

National Aeronautics and  
Space Administration

**John H. Glenn Research Center**  
**Lewis Field**  
Plum Brook Station  
Sandusky, OH 44870



NOV 19 2001

Reply to Attn of: 0100

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

Subject: Request for Amendment to License TR-3, Docket No. 50-30 Revising  
Organizational Structure in Support of Plum Brook Reactor Facility  
Decommissioning

The following request is affirmed under 28 USC Section 1746. In accordance with the applicable sections of 10 CFR Part 50, the National Aeronautics and Space Administration (NASA) requests License TR-3, Docket No. 50-30 for the Plum Brook Reactor Facility (PBRF), be amended to indicate a proposed revision of the NASA organizational structure in support of PBRF decommissioning in the license Technical Specifications. A similar request is being made concurrently for the Mock-Up Reactor (MUR) under separate amendment to License R-93, Docket No. 50-185.

Approval of this request would facilitate execution of the proposed PBRF Decommissioning Plan. NASA considers this proposal prudent and timely in light of the fact that the PBRF Decommissioning Plan is nearing final NRC approval, as discussed between NRC (Mendonca) and NASA (Polich) on August 24, 2001. NASA also considers this request to be consistent with portions of the proposed Decommissioning Plan that have already reached tentative NRC approval. Details presented in this amendment request do not directly relate to the remaining NRC questions regarding the Decommissioning Plan.

Specifically, this proposal maintains Glenn Research Center Level 1 Directorate as the licensee executive authority, but transitions Level 2 licensee management responsibilities from the Plum Brook Management Office to the NASA Decommissioning Project Manager. In support of this transition, and consistent with the Decommissioning Plan, an off-site Decommissioning Safety Committee (currently the PBRF Safety Committee) is proposed to ensure the project will have executive-level oversight over license-related activities. Additionally, an on-site, Project Safety Committee is proposed to ensure the increased activities during the transition from safe protected storage to pre-decommissioning and

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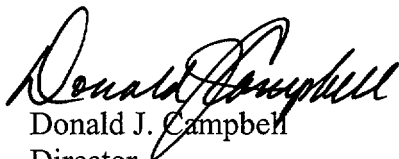
decommissioning are reviewed for safety in a timely, effective manner, and that the decommissioning project will have technically mature, on-site management of license-related activities.

In support of this request, the following information is enclosed with this letter. Where appropriate, side-bars are provided to indicate proposed changes.

1. General Information Amendment to License TR-3  
Docket No. 50-30.
2. Proposed Amendment to "Possess-But-Not-Operate"  
License TR-3, Docket No. 50-30.
3. Proposed Appendix A, "Technical Specifications" to  
Amended License TR-3, Docket No. 50-30.
4. Significant Hazards Consideration Analysis and Environmental Evaluation of  
Proposed Amendment to License TR-3, Docket No. 50-30.

Should you have any questions or need additional information, please contact Mr. Henry Pfanner, NASA Plum Brook Station, 6100 Columbus Avenue, Sandusky, Ohio, 44870, telephone number (419) 621-3206.

The enclosed License Amendment request is true and correct to the best of my knowledge and belief. I declare under penalty of perjury that the foregoing is true and correct. Executed on this 19th day of November, 2001.

  
Donald J. Campbell  
Director

Docket No. 50-30

4 Enclosures

cc: (w/enclosures)  
Ohio Department of Health  
Bureau of Radiation Protection  
Attn: J. Eric Denison  
35 E. Chestnut Street  
7<sup>th</sup> Floor  
Columbus, OH 43216

U.S. Nuclear Regulatory Commission  
Attn: Mr. Marvin Mendonca  
MS-0-12-D1  
Washington, DC 20555

U.S. Nuclear Regulatory Commission  
Region III  
Attn: Mr. James P. Dwyer  
801 Warrenville Road  
Lilse, IL 60532-4351

**AMENDMENT TO LICENSE NO. TR-3**

**Docket No. 50-30**

**General Information**

Pursuant to 10 CFR 50.33, the following information is provided to support the request for an Amendment to License TR-3, Docket No. 50-30.

