

U. S. Nuclear Regulatory Commission

NOTICE OF CONSIDERATION OF ISSUANCE OF AMENDMENT TO FACILITY
OPERATING LICENSES, PROPOSED NO SIGNIFICANT HAZARDS
CONSIDERATION DETERMINATION, AND OPPORTUNITY FOR A HEARING
(TAC NO.'S J60622 AND J60626)

Plum Brook Reactor Facility, Docket Nos. 50-30 and 50-185, Sandusky, Ohio

Dates of amendment requests: May 18, 2005, May 12, 2006, February 9, 2007, and
January 10, 2007.

Description of amendment request: The licensee (National Aeronautics and Space
Administration (NASA)) has proposed to amend the Facility Operating Licenses (TR-3 and R-
93) of the two research reactors located at Plum Brook Reactor Facility, Sandusky, Ohio. The
amendments to the licenses include revisions to the Technical Specifications (TS), and
incorporating a Final Status Survey Plan (Revision 1). The same TS set applies equally to both
licenses.

The Decommissioning Plan (DP) for the Plum Brook Reactor Facility, approved by the
Commission by issuance of license amendment dated March 20, 2002, will remained
unchanged.

Proposed revisions to the TS include but are not limited to administrative changes,
revised facility descriptions, new definitions and minor program changes. Specific proposed
revisions include the following:

Section 1 of the TS is revised to state that the TS apply to all activities conducted under
the provisions of the Licenses. It clarifies that both reactors are both shutdown and dismantled,
and there is no fuel remaining at the facility. The facility was shutdown and ceased operations in

March 1973. The last shipment of irradiated fuel was made on May 25, 1973, and all remaining fuel contaminated components were shipped offsite by July 1973. Disposal of the Plum Brook reactor vessel was completed in early 2005 and the core support components for the Mock Up reactor were removed by the summer of 2003.

The 'Definitions' in Section 2 of the TS are renumbered to comply with ANSI/ANS-15.1 format, and the definitions that follow are numbered as subparagraphs with the format 1.1.x. Some definitions are revised, deleted, or redefined.

Section 2.0 of the TS are revised to identify that there are no Safety Limits or Limiting Safety System Settings applicable to the facility, since all reactor components and fuel have been removed.

Sections 3.1 and 4.1 of the TS were revised to identify that the Access Control Program was changed to more accurately reflect the current site conditions.

Sections 3.2 and 4.2 of the TS relating to Alarm Response are revised so that the Containment Vessel (CV) Door Open alarm was removed from this section and incorporated into the specifications related to 'Containment'.

The specifications related to sump level alarms are revised to provide quantitative criteria on when sump level alarms are required rather than the subjective criteria of 'kept dry'. The requirement for the sump alarms to annunciate at the Plum Brook Station Communications Center is also revised to require that the alarms annunciate at a remote manned location which is typically the Plum Brook Station Communications Center.

Sections 3.3 and 3.4 relating to Containment and Ventilation and the associated Section 4 surveillance requirements are revised to reflect that the fact the airborne activity must be controlled during all decommissioning activities rather than only during the time period that a 'major portion of the source term is present'.

Sections 3.5 and 3.6 relating to Radiation and Effluent Monitoring and the associated Section 4 surveillance requirements are revised to reflect the current site conditions and to provide assurance that a program is implemented that assures the worker exposure to radiological hazards is maintained as low as reasonably achievable and in compliance with 10 CFR Part 20 limits. In addition, they assure that effluents from the facility are adequately monitored to protect the public and environment from radiological hazards.

Sections 5.0 relating to Site Features are revised to conform to the format suggested in ANSI/ANS-15.1 and to more accurately reflect the current site conditions that have evolved as the decommissioning program has progressed.

Sections 6.0 relating to Administrative Controls contain multiple revisions. The requirement to perform an annual review is relocated to section 6.9.2 to incorporate into the annual review performed at the direction of the Executive Safety Board. The requirement to have Level 3 approval of temporary procedure changes is removed since such changes are controlled through site established administrative procedures; and, the responsibilities of the Decommissioning Safety Committee are more clearly defined.

The last sentence in Section 6.5 of the TS is deleted.

