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ATTN: ALEXANDER ADAMS, JR

October 7, 2004

Enclosed please find the University of Maryland's response to the request for additional information as it pertains to section twelve of the Safety Analysis Report for the Maryland University Training Reactor.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on October 7, 2004

[Signature] Mohamad Al-Sheikhly, Director
University of Maryland Training Reactor
License Number R-70, Docket number 50-166

A053
A020

12.0 CONDUCT OF OPERATIONS

51. Section 12.1.1, Structure. Clarify that the Nuclear Reactor Director shown in the organization charts and in the SAR is the Facility Director used throughout the TS.

Response:

The addition of the following statement on page 1 of section 12 of the SAR: the terms "Reactor Director" and "Facility or Facilities Director" are used interchangeably in this document.

52. Section 12.1, Organization. There is no discussion in the SAR of radiation protection worker staffing, qualification, or training. Please provide.

Response: The Radiation Safety Office (RSO) is currently staffed by a team of three full time persons. The staffing and qualifications are as follows;

Radiation Safety Officer

Duties:

a. Serves as University of Maryland College Park Radiation Safety Officer
b. Evaluates research and applies results to prevention and control of radiation hazards
c. Participates in Campus response to laboratory emergencies.
d. Plans, develops, implements, and participates in training programs to ensure that Campus personnel are in compliance with federal and state regulations, and ALARA goals.

Qualifications as listed in position description:

The RSO must posses a "detailed knowledge of the functions of an academic research laboratory, preferably gained from experience while working in a research laboratory; expert knowledge of modern radiation principles related to the recognition, prevention and control of radiation health hazards; of the equipment and techniques involved in the investigation, determination, and analysis of radiation hazards; and of technical standards, guidelines and regulations. Expert knowledge of current safe laboratory practices in the use of radioisotopes and radiation producing devices".

The Radiation Safety Officer supervises two full-time Health Physicists; and part time staff as assigned for specific projects.

Health Physicist

Duties:

a. To insure the University of Maryland College Park and affiliated satellite facilities, personnel, and the environment are free from radiation contamination, and that exposure is maintained as low as reasonably achievable.

Qualifications as listed in position description:

Knowledge of modern radiological principles related to the recognition, prevention and control of radiation health hazards including, but not limited to: Physics, Atomic Physics, nuclear Physics, Calculus I, II, III, Thermodynamics, Nuclear Engineering, Materials Engineering, Nuclear Instrumentation, Biology, Radiation Biology, Chemistry, radiochemistry, Electronics, Health Physics, Probability and Statistics. Requires detailed knowledge of pertinent NRC, DOT, State of Maryland, and UMCP regulations and directives. Requires knowledge of licensing requirements governing the safe use of radioactive materials. Must have the ability to read, comprehend, and apply federal, state, and local environmental and radiation protection regulation, codes, and requirements. Skill in applying inspection/survey techniques including the use of complex environmental sampling devices and analytical equipment. Skill in preparing and interpreting complex technical reports and analyses and maintaining required records. Must exercise sound judgment and recognize OSHA, fire protection and industrial hygiene problems and refer to appropriate DES staff.

The Health Physicist serves as the alternate Radiation Safety Officer in such situations where the RSO is not available to perform his/her required duties.

53. Section 12.2.2, Charter and Rules. It is not clear whether the RSC has a formal charter, including the items of Section 6.2.2 of ANS 15.1. Please clarify.

Response:

Section 12 is quoted below, please clarify the question.

12.2 REVIEWS AND AUDITS

12.2.1 Composition and Qualifications

A Reactor Safety Committee (RSC) shall exist for the purpose of reviewing matters relating to the health and safety of the public and facility staff and the safe operation of the facility. It is appointed by and reports to the Chairperson of the Materials and Nuclear Engineering Department. The RSC shall consist of a minimum of five persons with expertise in the physical sciences and preferably some nuclear experience. Permanent members of the committee are the Facility Director and the Campus Radiation Safety Officer (RSO) or that office's designated alternate, neither may serve as the committee's chairperson. Qualified alternates may serve on the committee. Alternates may be appointed by the Chairperson of the RSC to serve on a temporary basis. At least one committee member must be from outside the Department of Materials and Nuclear Engineering.

12.2.2 Charter and Rules

The reactor safety committee will meet a minimum of twice per year. The Committee Chairperson or the Department Chairperson may call additional meetings as necessary. Reactor staff members and the RSO shall have the right to request a committee meeting to discuss issues relating to the health and safety of the public and facility staff and the safe operation of the facility.

A quorum of three members and the RSO or designated alternate is required for committee business to occur. At no point may the reactor staff constitute the majority of members present for a vote. Furthermore, no more than two alternates may be used for a voting quorum.

The Committee Chairperson shall distribute minutes of all Reactor Safety Committee meetings to all committee members. Minutes shall also be distributed to the Chairperson of the Materials and Nuclear Engineering Department and the MUTR files.

12.2.3 Review Function

The RSC shall review the following:

1. Experiments referred to it by the Facility Director because of the degree of hazard involved or the unusual nature of the experiment.

2. Reportable occurrences (see Section 6.6).

3. Violations of technical specifications or license.

4. Proposed changes to the facility license, Emergency Plan, Technical Specifications, and experiments or changes made pursuant to 10 CFR Part 50.59.

5. Operating procedures.

6. Audit reports and inspection reports.

7. Operating abnormalities having safety significance.

8. Results of emergency drills.

12.2.4 Audit Function

An annual audit and review of the reactor operations will be performed by an outside individual or group familiar with research reactor operations. The audit performer shall submit a report to the Facility Director and the Reactor Safety Committee.

During the audit the following items shall be reviewed:

1. Reactor operators and operational records for compliance with internal rules, procedures, and regulations, and with license provisions.

2. Existing operating procedures for adequacy and accuracy.

3. Plant equipment performance and its surveillance requirements.

4. Records of releases of radioactive effluents to the environment.

5. Operator training and requalification.

In addition to the above external audit, the Facility Director or his designated alternate shall conduct an audit of the reactor facility ALARA Program at least once per calendar year (not to exceed fifteen months). The results of the audit shall be presented to the RSC at the next scheduled meeting. This audit may occur as part of a review of the overall campus ALARA program.