University of Washington
College of Engineering
Nuclear Engineering Laboratories
Mail Stop FD-10
Seattle, WA 98195
August 23, 1989

Mr. Theodore S. Michaels
Project Manager
Office of Nuclear Reactor Regulation
U.S.N.R.C.
Washington, D.C. 20555

Docket No. 50-139

Dear Mr. Michaels:

Enclosed are the Technical Specifications for a possession only license for the University of Washington Nuclear Reactor (R-73). These Technical Specifications replace the revised Appendix A submitted by letter dated August 3, 1989. These Technical Specifications will go into effect when all of the reactor fuel has been removed from the site.

A request was made in the letter dated August 3, 1989 to exempt the facility from having a security plan when the fuel is removed from the facility. A similar request is made to exempt the facility from having a emergency plan when the reactor fuel is removed from the facility.

Yours truly,

Maurice A Robkin

Maurice A. Robkin, Ph.D., P E.
Professor and Director
Nuclear Engineering Laboratories

encl.

c.c. Region V, U.S.N.R.C.
UWNR Safety Advisory Committee
Chairman, Department of Nuclear Engineering

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APPENDIX A
TECHNICAL SPECIFICATIONS FOR THE
UNIVERSITY OF WASHINGTON NUCLEAR REACTOR
FACILITY LICENSE NO. R-73

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APPENDIX A
TECHNICAL SPECIFICATIONS FOR THE UNIVERSITY OF WASHINGTON NUCLEAR REACTOR FACILITY LICENCE NO. R-73

The dimensions, measurements, and other numerical values given in these specifications may differ from measured values owing to normal construction and manufacturing tolerances or normal accuracy of instrumentation.

I. Definitions

A. Operable

A system or component shall be considered operable when it is capable of performing its intended function in a normal manner.

B. Operating

A system or component shall be considered operating when it is performing its intended function in a normal manner.

C. Reactor Component

Reactor component shall mean any apparatus, device, or material that is a normal part of the reactor structure.

D. Experimental Facilities

Experimental facilities shall include the beam ports, thermal column, vertical holes, shield tank, pneumatic rabbit tubes, and their associated access ports.

II. Facility Description

A. Site

1. The facility shall be housed in the Nuclear Reactor Building located in the southeast portion of the University of Washington campus at Seattle, Washington.

2. The restricted area shall encompass the reactor room and associated facilities, and, if necessary, the plaza surrounding the reactor room. When the plaza is included in the restricted area, it shall be roped off, posted in a conspicuous manner, and kept under surveillance to prevent public entry.

B. Reactor Room

1. The reactor room shall be physically separated from the rest of the reactor building and shall have an independently controlled heating and ventilation system.

2. All doors leading into the reactor room shall be under a lock security system.

3. Access to the reactor room during working hours will be controlled by the Director of the Facility or his designee. The entrance doors to the reactor room will be locked during non-working hours.

III. Radiation Monitoring

A. Exhaust air drawn from the reactor room shall be continuously monitored for gross concentration of radioactivity.

1. A dilution factor of 45 may be used to calculate radioactive stack effluent concentrations at points of unrestricted access outside the reactor building.

2. In the event that the limits of 10 CFR 20 are exceeded in the stack after application of the dilution factor, the ventilation system shall be secured.

B. The reactor room shall be continuously monitored by at least two area radiation monitors.

C. The monitors in A and B shall be calibrated at least annually.

D. A routine radiation survey shall be performed semi-annually by trained Health Physics personnel using survey and counting equipment consistent with sound health physics practice.

IV. Administrative Requirements

A. The President of the University, The Dean of the College of Engineering, and the Director of the Nuclear Engineering Laboratory shall have line responsibility for the administrative control of the reactor facility, safeguarding the general public and facility personnel from radiation exposure and adhering to all requirements of the facility license and the Technical Specifications.

B. Line responsibility for radiological safety at the Nuclear Engineering Laboratory shall include the University Radiation Safety Officer. The University Radiation Safety Officer shall be independent of the Director of the Nuclear Engineering Laboratories.

