

July 15, 2014

Dr. George E. Miller
Department of Chemistry
University of California, Irvine
326 Rowland Hall
Irvine, CA 92697-2025

SUBJECT: UNIVERSITY OF CALIFORNIA, IRVINE – REQUEST FOR ADDITIONAL
INFORMATION RE: LICENSE RENEWAL FOR THE UNIVERSITY OF
CALIFORNIA, IRVINE NUCLEAR REACTOR FACILITY (TAC NO. ME1579)

Dear Dr. Miller:

The U.S. Nuclear Regulatory Commission is continuing its review of the University of California, Irvine (UCI) application for the renewal of Facility Operating License No. R-116 for the UCI Nuclear Reactor Facility, dated October 18, 1999 (a redacted version of the application is available on the NRC's public Web site at www.nrc.gov under Agencywide Documents Access and Management System Accession No. ML083110112), as supplemented. Please provide your response to the enclosed request for additional information within 30 days from the date of this letter.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.30(b), you must execute your response in a signed original document under oath or affirmation. Your response must be submitted in accordance with 10 CFR 50.4, "Written communications." Information included in your response that is considered sensitive or proprietary, that you seek to have withheld from the public, must be marked in accordance with 10 CFR 2.390, "Public inspections, exemptions, requests for withholding." Any information related to security should be submitted in accordance with 10 CFR 73.21, "Protection of Safeguards Information: Performance requirements." Following receipt of the additional information, we will continue our evaluation of your license renewal request.

G. Miller

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If you have any questions about this review, or if you need additional time to respond to this request, please contact me by telephone at 301-415-3841 or by electronic mail at Jason.Lising@nrc.gov.

Sincerely,

/RA/

A. Jason Lising, Project Manager
Research and Test Reactors Licensing Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-326
License No. R-116

Enclosure:
Request for Additional Information

cc: See next page

University of California at Irvine

Docket No. 50-326

cc:

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Test, Research, and Training
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University of Florida
202 Nuclear Sciences Center
Gainesville, FL 32611

G. Miller

- 2 -

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Sincerely,

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A. Jason Lising, Project Manager
Research and Test Reactors Licensing Branch
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Docket No. 50-326
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ADAMS Accession No.: ML14135A503

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DATE	07/03/2014	07/03/2014	07/14/2014	07/15/2014

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OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST FOR ADDITIONAL INFORMATION

REGARDING LICENSE RENEWAL

FOR THE UNIVERSITY OF CALIFORNIA, IRVINE NUCLEAR REACTOR FACILITY

LICENSE NO. R-116

DOCKET NO. 50-326

The U.S. Nuclear Regulatory Commission (NRC) is continuing its review of the University of California, Irvine (UCI) application for the renewal of Facility Operating License No. R-116 for the UCI Nuclear Reactor Facility (UCINRF), dated October 18, 1999 (a redacted version of the application is available on the NRC's public Web site at www.nrc.gov under Agencywide Documents Access and Management System (ADAMS) Accession No. ML083110112), as supplemented. The NRC staff review of your safety analysis report (SAR) and proposed technical specifications (TSs) identified the following items which need additional clarification or information. Your responses are requested within 30 days from the date of this letter.

This request for additional information (RAI) is, in part, based on a comparison of the UCINRF safety analysis report and the proposed TSs with NUREG-1537, "Guidance for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors," dated February 1996 and the American Nuclear Standards Institute/American Nuclear Society (ANSI/ANS)-15.1-2007, "The Development of Technical Specifications for Research Reactors."

- 1) In NUREG-1537, Part 1, Section 1.4, "Shared Facilities and Equipment," it states that "[c]omplete descriptions and any safety implications that result from sharing facilities or systems should be evaluated in and referenced to the appropriate chapter of the SAR."
 - a) The UCINRF RAI response dated August 1, 2011 (ADAMS Accession No. ML11255A073), Section 3.6, "Ventilation System," pages 6-9, describes the UCINRF ventilation system and Section 13.2, "Maximum Hypothetical Accident," pages 12-19, expands the description by predicting doses during a maximum hypothetical accident. During normal operations argon-41 is produced and released. The UCINRF ventilation system shares components with the chemistry building exhaust system.
 - i) Could airborne radioactive material being exhausted from the reactor room during accident or normal conditions be discharged into public spaces because of system failures?
 - ii) If not, explain why not.
 - iii) If this backflow is possible, what are potential doses to members of the public?

