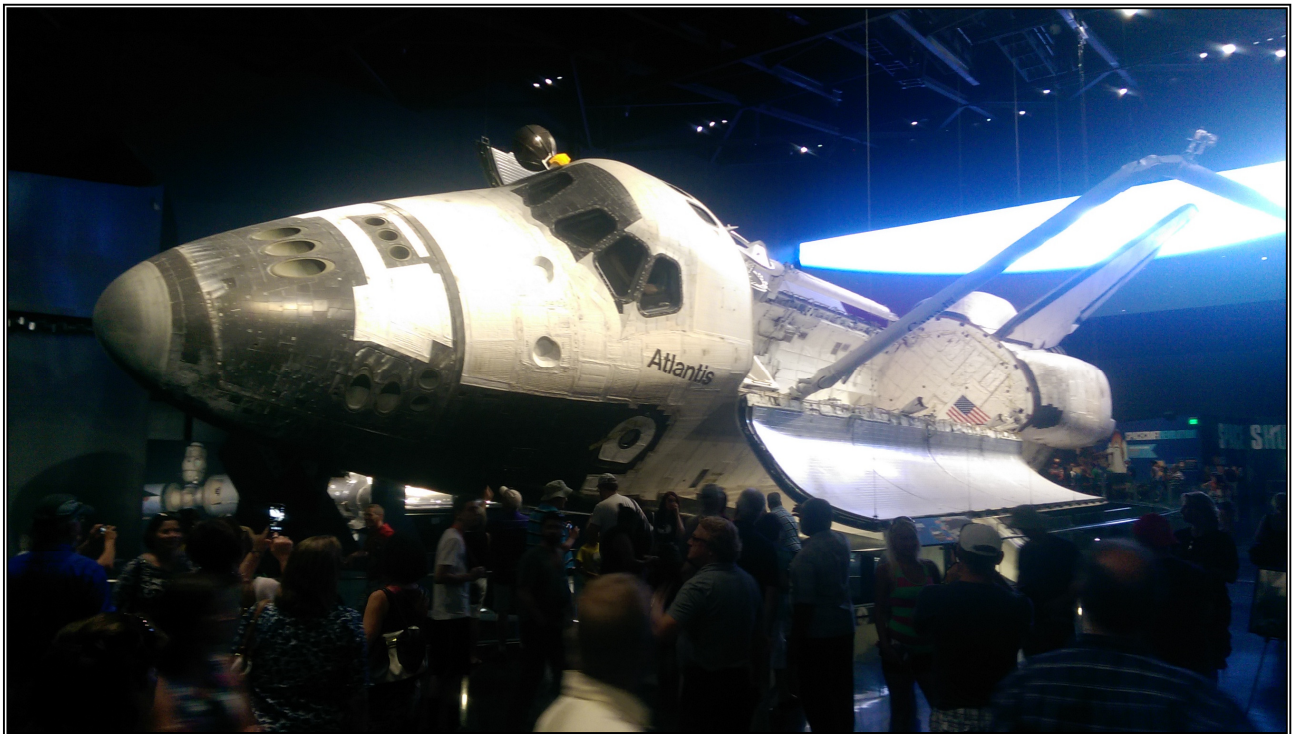


# **Section 3 Progress Report Executive Order 13287**

2012 – 2014



## **Space Shuttle Atlantis Exhibit**

Kennedy Space Center  
Visitor Complex



**Abbreviations for NASA Centers**

**ARC - Ames Research Center**

**AFRC - Armstrong Flight Research Center**

**GDSCC - Goldstone Deep Space Communication Complex**

**GRC - Glenn Research Center**

**GSFC - Goddard Space Flight Center**

**JPL - Jet Propulsion Laboratory**

**KSC - Kennedy Space Center**

**LaRC - Langley Research Center**

**MAF - Michoud Assembly Facility**

**MSFC - Marshall Space Flight Center**

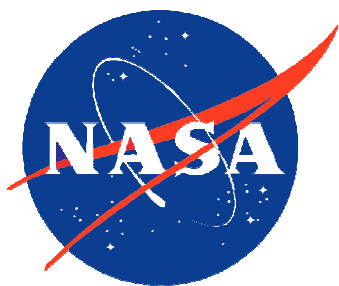
**PBS- Plum Brook Station**

**SSFL - Santa Susana Field Laboratory**

**SSC- Stennis Space Center**

**WFF - Wallops Flight Facility**

**WSTF- White Sands Test Facility**



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**Lunar Landing Research Facility**

**A National Historic Landmark at LaRC being modified and re-used for testing of the Orion Multi-Purpose Crew Vehicle (MPCV).**

## Introduction

This report is submitted to the Advisory Council on Historic Preservation (ACHP) by the National Aeronautics and Space Administration (NASA) in compliance with Executive Order (EO) 13287, Preserve America. Section 3 of EO 13287 requires NASA to submit a triennial report that details the Agency's progress in identifying, protecting, and using historic properties during the 2012 to 2014 timeframe. This submission is NASA's fifth report, constituting the third triennial report, and discusses the progress made by NASA towards each of the EO goals and objectives.

During the 2012 to 2014 reporting period, NASA continued to demonstrate significant progress in identifying, evaluating, protecting, and using historic properties. With respect to identifying and evaluating historic properties, several of the NASA Centers and field installation facilities (collectively referred to as Centers in this report) have successfully completed gate-to-gate surveys as their facilities approach 45-50 years of age and other Centers are in the planning stages for additional survey work, including the evaluation of additional historic districts. This establishes a major momentum shift from NASA's primary historical focus of evaluating properties based solely on exceptional merit regardless of age, rather than actually reaching the 45-50 year mark. This shift in overall priorities, due to the continued aging of many relatively young facilities and installations, has resulted in an overall expansion of the NASA historic property inventory, including newly identified historic districts.

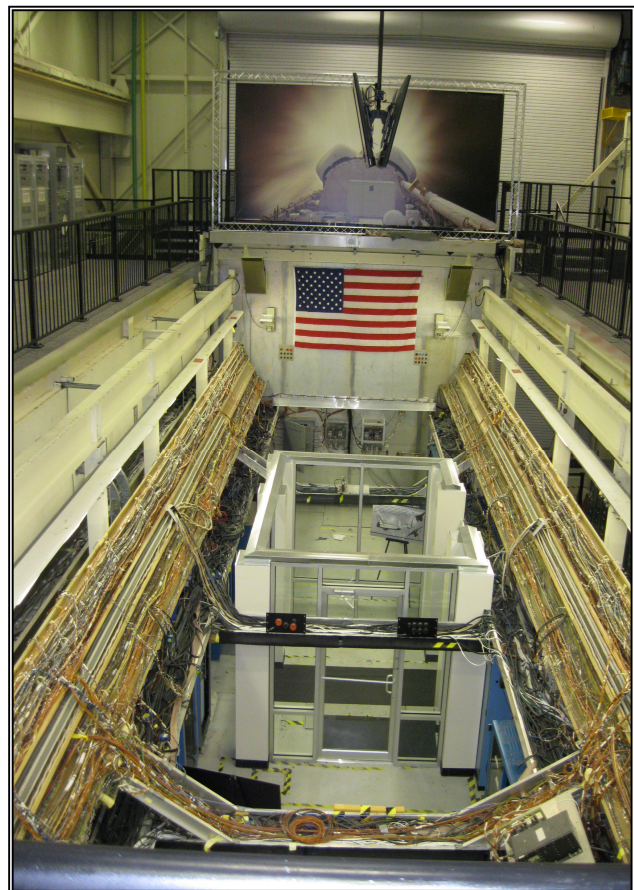




NASA has also continued emphasizing effective protection strategies for historic properties. For example, as required by NASA Procedural Requirement (NPR) 8510.1, titled NASA Cultural Resources Management, the Centers have worked diligently to establish individually tailored Integrated Cultural Resource Management Plans (ICRMPs) that provide extensive procedural and operational guidelines to protect historic properties. These ICRMPs are providing large multi-disciplinary organizations comprised of facilities management, maintenance, operations, real property, and environmental compliance groups with the guidelines and information that is necessary to successfully comply with regulatory requirements and effectively manage and protect historic properties. Additionally, many of the NASA Centers have implemented, or further expanded, the use of Programmatic Agreements to clearly and concisely define, describe, and streamline the processes and procedures needed to manage a large inventory of historic properties.

NASA also continues a strong legacy of proactively and successfully managing the challenge of historic property re-use through various mechanisms including lease agreements, museum exhibitions, and other site-specific examples. Some prominent examples of re-purpose and re-use include the transition of the retired Space Shuttle orbiters to several very successful nationwide museum and visitor center displays. This protects these valuable properties and enhances NASA's heritage tourism activities by providing extensive public viewing and interpretation. This was also the case with the JSC Shuttle Avionics and Integration Laboratory (SAIL) that was saved from scheduled demolition and transitioned to be

part of the JSC visitor center experience (Space Center Houston) as well as one of the Shuttle Transport Carriers (Boeing 747 modified to carry a shuttle orbiter on its back).. NASA has modified and re-used historic properties for internal NASA projects and programs, with one larger-scale example being the renovation and re-use of the SSC B-2 Test Stand for Space Launch System (SLS) testing. Major changes in the overall NASA mission have also provided a new opportunity within the Agency to transition



**The JSC Shuttle Avionics and Integration Laboratory (SAIL)**  
**Scheduled for demolition but preserved for heritage tourism activities.**

historic properties to the commercial spaceflight sector, with the shining star of these activities being the 20-year SpaceX lease of the KSC 39A launch pad.