C. A Facility Advisory Committee shall review changes to the facility for safety and any other matters referred to it by the Director. Committee members shall be appointed by the Dean of the College of Engineering and shall include the University Radiation Safety Officer. A quorum shall be three members. The Facility Advisory Committee shall keep written records of its meetings. The Committee shall report directly to the Dean of the College of Engineering. The Facility Advisory Committee shall:

1. Review proposed changes to the facility or procedures, when such changes have radiological significance and review decisions made by the Director as to whether or not they involve a change in the Technical Specifications incorporated in the facility license, or an unreviewed safety question pursuant to 10 CFR 50.59.

2. Review the circumstances of all abnormal occurrences and violations of Technical Specifications and proposed measures to preclude a recurrence, and recommend remedial action.

D. Procedures

The facility shall be maintained in accordance with approved written procedures. All procedures and major changes thereto shall be reviewed and approved by the Director of the Reactor Laboratory prior to being effective. Changes which do not change the original intent of a procedure may be approved in writing by the Facility Supervisor. Such changes shall be recorded and submitted to the Director for routine review. The following types of written procedures shall be maintained:

1. Procedures for preventive and corrective maintenance.

2. Radiological control procedures for all facility personnel.

3. A laboratory emergency procedure to guide the behavior and action of all personnel in the event of an emergency condition.

E. Records

1. In addition to the requirements of applicable regulations, and in no way substituting therefor, records of the following items shall be maintained for a period of at least five years or as long as the facility is licensed by the U.S. Nuclear Regulatory Commission for operation or possession:

   a. abnormal occurrences,
   b. principal maintenance activities and the reasons therefor,
   c. facility radiation and contamination surveys, and
   d. shipments of radioactive materials.

2. The following records shall be retained as long as the facility is licensed by the U.S. Nuclear Regulatory Commission for possession:

   a. Updated, corrected, and as-built drawings of the facility,
   b. releases of gaseous and liquid wastes to the environs, and
   c. offsite environmental monitoring surveys.

3. Records of radiation exposures for all personnel shall be kept indefinitely or until the U.S. Nuclear Regulatory Commission authorizes their disposal.

F. Action to be Taken in the Event of an Abnormal Occurrence

1. Any abnormal occurrence shall be promptly reported to the Facility Supervisor and shall be reviewed by the Facility Advisory Committee. A report of the occurrence shall be prepared, including an evaluation of the cause(s) and recommendations for appropriate action to prevent or reduce the probability of recurrence. The results of the investigation shall be maintained as part of the permanent records.

2. All abnormal occurrences shall be reported to the U.S. Nuclear Regulatory Commission in accordance with Section G.1 of these specifications.

3. Abnormal occurrences shall include, but not necessarily be limited to, the following:

   a. A Violation of the Technical Specifications of the facility license.

b. An uncontrolled or unanticipated release of radioactivity from the site.

G. Reporting Requirements

In addition to the requirements of applicable regulations, and in no way substituting therefor, reports shall be made to the US NRC as follows:

1. A report not later than the following working day(by telephone or telegraph to the Regional Administrator, U.S. NRC Region V) and a report within 10 days(in writing to U.S. Nuclear Regulatory Commission, Attn: Document Control Desk, Washington D.C., 20555, with a copy to Director, Division of Reactor Safety and Projects, Region V of the U.S. NRC) of:

   a. Abnormal occurrences as defined in Section F.

   b. Releases of radioactivity from the facility above the permissible limits specified in Appendix B, Table II,10 CFR Part 20.

2. A report within 30 days (in writing to U.S. Nuclear Regulatory Commission, Attn: Document Control Desk, Washington D.C., 20555, with a copy to Director, Division of Reactor Safety and Projects, Region V of the U.S. NRC) of significant changes in the facility organization.

3. A routine report (in writing to U.S. Nuclear Regulatory Commission, Attn: Document Control Desk, Washington D.C., 20555, with a copy to Director, Division of Reactor Safety and Projects, Region V of the US NRC) at the end of each 12-month period providing the following information:

   a. A discussion of the changes in the facility and procedures carried out without prior approval by the U.S. Nuclear Regulatory Commission pursuant to 10 CFR 50.59.
   b. A summary of the nature and amount of radioactive material released to the environs.
   c. The results of any environmental surveys performed outside the facility.
   d. A summary of significant (above 50.0 mRem)radiation exposures received by facility personnel and visitors in any one year, including the dates and times of significant exposures.