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June 2, 1987

Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Cecil O. Thomas, Chief
Standardization and Special Projects Branch
Division of Licensing

Re: University of Florida Training Reactor
Facility License: R-56, Docket No. 50-83

Dear Sir:

A proposed Amendment 17 to the UFTR Technical Specifications affecting Pages 10-12 of the approved Tech Specs is enclosed as Attachment I. For reference comparison purposes, the current approved pages are contained in Attachment II.

This change was initiated from efforts undertaken because of a commitment to NRC I&E Region II to revise Section 3.4.3 (Reactor Vent System) following a violation of the UFTR Technical Specifications on December 12, 1986 as described in the Summary Report to NRC (dated December 19, 1986) on Securing the Core Vent System With Stack Counts Above 10 cps During the Quarterly Emergency Drill. For reference, this summary report to Region II is contained as Attachment III.

In conducting the analysis required for the revision of Section 3.4.3 to allow securing the Reactor Vent System under non-emergency conditions, it was decided also to incorporate other needed minor changes and a major reorganization of Sections 3.3 and 3.4 into a format to match the remainder of the UFTR Tech Specs so that currently mixed and/or missing elements would be contained in the proper Section, either 3.3 or 3.4.

The logical reorganization is obvious in comparing the two sets of three pages. All changes for Amendment 17, other than moving items around, are delineated by double vertical lines in the margins since Amendment 15 was delineated by single vertical lines in the margins.

The changes to the Specifications in Section 3.3.1 simply involve movement of items from the existing Section 3.4.3 into this Section where they belong and a split of the existing Paragraph (1) into two paragraphs to yield five (5) specifications, not four; paragraph (1) is now changed to allow securing the vent system as indicated provided the reactor is shutdown. The bases are similarly augmented to address an obvious but previously unaddressed purpose of the reactor vent system under normal conditions - to prevent exposure by leakage of radioactive gases back into the cell.

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The justification for this change to allow securing the vent system has been considered in some detail. First, Argon-41 is the only identifiable gaseous element in the normal reactor vent discharge. Second, conservative approaches to estimating free air spaces indicate that if all full power, equilibrium Argon-41 in core voids were instantaneously released into the cell air volume, the concentration would be about 9×10^{-8} µci/ml, less than full power effluent discharge concentrations and less than 10 CFR 20 restricted area concentration limits (2×10^{-6} µci/ml). This calculation is contained as supporting documentation in Attachment IV. Existing constraints to maintain Argon-41 discharge within effluent limits will automatically prevent exceeding both restricted and unrestricted area concentration limits in the cell, even if such excesses were possible. In fact, no increase in Air Particulate Detector level or Area Monitor indications was observed following securing the core vent fan with a high stack count rate of 200-300 cps on December 12, 1986. Finally, the short half-life and chemical inactivity of Argon-41 assure it will not represent a long term hazard.

The key revision to Section 3.4.3, Reactor Vent System is further supported by the following problems and inconsistencies in the current specifications:

1. Although the requirement under review is a limiting condition for operation, it is not a limiting condition for reactor operation. No other limits are associated with operation in shutdown condition by UFTR Technical Specifications and facility operation in a shutdown condition is not defined or otherwise addressed.

2. Securing the core vent system at greater than 10 cps is clearly a violation of Section 3.4.3 of the UFTR Technical Specifications, but does not have to be corrected by Technical Specifications (6.5.2) as the corrective action of shutting down the reactor has already been accomplished.

3. Situations could occur which would require violation of this specification by this specification. For example, failure of the monitoring system such as the required alarm or recording device, or unanticipated high count rate requires securing the core vent system, while the initial requirement is that a count rate of 10 cps or greater requires the system to be running whether the UFTR is operating or not.

4. Situations could occur that would require violation of this specification via requirements of other specifications, i.e., initiation of the evacuation alarm secures core vent system. Initiation of the evacuation alarm is required (Section 4.2.6) under any one of three conditions, with no reference or requirements on stack count rate.

Given these apparent inconsistencies and the lack of technical justification for the facet of the specification in question, the appropriate change is considered to be only to <u>recommend</u> not securing the core vent fan on a high stack monitor count rate, not to <u>require</u> that it not be secured -- provided the UFTR is shutdown. This recommendation then allows securing the system when necessary without, in itself, viclating the Tech Specs.

In Section 3.4, only Sections 3.4.3 (renamed Reactor Vent/Stack Monitoring Systems) and 3.4.7 (new Section containing Bases where none were given previously) are affected. The two specifications in Section 3.4.3 are not new, only moved. Specification (1) is part of the existing Section 3.4.3 and Specification (2) comes from the existing Specification (1) in Section 3.3.1 where it is out of place. The new Section 3.4.7 provides bases for the six sections of specifications (3.4.1 through 3.4.6) under Section 3.4 and should be considered as clarifying and augmenting but not changing the meaning or intent of the Tech Specs. In essence this Section 3.4.7 of Bases provides a Section that should already be present.

A brief summary will clarify the requested Amendment 17. First, Amendment 17 provides logical reorganization of Sections 3.3 and 3.4 of the UFTR Tech Specs to conform with the remainder of the existing Tech Specs where each Section has an introduction, a listing of specifications and finally a set of bases to support the listed specifications. Second, these changes provide better defined, consistent bases for the Technical Specifications on the Reactor Vent System (Section 3.3.2 is augmented) and addition of previously lacking bases for the Technical Specifications on the Radiation Monitoring Systems and Radioactive Effluents (Section 3.4.7). The purpose of the substantive change in Section 3.4.3 is to allow securing the core vent fan when necessary without, of itself, violating the Tech Specs.

With this amendment, if the Reactor Vent System is secured, as it must and should be for a valid emergency condition or a system failure, the event is not necessarily a violation of the Technical Specifications simply because the vent system was secured at >10 cps. Otherwise, the content and intentions of the Tech Specs are not considered to be changed by this Amendment.

The entire enclosure consists of:

1. Three (3) signed originals and nineteen copies of this letter of transmittal with all attachments.

2. Twenty-five (25) copies of the proposed changed pages 10 - 12 with change location noted with double vertical lines in the margin.

We appreciate your consideration of this change. Please let us know if you need further information.

Sincerely,

William G. Vernetson

William G. Vernetson
Associate Engineer and
Director of Nuclear Facilities

cc: P.M. Whaley
RSRS

Notary Public

June 5, 1987
Date