(<http://www.space.com/23963-spacex-leases-historic-nasa-launch-pad.html> , and <http://www.nasa.gov/press/2013/december/nasa-selects-spacex-to-begin-negotiations-for-use-of-historic-launch-pad/>)



**The SAIL cockpit simulator at JSC**  
Preserved for a heritage tourism exhibit.

Finally, the Cultural Resource Management (CRM) Panel members, comprised of dedicated Historic Preservation Officers (HPOs) at each NASA Center, operating under the leadership of the Federal Preservation Officer (FPO), continue to provide a very strong “boots on the ground” presence at these nation-wide facilities. This team of HPOs is charged with many cultural resource management responsibilities, including:

- Provide a forum for the development, review, and approval of CRM policies;
- Support development of an agency CRM database, strategies, priorities, and guidance documents for Agency and Center use;
- Recommend CRM initiatives deemed beneficial and value added to the NASA mission;

- Share negotiation initiatives and mitigation measures in CRM and support Mission Directorates and Center Directors in implementing NASA CRM policies;
- Develop Agency-wide consensus positions on CRM policies and resource requirements and preservation priorities;
- Sponsor and/or conduct studies and assessments of CRM needs affecting NASA programs and activities;
- Prepare analyses and recommendations, including independent reviews; and
- Present work products and recommendations to NASA Headquarters for concurrence, approval, and/or presentation.

These dedicated HPOs are a valuable resource to help define the goals of the historic property management programs, describe roles and responsibilities, communicate the requirements to site-wide personnel, effectively manage historic properties, and ensure compliance with regulatory requirements.

## Executive Summary

During this 3-year reporting period, extensive agency-wide effort was put forth to identify, evaluate, protect, and use historic properties. For example, there was a significant transition from evaluating relatively young facilities under Criterion G, the exceptional significance category, to expanding the property evaluations based on the 50-year age category. For many of the NASA Centers, this meant performing 45-50 year gate-to-

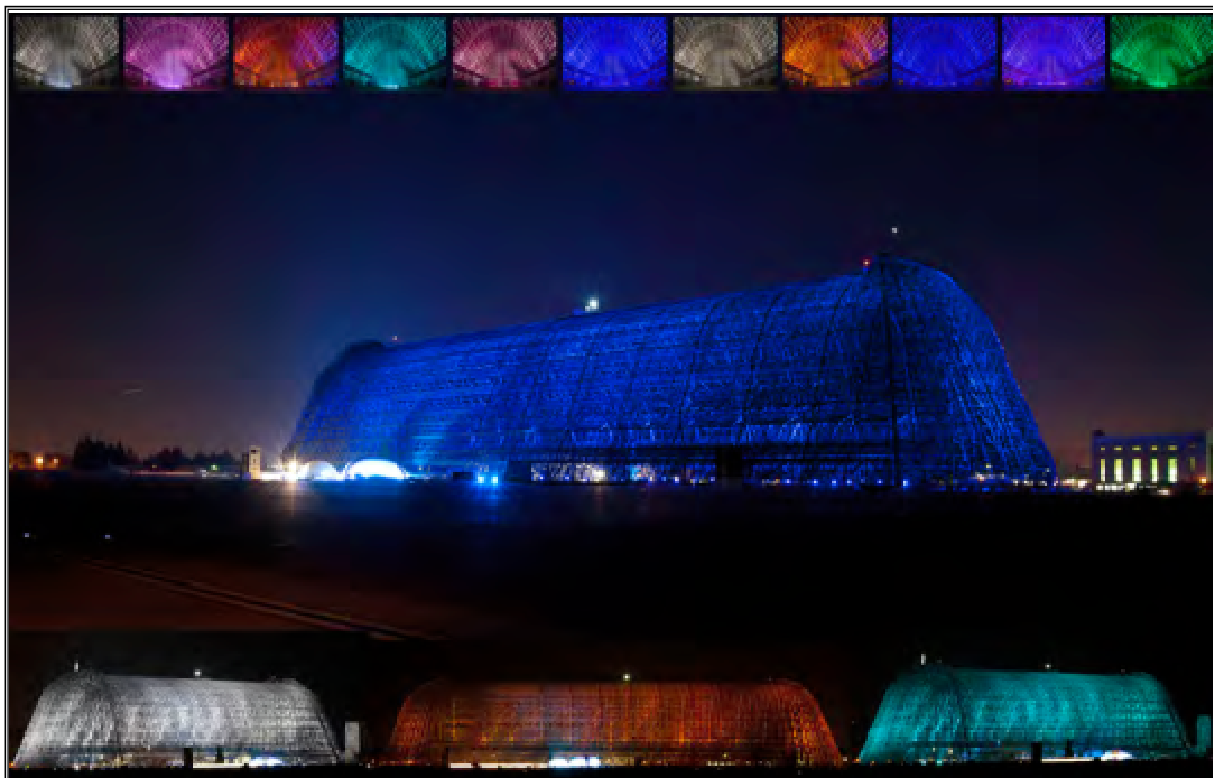


gate surveys, and that effort resulted in the identification of additional historic properties and associated historic districts. New 45-50 year surveys resulting in additional historic properties and districts were performed at KSC, JSC, WSTF, and AFRC. Numerous individually eligible property and structure evaluations, and well as archeological surveys, were also performed at the various Centers, which further increased the overall historic property inventory.

NASA completed the final evaluation and disposition of the Space Shuttle orbiters due to Agency-wide transition and retirement efforts during this reporting period. These extensive efforts included completion of the recordation and consultation process, preparation and transportation of the vehicles, public viewing events during

transport, nation-wide “fly-by” events, design and construction of exhibit areas, completion of interpretive materials to enhance the various exhibits, and display at each orbiter’s final destinations. ([http://www.nasa.gov/agency/crm/shuttle/#.UoZla\\_msi-0](http://www.nasa.gov/agency/crm/shuttle/#.UoZla_msi-0))

NASA also worked diligently to re-purpose and re-use historic properties, where appropriate, and increase opportunities for leasing that will manage properties and allow for continued maintenance costs to be provided by outside interests. The prime example of this effort was the extended use lease of the KSC Launch Pad 39A to SpaceX for commercial space operations. In addition to the KSC lease, ARC continues to be a strong proponent of leasing opportunities with many different partners within the



Historic Hangar 1

Illuminated for the Breakthrough Prize in Life Sciences and Physics Award Ceremony at the Shenandoah Plaza Historic District within the Ames Research Center (ARC).



contributing properties of the Shenandoah Plaza Historical District, including a Request for Proposals to lease Hangar One and the Moffett Federal Airfield under as Section 111 lease.

<http://www.nasa.gov/press/2014/february/gsa-nasa-competitively-select-planetary-ventures-llc-to-begin-lease-negotiations/>)

Besides leasing, NASA has internally modified, renovated, re-used, and re-purposed many different historic properties including the SSC B-2 test stand, the JSC SAIL property, the JSC Space Environment Simulation Laboratory (SESL), the Shuttle Carrier Aircraft (SCA), and the LaRC gantry system that is part of the new Hydro Impact Basis system.

Nationwide, NASA also continued a long tradition of public involvement, outreach, and heritage tourism during this reporting period. There were numerous events and celebrations including a 45<sup>th</sup> anniversary of “The Eagle Has Landed” lunar mission, the 50<sup>th</sup> anniversary of Americans in orbit, the 50<sup>th</sup> anniversary celebration of KSC, the 95<sup>th</sup> anniversary and associated open house at LaRC, and the 25<sup>th</sup> anniversary of the Full-Scale Aerodynamics Complex at ARC. These events provided an opportunity for numerous people to participate in the overall history of NASA activities with very Center-specific events. When these types of events are coupled with other public involvement events such as orbiter fly-outs and parades, public events at ARC held within the Shenandoah Plaza National Historic District near Hangar 1, family days and open houses at various Centers, and routine tours for various groups, the total population of people attending these events, per calendar year, can easily exceed 100,000. Including the total population of people attending the operational visitor

centers each year, more than 1 to 1.5 million people are participating in various NASA heritage tourism opportunities each year.

