Testimony before the Subcommittee on Space
Committee on Science, Space, and Technology

United States House of Representatives

For Release on Delivery
(expected at 9:30 a.m. on
September 20, 2013)

NASA Infrastructure: Enabling Discovery and Ensuring Capability

Statement of

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Chairman Palazzo, Ranking Member Edwards, and Members of the Subcommittee:

The Office of Inspector General (OIG) is committed to providing independent, aggressive, and objective oversight of NASA, and we welcome this opportunity to discuss the challenges facing the Agency with respect to its aging infrastructure and antiquated facilities.

For the past 3 years, the OIG has identified "Infrastructure and Facilities Management" as one of NASA's top management and performance challenges – and we expect it to remain a top challenge for many years to come. During this period, the OIG has issued 10 audit reports examining many of NASA's most pressing infrastructure-related issues, ranging from demolishing or leasing unused facilities to remediating environmental contamination at rocket test sites. In my testimony this morning, I will focus primarily on a February 2013 audit that assessed NASA's efforts to reduce its unneeded infrastructure and facilities.

NASA's Aging Infrastructure

NASA is the ninth largest Federal Government property holder, controlling approximately 4,900 buildings and structures with an estimated replacement value of more than $30 billion. More than 80 percent of the Agency's facilities are 40 or more years old and beyond their design life. However, NASA has not been able to fully fund required maintenance for its facilities and in 2012 estimated its deferred maintenance costs at $2.3 billion. Moreover, a 2012 Agency study estimated that NASA may have as many as 865 unneeded facilities with associated annual maintenance costs of more than $24 million.

One way NASA could reduce its facilities maintenance costs would be to reduce the amount of unneeded infrastructure in its inventory. However, to be successful in this effort NASA must move beyond its historic "keep it in case you need it" approach of managing its facilities.

In our February 2013 audit, we identified 33 facilities that NASA was not fully utilizing or for which Agency managers could not identify a future mission use, facilities that cost more than $43 million to maintain in fiscal year (FY) 2011 alone. The need for these facilities has declined in recent years as a result of changes in NASA's mission, their poor condition and obsolescence, and the advent of alternative testing methods.

The 33 facilities include:

- Wind Tunnels: At least 6 of NASA's 36 wind tunnels were underutilized or NASA managers could not identify a future mission use. NASA's use of wind tunnels has declined in recent years due to a reduction in the Agency's aeronautics budget, fewer new aircraft developments by the Department of Defense and private industry, newer and more capable foreign testing facilities, and alternative testing methods such as computational fluid dynamics.

- Test Stands: As many as 14 of the Agency's 35 rocket engine test stands were underutilized or NASA managers could not identify a future mission use. NASA's use of test stands has declined in recent years primarily due to a lack of new, large-scale

propulsion test programs. The ongoing development of the heavy-lift rocket associated with NASA's Space Launch System is not expected to alter this trend.

- Thermal Vacuum Chambers: At least 4 of the Agency's 40 large thermal vacuum chambers were underutilized or NASA managers could not identify a future mission use. NASA's use of the chambers has declined in recent years due to a lack of need by NASA programs and the poor condition of some chambers.

- Airfields: Two of the Agency's three airfields – Moffett Federal Airfield at the Ames Research Center (Ames) and the Shuttle Landing Facility at the Kennedy Space Center (Kennedy) – were underutilized or NASA managers could not identify a future mission use. The Ames airfield almost exclusively supports non-NASA entities while the Kennedy facility supports non-NASA space hardware deliveries. The Kennedy facility was last used for a NASA mission in September 2012 by the plane carrying Space Shuttle Endeavour to its final home at the California Science Center.

- Launch Infrastructure: Seven of NASA's launch-related facilities at Kennedy were underutilized or NASA managers could not identify a future mission use, including solid rocket booster recovery facilities, a parachute refurbishment facility, a launch pad, and one Orbiter Processing Facility. NASA's need for this infrastructure ended with retirement of the Space Shuttle Program, and timely decisions are needed in light of high maintenance costs. To their credit, Kennedy managers have leased one Orbiter Processing Facility and are seeking commercial companies to lease several other sites, including launch pad 39A.

