ANNUAL REPORT FROM
THE UNIVERSITY OF WASHINGTON
Facility License R-73

A. A Narrative Summary of Operating Experience for 1985

The University of Washington Nuclear Reactor was operated for 215.6 hours (baseline to shutdown) and generated 10840 KWH of energy during 1985. The 209 experiment runs consisted of sample irradiations for neutron activation analysis, isotope production, class demonstrations, operator training, operator exams, TLD irradiations, and calibrations.

B. Unscheduled Shut Downs

Date	Power Level	Cause
Jan 29	95 kw	No indication, except rods dropped and dump valve opened. Probable cause in all cases is the photo-diode isolation in the safety amplifier dropping below operational level as a result of 110 AC noise.
Feb 22	2 watt	Refer to Jan 29
Apr 22	95 kw	Refer to Jan 29

C. Corrective and Preventive Maintenance Having Safety Significance

1. Routine calibrations and maintenance as scheduled.
2. Changed the gaskets on fuel box covers on September 12, 1985.
3. Replaced HV bias power supply on A-41 monitoring system on October 24, 1985.

D. Discussions of Changes Carried Out Pursuant to 10 CFR 50.59

1. None

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E. Radioactive Releases to the Environs

1. During 1985, the Argon-41 released from the facility was measured to be 28.6 Curies.

2. Liquid waste consisted of one retention tank of 1440 gallons pumped into the sanitary sewer on April 4, 1985. The total activity present was 0.09 microcuries of beta activity and 0.04 microcuries of alpha activity.

F. Environmental Surveys Outside the Facility

TLD monitoring data was collected outside the reactor building at locations shown on the enclosed drawing. Results are tabulated on attached table.

G. Significant Exposures (over 500 mrem for year)

For the year 1985 there were no significant exposures, ie., over 500 mrem for the year.(January through November: December data not available at report time. No incidents occurred in December which would lead to excess personnel exposure.)

ENVIRONMENTAL DOSIMETER DATA - 1985

Values reported are in millirem with M being minimum.

See following page for a diagram of the placement of the dosimeter location around the facility.