NASA has maintained, and even expanded, our extensive public outreach and heritage tourism efforts. Where practical, NASA has routinely and enthusiastically provided access for the public to view significant places in the nation’s space program’s history. In addition to standard tours provided through a visitor center, many of the smaller Centers that limit public access for safety and security reasons have also initiated tours on certain standard schedules. For example, at GRC, weekend tours of the historic district area are now routine, and ARC provides tours for many different scientific groups and organizations on an as-requested basis. Additionally, during this reporting period, heritage tourism activities were further realized and expanded with the new exhibits of the Space Shuttle Program orbiters that have been completed in California, Florida, Washington D.C., and New York.

NASA also continued our strong legacy of visitor center access. The Kennedy Space Center Visitors’ Center continues to draw more than 1.5 million annual visitors with the majority taking tours that enter the Center and drive by many of KSC’s most historic sites including Launch Pad 39A, the Vehicle Assembly Building, and the Mobile Launch Platforms. Visitors are provided an experience that allows them to see the actual facilities, which are historic and yet still continue to contribute to making history. With the addition of the Space Shuttle Atlantis exhibit, public interest in KSC has increased and their visitor center has seen an increase in twenty percent overall visitors.





Heritage tourism at the Johnson Space Center continues to be managed by the nonprofit Space Center Houston, providing museum and facility tour opportunities. Highlights of the Johnson Space Center tour are the historic Mission Control Center from the Apollo era and other working historic properties housing significant Space Shuttle artifacts and functioning simulators.

Finally, the Goddard Space Flight Center (GSFC), Wallops Flight Facility (WFF) Marshall Space Flight Center (MSFC) and Stennis Space Center (SSC) also have visitor's centers and the majority of other Centers have displays or museums with exhibits demonstrating much of the history of each location and the accomplishments they have made. For smaller facilities that do not have visitor centers, efforts are still underway to provide creative solutions to expand heritage tourism opportunities. For example, as a tenant on U.S. Army property, WSTF recently updated and expanded the "NASA Room" at the U.S. Army White Sands Missile Range (WSMR) museum and donated the White Sands Space Harbor (WSSH) Control Tower to their missile park for public viewing and interpretation.

For students, educators, and other people who can't visit our Centers, NASA has continued a long tradition of providing numerous websites and publications that include virtual tours, histories, and photographs of our historic properties. NASA has continued to actively use websites for educational purposes and for sharing information. For example, several major recordation efforts have been published on publicly accessible websites including the evaluation of the solid rocket booster retrieval ships, the Shuttle Carrier Aircraft (SCA), the White Sands Space Harbor (WSSH),



**Control Tower at the White Sands Space Harbor (WSSH)**  
**Transferred to the U.S. Army White Sands Missile Range  
for public viewing and interpretation.**

and of course, the Space Shuttle orbiters themselves. New publications have also been completed during this reporting period. One example of this effort is the LaRC Historic District book that was distributed to 23 public libraries, 18 museums, local historical societies, numerous middle schools and high schools, and several colleges and universities. To date, more than 1,200 copies of this book have been distributed.

These comprehensive efforts to manage, protect, and use historic properties in an efficient and compliant manner, coupled with a long tradition of public involvement, outreach, and heritage tourism, provide NASA with a comprehensive set of cultural resource management tools that can evolve as the overall NASA mission continues to develop and affect NASA's nation-wide facilities and associated operations.

## **Section 1: Identification**

### **Question 1**

**Building upon previous Section 3 reports, please explain how many**



**historic properties have been identified and evaluated by your agency in the past three years? Has your inventory improved? Please explain.**

The NASA inventory of historic properties has become more comprehensive over the last three years. Due to the recent focus on gate-to-gate surveys because of facility age, and the focus to identify any historic districts, several of the Centers have completed identification and evaluation work. For example, JSC completed a gate-to-gate archeological survey and a comprehensive gate-to-gate 45-50 year historic assets architectural survey. KSC, WSTF, and AFRC also performed 45-50 year gate-to-gate architectural surveys. These gate-to-gate surveys have contributed additional historic properties to the overall Agency inventory. In some cases, these gate-to-gate surveys have also identified additional historic districts. Table 1 provides a list of the individually built resources that are eligible for listing on the National Register of Historic Places (NRHP), by Center, that are within the NASA inventory:

**Table 1**  
**Built Resources – Eligible by Center**

Center	Quantity
AFRC	1
ARC	5
GDSCC	1
GRC	70
GSFC	30
JPL	8

JSC	20
KSC	27
MAF	6
MSFC	34
PBS	3
SSFL	14
WFF	3
WSTF	4
<b>Total Eligible Resources</b>	<b>226</b>

Table 2 provides a list of the built resources that are individually listed on the NRHP, by Center:

**Table 2**  
**Built Resources – Listed by Center**

Center	Quantity
ARC	24
GRC	1
KSC	10
<b>Total Listed Resources</b>	<b>35</b>

As shown in Tables 1-2, during this reporting period the inventory of listed and eligible built resources has increased by nearly 10% above the data provided in the 2011 report. Additionally, several newly identified historic districts have been evaluated during this timeframe, including new districts at KSC, JSC, and WSTF.



Table 3 provides the eligible and listed resources when combining all of the various historic properties, including the following four categories:

1. Built resources, listed;
2. Built resources, eligible;
3. Built resources that are part of an eligible historic district; and
4. Built resources that are part of a listed historic district.

**Table 3 -Listed, Eligible, and Contributing to Listed or Eligible Districts**

Center	Quantity
AFRC	5
ARC	49
GDSN	1
GRC	71
GSFC	30
JPL	8
JSC	20
KSC	110
LARC	161
MAF	6
MSFC	34
PBS	3
SSFL	14

WFF	3
WSTF	28
<b>Total Historic Properties (Listed, Eligible, and Districts)</b>	<b>543</b>

Table 4 provides the list of National Historic Landmarks (and contributing resources) in the NASA NHL inventory. This inventory has changed slightly since the 2011 report due to the KSC transfer of two NHL contributing resources to the Cape Canaveral Air Force Station. This reduced the total NHL built resources within the NASA inventory.

**Table 4 - Built Resources Contributing to National Historic Landmarks (NHLs)**

Center	Quantity
ARC	4
GDSCC	1
GRC	1
GSFC	1
JPL	2
JSC	2
KSC	19
LaRC	5
MSFC	6
PBS	8
SSC	4





<b>Built Resources within NHLs</b>	<b>53</b>
<b>Total NHLs</b>	<b>20</b>

Some higher-profile examples of newly identified and evaluated properties include the following:

- At WSTF, the WSSH Historic District, the 200 Area Laboratory Complex, and two Propulsion Test Historic Districts in the 300 and 400 Areas were recently identified during stand-alone site surveys and a gate-to-gate evaluation.
- AFRC identified a new historic district with contributing properties during their official 45-50 year gate-to-gate survey.
- KSC identified and evaluated the Bioastronautics Operational Support Unit (BOSU) and the Jay Jay Bridge Railroad System, and associated locomotives, as well as finding several individually eligible and contributing resources during their 45-50 year survey which included NASA-owned properties within the Cape Canaveral Air Force Station Industrial Area.
- JSC has tentatively identified additional historic properties during their recent 45-50 year survey including 29 eligible properties, and one new historic district.
- Other Centers including SSC, LaRC, GSFC, and GRC have also identified additional properties during this reporting period.

Table 5 provides a summary of the data for both eligible and listed archeological sites, as well as total sites inventoried.

**Table 5**  
**Archeological Resource Summary**

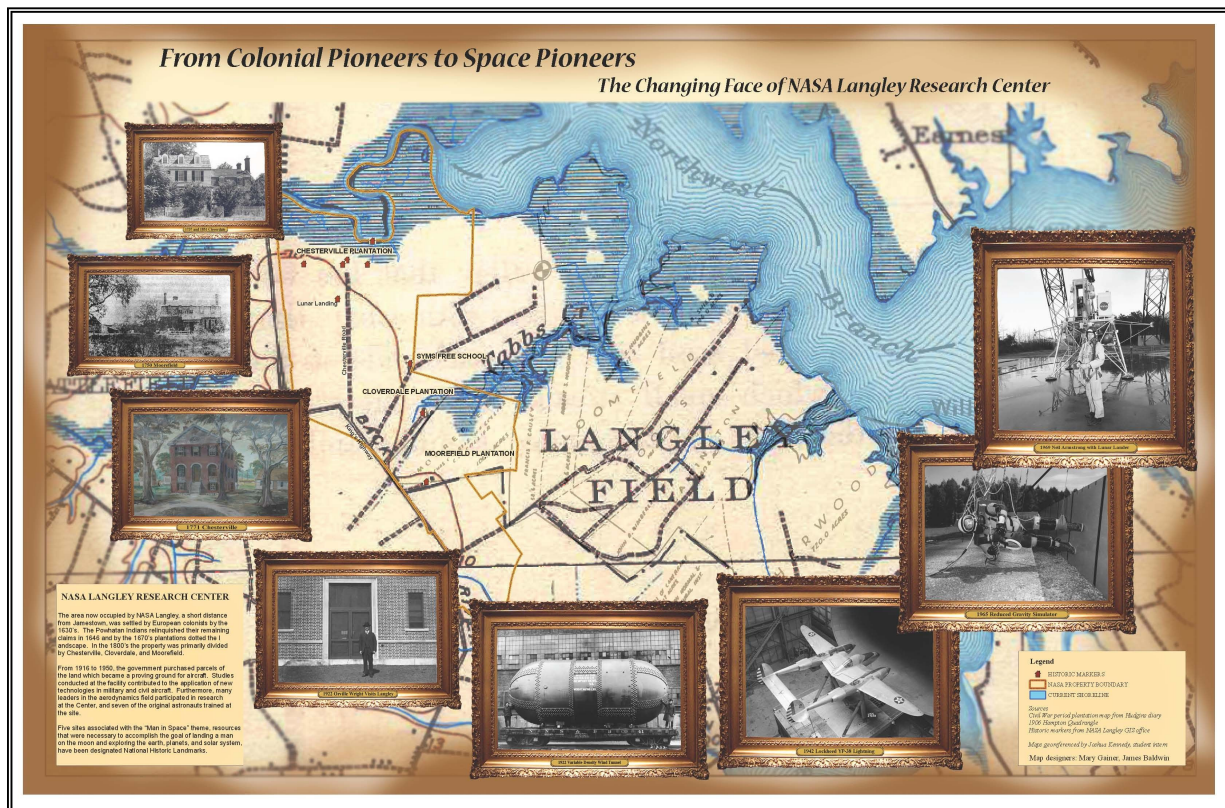
<b>NASA - Archeological</b>	<b>Quantity</b>
Listed - Archeological	55
Eligible - Archeological	8
<b>Total Listed and Eligible</b>	<b>63</b>
<b>Total Sites Inventoried</b>	<b>285</b>

