



AWT and PSL

# MITIGATION

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# National Historic Preservation Act

## 36 CFR PART 800 -- PROTECTION OF HISTORIC PROPERTIES (incorporating amendments effective August 5, 2004)

### Subpart A -- Purposes and Participants

See.

800.1 Purposes.

800.2 Participants in the Section 106 process.

### Subpart B -- The Section 106 Process

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800.5 Assessment of adverse effects.

800.6 Resolution of adverse effects.

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### Subpart C -- Program Alternatives

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Appendix A -- Criteria for Council involvement in reviewing individual section 106 cases

project planning. The goal of consultation is to identify historic properties potentially affected by the undertaking, assess its effects and seek ways to avoid, minimize or mitigate any adverse effects on historic properties.

(b) *Relation to other provisions of the act.* Section 106 is related to other provisions of the act designed to further the national policy of historic preservation. References to those provisions are included in this part to identify circumstances where they may affect actions taken to meet section 106 requirements. Such provisions may have their own implementing regulations or guidelines and are not intended to be implemented by the procedures in this part except insofar as they relate to the section 106 process. Guidelines, policies and procedures issued by other agencies, including the Secretary, have been cited in this part for ease of access and are not incorporated by reference.

(c) *Timing.* The agency official must complete the section 106 process "prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license." This does not prohibit agency official from conducting or authorizing nondestructive project planning activities before completing compliance with section 106, provided that such actions do not restrict the subsequent consideration of alternatives to avoid, minimize or mitigate the undertaking's adverse effects on historic properties. The agency official shall ensure that the section 106 process is initiated early in

NASA Environmental Management Division: Historic Preservation and Cultural Resources - Microsoft Internet Explorer


http://www.hq.nasa.gov/office/ocsp/ocsp/ehp\_site/cultural/about\_cultural.html

## About Cultural Resources and Historic Preservation at NASA

*"Enabling environmentally sound mission success"*

**INDEX**

- [New EO 13327, Federal Real Property Asset Management dated February 4, 2004](#)
- [EO 13287, Federal America, dated March 3, 2003](#)
- [Other Links](#)
- [Government Property - Instructions for Preparing NASA Form 1018 \(Interim Rule\)](#)
- [Seminole Space Center](#)
- [NEPA](#)
- [NASA Environmental Tracking System \(NETS\)](#)
- [NASA Geographic Information System \(GIS\)](#)



Rocket Engine Test Facility  
Marshall Space Flight Center  
"From Research Center"  
Now with NASA

**Kenneth Kauer**  
NASA Federal Preservation Officer  
(202)358 1112

**Dr. Ann H. Clarke**  
(202)358 0007

**NEWS!**  
Marshall Space Flight Center's Preservation Officer, Ralph Allen, received first place in the Southeast Region category in the "Imaging Our National Heritage" contest sponsored by the National Park Service's National Historic Landmarks Program. See Award for

