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April 20, 1995

Mr. Alexander Adams, Jr.
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Mail Stop 0-11-B-20
Rockville, MD 20852-2738

Re: Docket No. 50-62
TAC NO. M82825

Dear Mr. Adams:

This is in response to your letter of March 9, 1995, concerning your request for additional information regarding proposed changes to our Technical Specifications. Enclosed is a list of your questions along with our response. Our response has been reviewed and approved by our Reactor Safety Committee. I have also included a complete set of the revised Technical Specifications. Please let me know if more information is required.

Sincerely,

J. P. Farrar

J.P. Farrar, Administrator
U.VA. Reactor Facility

cc: R.U. Mulder

City/County of Albemarle
Commonwealth of Virginia

I hereby certify that the attached document is a true and exact copy of a letter (type of document), presented before me this 20th day of April, 1995 by J.P Farrar (name of person seeking acknowledgement).

Vickie L Thomas
Notary Public

My commission expires 2/28, 1998

A020

Response to NRC Questions Regarding Proposed Changes To The UVAR Technical Specifications — April 20, 1995

1. Question: Your proposed definitions and technical specifications (TSs) discuss Standard Operating Procedures (SOPs) and Methods. It appears that Methods do not require the same level of review and approval as SOPs. Please provide additional discussion about the differences between SOPs and Methods. In particular, how the decision is made to develop a Method verses a SOP.

Response: Standard Operating Procedures are those operating procedures routinely used in the operation of the reactor. As needed, SOP's are normally developed by the reactor staff. Draft SOP's are first reviewed by the reactor management (reactor supervisors and director), and then sent to the Reactor Safety Committee (R_eSC) for approval. SOP's should not be changed very often. Therefore, detailed implementation specifications may be left out of the SOP text and incorporated in written "METHODS", as explained below. R_eSC approved SOP's are given identification numbers and are kept in appropriate sections of the up-to-date SOP manuals. Although SOP's are most frequently used by the reactor staff members, experimenters who use the reactor and its irradiation and beam facilities should be aware of particular SOP's applying to their experiments. Experimenters consult with the reactor director and the reactor staff to determine applicable SOP's.
The SOP's allow for some flexibility in their use, for the reactor director may authorize temporary deviations from an SOP, to the extent that some provision in the SOP may be omitted or slightly changed, provided that the original intent of the procedure is not violated. These deviations are usually one-time affairs, which are reported to the R_eSC after-the-fact.

The following definition was reviewed and approved by the Reactor Safety Committee on June 6, 1988.

Methods: "Methods are written instructions which provide guidance to the reactor staff or experimenters in the completion of tasks, such as those specified in the SOP's and experimental procedures. While SOP's and experimental procedures, and changes thereto, are reviewed and approved by the R_eSC, methods are written and reviewed by reactor staff and/or experimenters and approved by a reactor supervisor or administrator. Newly developed methods or changes to existing methods are sent to the R_eSC as information items".

Methods are reviewed and approved by reactor management, and not by the R_eSC, because management is intimately acquainted with the instrumentation and equipment involved. Upon receiving the methods as information items, the R_eSC has the discretion to change these into action items. It is recognized that methods should not take the place of, nor contradict, SOP's and experimental procedures. Therefore, the R_eSC can act if it feels that a particular method has sufficient importance to warrant SOP or experimental procedure status. By reviewing an information item and not changing it to an action item, the R_eSC tacitly indicates that it is in agreement with the item's status.

2. Question: You are proposing to change units of reactivity in the TSs from percent $\Delta k/k$ to dollars. Please provide additional detail on and justify the use of 0.75 as the effective beta-bar multiplication conversion factor.

Response: Reactor period measurements are made to determine reactivity values and this data is used with the inhour equation to calculate reactivity in units of dollars. When converting reactivity from dollars to percent reactivity we, for many years, used an effective beta of 0.0075, which is the calculated effective beta for the HEU fuel used in the UVAR for many years. We are currently using an effective beta of 0.0074, which is the calculated effective beta for the LEU fuel as reported in the LEU SAR. The statement concerning the use of a conversion factor in the bases of section 3.1 of the proposed TS was unnecessary and has been removed, since reactivity specifications are now in the dollar unit and no conversion is necessary.
The old, calculated value of beta effective for HEU, 0.0075, has been used to convert reactivity limits in the original TS's from percent $\Delta k/k$ values to the values in dollars appearing in the revised TS's. Thus the reactivity margins in dollars in the new TS's are the same as they were in percent $\Delta k/k$ in the original TS's.