### **Question 2**

**Describe your agency policies that promote and/or influence the identification and evaluation of historic properties.**

NASA previously reported that the policy driver for historic property management was based on a NASA Interim Directive (NID) for cultural resource management activities that would eventually be replaced by a final NASA Procedural Requirements (NPR) document which was in the final coordination process. During this reporting period, NASA coordinated and finalized the subject NPR (8510.1), titled *NASA Cultural Resources Management*, to provide Agency-wide guidance on roles and responsibilities, programmatic requirements, and the establishment of Center-specific Integrated Cultural Resources Management Plans (ICRMPs) that provide a site-specific roadmap for management practices and operational procedures. This NPR is the key document elaborating on essential responsibilities of the Senior Policy Official, the Federal Preservation Officer (FPO), HPOs at the various Centers, and numerous other personnel across NASA at the Centers and at Headquarters that may be affected by, or





### The History of the Langley Research Center

As an overall agency goal, all NASA Centers are encouraged to re-evaluate for additional historic districts.

become involved with, cultural resource management activities.

This NPR also facilitates communication between the Center HPOs, facilities engineering, master planning staff, and real property management professionals, which enhances and encourages an effective dialogue during the overall planning and decision-making process. NPR 8510.1 (<http://nodis3.gsfc.nasa.gov/displayDir.cfm?t=NPR&c=8510&s=1>) clearly describes procedures and requirements that promote and influence the identification and evaluation of historic properties. For example, the NPR specifically details that facility HPOs are responsible for implementing NASA CRM program activities, and ensuring compliance with Sections 106 and 110 of the National Historic Preservation Act (NHPA).

Accompanying the NPR is the publication of the Guidance for Implementation of NASA Cultural Resources Management Requirements, a detailed manual that provides day to day guidance for individual HPOs and center staff. The guidance document provides detailed steps for identification of cultural resources, Section 106 compliance and other laws related to cultural resources.

### Question 3

**How has your agency established goals for the identification and evaluation of historic properties including whether they have been met?**

NASA Headquarters continues to encourage the HPOs at the Centers to develop facility-specific goals for the identification and evaluation of their historic properties. At a



minimum, the four primary goals that have been communicated from NASA Headquarters to the HPOs are as follows:

First, evaluate the facilities and structures that are approaching 45-50 years of age, which for many facilities requires the completion of new gate-to-gate facility surveys. As the various Centers continue to age, the focus is directed towards these relatively younger facilities that have not yet been evaluated since they were not previously considered exceptional properties under Criterion G, and had not yet approached 50 years in age.

Second, HPOs should re-visit their facilities, and survey where necessary, for the presence of additional historic districts. For many of the Centers, surveys have historically concentrated on potentially eligible individual facilities that were deemed of exceptional significance under Criterion G. As such, many of the previously completed surveys and evaluations did not take a comprehensive site-wide view of the entire facility and whether there is the potential for additional historic districts. As one example, WSTF was surveyed under the Space Shuttle Survey for Shuttle-related facilities, and also had a facility-specific survey completed for the White Sands Space Harbor (WSSH) when it was being closed during Shuttle retirement and transition activities. After the WSSH work was completed, a separate comprehensive gate-to-gate survey was completed for the entire facility and two Propulsion Test Districts were identified due to significant operations related to the Apollo Program, as well as an individually eligible property. Other Centers are having similar experiences.

Third, the HPOs at the various Centers should actively evaluate and pursue, where

appropriate, Programmatic Agreements for both built properties and archeological resources. These Programmatic Agreements will then provide a basic framework, with clear and concise requirements, for the management, protection, and use of historic properties, functioning as a mechanism to streamline requirements and enhance communication. Working in tandem with detailed site-specific ICRMPs, the Programmatic Agreement documentation will benefit the overall program, provide for timely and appropriate planning and decision-making, minimize delays and disagreements, and clearly delineate regulatory compliance requirements and their mitigation and resolution pathways.

Fourth, the HPOs should continue to enhance heritage tourism opportunities, whenever possible, to further provide NASA's story to the general public and specific interest groups. Creative solutions and thinking-outside-the-box are encouraged to further increase opportunities where traditional visitor center and site tours are not as feasible due to facility size, access limitations, security and safety issues, or other preventive factors.

#### **Question 4**

**Describe any internal reporting requirements your agency may have for the identification and evaluation of historic properties, including collections (museum and archaeological).**

For internal reporting and documentation requirements, NASA has continued to use the currently in-place, and continually enhanced and updated, computerized systems such as the NASA Environmental Tracking System (NETS), the Real Property Database, and the





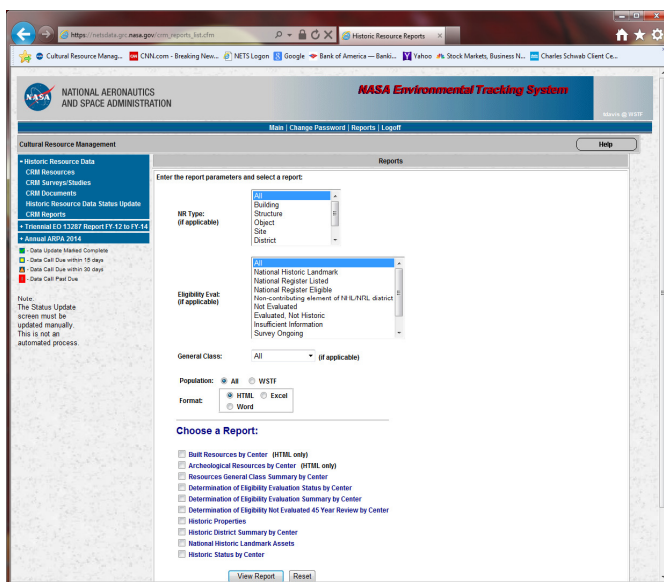
Property, Plant, and Equipment systems. These systems continue to provide asset visibility and can generate various property reports as requested, by Center or for the entire Agency. During this reporting period, the NASA real property system and NETS database have been fully integrated to provide additional visibility to multiple organizations regarding historic property condition, location, and eligibility status. This integration effort clearly identifies when master planning efforts and real property records may indicate that an historic

The NETS database is the primary vehicle for data management and internal/external reporting and recordkeeping with respect to the historic properties at each of the NASA Centers. The NETS database system has been continually enhanced during this reporting period and provides multiple abilities for internal reporting, external report generation, data management, coordination with real property, and NASA Headquarters notifications. And first and foremost, NASA Headquarters can issue data calls to the HPOs, at any time, for various information including archeological surveys, property status and inventories, heritage tourism events, property re-use activities, HPO training events, historic resource protection actions, and property evaluation criteria.

NETS also provides the ability for HPOs to upload surveys, consultation documentation, correspondence, recordation information, and related files to the system, then these documents can be viewed by other Center HPOs and by NASA Headquarters. The ability for information sharing between the nationwide NASA Centers is highly beneficial. NASA Headquarters, as well as the HPOs, have the ability to generate reports for all of the available data, both at the Center level, or at the Agency-wide level, when required for both internal and external requests. This central repository for all cultural resource management documentation provides an effective management tool that is critical to the overall success of the numerous program requirements.