While NASA officials agreed that these 33 facilities are unused or at best underused, the consensus breaks down when searching for a way forward. In our February 2013 audit, we identified four interrelated challenges that historically have hindered NASA's inability to comprehensively address its infrastructure problems:

Fluctuating and Uncertain Requirements

Changes to the Nation's space policy initiated by Congress, the President, and NASA have increased the difficulty of determining which facilities the Agency needs in order to accomplish its missions. For example, NASA's human exploration mission has transitioned from the Space Shuttle Program to the Constellation Program to the Space Launch System in just 6 years. Because decisions of whether to retain, consolidate, or dispose of specific facilities depends heavily upon the missions NASA undertakes, frequent changes to those missions complicates the task of managing the Agency's infrastructure.

An example of this challenge is the Agency's experience with the A-3 test stand at the Stennis Space Center (Stennis), which was constructed to accommodate special testing requirements associated with rockets being built for NASA's Constellation Program. When Constellation was cancelled in 2010, the test stand was approximately 65 percent complete. Rather than suspend construction of the stand (which has no current utility other than for testing the specific engines that were being developed for the since-cancelled rocket), NASA was directed by Congress to

complete construction at a total cost of nearly $350 million. Because neither the Space Launch System nor any other existing or planned NASA program requires the A-3's capabilities, NASA plans to mothball the test stand when construction is completed later this month. Even so, the maintenance costs of the mothballed A-3 test stand will exceed $1.5 million annually.

Agency Culture and Business Practices

Historically, NASA has practiced a decentralized approach to managing its infrastructure, leading Centers to compete for work from the Agency's major programs and rewarding a "keep it in case you need it" philosophy. This culture has fostered a propensity for Centers to build or preserve facilities that duplicate capabilities available elsewhere in the Agency or lack an identified mission use. For example, NASA currently has 36 wind tunnels at 5 Centers, 35 rocket test stands at 6 sites, and 40 large thermal vacuum chambers at 7 locations.

Political Pressure

The political context in which NASA operates often impedes its efforts to reduce infrastructure. During our 2013 audit, we noted several examples where political leaders intervened in plans to close or consolidate Agency facilities. For example, members of Congress opposed NASA's decision to consolidate the Agency's Arc Jet operations at Ames, directed completion of the A-3 test stand at Stennis even though the engine for which it was built had been cancelled, and contested the Agency's decision to seek alternatives for the future use of Hangar One and Moffett Federal Air Field at Ames. While input from Federal, state, and local officials is not unique to NASA, such pressure creates additional difficulties for the Agency as it seeks to manage its aging infrastructure.

Inadequate Funding

Demolishing or disposing of facilities that NASA no longer needs is not without cost and in many instances NASA must conduct environmental remediation before it can dispose of a facility. For example, under the terms of its current agreement with California, NASA estimates that the environmental cleanup of its Santa Susana Field Laboratory will cost more than $200 million. Accordingly, the Agency's ability to reduce its real property footprint depends in large part on funding for cleanup and other costs associated with demolition and disposal. However, in this era of constrained Federal budgets the amount of money dedicated to these activities is not likely to increase. In fact, in FY 2012 the Office of Management and Budget reduced NASA's proposed recapitalization budget for renewing and replacing facilities for FYs 2013 through 2017 by more than $900 million or approximately 60 percent.

NASA Initiatives to Manage its Infrastructure

NASA has several promising initiatives underway to manage its infrastructure, including organizational changes, a new facilities strategy, an analytical framework for making infrastructure decisions, and improvements in managing its real property data. The development of an Agency Facilities Strategy and Integrated Master Plan, capability assessments, and organizational changes to centralize decision authority over infrastructure matters should better

position the Agency to strategically assess infrastructure needs, manage underutilized property, and divest itself of facilities that are duplicative or unneeded.

While we view these initiatives as positive steps, most are in the early stages of development and, as noted previously, NASA has attempted infrastructure reduction initiatives in the past with limited success. Absent strong and sustained leadership to see its current efforts through and incorporate them into Agency policy, we are concerned that these latest efforts will meet a similar fate.

In an August 2012 audit examining NASA's leasing practices, we found that while NASA has made improvements to its leasing program in recent years, the Agency faces significant challenges in maximizing the benefits of its leasing program. Leasing unneeded facilities offers NASA another means to help address maintenance costs associated with its aging and underutilized facilities; however, Federal law and policy prohibit NASA from leasing facilities for which it has no current or future mission-related use.