Enclosure

- iv) As airborne radioactive material is discharged through the ventilation system ducting during accidents or normal operation, could members of the public adjacent to the ducting be exposed to radiation?
 - v) If not, explain why not. If exposure to radioactive material is possible, what are the potential doses to members of the public?
- b) The UCINRF RAI response dated January 27, 2010 (ADAMS Accession No. ML100290365), Attachment C, SAR Chapter 5, "Reactor Coolant System," pages 43-47, provides an updated SAR describing the water cooling system and water purification system. The UCI chilled water system supplies cooling water for the shell side of the heat exchanger.
- i) Discuss the radiological impact of a leak in the heat exchanger. Is leakage flow from the chilled water side into the primary side of the heat exchanger under all operating conditions of both the primary system and chilled water system?
 - ii) If not, what is the maximum radiological impact of primary coolant entering the chilled water system?
- 2) In NUREG-1537, Part 1, Section 4.3, "Reactor Tank or Pool," it states that "the applicant should assess the possibility of uncontrolled leakage of contaminated primary coolant and should discuss preventive and protective features."
- a) The UCINRF RAI response dated July 14, 2010 (ADAMS Accession No. ML101970039), Section 13.4, "Loss of Reactor Pool Water (Coolant)," pages 6-12, describes pool water leakage. The response states that rain and irrigations of areas outside the reactor building forced the drilling of wells adjacent to Rowland Hall. There seems to be a discrepancy in two statements: (1) that automatic sump pumps are used to drain these wells and (2) that samples are taken of the water being removed and are assayed by gamma-ray spectrometry. Clarify how the process exists for sampling radioactive contaminants in the discharge of the automatic sump pump system prior to returning water to the campus sewage system.
 - b) Previous annual reports identified that ground water has been observed in fuel element storage pits in the floor of the reactor room. Confirm whether or not these pits are used to store fuel. If they are or will be used to store fuel, discuss actions that would be taken to prevent water ingress prior to using the pits to store fuel and consider modifying TSs to reflect these actions, or explain why leakage into the storage pits would not make them unsuitable for fuel element storage. Alternatively, consider incorporating a TS that states, "fuel storage shall be limited to in pool storage only."
 - c) The UCINRF RAI response dated July 14, 2010, Section 13.4.1, "Mechanisms and Rate of Loss of Coolant," estimates that it would take 19.3 hours to drain the pool.

- i) What is the maximum water loss that can occur without detection; that is, if the pool started leaking after the reactor staff left for the night, what is the maximum amount of pool water that could be lost without staff becoming aware?
 - ii) How many gallons per week would be the minimum detectable leakage rate based on UCINRF historical primary makeup rates for normal operations?
- 3) In NUREG-1537, Part 1, Section 4.5.1, "Normal Operating Conditions," it requires establishment of a limiting core configuration. According to ANSI/ANS-15.1-2007, the reference core should consider Xenon and other poisons in calculating a shutdown margin (SDM). The UCINRF proposed TS 3.1.2, "Shutdown Margin," states, "[t]he shutdown margin provided by the control rods shall be greater than \$0.55...." Given the reference core condition established in RAI response dated June 7, 2011 (ADAMS Accession No. ML111950452), the resulting SDM reactivity could be at least \$0.30 less. Provide justification for this variance or revise proposed TS 3.1.2 to reflect a \$0.85 SDM to support the inclusion of Xenon in the definition of reference core condition or consider incorporating the definition **Reference Core Condition**: The reference core condition is the condition of the core when it is at ambient temperature (cold) and the reactivity worth of xenon is negligible.
- 4) NUREG-1537, Part 1, Section 11.1.1.1, "Airborne Radiation Sources," states that the SAR should discuss the production of airborne particles, aerosols, vapors, and nitrogen-16 (N-16) or other radionuclides. Describe the change or difference in radiation fields within the confinement space with the N-16 diffuser ON versus with the N-16 diffuser OFF or state the transport time of N-16 with and without the diffuser in operation.
- 5) NUREG-1537, Part 1, Section 11.1.1.2, "Liquid Radiation Sources," states that the applicant should discuss compliance with the applicable sections of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 20, "Standards for Protection Against Radiation." There are two places in the UCINRF proposed TSs that discuss liquid effluent, proposed TS 3.7.2, "Effluents," Specification b. and proposed TS 4.7, "Radiation Monitoring Systems and Effluents," Specification e. The regulations in 10 CFR 20.2003 require that liquid effluents disposed of by release into sanitary sewerage be readily soluble. There is no mention in the RAI responses or Bases discussions that these propose TSs limit releases to readily soluble radionuclides. Confirm that these proposed TSs limit release to readily soluble radionuclides, or provide justification as to why not.
- 6) In NUREG-1537, Part 1, Section 11.1.4, "Radiation Monitoring and Surveying," it requires a description of all radiation monitoring equipment.
 - a) State the set points of the radiation area monitors and continuous air radiation monitor (CAM) listed in UCINRF proposed TS 3.7.1, "Radiation Monitoring Systems," and provide the bases for these set points.
 - b) The use of the acronym CAM is inconsistent. In the UCINRF proposed TS 3.5.1, "Ventilation System," and proposed TS 3.5.2, "Ventilation During Emergency Situations," it is defined as "continuous particulate air monitor" while proposed