### **Question 5**

**Explain how your agency has employed the use of partnerships to assist in the identification and evaluation of historic properties.**



**NASA Environmental Tracking System (NETS)**  
**Reporting Screen**

property could be affected; for example, by a planned demolition. These reporting systems are a very useful planning tool for the HPOs to complete timely mitigations and consultations, increase project visibility, and enhance inter-departmental communication. It also provides much more visibility to the master planning and real property groups when it comes to historic properties, and the requirements that may be required if adverse effects are identified.



NASA continues to use partnerships in various capacities primarily during the re-use of available historic properties. However, on occasion, opportunities have arisen for partnerships within the realm of historic property identification and evaluation. At KSC, for example, the National Park Service (NPS) Southeast Archaeological Center (SEAC) partnered with NASA to further evaluate the Elliot Plantation Complex and assist with the completion of a nomination package. This assistance is beneficial due to the scale and size of this colonial site that has many multi-component archeological sites, but is located within the proposed Shiloh Launch Site study area and could be affected by development and operations within the area.

During the transition and retirement process for the Space Shuttle program, the White Sands Space Harbor (WSSH), located near Las Cruces, NM, was identified and evaluated for historic properties. The WSSH is comprised of several gypsum runway systems that were used for astronaut training and as an alternate landing site in the event the KSC and AFRC runways were not available due to weather, or other reasons. A partnership with the U.S. Army was used during the identification and evaluation of the area because the location of the facility is actually on Department of Defense (DOD) property, but the facility itself is operated by NASA, using WSTF personnel. This partnership consisted of assistance with site access, escorting, photography approvals, real-time security and safety notifications due to active missile testing in the area, and support during the recordation activities, including assistance with the Memorandum of Agreement, negotiations with the State of NM Historic Preservation Officer, and final

recordation fieldwork. This partnership was highly beneficial due to the remote location of the area, U.S. Army security issues, access limitations, safety considerations because the area is an active military range, and specific requirements expected from the State of NM because WSSH was, technically, an Army facility on DOD property, only being managed and operated by NASA personnel. This partnership streamlined the overall identification and evaluation process, reducing costs, increasing communication, and collaboratively working to complete a timely large-scale recordation process.

### **Question 6**

**Provide specific examples of major challenges, successes, and or opportunities your agency has experienced in identifying historic properties over the past three years.**

As previously described, one of the major challenges during this reporting period has been to shift the HPO focus from the Criterion G evaluation factor of exceptional significance, solely due to the major increase in properties that are now approaching 45-50 years of age. There has been some measurable success in this area, even with the difficult fiscal constraints inherent with many government programs. These successes include several of the NASA Centers initiating and completing 45-50 year gate-to-gate historic property surveys over the last three year period. These successful gate-to-gate surveys were completed at KSC, JSC, AFRC and WSTF and resulted in additional historic properties joining the NASA inventory. This gate-to-gate process also resulted in the identification of additional historic districts.

A challenge during this reporting period continues to be the process for addressing



historic personal property and artifact management. Although this program has significantly matured, there can be coordination, communication, and final disposition issues due to confusion on roles and responsibilities, process, communication, and coordination. This challenge has been mostly mitigated, so with increased collaboration between real property organizations and the HPOs throughout the Agency, these historic artifacts and other personal property are being systematically evaluated and offered to various museums and educational facilities.

## Section 2: Protection

### **Question 7**

**Explain how your agency has protected historic properties.**

NASA continues to emphasize and promote the importance of historic property protection, whenever feasible, appropriate, and consistent with the evolving mission of the Agency. There have been several noteworthy activities within the realm of historic property protection, as described by the following examples:

- At JSC, the Shuttle Avionics and Integration Laboratory (SAIL) was scheduled for demolition, but a successful negotiation between several internal organizations resulted in the facility being transitioned to a heritage tourism location on the JSC visitor center tours. The protection of this historic resource, instead of certain demolition, was given high praise from the Texas State Historic Preservation Officer (SHPO).

- At ARC, extensive oversight is being provided to protect Hangar 1 during remediation work. Additionally, Hangars 1, 2, and 3 are also being monitored and protected as the Moffett Federal Airfield lease is being developed.
- At JSC, efforts are underway to protect the Mission Control National Historic Landmark via a Historic Furnishing Survey that will be used to manage maintenance and general upgrades (e.g., fabrics and furniture) that are necessary to maintain the overall integrity of the area as this historic property ages.
- During the recordation of the JSC White Flight Control Room (FCR), care was taken to preserve three of the original consoles which will be displayed as part of the SAIL/Mission Control Exhibit that is part of the JSC visitor center experience.
- NASA erected a protective fence around several acres of an important archeological site and cave painting to protect it from vandalism. The fence was erected after consultation with tribes to consider alternative protection methods, but given that the pictographs were delicate and could be easily damaged with graffiti, the tribes decided that a fence would be best protective and would allow access for ceremonial purposes.







**White Flight Control Room (FCR) at JSC**

In addition to specific actions at these historic properties, NASA Headquarters has emphasized to the HPO community the importance of negotiating Programmatic Agreements with their respective SHPOs, and other consulting parties, to further protect historic properties. These Programmatic Agreements will provide a clear and concise roadmap for the continued protection of both historic structures, archeological resources, and the numerous historic districts located at the various Centers. WFF has recently negotiated and completed a Programmatic Agreement, and WSTF has entered into discussions with the New Mexico SHPO to develop a Programmatic Agreement for both archeological and architectural resources, including two historic districts. Some Centers currently have in-place Programmatic Agreements (e.g., LaRC, KSC and JSC), and other Centers are in the early planning stages of developing Programmatic Agreements that will streamline procedures, and minimize potential problems, with the end result being a more effective overall management approach for the protection of historic properties.

## **Question 8**

**Describe the programs and procedures your agency has established to ensure the protection of historic properties, including compliance with Sections 106, 110, and 111 of NHPA.**

NASA's NASA Policy Directive 8500.1 expressly identifies compliance with the NHPA, and the new NPR 8510.1 clearly and concisely describes the Agency policy towards compliance with Sections 106, 110, and 111. Day-to-day compliance with the NHPA is delegated to the HPO at the Center level. All HPOs are required to have Section 106 training and are also encouraged to obtain additional training on an as-needed basis. HPOs work with their facility master planning group and real property officers to identify projects that might affect historic properties. In fact, NASA has now officially completed its NPR for Master Planning, which directs Master Planners to align their Center Master Plans with Section 106 and 110 considerations, as well as emphasizes reutilization of eligible facilities. And as previously stated, NASA Headquarters has emphasized the importance of Center-specific Programmatic Agreements to address processes and solutions and streamline the overall management approach.

The finalized NPR now mandates that all Centers develop Integrated Cultural Resource Management Plans (ICRMPs) to ensure proper procedures are followed whenever historic properties may be adversely affected during site operations and project planning. These ICRMPs clearly define, document, and summarize all of the local archeological sites, historic properties, and historic districts, and provide guidelines for the protection and treatment of those specific resources. For



example, the ICRMPs include standard procedures for all site personnel, processes and procedures for unanticipated discoveries, requirements for modifications or other changes to historic properties/districts, curation processes (if applicable), roadmaps for involvement with early planning activities, public involvement considerations, tribal consultation requirements, and overall security and protection considerations. Additionally, the ICRMPs are designed to further integrate with various site operational documentation such as Permits to Excavate (dig permits), Records of Environmental Consideration (RECs) used during the NEPA process, site operation contracts and subcontracts, and other standard project planning and evaluation documentation.

Finally, NASA continues to routinely use the Space Act Agreement Maker e-routing process that was developed to provide different program managers at Headquarters with an opportunity to review project documentation and ensure that they concur with proposed construction or demolition projects. This system provides for the safeguard and protection of historic properties through checks and balances to ensure Section 106 is complete for projects before funding is approved. This process has been employed several times to identify projects that still need to complete their Section 106 process before funding could be approved, and has been shown to be an effective “last defense” to identify project problems and issues.

NASA has maintained a strong emphasis on training for the Historic Preservation Officers. The annual training provided by NASA Headquarters was rotated between three

different NASA Centers during this 3-year period. The locations for the annual training that were selected by NASA Headquarters included LaRC, ARC, and KSC. By rotating the face-to-face meeting, and associated cultural resource management training, between the Centers it provides the HPOs with a valuable opportunity to network with their peers, discuss projects, share lessons learned and other best management practices, and tour the various historic properties, and districts, that are located at the different NASA Centers. This is especially important considering that many of the NASA personnel assigned to cultural resource management tasks are also serving in another capacity such as real property management, facility master planning, or environmental compliance management.

In addition to the NASA Headquarters training that is provided on an annual basis, the Historic Preservation Officers are routinely encouraged to independently obtain training, on an as needed basis, to better understand program requirements and better facilitate the day-to-day operational activities. During this 3-year reporting period, personnel at the MSFC and WFF independently attended introductory or refresher Section 106 training, while personnel located at WSTF attended an advanced 106 training course intended for experienced practitioners. Additionally, WSTF personnel attended a focused training program specific to preparing and negotiating various agreement documents including Memorandums of Agreement and Programmatic Agreements. MSFC personnel independently attended a very specific training course related solely to Native American consultations.



