UF | UNIVERSITY of FLORIDA

College of Engineering
Department of Nuclear & Radiological Engineering

202 Nuclear Science Bldg.
PO Box 118300
Gainesville, FL 32611-8300
352-392-1401 x306
352-392-3380 Fax
haghighat@ufl.edu

February 16, 2009

Document Control Desk
U.S. Nuclear Regulatory Commission
One White Flint North
11555 Rockville Pike
Rockville, MD 20852-2738

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

Please find enclosed the 2007-08 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

A020
NRR

DISTRIBUTION FOR THE

ANNUAL REPORT

No. of Copies	Agency/ Affiliation	Recipient(s)	Reporting Purpose
1	NRC	Attn: Document Control Desk (Washington, DC)	Tech Spec Req'ment
1	NRC	Al Adams	Project Manager
1	NRC	Duane Hardesty	Assistant PM
1	NRC	Craig Bassett	Region II Inspector
6	UF RSRS	G. E. Sjoden, RSRS Chair A. Haghighat, NRE Chair & Interim Director D. L. Munroe, Member D. E. Hintenlang, Member Ken Wilson, Outside Member (Progress Energy – Crystal River) Brian Shea, Member (Distribute at RSRS Meeting)	RSRS Review/Records
1	NRE	A. Haghighat, NRE Dept. Chair 4 more if requested for AH's distribution to: B. Machen, UF President P. Khargonekar, Dean COE W. S. Properzio, Dir. EH&S F. E. Dunnam, URCC	NRE Dept. Files
1	UFTR	Reactor Manager	
1	UFTR	Facility Director	
2	UFTR	Facility Copies – Reactor Operators' Use	
Originals	UFTR		File Cabinet Upstairs

UNIVERSITY OF FLORIDA
TRAINING REACTOR
ANNUAL PROGRESS REPORT

SEPTEMBER 1, 2007 – AUGUST 31, 2008

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, 2007 to August 31, 2008, except as noted otherwise.

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.

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

Energy generated: 8726.214 KWH

Reactor Run Time: 197.63 hrs

2. Unscheduled Shutdowns

From September 1, 2007 to August 31, 2008 there were 5 unplanned shutdowns, each one summarized in the table below.

Reason	Corrective Action
10/5/07: Coolant level trip, coolant pump trip.*	Completed form O.6A and successful daily pre-operational checks.
11/14/07: Critical position on Reg. Blade at 368 versus the expected 300 – 305 range.	Provided reliable indication on S-1. Assured applicable surveillances affected by maintenance were completed satisfactorily.
4/29/08: HV indicator required trip.	Checked SC1 high voltage, and performed daily operational check.
6/27/08: Pit alarm went off and SRO noted A/C waste water line came loose and was dripping water on the floor.	Cleaned water from pit (< 300ml). Performed DCO – SAT.
8/7/08: Sporadic dilute fan RPM indicator; drop from 561 to 553 with momentary drop to 484.	Posted sign. Performed satisfactory daily pre-operational check, and check room at open and close.

*NOTE: Filed as an Unscheduled Reactor Trip

3. Safety Related Maintenance Operations

1) 12/07 – 05/08: safety blade 2 is repaired, because of its failure to drop.

4. Major Changes in Reactor Facility, Procedures and Experiments

None

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)
05.18.2007 – 04.15.2008	907.7	1.68E-03
04.15.2008 – 11.03.2008	908.7	6.84E-04

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 ~28.6 mCi for FY 07 – 08.

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, 2007 to December 31, 2007. 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. Among them, Area No. 2, which is the stack area, has the highest dose record. And 3 separate areas in the reactor building were also 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	380	394	394	380
2	1799	1831	1950	1799
3	128	128	126	128
4	151	151	149	151
5	288	293	306	288
6	127	128	139	127

7	223	229	285	223
8	178	178	238	178
9	181	182	184	181
10	252	262	271	252
11	164	167	190	164
12	223	241	280	223
13	< 1	<1	<1	<1

Area	DDE	LDE	SDE, WB	TEDE
Reactor C	610	611	613	610
Room 101C	4	4	7	4
Room 103	41	63	69	41

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 3 workers for the period September 1, 2007 to August 31, 2008. All the dosages are in mrem.

Individual	DDE	LDE	SDE
Berglund, M.	113	115	138
Vernetson, W.	154	156	161
Yenatskyy, M.	<1	<1	1