



**DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION**

Armando Quintero, Director

Julianne Polanco, State Historic Preservation Officer

1725 23rd Street, Suite 100, Sacramento, CA 95816-7100

Telephone: (916) 445-7000 FAX: (916) 445-7053

calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

April 26, 2023

VIA Email

In reply, refer to: NASA_2023_0317_001

Mr. Jonathan Ikan
Center Cultural Resources Manager
NASA Ames Research Center
Mail Stop 213-8
Moffett Field, CA 94035

Subject: Arc Jet Modernization Project, Ames Research Center, Moffett Field, Santa Clara County, California

Dear Mr. Ikan:

The California State Historic Preservation Officer (SHPO) has received the March 17, 2023, letter initiating consultation regarding an undertaking at NASA Ames Research Center (ARC). NASA is consulting with the State Historic Preservation Officer (SHPO) to comply with Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. §306108), as amended, and its implementing regulations at 36 CFR Part 800.

Along with the letter, NASA submitted a document entitled "Memorandum, Section 106 Consultation on Arc Jet Complex Modernization Project, NASA Ames Research Center, Moffett Field, Santa Clara County, California," prepared by AECOM and dated March 3, 2023.

The proposed undertaking, as described, involves upgrading the Arc Jet Complex, which includes Building N234, N238, and the Steam Vacuum System (SVS). The scope of work includes the following components.

1. Data Acquisition System Upgrade. The project would replace (in kind) or update hardware of the Data Acquisition System, as necessary. The existing system was installed in the 1990s and has been modified several times to meet advancements in technology and other changing needs, but now requires more substantial modernization.
2. Air and Argon Flow Controls. The project would replace obsolete programmable logic controllers, controller interfaces, flowmeters, regulators, sensors, and valve actuators [REDACTED]

Complex. To facilitate continued technological advancements, the project would replace in kind or upgrade technical equipment to sustain and improve functionality and safety. Exterior alterations are limited to transformer system upgrades to the 60-MW Power Supply Substation. The proposed work would have no effect. These changes would not indirectly affect the Arc Jet Complex. The criteria of adverse effect were applied to the project and its proposed alteration of the Arc Jet Complex. NASA determined that the project would meet the Secretary of the Interior's Standards for Rehabilitation, and the Arc Jet Complex would retain integrity of location, design, setting, materials, workmanship, feeling, and association after implementation of the project. The continued function of the Arc Jet Complex as a laboratory aligns with its historical associations, and its improvement will reflect the changing nature of a highly technical facility as addressed in the Advisory Council for Historic Preservation's 1991 Program Comment *Balancing Historic Preservation Needs with the Operation of Highly Technical or Scientific Facilities* (ACHP 1991). The proposed undertaking would not alter, directly or indirectly, any of the characteristics of a historic property that qualify it for inclusion in the National Register.

Based upon this analysis, NASA proposes a Finding of No Adverse Effect. After reviewing the information submitted, the SHPO offers the following comments.

- This project qualifies as an undertaking with the potential to affect historic properties.
- The APE is sufficient to take direct and indirect effects of the undertaking into account.
- Identification and evaluation efforts are sufficient for this consultation.
- Based on the documentation submitted, the SHPO does not have enough information to comment on the proposed Finding of No Adverse Effect. Please see the following comments for areas needing clarification.
 - For project component 1, Data Acquisition System Upgrade: This equipment was installed during the period of significance. Please provide a photograph and more information about what "substantial modernization" entails.
 - For project component 3, Aerodynamic Heating Facility (AHF) Model Insertion: please provide a photograph of the existing equipment, the date it was installed, describe subsequent modifications, and provide further information about the replacement equipment.
 - For project component 6, Safety and Interlock Control System: please provide a photograph of the existing equipment, the date it was installed, describe subsequent modifications, and provide further information about the replacement equipment.

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If there are any questions or concerns, please contact State Historian Mark Beason, at (916) 445-7047 or mark.beason@parks.ca.gov.

Sincerely,

A handwritten signature in blue ink, appearing to be 'JP', with a long horizontal line extending to the right.

Julianne Polanco
State Historic Preservation Officer