

U. S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF NUCLEAR REACTOR REGULATION

Docket No: 50-83

License No: R-056

Report No: 50-83/98-201

Licensee: University of Florida

Facility: University of Florida Test Reactor

Location: University of Florida, Gainesville, FL

Dates: September 8-10, 1998

Inspector: Stephen W. Holmes, Radiation Specialist

Approved by: Seymour H. Weiss, Director  
Non-Power Reactors and Decommissioning  
Project Directorate

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## EXECUTIVE SUMMARY

This special, announced inspection consisted of the review of selected conditions and records since the last inspection, review of the respiratory protection program, and observations and discussions with licensee personnel of related operations. The inspection was conducted in accordance with the guidance of NRC Inspection Manual.

Documentation and implementation of the University of Florida respiratory protection program met regulatory requirements.

The University of Florida Test Reactor was being maintained and operated as required by the license and applicable regulations.

## Report Details

### Summary of Plant Status

During the inspection the reactor was shut down while the graphite surrounding the core was moved to gain access to the control blades.

## I. Operations

### O1 **Conduct of Operations**

#### O1.3 Reactor Operations

##### a. Inspection Scope (Inspection Procedure 69001)

The inspector reviewed reactor logs, observed work briefings, dress-out activities, graphite block unstacking, and interviewed staff.

##### b. Observations and Findings

Reactor operations were focused on unstacking of the graphite blocks enclosing the control blades. Briefings covered specific work to be performed, safety precautions, protective clothing, and control of operations. Work was done in a deliberate and controlled manner with appropriate communication between staff members. Changes to the planned tasks were made as needed based on operation requirements.

Testing of respirators for operability was done prior to each use as required by the University of Florida Training Reactor Respiratory Protection Program (UFTRRPP).

##### c. Conclusions

Reactor operations conformed to licensee procedural requirements. No safety concerns were identified.

### O7 **Quality Assurance in Operations**

#### a. Inspection Scope (Inspection Procedure 69001)

The inspector reviewed Reactor Safety Review Subcommittee (RSRS) minutes and interviewed staff.

#### b. Observations and Findings

The RSRS had reviewed and approved the UFTRRPP to include revision two. Additionally they approved the policy statement on respirator usage.

c. Conclusions

The RSRS performed its review and approval of procedures and policy as required by Technical Specifications (TS) and licensee procedures.

**IV. Plant Support**

**R1 Radiological Protection and Chemistry Controls**

R1.1 Radiation Protection Surveys

a. Scope (Inspection Procedure 69001)

The inspector reviewed HP and reactor surveillances/survey procedures, survey records, observed air sampling and contamination surveys, and interviewed staff.

b. Observations and Findings

Contamination and radiation area surveys were performed in and around the work area before, during, and after daily operations. Air samples were taken prior and during graphite block unstacking.

Samples were analyzed to identify the potential hazard, permit proper equipment selection, and estimate exposures.

c. Conclusions

Surveys were performed and documented as required by 10 CFR Part 20. TS and licensee requirements were met.

R1.4 Personnel Dosimetry

a. Scope (Inspection Procedure 69001)

The inspector reviewed dosimetry records, licensee procedures, observed issuance of dosimetry, and interviewed staff.

b. Observations and Findings

Whole body and various extremity dosimetry were issued to staff prior to their performance of graphite block unstacking. Both thermoluminescent dosimetry and self reading dosimeters were used as appropriate. Doses were checked and recorded at the end of each work shift.

Doses recorded by the self reading dosimeters were minimal, and corresponded well with expected exposures. Bioassays were to be performed as required by

10 CFR 20.1703(a)(3)(ii) and in accordance with licensee procedures to evaluate intakes.

c. Conclusions

Personnel monitoring procedures during graphite block unstacking were acceptable and satisfied regulatory requirements.

**R2 Status of RP&C Equipment**

a. Scope (Inspection Procedure 69001)

The inspector reviewed calibration, periodic checks, and certification records for the respirator fit testing unit and respirators used by the licensee, and interviewed HP and Environmental Health and Safety (EH&S) staff.

b. Observations and Findings

The facility used 3M 6000 series half-masks. Appropriate sized mask were issued to each individual along with a radioactive/particulate filter, both NIOSH/MSHA approved. The fit testing unit used by EH&S was calibrated by the manufacturer using National Institute of Standards and Technology (NIST) traceable instruments, where applicable, and their own internal ones where NIST standards did not exist. The manufacturer's certificate was on file with EH&S.

c. Conclusions

Respiratory protection equipment was being maintained and calibrated according to industry and equipment manufacturer standards. Calibration satisfied TS requirements.

**R3 RP&C Procedures and Documentation**

a. Scope (Inspection Procedure 69001)

The inspector reviewed UFTRRPP documentation, training records and interviewed EH&S staff.

b. Observations and Findings

The written UFTRRPP covered selection, fitting, issuance, maintenance, and testing of respirators, including testing for operability immediately prior to each use. It also encompassed supervision and training of personnel; monitoring, including air sampling and bioassay; and recordkeeping. The plan required that determination be made by a physician prior to initial use and thereafter at a frequency determined by the physician, that the individual user is medically fit to use the respiratory protection equipment.

A policy statement had been issued by the Facility Director outlining the use of process or other engineering controls, instead of respirators; the routine, nonroutine, and emergency use; and the periods of use and relief from respirator use.

c. Conclusions

The written procedures and documentation of the UFTRRPP satisfied regulatory requirements.

**R5 Staff Training and Qualification in RP&C**

a. Inspection Scope (Inspection Procedure)

The inspector reviewed reactor training records, EH&S training records, interviewed staff and observed use of respiratory protection during operations.

b. Observations and Findings

The university had a respiratory protection program of its own for which it provided training to the reactor staff. Training was also included in the reactor requalification program and additional training, specifically for the revised UFTRRPP, had recently been presented by EH&S.

Review of the training records, rosters, and class outlines by the inspector verified that training meeting the requirements of Section 20.1703 for a respiratory protection program had been given.

The inspector observations of respiratory protection during operations confirmed that the training had been sufficient for the staff to acquire the level of knowledge to use such equipment safely.

c. Conclusions

Training for the UFTRRPP satisfied regulatory requirements.

**V. Management Meetings**

**X1 Exit Meeting Summary**

The inspector presented the inspection results to members of licensee management at the conclusion of the inspection on September 10, 1998. The licensee acknowledged the findings presented.

## PARTIAL LIST OF PERSONS CONTACTED

### Licensee

G. McDonald	Reactor Trainee
J. Power	Acting Reactor Manager
M. Russel	Respirator Coordinator, EH&S
R. Salazar	Reactor Trainee
J. Tulenko	Chairman Nuclear and Radiological Engineering Department
W. Vernetson	Director of Nuclear Facilities
J. Wolf	Senior Reactor Operator

## INSPECTION PROCEDURE (IP) USED

IP 69001: CLASS II NON-POWER REACTORS

## ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

NONE

### Closed

NONE

## PARTIAL LIST OF ANACHRONISMS USED

EH&S	Environmental Health and Safety
NIST	National Institute of Standards and Technology
RSRS	Reactor Safety Review Subcommittee
TS	Technical Specifications
UFTRPP	University of Florida Training Reactor Respiratory Protection Program