1. Applicant - National Aeronautics and Space Administration.
2. Address - Glenn Research Center  
21000 Brookpark Road  
Cleveland, OH 44135
3. Class of License - 104; Possess-But-Not-Operate.
4. Use of Facility - The facility has no fuel and the reactor is in a protected safe storage condition.
5. Period of Time for which License is Sought - Completion of decommissioning and license termination.
6. Financial Qualification - Being an agency of the United States Government, NASA is financially qualified to possess the requested license.

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**

**DOCKET NO. 50-30**

**PROPOSED AMENDED FACILITY LICENSE**

License No. TR-3  
Amendment No. 11

1. The proposed amendment to facility license No. TR-3, Docket No. 50-30 should read as follows:

This license applies to the heterogeneous light water-cooled and moderated test reactor referred to as the Plum Brook Reactor Facility (PBRF). The PBRF includes all associated on-site support facilities except for the Mock-Up Reactor (MUR), which is under separate License R-93, Docket No. 50-185.

The PBRF is owned by the National Aeronautics and Space Administration (NASA), an independent agency of the United States Government and located at the NASA Plum Brook Station near Sandusky, Ohio. The PBRF is described in the application for the full-term license dated January 10, 1964, and amendments thereto, including:

**AMENDMENT NO. 5 FOR STANDBY**

Application - March 19, 1973  
Supplement - May 11, 1973

**AMENDMENT NO. 6 TO EXCLUDE STRUCTURES 1121, 1142, 1156**

Application - October 27, 1976

**AMENDMENT NO. 7 FOR PROTECTED SAFE STORAGE**

Application - July 26, 1985

**AMENDMENT NO. 8 FOR CHANGE OF ADMINISTRATIVE OVERSIGHT**

Application - February 27, 1989  
Supplement - June 22, 1989

**AMENDMENT NO. 9 FOR CONTINUED SAFE STORAGE**

Application - November 4, 1996  
Supplement - December 20, 1996  
- September 18, 1997  
- March 30, 1998  
- April 13, 1998

AMENDMENT NO. 10 FOR ORGANIZATIONAL NAME CHANGE

Application - March 24, 1999

Supplement - August 10, 1999

AMENDMENT NO. 11 FOR CHANGE OF ADMINISTRATIVE OVERSIGHT

Application - November 1, 2001

2. Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 11, are hereby incorporated in this license, and changes therein may be made only when authorized by the Commission in accordance with the provisions of 10 CFR Part 50, Section 50.59.

**ENCLOSURE TO LICENSE AMENDMENT NO. 11**

**FACILITY LICENSE NO. TR-3**

**DOCKET NO. 50-30**

Replace the following pages of the Appendix A, Technical Specifications, with the enclosed pages. The revised pages are identified by Amendment number and contain a vertical line indicating the area of change.

**Remove Pages**

17

18

19

20

Figure 2

**Insert Pages**

17

18

19

20, 20a, 20b, 20c

Figure 2

b.	PBRF Fence Integrity	Monthly
c.	Building and CV Locks Inspection	Monthly
d.	Building and CV General Condition Inspection	Monthly
e.	Alarm Tests	Quarterly
f.	Facility Radiological Surveys	Quarterly
g.	Environmental Radiological Surveys	Quarterly
h.	Absolute Filters Inspections	Annually
i.	CV Integrity Test	Annually

The Decommissioning Project Manager shall review results of the inspections, tests, and surveys and assure necessary corrective actions are taken to preserve the protected safe storage condition.

Bases:

These inspections, tests, and surveys provide a reasonable assurance that radioactivity is controlled and personnel exposure is minimized.

### 3. ADMINISTRATIVE CONTROLS

#### 3.1 Organization

The Plum Brook Reactor Facility is owned by the National Aeronautics and Space Administration (NASA), which is responsible for maintaining the PBRF as required by these Technical Specifications. NASA shall provide whatever resources are required to maintain the PBRF in a condition that poses no hazard to the general public or to the environment. Figure 2 is the Generic Organization Chart.