The HPOs are also encouraged to provide internal training to the programs and projects at their own Centers. For example, briefings to senior management, facility engineering, real property, master planners, as well as technical staff are routinely provided and are highly beneficial towards raising the awareness of program requirements and increasing valuable communication between organizations.

### **Question 9**

#### **Describe your agency policies that promote and/or influence the protection of historic properties.**

NASA continues to rely on the combined policies of the environmental management program and real property organizations to protect historic properties through utilization, revitalization, and stewardship. These policies are documented in the current NPD and NPR guidance for cultural resource management, as well as the current NPR for Facilities Project Requirements (8820.2G; <http://nodis3.gsfc.nasa.gov/displayDir.cfm?t=NPR&c=8820&s=2F> ). As specifically stated in NPR 8820.2G, there are numerous policy objectives directly attributable to the protection of historic properties. This integration of historic property requirements into facility management programs and procedures is highly beneficial to ensuring that all stakeholders are involved in the planning and decision-making process. For example, NPR 8820.22 states:

- The facility project team shall include historic preservation stakeholders at all times;

- Historic and cultural resource compliance considerations must be considered for all projects;
- Environmental checklists are required that will identify the potential for any damage to a historic site;
- The HPO must be consulted for all projects on historic properties to ensure compliance with 36 CFR Part 800;
- The HPO must be consulted prior to modifications or demolition decisions to allow for a determination of eligibility;
- The facility project manager must develop an adaptive reuse feasibility report, in conjunction with the HPO, if a building is eligible and still planned for modification or demolition;
- The facility project manager will provide ample opportunity for the HPO to develop mitigation plans, as needed, for historic properties.

These policies provide the framework for a collaborative effort to identify and protect historic properties that may be affected by facility modifications and demolitions. In particular, the adaptive reuse feasibility report is designed to provide a detailed discussion of issues, and options, regarding the protection of historic properties. These efforts, coupled with the requirements of the cultural resource management NPR, provide the baseline for NASA's historic property protection policies.



## **Question 10**

### **Explain how your agency has employed the use of partnerships to assist in the protection of historic properties.**

As stated in the previous report, NASA continues to consider the actual use of its facilities as the best management practice to ensure protection of various historic properties. Continued use by NASA, or in partnership with commercial entities, assists the Agency with maintenance and Center management and operations funding to provide for facility upkeep, and maintain overall facility infrastructure in good working condition. There are numerous examples of partnerships to use NASA facilities for commercial interests which generates funding that is used for the overall protection of the facility itself. For example, the extensive amount of partnerships with tenants from industry, academics, and non-profits at ARC provide much-needed support for facility management costs, and have even provided for capital expenditures to renovate and upgrade historic facilities. The latest opportunity is the Request for Proposals for a Section 111 NHPA lease of the Moffett Federal Airfield which includes a WWII era airfield and three lighter than air hangars from the 1930s that a partner plans to restore and make provide a new viable use, thus avoiding their excess or demolition. The lease encompasses over 1000 acres and Hangar One, which is considered an important historic icon in Mountain View, California.

Another example of partnerships that protect historic properties is the reimbursable project work carried out under inter-agency cooperative agreements or Space Act Agreements. Many of NASA's testing and research facilities have pursued actively commercial work for mothballed, or

temporarily idle, facilities such as test stands, wind tunnels, and laboratories. For most reimbursable work, Centers will require the commercial entity to pay a surcharge to the total costs to provide for facility maintenance and general infrastructure support needs. This process is becoming common within the Agency to help defray operational and maintenance costs, including those costs directly attributable to historic property management and general maintenance requirements, thereby making these historic structures viable for continued use.

Finally, NASA has continued with various partnerships to manage and operate the major visitor centers. For example, the JSC visitor center is managed through a partnership with the non-profit Space Center Houston. This partnership provides for the protection of important properties and increases heritage tourism activities through site tours. For example, the planned 747 Shuttle Carrier Aircraft and Space Shuttle model display that will be the only visitor center experience that exhibits the classic



piggyback configuration of Space Shuttle

**Shuttle Carrier Aircraft (SCA) at the JSC Space Center Houston**  
Being prepared as a heritage tourism exhibit.





transportation is being financed through the non-profit agency's fundraising efforts.

Similarly, the KSC visitor complex is a partnership with a commercial entity to operate, maintain, and manage the facility. This includes the protection of the Space Shuttle Atlantis exhibit, and other important historic properties and artifacts. As part of the complex, there is also a partnership with the Center for Space Education that includes a research center, and the Early Space Exploration exhibit displaying numerous artifacts, including the Gemini 9A spacecraft and the Mercury Control Center consoles and furniture. These types of partnerships assist with the oversight and management of historic properties and artifacts, and provide a heritage tourism activity for the public to enjoy for many years to come.

## **Question II**

**Provide specific examples of major challenges, successes, and/or opportunities your agency has encountered in protecting historic properties over the past three years.**

The major, shining star, success for protecting historic properties during this reporting period has to be the final disposition of the Space Shuttle orbiters to ensure their protection for future generations of visitors. The disposition of these historic properties required extensive recordation efforts coupled with public viewings and associated retirement events, transportation on the SCA, fly-by routes to further encourage public involvement and viewing, then installation at their final museum or visitor center destination. There were ground breaking events for the Atlantis exhibit at KSC, and extensive effort was expended to ensure that a very high-quality public viewing and

interpretation experience was provided. These exhibits have been very successful, as clearly shown by the vast amount of attendees. NASA also successfully negotiated the protection of the JSC SAIL, which was scheduled and ready for dismantling and demolition. The protection of the SAIL by adding it to the visitor center experience for future generations to visit will enhance the Agency's heritage tourism program. Finally, the efforts by the HPOs to formalize the protection of historic properties through enhanced, or new, Programmatic Agreements was also a successful endeavor, but still has more room to grow and expand throughout the various Centers.

A challenge for NASA was the proposed demolition of all of the structures at the Santa Susana Field Laboratory in California, and the impacts of extensive remediation would have on significant Native American sites including archeological and Sacred Sites. The cleanup effort required all of the test stands and facilities contributing to three test stand historic districts to be demolished to prepare the site for extensive cleanup and eventual disposal (excess) of the site. Over two years NASA consulted with over 35 consulting parties including Native American tribes to resolve concerns regarding the test stands that heralded California's role in the development of rocketry and important archeological sites. The end result of the consultation was a Programmatic Agreement that looks to preserve the integrity of the key Native American archeological site and retain one test stand if cleanup standards can be met.

Another challenge during this reporting period was to further integrate historic property management through the collaboration of other groups with the HPOs



and other historic property management professionals. This effort requires close coordination between many disparate organizations and individuals from real property to master planners to project managers to senior leaders. Planning and decision-making occurs on a day-to-day basis, and ensuring that historic property protection considerations are part of that communication and discussion process can be a challenging endeavor. It's all too common to learn of planning decisions "after the fact", which is the primary impetus to working diligently to integrate organizations, increase communication, and ensure that historic property protection is considered at all stages of project planning and facility management decisions. To this end, efforts are underway to further address and mitigate this challenge. For example, the 2014 face-to-face meeting of the HPO community that was held at KSC was a joint meeting with Agency-wide real property and master planning professionals. This was the first attempt to integrate the annual meetings, and training, and similar joint activities are planned for the future. Additionally, efforts were made to integrate the electronic property information and status data that resides in both the real property database and the NETS database. This policy of inclusion has increased visibility to the HPO community when master planning and property decisions are made, while also identifying the eligibility status of all properties to these same property and planning personnel. This increased visibility, and resulting communication, will ensure additional protections to NASA's historic properties.

In summary, the vast amount of individuals involved in day-to-day activities at the NASA Centers makes integration and collaboration

an Agency-wide challenge; however, through increased communication, additional policy guidance, electronic record collaboration, and effective oversight, the gap that sometimes occurs between organizations is slowly, but successfully, being closed to ensure that historic properties are part of all relevant discussions and decision processes throughout all of the NASA organizations.

