel. Outside of commercial companies and Kennedy, we spoke with Stennis and the FAA. We reviewed Agency guidance related to access, Agency oversight, and safety procedures. To determine whether NASA has effectively implemented congressional direction and Agency goals to support commercial launch activities, we reviewed national and Agency goals to support commercial space activities, the 2014 Kennedy Master Plan, documentation supporting a buffer zone, Florida’s request for land (Shiloh), and NASA’s response to the request. We interviewed NASA General Counsel and Infrastructure Directorate; Kennedy’s Planning Directorate, Security, and Safety; General Services Administration; U.S. Fish and Wildlife Service; and Space Florida (representative for the state of Florida) personnel.

### Use of Computer-Processed Data

We did not use computer-processed data to perform this audit.

## Review of Internal Controls

We reviewed NASA policies and procedures related to leasing assets to determine NASA's internal controls for ensuring that leases were competed in a fair and open process and that NASA was supporting Government goals. We found that Agency policy does not provide adequate guidance on when and how to compete lease agreements for underutilized assets. Specific internal controls reviewed include:

- NASA Policy Directive 1050.11, "Authority to Enter into Space Act Agreements," December 23, 2008.
- NASA Procedural Requirements 8800.15B, "Real Estate Management Program," June 21, 2010.
- NASA Procedural Requirements 9090.1A, "Reimbursable Agreements," February 25, 2013.
- Space Act Agreements Guide, NASA Advisory Implementing Instruction, NAI 1050-1C, February 25, 2013.

## Prior Coverage

During the last 5 years, the NASA Office of Inspector General has issued two reports and GAO has issued two reports, listed below, related to leasing federal underutilized assets to commercial partners. Unrestricted reports can be accessed at <http://oig.nasa.gov/audits/reports/FY15> and <http://www.gao.gov>, respectively.

### *NASA Office of Inspector General*

*NASA's Infrastructure and Facilities: An Assessment of the Agency's Real Property Leasing Practices* (IG-12-020, August 9, 2012)

*NASA's Use of Space Act Agreements* (IG-14-020, June 5, 2014)

### *Government Accountability Office*

*Federal Real Property: Progress Made on Planning and Data, but Unneeded Owned and Leased Facilities Remain* (GAO-11-520T, April 6, 2011)

*Federal Real Property: The Government Faces Challenges to Disposing of Unneeded Buildings* (GAO-11-370T, February 10, 2011)

# APPENDIX B: MANAGEMENT COMMENTS

National Aeronautics and Space Administration  
 Headquarters  
 Washington, DC 20546-0001



OCT 22 2014

Reply to Attn of: Mission Support Directorate

TO: Assistant Inspector General for Audits

FROM: Associate Administrator for Mission Support Directorate

SUBJECT: Response to OIG Draft Audit Report, "NASA's Launch Support and Infrastructure Modernization: Commercial Space Launch Activities at Kennedy Space Center" (Assignment No. A-13-020-01)

The Mission Support Directorate (MSD) appreciates the opportunity to review your draft report entitled "NASA's Launch Support and Infrastructure Modernization: Commercial Space Launch Activities at Kennedy Space Center" (Assignment No. A-13-020-01), dated September 26, 2014.

In the draft report, the OIG makes three recommendations addressed to the Associate Administrator for MSD that are intended to promote full and open competition for NASA leasing opportunities and to better facilitate commercial activities at Kennedy Space Center (KSC).

NASA's response to the OIG's recommendations, including planned corrective actions, follows:

In order to promote full and open competition for NASA leasing opportunities and incorporate lessons learned, the OIG recommends the Associate Administrator for MSD:

**Recommendation 1:** Develop additional guidance specifying the circumstances under which competition is appropriate when leasing NASA's assets to commercial partners and clarifying the procedures that should be used in such competitions, including providing a clear statement of evaluation factors in the solicitation.

**Management's Response:** Concur. NASA's current policy addresses this item; however, management agrees that the policy can be strengthened to ensure Centers have clearer guidance.

**Estimated Completion Date:** The revised policy, currently in NODIS, requires a Notice of Availability and marketing strategy for all proposed out-grants and will be issued by December 31, 2014.

**Recommendation 2:** Institute a robust communication strategy that ensures all potential commercial partners remain aware of changes to lease terms and conditions that may affect the development of proposals.

**Management's Response:** Concur. NASA's current policy addresses this item; however, management agrees that the policy can be strengthened to provide additional guidance pertaining to communicating changes that may impact the development of proposals.

**Estimated Completion Date:** A policy statement will be issued to all Centers by March 31, 2015, providing additional guidance.

**Recommendation 3:** Examine ways to amend policies and practices that govern commercial space activities with the goal of reducing the costs and burdens on commercial partners interested in conducting business at Kennedy while ensuring the appropriate level of safety and security.

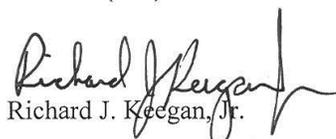
**Management's Response:** Concur. NASA continuously reviews policies and practices that govern commercial space activities. The goal is to encourage the development of a commercial space industry in the United States and for other purposes, as specified in the 1998 Commercial Space Launch Act.

KSC has an enabling team that regularly looks at process improvements. Therefore, management will require KSC's enabling team to look at our policies and practices, including the safety review process identified in this report, to look for streamlining opportunities that could potentially reduce costs or burdens on commercial partners. However, NASA will not reduce its safety or security policies or standards or public safety requirements.

**Estimated Completion Date:** Review will be completed by September 30, 2015.

We have reviewed the draft report for information that we believe should not be publicly released. We do not have any concerns regarding the public release of information contained in your report.

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 Lynn Irvine at (202) 358-2366.

  
Richard J. Keegan, Jr.

# APPENDIX C: REPORT DISTRIBUTION

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## National Aeronautics and Space Administration

Administrator  
Associate Administrator  
Chief of Staff  
Human Exploration and Operations, Associate Administrator  
Mission Support Directorate, Associate Administrator  
Kennedy Space Center, Director

## Non-NASA Organizations and Individuals

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

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-13-020-01)