Level 1 – Glenn Research Center directorate is responsible for assuring compliance with the reactor facility license and providing regulatory reports and correspondence. The Director shall have overall responsibility for the license and the subsequent decommissioning and license termination.

Level 2 - The Decommissioning Project Manager shall be responsible for overall on-site operation in safe storage and through license termination. This includes administering programs that assure the proper operation, control, and safeguards are maintained for PBRF. The PBRF Decommissioning Project Manager or his designee shall approve, prior to implementation, each phase of decommissioning or license termination that affect nuclear safety.

Level 3 - The Decommissioning Senior Project Engineer shall be responsible for day-to-day supervision of PBRF activities.



### 3.1.2 Internal Audit

An annual internal audit shall be performed at the PBRF. The audit shall be performed by an audit committee chaired by a NASA employee. The remainder of the committee members may be NASA personnel or NASA contractor personnel, not directly associated with the facility. Special attention shall be given to compliance with procedures, the NRC licenses, regulations, and record keeping. The auditor shall submit a report on each audit for the Executive Safety Board. Reported discrepancies shall be resolved by the Decommissioning Project Manager. The Project Safety Committee shall review and insure the proper disposition of each discrepancy.

### 3.1.3 Radiation Safety Officer (RSO)

The RSO shall be responsible for organization, administration, and direction of the radiological control and monitoring program, as required by these Technical Specifications, and shall assure the program is adequately performed. The RSO shall be responsible for providing advice to the on-site Project Radiation Safety Officer, technical assistance and review in all areas related to radiological safety. The RSO shall be a person specifically trained in the radiation health sciences and appropriately experienced in applying this knowledge to the management of the radiation protection program. The RSO shall have a bachelor's degree in physical science or biological science, or the equivalent with a minimum of two years of applied health physics experience in a program with radiation safety considerations.

#### 3.1.3.1 Project Radiation Safety Officer (PRSO)

The PRSO shall be responsible for the organization, administration, and direction of the PBRF radiological control and monitoring program, as required by these Technical Specifications, and shall assure the program is adequately implemented. The PRSO shall provide the on-site contractors advice, technical assistance and reviews in all areas related to radiological safety. The PRSO shall be a person specifically trained in the radiation health sciences and appropriately experienced in applying this knowledge to the management of the radiation protection program. The PRSO shall have a bachelor's degree in physical or biological science, or the equivalent with a minimum of two years of applied health physics experience in a program with radiation safety considerations similar to those associated with the PBRF program.

#### 3.1.4 Executive Safety Board (ESB)

The ESB serves as a Glenn Research Center (GRC) safety policy and decision-making board, and is responsible to the Center Director for the overall direction of the GRC Safety Program. The ESB established a system of Safety Committees to conduct detailed third party reviews of specified Center operations.

#### 3.1.5 Decommissioning Safety Committee (DSC)

The DSC is established to conduct reviews of all matters with safety implications relative to activities at PBRF, and will provide an executive level overview of PBRF activities. The DSC will have the authority to review any and all programs, plans, and procedures that may have an impact on the safety and health of workers and the public to ensure compliance with all applicable federal, state, and local regulations. The DSC will also be available to provide advice, technical expertise, and guidance to minimize health hazards associated with PBRF activities. The authority to fulfill this responsibility and perform these functions will be granted by the Chairman of the Glenn Executive Safety Board.

A prime consideration of the Committee's activities will be to ensure that all public and employee radiation exposures are maintained as low as reasonably achievable.

DSC activities shall be performed under a written charter or directive containing the following information as a minimum:

Members of the Decommissioning Safety Committee will include:

- a. Decommissioning Program Manager (NASA)
- b. Radiation Safety Officer (NASA)
- c. Chief, Construction Management Branch (NASA)
- d. GRC Safety Officer (NASA)
- e. GRC Environmental Management Office Chief (NASA)
- f. 2-NASA Engineers - Nuclear, Environmental, Safety, Civil, Structural, Mechanical, Electrical
- g. Other Environmental, Health and Safety professionals as required

One of the above committee members will serve as chair for the committee.