**Environmental Management Division:  
Cultural Resources and Historic Preservation**

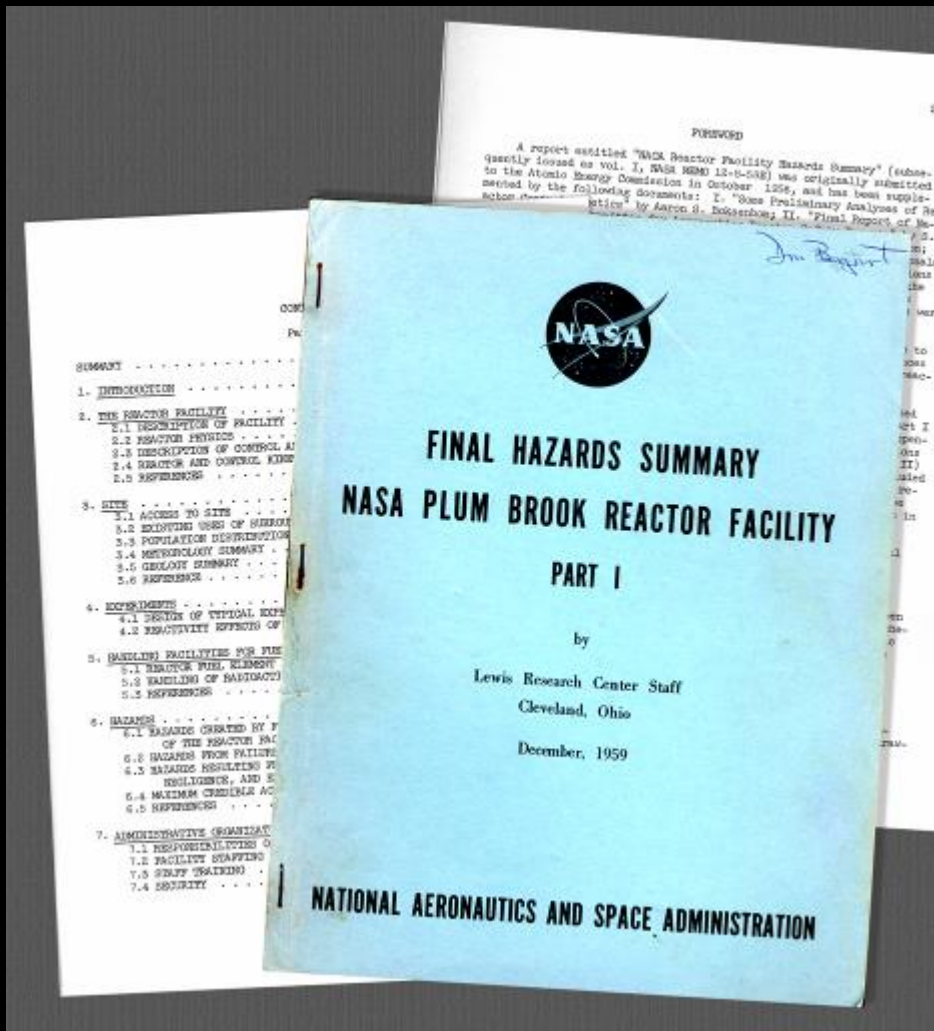
NASA's Environmental Management Division is a unit (Code OJ2) of the Office of Infrastructure and Management (Code OJ), which reports to the Office of the Assistant Administrator for Institutional and Corporate Management (Code OJ). The NASA Environmental Management Division serves as Agency lead in assuring that NASA meets its Federal stewardship responsibilities and achieves sustainability while carrying out its primary mission of understanding and protecting our home planet, exploring the Universe, and searching for life, and inspiring the next generation of explorers.

Under Section 110 of the National Historic Preservation Act, conservation of cultural resources is an important component of NASA's environmental management program. The NASA Environmental Management Division includes NASA's Federal Preservation Officer (FPO), who works closely with NASA Center and Facility Historic Preservation Officers and Archeology Leads. NASA's FPO also works closely with the NASA Senior Historian in conserving historic NASA properties. NASA's FPO also serves as a liaison to the Advisory Council on Historic Preservation, the National Park Service, including, for example, the Federal Archeologist and the Keeper of the National Register of Historic Places, other Federal, State, and Tribal Preservation Officers, the NASA Tribal Government Consultation Office, and NASA program offices.



## Historical Mitigation

Section 106 of the National Historic Preservation Act requires the documentation of historic government facilities prior to any significant structural changes, demolitions, or relocations. NASA Glenn Research Center has a number of historic facilities, some of which are scheduled to be demolished. The Glenn History Office, Glenn Preservation Officer, and facility managers are working with the State Historic Preservation Officer to develop documentation strategies, budgets, and work plans. The result will be a permanent documentary record for the facility, lessons learned insight for internal NASA use, increased public awareness of NASA Glenn contributions to society, educational resources, and a collected body of materials for future researchers.



