

October 4, 2000

Mr. Vernon W. Wessel, Director
Office of Safety and Assurance Technologies
NASA Glenn Research Center
2100 Brookpark Road, Mail Stop 3-6
Cleveland, Ohio 44135-3191

SUBJECT: NRC ROUTINE, ANNOUNCED, COMBINED INSPECTION REPORT
NUMBERS 50-30/00201 and 50-185/00201

Dear Mr. Wessel:

This refers to the inspection conducted on September 11-14, 2000, at the Plum Brook Reactor Facility research reactors. The enclosed report presents the results of that inspection.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations of activities in progress.

Based on the results of this inspection, no safety concern or noncompliance to NRC requirements was identified. No response to this letter is required.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at (the Public Electronic Reading Room) <http://www.nrc.gov/NRC/ADAMS/index.html>.

Should you have any questions concerning this inspection, please contact Mr. Thomas Dragoun at 610-337-5373.

Sincerely,

/RA by M. Mendonca Acting for/

Ledyard B. Marsh, Chief
Events Assessment, Generic Communications
and Non-Power Reactors Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket Nos. 50-30 and 50-185
License Nos. TR-3 and R-93

Enclosure: NRC Combined Inspection
Report Nos. 50-30/00201
and 50-185/00201

cc w/enclosure: Please see next page

National Aeronautics and
Space Administration

Docket Nos. 50-30/185

cc:

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Ohio Environmental Protection Agency
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Test, Research and Training Reactor Newsletter
202 Nuclear Sciences Center
University of Florida
Gainesville, FL 32611

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ACCESSION NO.: ML003755453

TEMPLATE #: NRR-056

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U. S. NUCLEAR REGULATORY COMMISSION

Docket Nos: 50-30 and 50-185

License Nos: TR-3 and R-93

Report Nos: 50-30/00201 and 50-185/00201

Licensee: National Aeronautics and Space Administration

Facility: Plum Brook Reactor Facility

Location: Sandusky, Ohio

Dates: September 11-14, 2000

Inspector: Thomas F. Dragoun

Approved by: Ledyard B. Marsh, Chief
Events Assessment, Generic Communications and
Non-Power Reactors Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

EXECUTIVE SUMMARY

This routine, announced inspection included onsite review of selected aspects of organization and staffing, the audit program, the radiation protection program, and the surveillance program, since the last NRC inspection of this program.

The licensee's programs were acceptably directed toward the protection of public health and safety, and in compliance with NRC requirements.

ORGANIZATION AND STAFFING

The organizational structure and functions were consistent with Technical Specification requirements. A decommissioning organization was being formed.

AUDITS

The review and audit program satisfied Technical Specification requirements.

RADIATION PROTECTION

The radiation protection program satisfied NRC requirements.

SURVEILLANCE

The surveillance program satisfied Technical Specification requirements.

Report Details

Summary of Plant Status

During the inspection all reactor facilities remained in long term safe storage. No equipment changes occurred since a major maintenance outage in 1996-1997. Contractors were core boring concrete for characterization studies in support of decommissioning. Control of ground water intrusion due to the site's proximity to Lake Erie was effective.

1. ORGANIZATION AND STAFFING

a. Scope (40755)

The inspector reviewed selected aspects of:

- organization and staffing
- qualifications
- management responsibilities
- administrative controls

b. Observations and Findings

The organizational structure and staffing were as required by the Technical Specifications (TS). Personnel were qualified and experienced. The PBRF Engineer, who provides oversight of day-to-day activities, has been in the position since 1986. Most work was performed by a contractor (Plum Brook Operations Support Group-PBOSG). Routine work is controlled by written policies and procedures. The inspector noted that procedure AO-16, "Facility Changes" did not incorporate stipulations for loose radioactive waste removal provided by the NRC in a letter dated August 22, 2000. The PBRF Engineer stated that the procedure would be revised. This matter will be reviewed in a future inspection (Inspector Follow up Item 50-30/2000201-01).

A decommissioning organization was being formed. The decommissioning project manager identified persons to serve as the deputy project manager (current Safety Committee Chairman) and a project radiation protection officer, both positions pending upper management approval. The PBRF Engineer also has tentatively agreed to serve in a key oversight role during the project. A few of the older PBOSG radiation protection technicians were on site during reactor operations and could provide historical information during decommissioning.

c. Conclusions

The organizational structure and functions were consistent with Technical Specification requirements. A decommissioning organization was being formed.