3. Question: In your proposed TS 3.4.1, Airborne Effluents, you have added the phrase "during reactor operations" to the TS. This TS could be interpreted to require the effluent to be monitored only during reactor operation. Does it take some period of time for the facility to be exhausted so that it is possible for radioactive effluent to be present after reactor operation ends? If so, please restate and justify the proposed TS to require effluent monitoring during an

appropriate time period.

Response: The specification has been reworded as follows:
The activity of gases released beyond the Reactor Facility's site boundary shall not exceed 10 CFR 20 limits. When a neutron beamport vented to the atmosphere is drained of water during reactor operations and until such time as the beamport is refilled, the effluent shall be monitored by an instrument located in the effluent vent and will have sufficient flow to maintain releases within 10 CFR limits.

4. Question: For the conversion from high-enriched to low-enriched fuel, you proposed changes to TS 5.3, fuel Use and Storage. Because the changes were related to nuclear material possession limits that were already stated in the facility license, the NRC staff did not change TS 5.3 as part of your conversion. Your proposed changes to TSs not related to the conversion does not discuss TS 5.3. Please review TS 5.3 and determine if any changes are needed. Please note that the current TS 5.3 does not follow the format of your proposed TS changes.

Response: Section 5.3.1, concerning HEU possession limits, has been removed and section numbers changed accordingly. Also, section 4.8 concerning HEU fuel dose measurements has been deleted since all HEU fuel elements have been removed from the facility.

5. Question: In your proposed TS 6.0, Administrative Controls, you have an applicability and objective section. It appears that these sections were intended for TS 6.1, not 6.0. If this is the case, please correct the TSs.

Response: The applicability and objective sections have been moved from TS 6.0 to TS 6.1.

6. Question: In your proposed TS 6.1.4, Selection and Training of Personnel, you state that "operations personnel shall meet the requirements..." However, ANS/ANSI 15.1-1990 states that "operations personnel shall meet or exceed the requirements..." This allows the TS to be

in agreement with requirements of the regulations that may differ with the guidance of ANS/ANSI 15.4-1988. Please amend your proposed TS or justify your current proposed wording.

Response: The wording has been changed to: "operations personnel shall meet or exceed the requirements...".

7. Question: In your proposed TS 6.2, Reactor Safety Committee, some wording that appears in your current TS has been moved to the proposed objective section. The only part of the TSs that is binding on the licensee are the specifications. Therefore, you have reduced the specifications in your proposed TS. Please restore wording from the proposed objective to the specifications or justify your proposed TS.

Response: We have moved the appropriate wording from the proposed objective back to the specifications.

8. Question: In your proposed TS 6.2.3(6) concerning audits there does not appear to be a time requirement for the conduct of audits (e.g., annually). Please propose and justify a time interval for the conduct of audits.

Response: An annual requirement for the conduct of audits is in the existing Technical Specifications. This requirement (annual) has been added to the proposed changes. This is the frequency recommended by Standard ANSI/ANS-15.1, Development of Technical Specifications for Research Reactors.

9. Question: In your proposed TS 6.4.5, you use the phrase "in excess of established limits..." What limits are you discussing? Please consider making the proposed TS more specific.

Response: Established limits refer to the University wide ALARA program which restricts exposures to 10% of 10 CFR 20 limits. To clear up the ambiguity, we have removed the phrase from the TS.

10. Question: In your current TS 6.5.2, item 5 refers to retaining for the life of the facility records pertaining to changes to reactor systems, components, or equipment that may affect reactor safety. This type of record does not appear in your proposed TS. Please justify the

deletion of this type of record or place this record in your proposed TS.

Response: Records pertaining to changes to reactor systems, components, or equipment that may affect reactor safety have been added to the section on record keeping for the life of the facility.

11. Question: In your proposed TS 6.7, Reporting requirements, TS 6.7.1(1) and (2) both refer to the reporting of personnel exposures or releases of radioactive material greater than the limits in 10 CFR 20. Your proposed wording creates the apparent situation of different reporting requirements for the same incident. Please clarify this issue.

Response: Under TS 6.7.1 (1), the statement concerning personnel exposures and releases of radioactive material has been deleted and replaced with the following:

a) Personnel total effective dose equivalent of 25 rems or more.

b) The release of radioactive material, inside or outside of a restricted area, that results, or could result, over a 24 hour period, in personnel intake of 5 times the annual limit on intake specified in 10 CFR 20.

This satisfies the requirements of 10 CFR 20.2202.

12. Question: Please submit a complete set of revised TS to NRC.

Response: A complete set of proposed TS, along with changes noted above is enclosed for your consideration.