April 5, 2010

Dr. Pamela L. Crowell
Vice President for Research
Idaho State University
921 South 8th Avenue
Stop 8130
Pocatello, ID 83209-8130

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION PERTAINING TO IDAHO STATE UNIVERSITY'S PREVIOUS SUBMITTAL DATED OCTOBER 10, 2009, LICENSE NO. SNM1373; DOCKET NO. 70-1374 (TAC L32827)

Dear Dr. Crowell:

The U.S. Nuclear Regulatory Commission's (NRC) staff has reviewed Idaho State University's (ISU's) responses submitted by letter dated October 10, 2009, in support of the subject license renewal review. During this review, the NRC staff identified outstanding issues with the information in the submittal. In each case, a complete response is required from ISU for the staff to evaluate the license renewal application.

The staff's questions are included in the enclosure. Your response should provide a full and complete answer to each question.

Please note that if your response contains proprietary information that you want withheld from the public under 10 CFR, Section 2.390, you must identify such information in your letter and your basis for withholding it.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible through the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

If you have any questions, please contact me at (301) 492-3113, or via e-mail at Mary.Adams@nrc.gov.

Sincerely,

/RA/

Mary T. Adams, Senior Project Manager
Fuel Manufacturing Branch
Fuel Facility Licensing Directorate
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket No.: 70-1373
License No.: SNM-1374

Enclosure: As stated

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NRC's Staff Comments/Questions on Idaho State University's Application for Renewal of its Materials License SNM-1373

Fire Protection

1) The construction of the facility (Lillibridge Engineering Building) should be described in terms of NFPA 220 and applicable building codes. Does the building have a standpipe system; and if so, is it wet or dry and for use by university personnel or fire department personnel only?

2) Information concerning control of combustibles and ignition sources, such as existence of written procedures and a surveillance or inspection program.

3) Code compliance (NFPA 72?) for heat detector and alarm system. Are there any significant deviations from the code of record?

4) Identification of individual responsible for fire safety.

Radiation Protection and Health Physics

1) Revise Section 8(b) of the application to include discussion of consequences of a release of SNM in the event of a fire. This section currently discusses fission products but disregards SNM. This is necessary for staff to confirm compliance with 10 CFR 70.22(i)(1)(i) and 70.23(a)(2).

2) Revise Section 8(a) of the application to include those topics that will be covered by the Radiation Safety Manual. This should be a bullet list of applicable RP program elements, such as ALARA, Radiation Safety Training, Radiation Safety Program Audits, Control and Monitoring of Radiation Sources, Control and Monitoring of External Radiation Exposures, Control and Monitoring of Intake of Radionuclides, Records, Instrumentation, Sealed Source Leak Tests, Receipt and Shipping of Radioactive Materials, Radioactive Waste Management, and Emergency Preparedness. The discussion should also state that the Radiation Safety Manual will adequately address these program elements to assure compliance with 10 CFR 20. This is necessary for staff to confirm compliance with 10 CFR 20.1101(b) and 70.23(a)(4).

3) Revise Section 8(a) of the application to state that the Radiation Protection Program is implemented through the Radiation Safety Manual, the content of which is reviewed annually. This would be consistent with 10 CFR 20.1101(c).

4) Revise Section 8(d) of the application, as appropriate, to include discussion regarding action levels for contamination surveys, leak tests, and analysis of "experiment" water. This may be, in part, similar to Section 11.1(3) of the University's Radiation Safety manual. With regards to enriched uranium licensees, commitment to the guidelines in Regulatory 8.24 may also be appropriate while sealed source leak testing action levels should be similar to those present in the Radiation Safety Manual which is consistent with Branch Technical Positions along the same topic. If the action level is based on

detection sensitivity (as is the case with the experiment water analysis), state the required MDA/MDC of the analytical method. This is necessary for staff to confirm compliance with 10 CFR 20.1501(a)(2) and 70.23(a)(4).

5) Revise Section 7(d) of the application to include discussion regarding the monitoring of and disposal of liquid waste (which would be expected to be on a batch basis for the experiment water). This is necessary for staff to confirm compliance with 10 CFR 20.1501(a)(2), 10 CFR 20 Subpart K, and 70.23(a)(3).

6) Revise Section 6 of the application to outline the radiation protection program administrative structure and define the minimum qualifications and responsibilities of key program personnel. This should include the minimum education, training, and experience of the RSO position, TSO positions supporting the RSO, and a brief overview of the RSC similar to that in the RSM Section 4.2(1). This is necessary for staff to confirm compliance with 10 CFR 70.22(a)(6), 70.23(a)(2), and 10 CFR 20.1101(a).

7) Revise Section 8(a) of the application to include discussion of controls to prevent and methods available to assess internal intakes of licensed material. As previously discussed via telephone, the primary prevention of an internal intake is the integrity of fuel cladding and/or form of the material which is verified through leak checks and water sample analysis. Intake assessment would most likely be through analysis and interpretation of bioassay samples which should be consistent with methods discussed in Regulatory Guide 8.9. This is necessary for staff to confirm compliance with 10 CFR 20.1204(a), 20.1701, and 70.23(a)(4).

8) Revise Section 7(c) of the application to state that radiation protection instrumentation will be calibrated to appropriate NIST standards. This is necessary for staff to confirm compliance with 10 CFR 20.1501(b).

Criticality Safety

The licensee does not commit to the use of the following standards:

1) ANSI/ANS-8.1-1998, "Nuclear Criticality Safety in Operations with Fissionable Material Outside Reactors,"

2) ANSI/ANS-8.3-1997, "Criticality Accident Alarm System," or

3) ANSI/ANS-8.23-2007, "Nuclear Criticality Accident Emergency Planning and Response."

Discuss how the alternatives described in your application meets the intent of these standards.