## Section 3: Use

### **Question 12**

**Explain how your agency has used historic properties.**

There are numerous high-profile examples of NASA using historic properties during this 3-year reporting period. First of all, while NASA continues to fully utilize its historic inventory, as missions change or finish, NASA must regularly identify new uses for important Agency assets, whether they are historic or not. As NASA's overall mission changes, opportunities continue to arise for the use, and re-purposing, of various historic structures. For example, NASA has already seen several requests and specific opportunities to use legacy facilities for the new Agency transition to commercial based spaceflight services. Additionally, the transition to the SLS and Orion work has also identified specific programmatic needs for testing and evaluation programs to use historic properties. Some specific examples of these types of activities are provided as follows:

- KSC has successfully negotiated a 20-year lease for the re-use of KSC's historic Pad 39A by SpaceX which includes



- requirements for the commercial entity to bear the overall costs of maintenance. The Space Shuttle orbiters have been re-purposed to museums and visitor centers in Florida, California, Washington D.C., and New York to provide for public viewing and interpretation.
- JSC has re-purposed the Shuttle Carrier Aircraft (SCA) to the JSC visitor center for public viewing and interpretation.
  - The Space Transportation System (STS) program building in Palmdale, CA was transitioned out of NASA oversight responsibility and re-purposed to the U.S. Air Force operations.
  - LaRC has re-purposed the gantry system, a National Historic Landmark, to operate a new Hydro Impact Basin for simulating Orion splash down testing.
  - SSC modified Test Stand B-2, also a National Historic Landmark, for re-use during testing of the Space Launch System (SLS).
  - JSC re-purposed the Shuttle Avionics Integration Laboratory (SAIL) for heritage tourism activities provided by the JSC visitor center. This project received high praise from the Texas SHPO.



#### KSC Launch Pad 39A

Kennedy Space Center Director Bob Cabana announces that on April 14, 2014 NASA signed a property agreement with SpaceX for use and operation of Launch Complex 39A. NASA Administrator Charlie Bolden, left, and Gwynne Shotwell, president and chief operating officer of SpaceX, look on. SpaceX will use Launch Complex 39A for rockets such as the Falcon Heavy, currently under development (Image Credit: NASA/Don Casper)





- JSC has re-purposed and modified the Space Environment Simulation Laboratory (SESL), a National Historic Landmark, for test operations related to the James Webb Telescope project.
- JSC has re-purposed Building 45, which previously included the Technical Library, for use as the JSC Occupational Space Flight Medicine Clinic.
- WSTF transferred the WSSH Control Tower from the Shuttle alternate runway area on the U.S. Army White Sands Missile Range (WSMR) to the WSMR Museum's Missile Park for public viewing and interpretation.
- JSC has started refurbishment of the historic Mission Control to continue its use as a heritage tourism activity.
- ARC continues a strong tradition of re-using the historic property throughout the Center, including within the Shenandoah Plaza Historic District, via leasing to various tenants.

### **Question 13**

**Explain the overall condition of the historic properties within your agency's control.**

NASA's inventory of historic buildings and structures continues to be considered in good condition. For many of the historic properties at NASA, the structures themselves are relatively young, with many of the facilities just now reaching the 45-50 year age. Additionally, many of these facilities have been in constant use for various test programs and project requirements, so routine maintenance has been consistent. Additionally, NASA has continued to use an annual condition assessment, also known as

the Facility Condition Index (FCI) to evaluate and score properties. The FCI evaluates each facility for items such as structural integrity, expected life-span, safety and health issues, and efficiency of operating systems such as



**Space Environmental Simulation Laboratory at JSC**  
Re-purposed for the James Webb Telescope project.

HVAC, electrical, and water supplies. As described in the previous 3-year report, NASA continues to score most facilities slightly above the mid-point of the 1 (very poor) to 5 (excellent) score. Although the FCI does not specifically evaluate specific features and special issues related to historic properties, the Center HPO will assist with overall condition assessments on an as-needed basis.

For the numerous archeological assets locations throughout the various Centers, their Agency-wide condition is also





considered very good. NASA Centers are generally not publicly accessible without visitor clearance and escorts, and many of the facilities are located in remote areas or controlled and fenced locations. This ensures that access to archeological resources that could cause adverse effects is minimal. Internally, NASA has procedures in effect at all the Centers specific to digging and excavating activities. A dig permit (Permit to Excavate) must be completed and approved before digging can occur within facility fence lines, and many of the Centers have archeological surveys with GPS coordinates of known sites, which will mitigate possible disturbance or impact the condition of these archeological assets. Finally, the Centers all have specific procedures for unintended discoveries, which will halt operations and protect any resources that may be unintentionally encountered during facility operations that require digging, blading, or excavating.

#### **Question 14**

**Describe your agency policies that promote and/or influence the use of its historic properties.**

NASA does not have specific policies in-place that distinguishes between identification, evaluation, protection, and use of historic properties. However, it is the overall policy of the Agency, as described in NASA procedural requirements, to promote and influence the use of historic properties whenever feasible, possible, and in the interests of the ever-evolving NASA mission. At the majority of the Centers, the master planning process is being used to actively promote the use of historic properties. Additionally, the real property professionals have also been involved so the HPOs can identify opportunities, promote active re-use, and influence the decision

makers within the Agency. The integration of master planning, real property, and historic property management professionals is a key goal to foster and promote additional opportunities to use, or adaptively repurpose, historic properties.

#### **Question 15**

**Explain how your agency has used Section 111 (16 U.S.C. § 470h-3) of NHPA in the protection of historic properties.**

The prime example for the out-leasing of federally controlled historic properties for maintenance and facility management funding considerations is the anticipate out-lease of the Moffett Federal Airfield in Sunnyvale or Mountain View, CA. The RFP was publicized in November of 2013 and lease negotiations are being finalized that will allow over 1000 acres and multiple historic structures including three lighter than air hangars to be restored and repurposed for the partner's use. The lease is a Section 111 lease providing for the preservation of these iconic historic structures and their associated airfield. The proceeds from the sixty year lease will be reinvested in historic properties at ARC and across the Agency, thereby improving the maintenance and contributing to the continued viable use of multiple other historic structures.

NASA also has the ability to enter into other types of lease or partnership agreements and has selected to lease the historic Launch Pad 39A at the KSC to SpaceX for its continued use. This agreement provides for 20 years of management and maintenance funding, via a commercial interest, to assist NASA with maintenance of an important historic property. Any artifacts that need to be removed to adapt the Launchpad for its new



launch vehicles will be carefully removed and made available to museums through NASA's artifacts module through GSA. In addition to the 20-year SpaceX agreement, ARC is also very proactive in providing lease agreements that result in capital expenditures to maintain and operate important historic properties that may not be immediately needed by the Agency, but are also difficult to excess or remove from the property inventory.

Due to the on-going fiscal challenges that NASA has encountered over the last several years, and the expectation that the "freeze the footprint" or "reduce the footprint" mandate for property will be Agency policy for the foreseeable future, it is critical that NASA continue to actively pursue additional opportunities for Section 111 out-leasing.

#### **Question 16**

**Explain how your agency has employed the use of partnerships to assist in the use of historic properties.**

ARC continues to be NASA's leader in partnerships that encourage and foster the re-use of historic properties. Numerous partnerships at Ames for several of the facilities have been in-place for many years, and many of these partnerships use the historic properties throughout the complex, including the properties within the Shenandoah Plaza Historic District. At ARC, there are academic, industry, and non-profit organizations that share the facility, and ultimately share the costs associated with property management and maintenance. Some of these higher-profile partnerships include agreements with Carnegie Mellon University, Santa Clara University, Moffett Field Historical Society Museum, Western Disaster Center, Bloom Energy Corporation, Airship Ventures, Space Systems Loral, Tesla

Motors, and Wyle Laboratories. Many of these organizations also utilize the parade grounds within the Shenandoah Plaza Historic District for special events, including public events that provide additional heritage tourism access to NASA's historic properties.

WSTF has also partnered with the U.S. Army White Sands Missile Range to curate items and display the WSSH control tower within the WSMR museum and adjacent Missile Park. This no-cost partnership provides heritage tourism activity that is located outside the gates of the facility itself, which minimizes site access issues due to safety and security concerns.

Another major partnership that has been recently realized with respect to property use is the agreement with SpaceX to use KSC Launch Pad 39A. This 20-year agreement provides funding for the general management and maintenance of this important historic property, which will preserve the facility for potential future use. Many other potential partnerships are being evaluated as we move forward into the new paradigm of using the services of various commercial spaceflight companies. It is highly likely that additional facilities, throughout the country, may be used or re-purposed for various programmatic support requirements.

#### **Question 17**

**Provide specific examples of major challenges, successes, and/or opportunities your agency has encountered in using historic properties over the past three years.**

As federal government budgets continue to be scrutinized and reduced, and the overall mission of NASA constantly fluctuates and changes, there will inevitably be scenarios



where difficult decisions on the use of historic properties will be required. The major challenge to the Agency going forward will be the continued push to “freeze the footprint” of the Agency’s property inventory which will minimize center operation and maintenance costs and allow for replacement buildings that will meet the ever-increasing energy and water conservation and sustainability requirements of the future. Taking this idea one step further, the Agency is actively working to actually “reduce the footprint”, which routinely means demolition of older facilities that don’t meet the needs of the overall mission. This has already been seen locally at several of the Centers where property slated for demolition has significantly expanded, and in many cases the demolition schedule itself is being expedited, which then puts significant pressure on the HPO community, and the property and planning professionals, to establish opportunities for protection and re-use, and meet compliance requirements to mitigate adverse effects. This push to “do more with less” will inevitably impact additional historic properties, and even historic districts, when older structures, mothballed facilities, and other historic structures are evaluated for use and decisions are made to demolish and replace, or simply reduce the property footprint. To mitigate the effects of these issues, NASA continues to evaluate the potential for leases, adaptation, and re-use whenever feasible and appropriate.