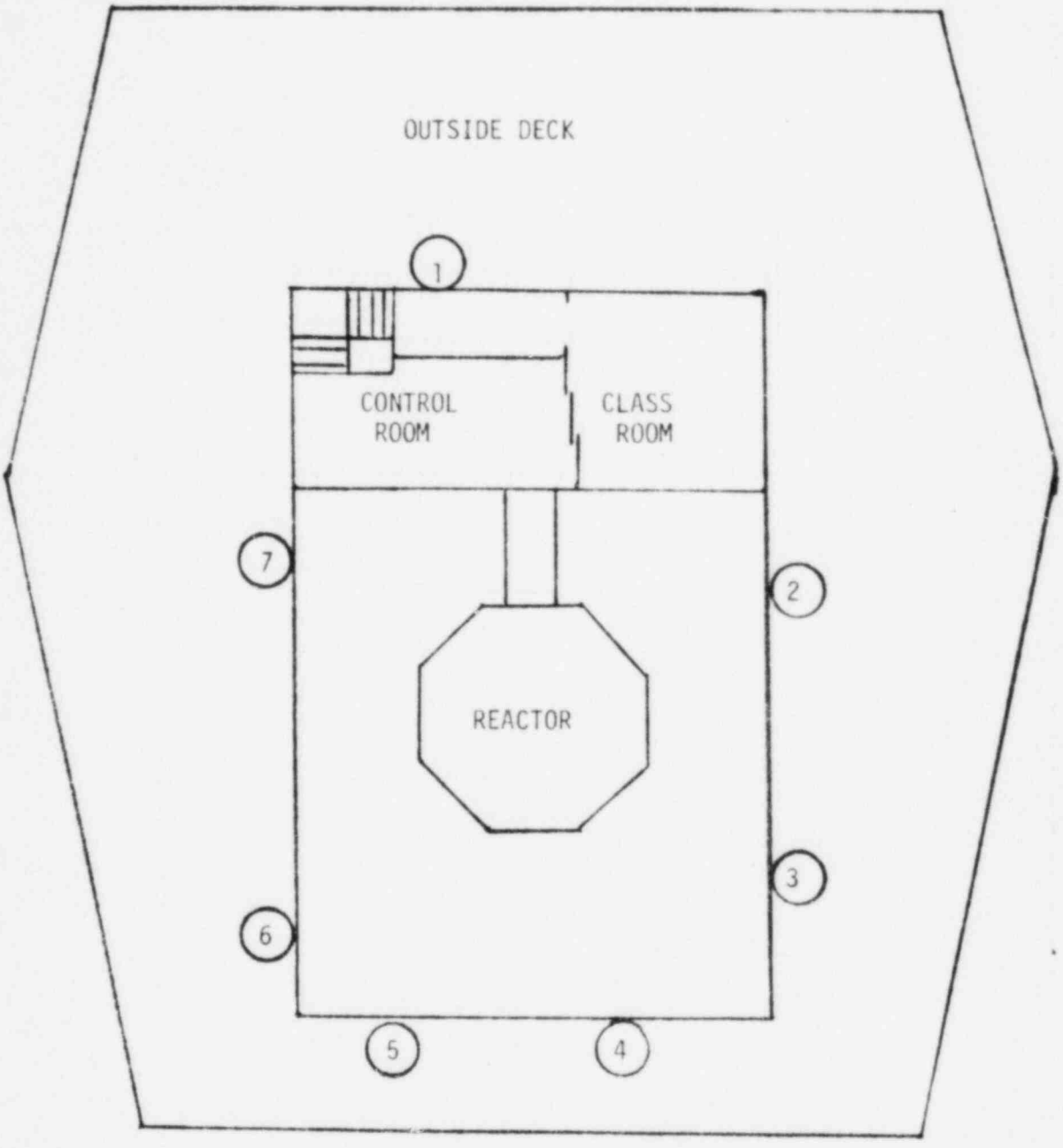
The dosimeters each contain two TLD chips that are supplied by R.S. Landauer,Jr & Co,Glenwood, Illinois 60425. The exception being the exposure from 12/1/84 to 12/31/84 which had a film badge in additon to the TLD chips.

			Exposure Period		
			12/1/84 to 12/31/84	1/1/85 to 3/31/85	4/1/85 to 6/30/85	7/1/85 to 9/30/85
Location	TLD	Film			
1	M	M	20	M	10
2	20	M	30	20	20
3	20	M	40	30	20
4	10	M	30	30	30
5	10	M	30	20	110
6	10	M	30	20	20
7	M	M	30	10	30
8	M	M	20	M	M

Changed the exposure period from monthly to quarterly as of January 1, 1985 with the new monitors using only TLD's.

The data for 12/1/84 to 12/31/84 include the reported values for the film badge which are the second column in the reported data.

The data for the exposure period of 10/1/85 to 12/31/85 were not available at the time the report was prepared.



(8) (50 FEET FROM BUILDING

NUCLEAR REACTOR LABORATORIES	LOCATION OF ENVIROMENTAL MONITORS
UNIVERSITY of WASHINGTON	COLLEGE of ENGINEERING — DATE 1/27/84
DRN. BY FRY	APPROVED BY FRY — SCALE NONE — DWG. NO. 197-T-101-A

UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195

College of Engineering
Department of Nuclear Engineering

January 30,1986

Operating Reactors Director
Office of Nuclear Regulation
Nuclear Regulatory Commission
Washington, DC 20555

Docket No. 50-139

Dear Sir:

Enclosed is the routine Annual Report for the period January 1, 1985 to December 31, 1985 in accordance with Section VIII.K.3 of Appendix A, Technical Specifications for Facility License No. R-73.

Please let me know if additional information is needed relative to this report.

Sincerely yours,

Maurice A Robkin

Maurice A. Robkin, Ph. D.
Director
Nuclear Engineering Laboratories

MAR:
Enclosure

cc: Dr. J.R. Bowen
Dr. A.L. Babb
Mr. W.P. Miller
NRC Region V

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Benson Hall, BF-10 / Telephone: (206) 543-2754