The Chairman of the Decommissioning Safety Committee shall have a bachelor's degree in engineering or a related physical science.

The DSC quorum shall be composed of not less than three members who collectively provide experience in radiation safety and protection, industrial safety, environmental safety, waste management and program management. In specific instances the Committee will designate the Chairman to act in its stead, and the Chairman will report his or her actions to the Committee at its next regular meeting.

The DSC shall meet semi-annually, and at other times when circumstances warrant. Minutes of DSC proceedings, including recommendations or occurrences, shall be distributed to all DSC members and the Director.

The DSC shall be responsible for the review of the following:

- a. Proposed activities that could affect personnel or facility safety or result in an uncontrolled release of radioactivity in excess of 10 CFR 20 limits, and that are conducted without NRC approval to verify that the proposed activity does not constitute a change in Technical Specifications or an un-reviewed safety question.
- b. Proposed changes to the facility or organizational processes that could affect radiation safety and that are to be completed without prior NRC approval in order to verify the activity does not constitute a change in the Technical Specifications or any un-reviewed safety question.
- c. Organizational processes, which are used to develop the conduct of decommissioning functions, or that are determined to have a significant effect on radiation safety.
- d. Proposed changes to the Technical Specifications or the facility license.
- e. Violations of the Federal regulations, Technical Specifications, or facility license requirements.
- f. Unusual or abnormal occurrences which are reportable to the NRC under provisions of the Federal regulations.
- g. Internal and external audit results and the adequacy of corrective actions. Such reviews shall be performed at least once per calendar year. Intervals between such reviews are not to exceed 15 calendar months.

The DSC shall perform annual reviews of records in order to determine compliance with internal rules, procedures, and regulations and with licensed provisions in the Technical Specifications. Such reviews shall be documented and reported to the Director. Intervals between such reviews are not to exceed 15 calendar months.

Records of all DSC activities and decisions shall be retained for the duration of the decommissioning project.

3.1.6 Reserved

3.1.7 Decommissioning Project Manager

The Decommissioning Project Manager shall be responsible for the daily management and shall assure the protected safe storage condition is maintained in accordance with these Technical Specifications. The Decommissioning Project Manager shall have the following qualifications:

- a. Bachelor's degree in engineering or a related physical science.
- b. Be knowledgeable in radiation hazards and radiation protection.

3.1.8 Senior Project Engineer

NASA's Senior Project Engineer will provide direct oversight of PBRF daily activities for Glenn Research Center Management and will serve as NASA's management representative for activities on-site. The Senior Project Engineer will have direct authority over all activities that take place at the PBRF and will report to the Decommissioning Project Manager. The Senior Project Engineer shall have the following qualifications:

- a. Bachelor's degree in engineering or a related physical science.
- b. Be knowledgeable in radiation hazards and radiation protection.

3.1.9 Project Safety Committee (PSC)

The PSC is comprised of on-site project management. The PSC shall exercise review and approval authority over any and all programs, plans, decisions and procedures that may have impact on the safety and health of workers and the public. The PSC shall assure activities at PBRF comply with all applicable federal, state and local regulations, and these Technical Specifications. The PSC shall be subject to the authority of the DSC on matters associated with licensed activities.

PSC activities shall be performed under a written charter or directive containing the following information as a minimum:

The PSC shall be composed of the following on-site project management team:

- a. NASA Decommissioning Project Manager (Chairman)
- b. NASA Decommissioning Senior Project Engineer (Chairman alternate)
- c. NASA Environmental Manager
- d. Project Radiation Safety Officer
- e. Project Health and Safety Officer
- f. Other Environmental, Engineering, Health and Safety professionals as required

The PSC shall meet monthly, and at other times when circumstances warrant. A quorum shall consist of not less than three members of the PSC membership and shall include the chairman or his designated alternate. Minutes of PSC proceedings, including recommendations or occurrences, shall be distributed to all PSC and DSC members, and the Director.