## Collection of historical documents and photographs

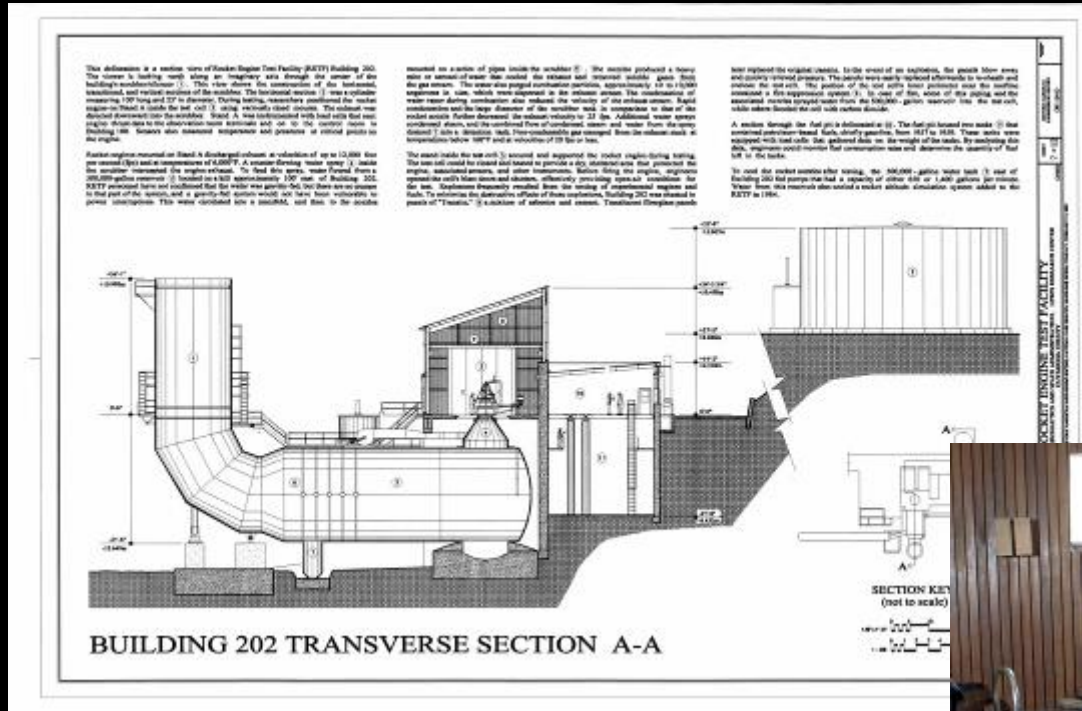


### Historical Mitigation

This process consists of two facets—the documentation of the facilities and their history and the interpretation and dissemination of that information to the public. The documentation includes archiving historical documents, interviewing retirees, and the collection of historical photographs and film.



# Technical drawings



# Oral histories



## Still imaging documentation





## Historical Mitigation

The documentation information that is collected is then distilled into several different media to be shared with the public. These include a book that will describe the testing and places the facility in the context of contemporary aerospace research. A web page and multimedia CD-ROM will be created which will include photographs, video clips, historical narratives, and other resources. Display panels will also be created and erected near the former facilities. Bronze Ohio historical markers will also be displayed.

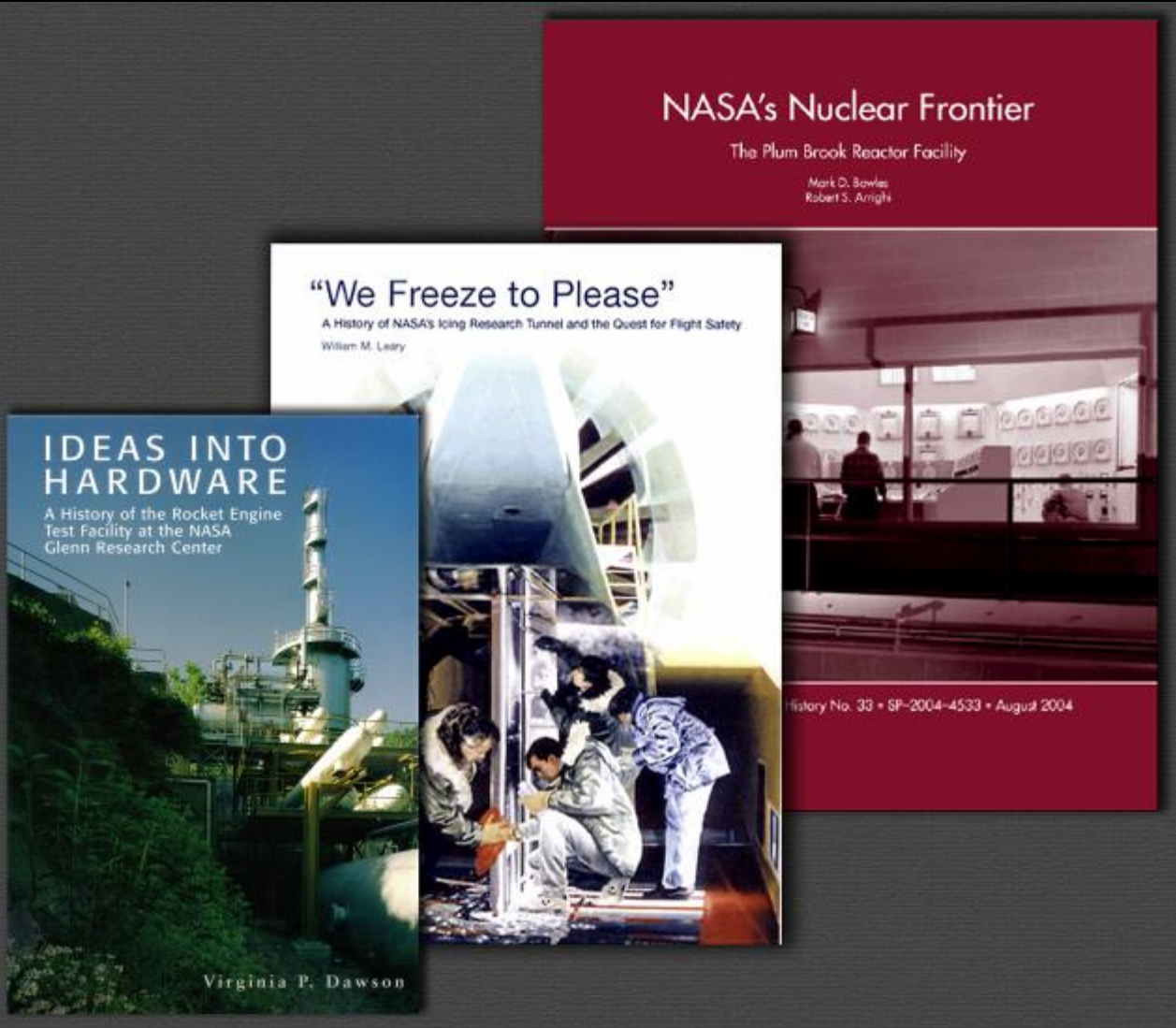
Although these historic NASA Glenn facilities will be gone, their story will be preserved for future generations.