TS 3.7.1, "Radiation Monitoring Systems," defines it as "continuous air radiation monitor." Provide consistent nomenclature.

- 7) NUREG-1537, Part 1, Section 13.1.2, "Insertion of Excess Reactivity," lists insertion-of-excess-reactivity events which includes a ramp insertion of reactivity by drive motion of the most reactive control or shim rod, or ganged rods. Provide details of the ramp insertion analysis including the reactor trips in order to demonstrate the protection of the safety limit.

The following RAIs are based on a review of the proposed UCINRF TSs, as provided in your RAI response dated March 1, 2012 (ADAMS Accession No. ML12087A215), and followup RAI response dated September 11, 2012 (ADAMS Accession No. ML12256A897).

- 8) 10 CFR Part 50.36(a)(1) states, in part, that the bases are not part of the TSs. Provide a TS statement to support the requirement of 10 CFR 50.36 (a)(1), or justify why one is not required. An example of TS statements that have been approved by the NRC staff include the following: "Included in this document are the Technical Specifications and the 'Bases' for the Technical Specifications. These bases, which provide the technical support for the individual Technical Specifications, are included for informational purposes only. They are not part of the Technical Specifications, and they do not constitute limitations or requirements to which the licensee must adhere."
- 9) The UCINRF proposed TS 1.0, "Definitions," provides a definition for CHANNEL CALIBRATION that is not consistent with the guidance found in NUREG-1537 and ANSI/ANS-15.1-2007. Revise the proposed TS definition of CHANNEL CALIBRATION to be consistent with the guidance in NUREG-1537 and ANSI-15.1, or provide a justification for the proposed definition.
- 10) The UCINRF proposed TS 1.0, "Definitions," contains a formatting inconsistency under CONTROL ROD, where the subparts are not spaces or indented, similar to other parts of the proposed TSs. Provide justification for formatting the subparts or revise for consistency.
- 11) The UCINRF proposed TS 1.0, "Definitions," CONTROL ROD contains an inconsistency in which subpart, "c. Adjustable Transient (ATR)," describes how control rod position is adjusted using an electric motor drive, while subpart, "d. Fast Transient (FTR)," does not have an equivalent description of how control rod position is adjusted. The SAR describes the use of pneumatic control for the FTR. Provide a justification for this difference or revise the definition of FTR.
- 12) The UCINRF proposed TS 1.0, "Definitions," INITIAL STARTUP states, "...before operation during the day at steady-state power level above 1 kilowatt, or by pulsing the reactor." Clarification is required on the significance of 1 kilowatt. Explain the purpose for the 1 kilowatt threshold or provide a basis describing the reason why 1 kilowatt is included in this proposed TS definition. Include in your discussion the need to have a senior reactor operator (SRO) present during the initial startup as required by 10 CFR 50.54(m)(1) if power does not reach 1 kilowatt.