Section 6.5 of the TS is revised to read, “The Senior Project Engineer will have direct authority over all activities that take place at the Plum Brook Reactor Facility (PBRF) and will be the primary interface with on-site Contractors supporting the Decommissioning project.”

The last sentence of Section 6.7 of the TS is revised to read, “The authority to fulfill this responsibility and perform these functions will be granted by Chairman of the NASA Safety Health, and Environmental Board.”

The second sentence in Section 6.9.2 of the TS is revised to read, “Personnel performing these reviews shall be appropriately qualified and experienced, and shall be members of, or appointed by the NASA Safety Health, and Environmental Board.”

Figure 1 on page 24 of the Technical Specifications is revised to reflect the change in the name of the Executive Safety Board and to depict the direct reporting relationship of the Health Physics and Radiation Protection staff to the NASA Project Radiation Safety Officer.

Licenses TR-3 and R-93 are also revised. The revision numbers associated with issuance of this License Amendment are inserted in place of “Amendment 11” and “Amendment 7” respectively. Paragraph 2.B.3 is deleted and replaced with a new paragraph 2.B.4 to read, “Pursuant to the Act and Title 10, CFR, Chapter I, Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source, or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components.”

Paragraph 2.A of License TR-3 is revised by changing the last sentence to read, “The PBRF is described in the application for the full-term license dated January 10, 1964 and amendments thereto.”

Paragraph 3 of Licenses TR-3 and R-93 is revised to read, “NASA is authorized to decommission the facility in accordance with the Decommissioning Plan for the Plum Brook Reactor Facility approved by the Commission by issuance of license amendment dated March 20, 2002, as revised pursuant to paragraph 3.A.1 below, and to perform Final Status Surveys in accordance with the Final Status Survey Plan for the Plum Brook Reactor Facility....”

Paragraph 3.A of Licenses TR-3 and R-93 is revised to read, “This amendment authorizes inclusion of the Decommissioning Plan for the Plum Brook Reactor Facility and the Final Status Survey Plan for the Plum Brook Reactor Facility and their supplements as supplements to the Final Safety Analysis Report pursuant to 10 CFR 50.82(b)(5).”

Paragraph 3.A.1 of Licenses TR-3 and R-93 is revised to read, “The licensee may make changes to the above plans and revisions without prior U.S. Nuclear Regulatory Commission approval provided the proposed changes do not.” The change changes the “word” in the original to “plans”, and would allow the licensee to make changes to the Final Status Survey Plan without prior U.S. Nuclear Regulatory Commission approval.

Paragraph 3.A.1.c of Licenses TR-3 and R-93 is revised to read, “. . . increase the derived concentration guideline level and related minimum detectable concentrations (for both scan and fixed measurement methods);”

Paragraph 3.A.3 of Licenses TR-3 and R-93 is deleted.

Basis for proposed no significant hazards consideration determination: As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration, which is presented below:

- (1) Do the changes involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed changes are administrative would not change plant systems or accident analysis, and as such, would not affect initiators of analyzed events or assumed mitigation of accidents. Therefore, the proposed changes do not increase the probability or consequences of an accident previously evaluated.

- (2) Does the change create the possibility of a new or different kind of accident from any accident evaluated?

Response: No.

The proposed changes do not involve a physical alteration to the plant or require existing equipment to be operated in a manner different from the present design. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident evaluated.

- (3) Does the change involve a significant reduction in a margin of safety?

Response: No.

The proposed change has no effect on existing plant equipment, operating practices, or safety analysis assumptions. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

The NRC staff has reviewed the licensee's analysis for the proposed revisions and, based on this review, it appears that the three standards of 10 CFR 50.92 (c) are satisfied. Therefore, the NRC staff proposes to determine that the amendment requests involve no significant hazards consideration.

NRC Branch Chief: Rebecca Tadesse

The proposed change has no effect on existing plant equipment, operating practices, or safety analysis assumptions. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

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NRC Branch Chief: Rebecca Tadesse.

Dated at Rockville, Maryland, this 15th day of August 2007.

For the Nuclear Regulatory Commission.

//RA//

Chad Glenn, Project Manager
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials and
Environmental Management Programs

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