

April 21, 2005

Mr. Vernon W. Wessel
Director, Safety and Mission Assurance
John H. Glen Research Center
Lewis Field
Plum Brook Station
Sandusky, OH 44870

SUBJECT: ISSUANCE OF AMENDMENT NO. 8 TO FACILITY LICENSE NO. R-93, PLUM
BROOK MOCK-UP REACTOR (TAC NO. MC5770)

Dear Mr. Wessel:

The Commission has issued the enclosed Amendment No. 8 to Facility License No. R-93 for the National Aeronautics and Space Administration's (NASA's) Plum Brook Mock-up Reactor Facility located in Sandusky, Ohio.

In response to your application dated January 14, 2005, the amendment revises Section 3.A.4 of the license to clarify the requirements for confirmation of Final Status Survey results prior to backfilling or covering of excavated areas.

A copy of the related Safety Evaluation supporting Amendment No. 8 is also enclosed.

Sincerely,

/RA/

Patrick J. Isaac, Project Manager
Research and Test Reactors Section
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No. 50-185

Enclosures: 1. Amendment No. 8
2. Safety Evaluation

cc w/encls.: Please see next page

National Aeronautics and
Space Administration

Docket No. 50-185

cc:

Ohio Department of Health
ATTN: Radiological Health Program
Director
P.O. Box 118
Columbus, OH 43216

Ohio Environmental Protection Agency
Division of Planning
Environmental Assessment Section
P.O. Box 1049
Columbus, OH 43216

Mr. J. Eric Denison
Bureau of Radiation Protection
Ohio Department of Health
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Mr. Hank Pfanner
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6100 Columbus Avenue
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Mr. Timothy Polich
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Plumbrook Station
6100 Columbus Avenue
Sandusky, OH 44870

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

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NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION
DOCKET NO. 50-185
AMENDMENT TO FACILITY LICENSE

Amendment No. 8
License No. R-93

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that
 - A. The application for an amendment to Facility License No. R-93 filed by the National Aeronautics and Space Administration (the licensee) dated January 14, 2005, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the regulations of the Commission as stated in Chapter 1 of Title 10 of the *Code of Federal Regulations* (10 CFR);
 - B. The facility will be maintained in conformity with the amended license, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance that (i) the activities authorized by this amendment can be conducted without endangering the health and safety of the public and (ii) such activities will be conducted in compliance with the regulations of the Commission;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
 - E. This amendment is issued in accordance with the regulations of the Commission as stated in 10 CFR Part 51, and all applicable requirements have been satisfied; and
 - F. Prior notice of this amendment was not required by 10 CFR 2.105, and publication of notice for this amendment is not required by 10 CFR 2.106.

2. Accordingly, Section 3.A.4 of Facility License No. R-93 is hereby amended to read as follows:
 4. Before backfilling or performing actions that would otherwise render an area inaccessible for survey:
 - a. The final status survey or the portion of the final status survey covering the affected area shall be performed.
 - b. The completed final status survey for the affected area and a technical or safety justification demonstrating the need to perform the intended actions shall be submitted to the U.S. NRC.
 - c. Concurrence that the proposed actions may be performed shall be received via telephone, email, or letter from the U.S. NRC.
3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Patrick M. Madden, Section Chief
Research and Test Reactors Section
New, Research and Test Reactors Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Date of Issuance: April 21, 2005

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 8 TO

FACILITY LICENSE NO. R-93

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

DOCKET NO. 50-185

1.0 INTRODUCTION

By letter dated January 14, 2005, the National Aeronautics and Space Administration (NASA), the licensee, submitted a request for amendment to Facility License No. R-93. The amendment clarifies the requirements for confirmation of final status survey results prior to backfilling or covering of excavated areas. Backfilling without the performance of a confirmatory survey would be allowed only when the NRC staff has determined that there is appropriate safety or technical justification for backfilling and that, based on the NRC staff's review of the completed final status survey for the affected area, there is reasonable assurance that the licensee's surveys have demonstrated that the affected area satisfies the unrestricted release criteria.

2.0 EVALUATION

Currently, Section 3.A.4 of Facility License No. R-93 reads:

“Before backfill operations, the final status survey or the portion of the final status survey covering the area to be backfilled shall be performed and will require U.S. NRC confirmation and approval.”

Generally, the type and scope of the “confirmation” is determined by the NRC staff. Much of the work required for confirmation involve evaluation and review of documentation and data from survey activities conducted by the licensee. Whenever the NRC deems that a confirmatory survey is appropriate, it usually requires coordination with a contractor who will perform the confirmatory measurements. Before backfilling an area that has been excavated, the licensee usually waits for a report from the NRC with the results of the confirmatory survey.

As the decommissioning progresses, situations may arise where the time period involved in scheduling the NRC's contractor, performing a confirmatory survey, and receiving the report from the NRC may cause an excavation to remain uncovered for an excessive period of time. There are situations where industrial safety or technical issues could make this an undesirable condition.

The licensee has proposed amending this section of the license to read as follows:

4. "Before backfilling or performing actions that would otherwise render an area inaccessible for survey:
 - a. The final status survey or the portion of the final status survey covering the affected area shall be performed.
 - b. The completed final status survey for the affected area and a technical or safety justification demonstrating the need to perform the intended actions shall be submitted to the U.S. NRC.
 - c. Concurrence that the proposed actions may be performed shall be received via telephone, email, or letter from the U.S. NRC."

This proposed amendment still allows the NRC the opportunity to review the results of the final status survey for an excavated area or an area that planned decommissioning activities could render inaccessible. Based on the review of the licensee's survey, the NRC staff would be able to determine that there is reasonable assurance that the surveys have adequately demonstrated that the affected area meets the unrestricted release criteria. In addition, the amendment adds the requirement that the licensee must provide to the NRC appropriate safety or technical justification for backfilling an area or rendering it inaccessible, and it identifies the acceptable ways for the concurrence process.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves changes in recordkeeping, reporting, or administrative procedures or requirements. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22 (c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of this amendment.

4.0 CONCLUSION

The staff has concluded, based on the basis of the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by the proposed activities; (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of this amendment will not be inimical to the common defense and security or the health and safety of the public.

Principal Contributor: Patrick J. Isaac

Date: April 21, 2005