- 13) The UCINRF proposed TS 1.0, "Definitions," REACTOR SECURED, subpart (2)(d) states, "No experiments are being moved or serviced that have a reactivity worth exceeding the maximum value allowed for a single experiment, or \$1.00." Based on this definition, the exact reactivity limit is not clear. Only the most conservative, or that, which is applicable to the UCI reactor should constitute this definition (i.e., either \$1.00 or the maximum value allowed for a single experiment). Provide justification for the proposed TS or revise the definition to identify only one condition.
- 14) The UCINRF proposed TS 1.0, "Definitions," SCRAM TIME states, "is the elapsed time between the initiation of a scram signal and a specified movement of a control or safety device." This definition is not clear as applied to the UCI reactor. As applicable to the UCI reactor, describe the specified movement (i.e., 85 percent of reactivity, all rods on the bottom, etc.) that constitutes this definition. For example, SCRAM TIME is the elapsed time between reaching a limiting safety system set point and the instant the slowest scrammable control rod reaches its fully-inserted position or SCRAM TIME is the elapsed time from the initiation of a scram signal to the time the slowest scrammable control rod is fully inserted. Also define the control or safety device specific to the UCI reactor. Provide justification for the proposed TS or revise the definition to identify one specific movement of a control or safety device.
- 15) The UCINRF proposed TS 1.0, "Definitions," SUBSTANTIVE CHANGES may cause confusion in implementing 10 CFR 50.59, "Changes, tests, and experiments." Provide justification as to why this definition is required and is consistent with 10 CFR 50.59 or delete the definition.
- 16) The UCINRF proposed TS 1.0, "Definitions," section does not include a definition for MOVEABLE EXPERIMENTS as endorsed in the ANSI/ANS-15.1-2007. The term "moveable" can mean "unsecured," but not all "unsecured" experiments are "moveable." Provide a definition of moveable experiments, and include this definition in UCINRF proposed TS 3.8.1, "Reactivity Limits," or provide justification as to why this definition should not be included.
- 17) The UCINRF proposed TS 3.1.1, "Steady-state Operation," Applicability section, contains a typographical error in which a period is missing. Clarify or correct the typographical error. Also, review your proposed TSs for typographical or formatting errors and propose corrections as needed.
- 18) NUREG-1537, Appendix 14.1, Section 3.1.6, "Fuel Element Inspection Parameters," Specification b., identifies limits on TRIGA fuel, including burnup. The UCINRF proposed TS 3.1.6 does not include a burnup limit. Provide a TS limit for fuel element burnup or provide a justification as to why this limitation should not apply to the UCINRF reactor.
- 19) The UCINRF proposed TS 3.2.3, "Reactor Safety System," "Table 2. Minimum Reactor Safety Channels," requires clarification as identified below.

- a) Second column, first row titled, "Function and trip level **maximum** setting," may be misinterpreted. Provide clarity for this table by adjusting the title to read, "Function and trip level settings," and labeling corresponding set points using universal symbols $<$, $>$, \geq , \leq or provide justification for the use of the proposed labeling system.
 - b) Second column, third row lists, "Scram-425°C (IFE)" but does not indicate the range of acceptability. Identify if this should read "Scram \leq 425°C (IFE)," or provide justification for proposed labeling system.
 - c) Second column, fourth row listing, "Scram-110% of 250kw" should identify, "Scram- \leq 110% of 250kw (**275kw(t)**)," or provide justification for proposed labeling system.
 - d) Second column, eighth row listing, "Scram-if motion of 3% g (0.03g) is exceeded" should identify, "Scram-if motion of \leq 3% g (0.03g)," or provide justification for proposed labeling system.
- 20) The UCINRF proposed TS 3.2.3, "Reactor Safety System," "Table 3. Minimum Interlocks," first column, fifth row lists the interlock, "REG, SHIM, ATR Control Rod Drives" and the second column, fifth row lists the function, "Prevent movement of REG and SHIM rods in pulse mode." Confirm that there is no interlock for the ATR control rod drive that prevents its movement in pulse mode or make the appropriate corrections to the table?
- 21) The UCINRF proposed TS 3.3.1, "Pool Water Level," Specification b., requires clarification for the following:
- a) The use of the term "...shall operate **24/7**..." is colloquial and may be misinterpreted. Provide clarity to this requirement by stating, "...shall operate **continuously**..." or provide a justification for the use of the proposed language.
 - b) The condition states, "Visual checking of water level shall be substituted every 10 hours during periods when the alarm is found to be inoperable and no substitute level device has been implemented." How long can visual checking every 10 hours exist before the pool water level alarm is restored to operation? How long can a substitute level device be implemented? Justify your proposed time periods.
- 22) The UCINRF proposed TS 3.8.2., "Materials," Specification b., states, "Explosive materials shall not be irradiated in quantities greater than 25 milligrams of TNT equivalent. Explosive materials in lesser quantities may be..." Clarification is required because a legal loop hole exists in this statement that does not specify the requirements for exactly 25 milligrams of TNT. The TS should identify, "...Explosive materials **in the amount of 25 milligrams or** lesser quantities may be..." Provide justification for the proposed language, or modify the proposed TS to conform to current NRC guidance.
- 23) The UCINRF proposed TS 3.8.2., "Materials," Specification b., requires that the pressure of accidental detonation of explosive material has been calculated and/or experimentally determined to be less than half the design pressure of the container the explosive is

irradiated in. Provide calculations of the design of an example container to demonstrate the capability to meet the requirements of TS 3.8.2., Specification b.