Although the “freeze the footprint”, and even “reduce the footprint” strategy will be a major challenge to the Agency, the major success story is that, even in this environment, NASA has also been able to successfully re-use facilities and structures, even for some of the larger, higher-profile facilities. As previously

discussed, success stories include the SpaceX lease at KSC, the re-purposing of the B-2 test stand at SSC for the SLS program, re-using the historic gantry at LaRC for Orion testing, repurposing the SAIL at JSC for heritage tourism, re-using the SESL at JSC for the James Webb telescope project, re-purposing Building 45 at JSC for the Occupational Space Flight Medicine Clinic, transferring ownership of the STS building in Palmdale to the Air Force, and of course, documenting, preserving, and exhibiting the Space Shuttle orbiters for future generations to view and enjoy. These high-profile examples of using historic properties clearly show that, even in a difficult fiscal environment, the evaluation, protection, and re-use of very significant properties, including National Historic Landmarks, can be achieved.

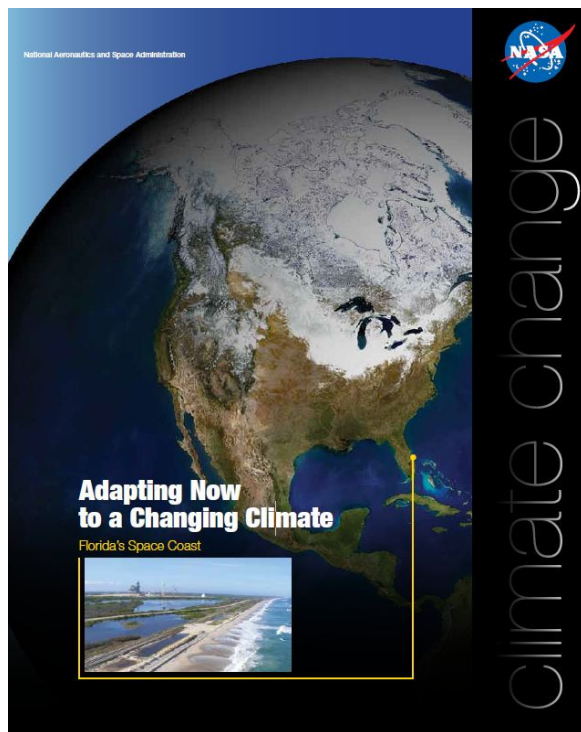
In summary, although there are many challenges ahead for NASA to do much more with much less, there are still opportunities available to use historic properties, and NASA has been successful with those endeavors.

### **Question 18**

**Describe your agency’s sustainability goals and climate change adaptation planning and how stewardship of historic properties is being addressed.**

The 2013 NASA Strategic Sustainability Performance Plan (SSPP) addresses major goals of the Agency including greenhouse gas reductions, sustainable buildings, fleet management, water use efficiency, pollution prevention, sustainable acquisition, electronic stewardship, renewable energy, and climate change resilience. The SSPP clearly describes specific metrics and goals that the Agency strives to achieve; for example, annual goals for reductions in water intensity, greenhouse





**Sample Climate Adaptation Strategy for  
NASA Centers**

gas, and petroleum use. Additionally, there are goals for increases in sustainable buildings and renewable energy projects, a more robust requirement for sustainable acquisition, as well as short-term and long-term risk analyses regarding potential climate change impacts. The Agency then actively tracks and reports progress towards achieving these goals on an annual basis.

Although the SSPP does not specifically describe historic property management as one of the nine major performance goals, the SSPP's overall goals are still partly implemented through NPR 8820.2, "Facilities Project Requirements", which requires that work carried out on facilities of historic significance must be carried out in accordance with Section 106 and its implementing regulations, 36 CFR 800, while at the same time requiring consideration of the SSPPs major goals during facility

planning. Additionally, facility project requirements must be evaluated and addressed with respect to the SSPP goals of energy and water efficiencies as well as other sustainability practices, regardless of whether the facility is relatively new or identified as an historic property.

Additionally, NASA has held climate risk workshops at six NASA centers that considers climate scenarios in the regions around each NASA center and the implications to the center's infrastructure, continued viability, and necessary adaptation strategies due to the proximity of many of our centers to the ocean, deserts and major rivers. In particular, LaRC which comprises mostly of a historic district is in the tidewater region of Virginia which is subject to tidal and river flooding issues in addition to climate change threats. Consideration of adaptation strategies at LaRC considered the built environment and the historic resources.

Information on NASA's 2013 Climate Risk Management Plan and Report – Update is available at [http://www.nasa.gov/sites/default/files/files/2013\\_NASA\\_ClimateRiskMgmtPlanReport\\_6\\_27\\_13\\_FNL.pdf](http://www.nasa.gov/sites/default/files/files/2013_NASA_ClimateRiskMgmtPlanReport_6_27_13_FNL.pdf).





HERE MEN FROM THE PLANET EARTH FIRST SET FOOT UPON THE MOON  
JULY 1969, A.D.  
WE CAME IN PEACE FOR ALL MANKIND

*The words on a plaque left on the Moon by Buzz Aldrin and Neil Armstrong*

"All the News That's Fit to Print"

# The New York Times

LATE CITY EDITION  
Weather: Fair, warm today; clear tonight. Sunny, pleasant tomorrow. Temp. ranges today 80-90; higher 71-88. Tomorrow: 80-90. Light variable S. Complete U.S. report on P. 25.

VOL. CXVIII, No. 40,721 NEW YORK, MONDAY, JULY 21, 1969 10 CENTS

## MEN WALK ON MOON

### ASTRONAUTS LAND ON PLAIN; COLLECT ROCKS, PLANT FLAG

**Voice From Moon: 'Eagle Has Landed'**

EAGLE (the lunar module): Houston, Tranquility Base here. The Eagle has landed.  
HOUSTON: Roger, Tranquility. We copy you on the ground. You've got a bunch of guys about to turn blue. We're breathing again. Thanks a lot.  
TRANQUILITY BASE: Thank you.  
HOUSTON: You're looking good here.  
TRANQUILITY BASE: A very smooth touchdown.  
HOUSTON: Eagle, you are okay for TV. (The first step is the least operation) Over.  
TRANQUILITY BASE: Roger, stay for TV.  
HOUSTON: Roger and we see you resting the oo, TRANQUILITY BASE: Roger.  
COLUMBIA (the command and service module): How do you feel now?  
HOUSTON: Columbia, he has landed Tranquility Base. Eagle is at Tranquility. I read you five by Over.  
COLUMBIA: Yes, I heard the whole thing.  
HOUSTON: Well, it's a good show.  
COLUMBIA: Further?  
TRANQUILITY BASE: I'll send that.  
APOLLO CONTROL: The next major step you stay will be for the TV show. That is at 31 seconds 26 seconds after initiation of power descent.  
COLUMBIA: Up telemetry command next to re-acquire on high gain.  
HOUSTON: Copy. Cut.  
APOLLO CONTROL: We have an unofficial time for that countdown of 100 hours, 45 minutes, 42 seconds and we will update that.  
HOUSTON: Eagle, you landed 82 wrong. We want 10054.  
TRANQUILITY BASE: Roger. Do you want the broadcast 05 153?  
HOUSTON: That's affirmative.  
APOLLO CONTROL: We're now less than four minutes from our next major step. It will be the use of the television of the command module.  
One of the first things that the Armstrong and Aldrin will do after getting their next oxygen stay will be to remove their helmets and gloves.  
HOUSTON: Eagle, you are okay for TV. Over.  
Continued on Page 4, Col. 1

**Voyage to the Moon**  
By Katherine McKernan  
Presence among us,  
wordless in our silence,  
desire of silence in our lives and on our  
nature alone.  
O  
After mission at our 'buried' thought—  
"The missing moon" ... "the glimpses of the moon"....

**A Powdery Surface Is Closely Explored**

By JOHN NOBLE WILFORD  
Special to The New York Times

HOUSTON, Monday, July 21—Men have landed and walked on the moon.  
Two astronauts, extracrews of Apollo 11, entered their Eagle four-legged lunar module safely and smoothly to the lunar landing yesterday at 4:17:40 P.M., Eastern daylight time.  
Neil A. Armstrong, the 38-year-old civilian commander, touched to earth and the mission control room here.  
"Houston, Tranquility Base here. The Eagle has landed."  
The first man to reach the moon—Mr. Armstrong and his colleague, Col. Edwin S. Aldrin Jr., of the Air Force—brought their ship to rest on a level, rock-strewn plain near the southwestern shore of the sixth Sea of Tranquility.  
About six and a half hours later, Mr. Armstrong opened the lunar module's hatch, stepped slowly down the ladder



Neil A. Armstrong, commander, is seen from the leg of the landing craft after taking the first



Col. Edwin S. Aldrin Jr. is climbing down the ladder. The television camera was attached