The PSC shall be responsible for the following:

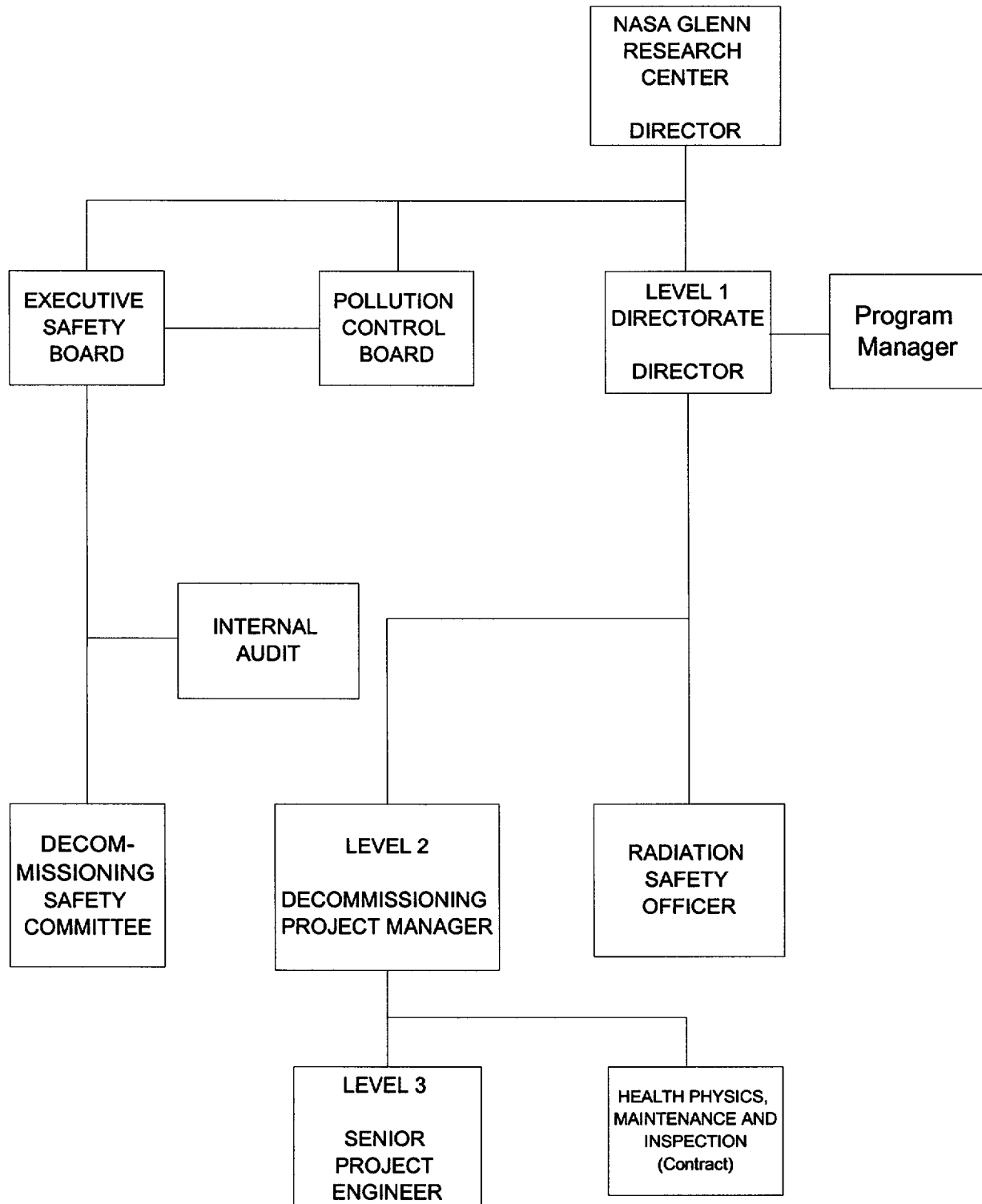
- a. Review and approval of proposed activities that could affect personnel or facility safety or result in an uncontrolled release of radioactivity in excess of 10 CFR 20 limits, and that are conducted without NRC approval. The PSC shall verify that the proposed activity does not constitute a change in Technical Specifications or any un-reviewed safety question.
- b. Review and approval of proposed changes to the facility or to procedures that could affect radiation safety and that are to be completed without prior NRC approval. The PSC shall verify the activity does not constitute a change in the Technical Specifications or any un-reviewed safety question.
- c. Review and approval of all new procedures and revisions thereto, which direct the conduct of decommissioning functions or that are determined to have a significant effect on radiation safety.
- d. Review, approve, and forward to the DSC any proposed changes to the Technical Specifications or the facility license.