2. REVIEW AND AUDIT

a. Scope (40755)

The inspector reviewed selected aspects of:

- safety review records
- internal audit records
- review and audit personnel qualifications
- Non-Advocate Review

b. Observations and Findings

Records showed that the safety reviews were conducted by the PBRF Safety Committee at the TS required frequency. Topics of these reviews were also consistent with TS requirements.

The audit records showed that internal audits had been completed in those areas outlined in the TS and at the required frequency.

In April 2000, a 20-member committee conducted a Non-Advocate Review (NAR) of the decommissioning project to identify the factors important to its successful completion and provide recommendations. Several committee recommendations related to the enhancement of safety programs. These are under review by the licensee. The NAR process constitutes a licensee program strength.

c. Conclusions

The review and audit program satisfied Technical Specification requirements.

3. RADIATION PROTECTION

a. Scope (40755)

The inspector reviewed selected aspects of:

- the Radiation Protection Program
- radiological signs and posting
- As Low As Reasonably Achievable (ALARA) program

b. Observations and Findings

The licensee's Radiation Protection Program Manual and ALARA policy were not available at the Plum Brook Reactor Facility. However, a detailed program manual called "Radiological Protection Plan for the Decontamination and Decommissioning of the Plum Brook Reactor Facility (HP-PBRF-100)" had been provided to the decommissioning contractors. This document was developed by

the decommissioning project's acting radiation safety officer and adequately described the radiation protection program. The acting project RSO was on temporary detail from Argonne National Laboratory. Licensee management stated that a decision to designate a more permanent RSO position for the decommissioning project was under review. This matter will be reviewed in a future inspection (Inspector Follow up Item 50-30/2000201-02).

Caution signs, postings and controls to radiation areas were as required in 10 CFR 20, Subpart J and the TS. Licensee personnel observed the indicated precautions for access to the radiation areas.

The reactor vessel nitrogen purge gas is continuously monitored for tritium prior to discharge through the exhaust stack due to the potential off-gassing of tritium from the beryllium neutron reflectors in the system.

Use of dosimeters and exit frisking practices were in accordance with radiation protection requirements. The licensee used a National Voluntary Laboratory Accreditation Program (NVLAP)-accredited vendor to process dosimetry.

c. Conclusions

The radiation protection program satisfied NRC requirements.

4. SURVEILLANCE

a. Scope (40755)

The inspector reviewed selected aspects of:

- surveillance procedures,
- surveillance data sheets and records

b. Observations and Findings

Surveillances ("end condition statement" periodic verifications) were completed on schedule and in accordance with licensee procedures. All the recorded results were within the TS and procedurally prescribed parameters. The records and logs reviewed were complete, were being very well maintained, and readily available.

c. Conclusions

The surveillance program satisfied Technical Specification requirements.

5. EXIT INTERVIEW

The inspector presented the inspection results to members of licensee management at the conclusion of the inspection on September 14, 2000. The licensee acknowledged the findings presented.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

M. J. Blotzer, Manager, Environmental Management Office
R. Furnas, Director, Engineering and Technical Services Directorate
R. Hysong, Acting Project Radiation Safety Officer
K. Peecook, Deputy Reactor Decommissioning Manager
H. Pfanner, Plum Brook Reactor Facility Engineer / Reactor Manager
T. Polich, Reactor Decommissioning Manager
G. Reid, Radiation Safety Officer / Alternate Reactor Manager
V. W. Wessel, Director, Office of Safety Assurance Technologies

INSPECTION PROCEDURES USED

IP 40755 CLASS III NON-POWER REACTORS

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-30/2000201-01	IFI	Revise change control procedure.
50-30/2000201-02	IFI	Evaluate status of decommissioning project RSO

Closed

None

LIST OF ACRONYMS USED

ALARA	As Low As Reasonably Achievable
CFR	Code of Federal Regulations
IFI	Inspector Followup Item
IP	Inspection procedure
NAR	Non-Advocate Review
NVLAP	National Voluntary Laboratory Accreditation Program
NRC	Nuclear Regulatory Commission
PBOSG	Plum Brook Operations Support Group
PBRF	Plum Brook Reactor Facility
RSO	Radiation Safety Officer
TS	Technical Specifications