- 24) The UCINRF proposed TS 3.8.2, "Materials," Basis section references a letter dated December 2, 2011, which describes the dose limits in terms of total effective dose equivalent (TEDE) and thyroid individual organ doses. Some confusion exists in that the dose limits should only be in terms of TEDE for this licensing action. Consider removing the individual organ dose references in the bases, or justify how this limit is applicable to establishing the TS limit.
- 25) The UCINRF proposed TS 3.8.3, "Failure or Malfunction," requires clarification. The wording of the specification is not standard and results in some confusion. Provide justification for the proposed language, or modify the proposed TS to conform to current NUREG-1537 guidance. An example TS reads as follows:

TS 3.8.3 Experiment Failure and Malfunctions

Specifications

Where the possibility exists that the failure of an experiment under (a) normal operating conditions of the experiment or the reactor (b) credible accident conditions in the reactor or (c) possible accident conditions in the experiment could release radioactive gases or aerosols to the reactor room or the unrestricted area, the quantity and type of material in the experiment shall be limited in activity such that exposures of the reactor personnel to the gaseous activity or radioactive aerosols in the reactor room or control room will not exceed the occupational dose limits in 10CFR 20.1201. Additionally, exposures to members of the public to these releases in the unrestricted areas will not exceed the dose limits in 10CFR 20.1301, assuming that:

- a. 100% of the gases or aerosols escape from the experiment;
- b. If the effluent from an experimental facility exhausts through a holdup tank, which closes automatically on high radiation levels, the assumption shall be used that 10% of the gaseous activity or aerosols produced will escape;
- c. If the effluent from an experimental facility exhausts through a filter installation designed for greater than 99% efficiency for 0.3 micron particles, the assumption shall be used that 10% of the aerosols produced escape;
- d. For materials whose boiling point is above 55°C and where vapors formed by boiling this material could escape only through an undisturbed column of water above the core, the assumption shall be used that 10% of these vapors escape; and

- e. If an experiment container fails and releases material which could damage the reactor fuel or structure by corrosion or other means, physical inspection shall be performed to determine the consequences and the need for corrective action.
- 26) The UCINRF proposed TS 4.2, "Reactor Control and Safety Systems," Specification e., states, "On each day that pulse mode operation of the reactor is planned, a functional performance check of the transient (pulse) rod system..." Functional performance check is not a defined term. Is this a channel check? If so, use the properly defined term, or define and justify the term functional performance check.
- 27) The UCINRF proposed TS 4.2, "Reactor Control and Safety Systems," Specification h., states, "A channel check of the pool water temperature measuring channel..." Confirm that a channel check is appropriate as this surveillance. The NUREG-1537 guidance identifies a calibration of measuring channels. Explain the use of a channel check versus a calibration or modify the proposed TS to conform with NRC guidance.
- 28) The UCINRF proposed TS 4.3, "Reactor Pool Water," Specification b., is not included in the list of surveillances that cannot be deferred, found in TS 4.0, "General," Specification a., which states "Surveillance requirements may be deferred during prolonged (periods greater than 1 month) reactor shutdown (except Technical Specifications 4.3.a, 4.3.c, 4.3.e, 4.3.f and 4.3.g)." Why is TS 4.3, Specification b. allowed to be deferred for long term shutdown? Provide justification for this deferral, or modify the proposed TS to include TS 4.3, Specification b. on this list of exceptions.
- 29) The UCINRF proposed TS 6.1.2, "Responsibilities," "Figure 1. UCI Reactor Organization Chart," requires clarification. The solid-line and dashed-line relationships are not identified in a legend or within TS description. Confirm and indicate what these connections mean.
- 30) The UCINRF proposed TS 6.1.3, "Staffing," item a.1., states, "The minimum staffing when the reactor is not secured shall include: 1. a licensed operator with direct access to the reactor controls." Does this statement mean a licensed operator must be present in the control room? If so, confirm and modify the proposed TS to reflect that a licensed operator must be present in the control room, or provide justification as to why not.
- 31) The UCINRF proposed TS 6.1.3, "Staffing," item d., states, "...Restart following any unplanned or unscheduled shutdown, or significant power reduction." The use of "...or significant power reduction," is unclear and may cause confusion in implementing the proposed TS. Modify the proposed TS to remove this phrase, define and justify what significant means, or provide justification why this terminology cannot be misunderstood.
- 32) The UCINRF proposed TS 6.2.4, "ROC Audit function," is missing two conditions prescribed by ANSI/ANS-15.1-2007. Modify the proposed TS to include the below sections, or provide justification to deviate from guidance.