In addition, we found that NASA lacked clear guidance to ensure that property identified for leasing had a current or future mission use, a complete inventory of space available for lease as well as an effective marketing program to attract potential tenants, internal controls to ensure that its leases provide the best value to NASA and are fair to potential partners, and guidance to ensure that in-kind consideration that it accepts as part of a leasing arrangement benefits NASA. Absent better controls and improved guidance, we concluded that it would be difficult for NASA to maximize the full potential of its leasing program to help reduce the cost of maintaining underutilized facilities while meeting its obligation to ensure that leasing does not become a substitute for disposing of excess property.

Instead, we concluded that NASA should consider other options for these facilities such as demolition or reporting the property to the General Services Administration for sale or transfer to another entity. The challenge for NASA is to use leasing when appropriate to generate revenue to offset facilities operations and maintenance costs but not use it as a way to hold on to facilities the Agency does not need. As NASA considers expanding its leasing agreements to help manage its infrastructure challenges, the OIG encouraged the Agency to strengthen its guidance, training, and documentation requirements to ensure it is receiving the highest possible benefits from its lease agreements and that the agreements are made in the most transparent manner to ensure fairness to all parties.

Conclusion

NASA officials readily acknowledge that the Agency has more infrastructure than it needs to carry out current and planned missions. To its credit, NASA has a series of initiatives underway that we believe are positive steps towards "rightsizing" its real property footprint. The development of an Agency Facilities Strategy and Integrated Master Plan, capability assessments, and organizational changes to centralize decision authority over infrastructure matters should better position the Agency to strategically assess infrastructure needs, manage underutilized property, and divest itself of facilities that are duplicative or unneeded. However,

many of these efforts are in the early stages and their ultimate effect on the Agency's ability to reduce its real property portfolio remains unclear.

Given the disparity between the Agency's infrastructure and its mission-related needs, as well as the likelihood of continued constrained budgets, it is imperative that NASA move forward aggressively with its infrastructure reduction efforts. In doing so, the Agency will need to move away from its longstanding "keep it in case you need it" mindset and overcome historical incentives for the Centers to build up and maintain unneeded capabilities. In addition, NASA officials need to manage the concerns of political leaders about the impacts eliminating or consolidating facilities will have on Centers' missions, their workforces, and the local communities. Moreover, abrupt changes in the strategic direction of the Nation's space policy by Congress, the President, and NASA will continue to add an element of uncertainty regarding the missions the Agency will pursue and therefore the facilities it will need to achieve those missions.

Against this complicated backdrop, successfully rightsizing NASA's real property footprint will require a sustained commitment from Agency leaders to see its ongoing infrastructure-related initiatives through to completion. Specifically, they must ensure that these initiatives are institutionalized, coordinated, and communicated both inside and outside the Agency. In addition, they must be willing to make the difficult decisions to divest unneeded infrastructure; effectively communicate those decisions to stakeholders; and withstand the inevitable pressures from Federal, state, and local officials.

We acknowledge that NASA's best efforts to address these challenges may ultimately be insufficient to overcome the cultural and political obstacles that have impeded past efforts to reduce Agency facilities. Accordingly, an outside process similar to the Department of Defense's Base Realignment and Closure Commission may be necessary to make the difficult but necessary infrastructure decisions.

I am hopeful that the OIG's ongoing work on these issues will contribute to a dialogue between the Administration and the Congress about NASA's future priorities and lead to enactment of realistic budgets that will enable the Agency to accomplish its multifaceted missions while appropriately managing its aging infrastructure.

Thank you.

Recent OIG Reports Examining NASA's Infrastructure Challenges

- NASA's Management of Energy Savings Contracts (April 8, 2013)
- NASA's Explosives Safety Program (March 27, 2013)
- NASA's Environmental Remediation Efforts at the Santa Susana Field Laboratory (February 14, 2013)
- NASA's Efforts to Reduce Unneeded Infrastructure and Facilities (February 12, 2013)
- NASA's Plans for the Ares I Mobile Launcher (September 25, 2012)
- NASA Infrastructure and Facilities: An Assessment of the Agency's Real Property Leasing Practices (August 9, 2012)
- NASA Infrastructure and Facilities: An Assessment of the Agency's Real Property Master Planning (December 19, 2011)
- NASA Infrastructure and Facilities: Assessment of Data Used to Manage Real Property Assets (August 4, 2011)
- NASA's Hangar One Re-siding Project (June 22, 2011)
- Audit of NASA's Facilities Maintenance (March 2, 2011)