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February 16, 2009

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U.S. Nuclear Regulatory Commission
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Rockville, MD 20852-2738

SUBJECT: Annual Report for University of Florida Training Reactor, License R-56, Docket 50-83

Please find enclosed the 2005-06 annual report for University of Florida Training Reactor (UFTR), Docket No. 50-83. This report is being submitted as required by our Technical Specifications, Section 6.6.1.

If you have questions on the content of this report, please contact Dr. Alireza Haghighat, Interim Director of the UFTR, at 352-392-1401, x306.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on February 16, 2009.

Sincerely,

Alireza Haghighat, PhD
Interim Director of UFTR
Professor and Chair of
Nuclear & Radiological Engineering

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UNIVERSITY OF FLORIDA
TRAINING REACTOR
ANNUAL PROGRESS REPORT

SEPTEMBER 1, 2005 – AUGUST 31, 2006

Submitted by
Dr. Alireza Haghighat
Interim Director of UFTR

Department of Nuclear and Radiological Engineering
University of Florida
Gainesville, Florida

February 2009

Introduction

As stated in the University of Florida Training Reactor (UFTR) Technical Specifications, Section 6.7.1 Operating Report, routine annual reports covering the activities of the reactor facility during the previous calendar year shall be submitted to the Commission within nine (9) months following the end of each prescribed year. The prescribed year ends August 31 for the UFTR. This annual operating report includes 7 sections:

(1) a narrative summary of reactor operating experience including the energy produced by the reactor and the hours the reactor was critical;

(2) the unscheduled shutdowns including, where applicable, corrective actions taken to preclude recurrence;

(3) tabulation of major preventive and corrective maintenance operations having safety significance;

(4) tabulation of major changes in the reactor facility and procedures, and a tabulation of new tests or experiments, that are significantly different from those performed previously and are not described in the Safety Analysis Report, including conclusions that no unreviewed safety questions were involved;

(5) A summary of the nature and amount of radioactive effluents released or discharged to the environs beyond the effective control of the facility operators as determined at or before the point of such release or discharge. (The summary shall include to the extent practicable an estimate of individual radionuclides present in the effluent. If the estimated average release after dilution or diffusion is less than 25% of the concentration allowed, a statement to this effect is sufficient.);

(6) A summarized result of environmental surveys performed outside the facility;

(7) A summary of exposure received by facility personnel and visitors where such exposures are greater than 25% of that allowed.

The following discussion on the above seven sections covers the period from September 1, 2005 to August 31, 2006, except as noted otherwise.

FY '06

1. Summary of Operation Experience

In the past reporting year, UFTR continues to function as a reliable and productive facility with a broad range of research and educational utilizations by users within University of Florida as well as researchers and educators around the State of Florida. And as a milestone year, the UFTR facility has completed the HEU to LEU fuel conversion project.

The generated energy and operation hours in this year are given as follows:

Energy generated: 6852.360 KWH

Reactor Run Time: 168.53 hrs

2. Unscheduled Shutdowns

From September 1, 2005 to August 31, 2006 there were 4 unplanned shutdowns, each one summarized in the table below.

Reason	Corrective Action
9/6/05: Full Box temperature indicated above 155 °F, about 921.9 °F. (Occurred 2 times, 9/30/05) *	Reset temperature indicator back to normal in about 6 minutes. Assured that is was not likely to trip again, experimented with limiting power level to see if it affected trip.
1/27/06: Extended Range indicator came on and loud buzzing came from the wide range board array. Extended range light indicated the extended circuit was energized at an incorrect power level.	Relays were cleaned and replaced. Verified power supply voltages. Continued to operate at power to monitor switching circuit in the indicated noise levels.
2/27/06: Overpower trip caused by overcompensation of AFC in Auto, resulting in safety 2 trip. *	Validated DCO. Reviewed and approved of restart to complete A-2 surveillance by RSRS Executive Committee.
4/5/06: Trip initiated by rising trip set point on A9 High Volts Bistable card. *	Valid DCO/Alignment check of HV trip.

*Note: Filed as an Unscheduled Reactor Trip

3. Safety Related Maintenance Operations

1) 5/06 – 8/06: the Safety Channel 1 High Voltage trip is investigated. And it is due to the safety channel 1 high voltage drifts out of the spec. Related electrical components are replaced or repaired. The system has been evaluated and it is operational.

4. Major Changes in Reactor Facility, Procedures and Experiments

UFTR facility completes the HEU to LEU fuel conversion. Corresponding changes on reactor facility, procedures and experiments can be found in the UFTR HEU to LEU fuel conversion report.

5. Radioactive Effluents

Liquid release:

UFTR is equipped with a waste water holdup tank. The tank is released two or three times per year. The radioactivity in the released water is measured.

Time period (mm.dd.yyyy)	Water released (Gallon)	Radioactivity released (uCi)
06.10.2005 – 09.07.2005	895.9	1.6E-03
09.07.2005 – 08.21.2006	929.8	1.78E-03

Argon-41 Release:

The Argon-41 release concentration is measured about every six months. The annual Argon-41 release is estimated by the measurement and operation hours. The Argon-41 release is ~31.5 mCi for FY 05 – 06.

6. Environmental Surveys

The firm maintaining radiation records for the University of Florida keeps a year to date record, therefore it is easier to report radiation exposure by the nearest completed calendar year. The following film badge exposures are for the period January 1, 2005 to December 31, 2005. Thirteen areas (Numbered from 1 to 13) were monitored for the entire calendar year. A list of these numbered areas can be found in UFTR SOP. Note that among them, Area No. 2, which is the stack area, has the highest dose record. And 3 separate areas in the reactor building were monitored during the same time period. The area radiation exposures are tabulated below. All doses are in unit of mrem.

Area No.	DDE	LDE	SDE, WB	TEDE
1	376	389	388	376
2	1793	1824	1922	1793
3	128	128	126	128
4	151	151	149	151
5	288	293	301	288
6	127	128	139	127
7	219	225	280	219
8	178	178	238	178
9	181	182	184	181
10	252	262	271	252
11	164	167	190	164
12	223	241	275	275
13	3	3	2	3

Area	DDE	LDE	SDE, WB	TEDE
Reactor C	610	611	611	610
Room 101C	4	4	7	4
Room 103	3	3	5	3

7. Radiation Exposures

Note that UFTR TechSpecs requires only a summary of exposure received by facility personnel and visitors where such exposures are greater than 25% of that allowed. Since all personnel exposures during this period are below the limits, we provide an exposure summary for the UFTR staff.

The following table illustrates the radiation dosages of 4 workers for the period September 1, 2005 to August 31, 2006. All the dosages are in mrem.

Individual	DDE	LDE	SDE
Berglund, M.	<1	17	48*
Holman, M.	6	4	2
Vernetson, W.	2	1	4
Yenatskyy, M.	<1	<1	<1

* Also had Ring Finger monitored, noted extra dosage of 180 mrem