- e. The audit shall be performed by one or more persons appointed by the ROC. At least one of the auditors shall be familiar with reactor operations. No person directly responsible for any portion of the operation of the facility shall audit that operation; and
 - f. Any deficiencies that may affect reactor safety shall be immediately reported to ROC Chair, Level 1, and a written full report of the audit shall be submitted to the ROC within three months of the audit.
- 33) The UCINRF proposed TS 6.3, "Radiation Safety," states, "As delineated in section 6.1.2.e, the UCI... The program **shall** use the guidelines of ANSI/ANS-15.11-2004." The NRC has accepted a "**should**" statement.
- 34) The proposed UCINRF TS 6.4, "Operating Procedures," states, "Written procedures, reviewed and approved by the ROC, shall be in effect and implemented..." The NUREG-1537 guidance recommends the facility director be included for review and approval (e.g., "Written procedure, reviewed and approved by the ROC **and facility director**, shall be in effect and implemented..."). Provide justification for this deviance from guidance, or modify the proposed TS to conform with the guidance.
- 35) The UCINRF proposed TS 6.4, "Operating Procedures," final paragraph states, "Substantive changes to procedures...but shall be reported to the RSO within 30 days." The definition of substantive changes may cause confusion and misinterpretation about what needs to be considered under 10 CFR 50.59. Provide justification why this cannot be misinterpreted or modify the proposed TS to meet the requirements of 10 CFR 50.59.
- 36) The UCINRF proposed TS 6.5, "Experimental Review and Approval," item b., states, "Substantive changes to existing experiments or classes shall be made only after review by the ROC and RSO or their designees. Minor changes that do not significantly...(RSO)." The definition of substantive changes may cause confusion and misinterpretation about what needs to be considered under 10 CFR 50.59. Provide justification for the use of this term, or modify the proposed TS to remove the section on substantive changes and minor changes to read, "Changes to existing experiments or classes shall be made only after review by the ROC and RSO or the RSO designee."
- 37) The UCINRF proposed TS 6.6.1, "Actions To Be Taken in Case of a Safety Limit Violation," items b. and c. are inconsistent. In TS 6.6.1, item b. there is a requirement to report the event **immediately** while TS 6.6.1, item c. specifies that this event shall be reported within **24 hours**. Provide justification for the non-congruency, or modify the proposed TS to be consistent.
- 38) The UCINRF proposed TS 6.7.1, "Annual Operating Report," states, "...each 12-month period for operations for the preceding year's activities between July 1st through June 30th." In addition, specify, when the report is actually due (e.g., "An

annual report shall be created and submitted, by the Facility Director, to the Document Control Desk, U.S. NRC, Washington, DC, 20555, by September 30th of each year”).

- 39) The UCINRF proposed TS 6.7.1, “Annual Operating Report,” item d., differs slightly from the NUREG-1537 guidance, which states that a tabulation of changes in the reactor facility and procedures, and tabulation of new tests or experiments, including a summary of the analyses leading to the conclusions that they are allowed without prior authorization by the NRC and that 10 CFR 50.59 was applicable. The proposed TS is not as precise. Provide an explanation as to why this deviation is justifiable or revise the proposed TS accordingly.
- 40) The UCINRF proposed TS 6.8.3, “Records to be retained for the lifetime of the reactor facility,” is missing a condition prescribed by ANSI/ANS-15.1-2007. Modify the proposed TS to include the below section or provide justification to deviate from guidance.
 - 1) Reviews and reports pertaining to a violation of the safety limit, the limiting safety system setting, or a limiting condition of operation.
- 41) Provide updated proposed TSs, including the revisions requested in e-mail dated September 11, 2012 (ADAMS Accession No. ML12256A897).