- e. Assess and report violations of the Federal regulations, Technical Specifications, or facility license requirements.
- f. Assess and report unusual or abnormal occurrences which are reportable to the NRC under provisions of the Federal regulations.
- g. Perform internal audits on decommissioning records and the performance of the decommissioning contractor's compliance with applicable Federal regulations, Technical Specifications, and facility license requirements. Such audits shall be performed at least once per calendar year. Intervals between such reviews are not to exceed 15 calendar months.
- h. Records of all PSC activities and decisions shall be reported to the DSC, and shall be retained for the duration of the decommissioning project.

The PSC shall be responsible for the review of the following:

- a. Proposed activities that could affect personnel or facility safety or result in an uncontrolled release of radioactivity in excess of 10 CFR 20 limits, and that are conducted without NRC approval to verify that the proposed activity does not constitute a change in Technical Specifications or any un-reviewed safety question.
- b. Proposed changes to the facility or to procedures that could affect radiation safety and that are to be completed without prior NRC approval in order to verify the activity does not constitute a change in the Technical Specifications or any un-reviewed safety question.
- c. All new procedures and revisions thereto that direct the conduct of decommissioning functions or that are determined to have a significant effect on radiation safety.
- d. Review of violations of the Federal regulations, Technical Specifications, or facility license requirements.
- e. Review of unusual or abnormal occurrences which are reportable to the NRC under provisions of the Federal regulations.

## GENERIC ORGANIZATION CHART



### RESPONSIBILITIES:

LEVEL 1 - Compliance

LEVEL 2 - Surveillance and Maintenance

LEVEL 3 - Day-to-Day Oversight

**FIGURE 2**

**SIGNIFICANT HAZARDS CONSIDERATION ANALYSIS**  
**AND ENVIRONMENTAL EVALUATION OF PROPOSED**  
**AMENDMENT TO LICENSE TR-3, DOCKET NO. 50-30**

**I. SIGNIFICANT HAZARDS CONSIDERATION ANALYSIS**

An evaluation was performed on whether or not significant hazards consideration is involved with the proposed changes by focusing on the three standards set forth in 10 CFR 50.92(c). The conclusions to this analysis are presented in the following:

Do the proposed changes:

- 1) Involve a significant increase in the probability or consequences of an accident previously evaluated?
- 2) Create the possibility of a new or different kind of accident from any accident previously evaluated?
- 3) Involve a significant reduction in a margin of safety?

**SUMMARY**

Amendment to the license Technical Specifications is administrative in nature and provides for organizational structuring that provides a site-independent, Decommissioning Safety Committee, charged with executive level, programmatic safety oversight. The amendment also establishes the Project Safety Committee, an on-site technical safety committee charged with daily safety oversight. These organizational changes do not increase the probability or consequences of an accident previously evaluated; they do not create the possibility of a new or different kind of accident from any accident previously evaluated; and they do not involve a significant reduction in a margin of safety.



## II. ENVIRONMENTAL EVALUATION

NASA has determined that the proposed amendment to the license Technical Specifications are of a minor or non-policy nature, and do not substantially modify existing regulations, and actions on petitions for rulemaking relating to these amendments as specified in 10 CFR 51.22(c)(2).

### SUMMARY

NASA has determined that the proposed changes meet the eligibility criterion for categorical exclusions set forth in 10 CFR 51.22(c)(2). Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment regarding the proposed changes is not required.