In addition, the facilities will be photographed prior to and throughout the demolition, panoramic images will be created, detailed reports will be written describing the physical structure, and detailed drawings will be created.





# Historical Publications





# Displays



## The Centaur Upper-Stage Rocket 1958-2002

- Responsibility for the Centaur program was assigned to the Lewis Research Center in 1962.
- Under Director Dr. Abe Silverstein, pioneering and visionary work was conducted on high-energy liquid propellants for rockets. Hiring developed the technology for safe handling of the -400 °F propellants, engineers at Lewis were familiar with the Centaur's liquid-hydrogen/liquid-oxygen cryogenic fuels.
- Lewis engineers perfected the workhorse booster, carrying out a complex research and development program to assure its reliability.
- The Lewis team improved the Atlas booster, which would carry Centaur off the pad. The Spacecraft Propulsion Facility was designed for ground testing in a simulated space environment for both rockets of NASA Plum Brook Station in Sandusky, Ohio. This facility is a National Historic Landmark.
- On November 27, 1963, NASA had its first successful Atlas/Centaur rocket launch. No payload was carried, but the powerful rocket scored a significant milestone: the first in-flight burn of a liquid-hydrogen/liquid-oxygen engine. The Centaur was the Nation's first high-energy upper-stage launch vehicle.
- NASA Lewis has utilized Centaur for 80 of its 110 unmanned launches.

For almost 50 years, Lewis was responsible for the technical, cost, and safety of the Centaur rocket. Together with Atlas and Titan boosters, Centaur has powered and flown to Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pioneer, Viking, and Voyager spacecraft have provided new insights into our solar system. Centaur has truly been America's workhorse in space. It has played a significant role in global communications by launching countless satellites that continue to expand its horizons. Future space vehicles will make us proud to be powered by Centaur.

# Educational Web sites

**The Historic Rocket Engine Test Facility**

Originally located at NASA Glenn Research Center near the Cleveland Hopkins International Airport. 1957-2003

[home](#)   [photos & video](#)   [interactive lessons](#)   [research](#)   [museum display](#)   [airport expansion and the RETF](#)

### The Rocket Engine Test Facility



**Welcome to the Rocket Engine Test Facility (RETF) website.**

The RETF was a National Historic Landmark located at the NASA Glenn Research Center in Cleveland, Ohio.

Throughout most of its 46-year history (1957-2003), the facility played an integral part in the development of NASA rocket technology. This Web site was designed to preserve the legacy of the RETF.

You can see photographs and videos of RETF and take interactive lessons on rocket engine testing.

You can also learn about the traveling exhibit and how to bring it to a museum in your area.



Webmaster: [3d102@arc.nasa.gov](mailto:3d102@arc.nasa.gov) - Responsible NASA Official: Kevin E. Coleman  
 Accessibility Information: <http://www.gtrs.nasa.gov/Documentation.html>  
 NASA Privacy Statement: <http://www.gtrs.nasa.gov/DocPrivacy.html>



# Questions & Answers



"We shape our buildings;  
thereafter, our buildings shape us."  
—Winston Churchill