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Docket No. 50-116

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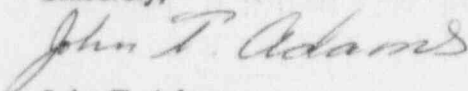
August 29, 1995

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Dear Sir:

Enclosed with this letter is the Annual Operations Report for the Iowa State University UTR-10 reactor. The period covered by this report is from July 1, 1994, to June 30, 1995.

Sincerely,



John T. Adams
Reactor Manager

Enclosure

- c: American Nuclear Insurers
- D. B. Bullen, Facility Director
- R. A. Jacobson, Chm., Radiation Safety Committee
- S. Bahadur, Chm., Mechanical Engineering Department
- E. E. Sobottka, Dir., Environmental Health and Safety Department
- E. B. Bartlett, Chm., Reactor Use Committee
- U. S. NRC, Region III

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Annual Operations Report
Iowa State University's
UTR-10 Reactor

Docket No. 50-116

July 1, 1994 to June 30, 1995

This is a routine operations report to the Nuclear Regulatory Commission in accordance with the requirements of Section 6.6 of the Technical Specifications, Appendix A to Operating License R-59.

1. Summary of reactor operating experience including the energy produced by the reactor:

The reactor is operated in support of the nuclear engineering program. No laboratory courses were taught during this reporting period. The reactor was used to support the training of reactor operations personnel.

During the period July 1, 1994, to June 30, 1995, a total of 24.11 kw-hrs of energy production and 96.07 hours of operation were recorded. Last year's numbers were 15.72 kw-hrs and 78.12 hours. Since the initial criticality of the LEU core in August of 1991, the cumulative kilowatt-hours are 194.20 kw-hrs and the cumulative hours of operation are 563.60 hours. The total energy produced during the life of the facility (both HEU and LEU cores) is 7518.20 kw-hrs with a cumulative operation time of 9235.32 hours. A percentage breakdown by operational categories for the years 94-95 and 93-94 is shown below.

Table 1. Allocation of energy production and operation time, in percent.

Year	Research	Teaching Undergrad.	Teaching Graduate	Maintenance	Operator Training	Service
Energy %						
94-95	<0.1	0.0	0.1	98.7	0.5	0.7
93-94	0.0	0.0	4.8	91.8	3.4	0.0
Time %						
94-95	4.8	0.0	5.0	16.0	68.2	6.0
93-94	0.0	0.0	4.8	56.4	38.8	0.0

2. Unscheduled shutdowns including, where applicable, corrective action taken to preclude recurrence:

There were two unscheduled shutdowns during this reporting period. The first occurred on September 9, 1994, when it was found that access to the Emergency Support Center, located in room 0102 Sweeney Hall, had been restricted. The restriction of access was due to the installation of a new door lock on room 0102 following remodeling of the building. The Facilities Planning and Management Department failed to provide new keys or notification of the lock change. On discovery of the access restriction the Reactor Manager determined that the Emergency Plan had been corrupted and ordered the immediate shutdown (scram) of the reactor. The reactor was operating at 1 watt prior to its shutdown. The Facility Director and RSO were informed and actions were taken to obtain keys to the Emergency Support Center. Meetings were arranged with management representatives of Facilities Planning and Management Department to discuss the serious nature of their actions and to prevent similar reoccurrence.

The second unscheduled shutdown occurred on January 1, 1995. The cause of the scram was the improper installation of the thermal column shield door following maintenance. The microswitch that provides a signal to Reactor Protection System was not closed. When power exceeds 1 Watt with this switch in the open position, a reactor scram is initiated. Following the scram, the SRO informed the Reactor Manager and the thermal column shield door was reseated and tested. The incident was discussed with the SRO as to how the condition could have been detected while performing the precritical checks. The reactor was then restarted.

3. Major preventive and corrective maintenance operations having safety significance:

All preventive maintenance required by Technical Specifications was completed satisfactorily.

Throughout the reporting period, monitoring of the "in core" cladding samples has continued. The samples do not appear to be changing. Also, fission product analysis using the high purity germanium detector (HPGe) has continued. No fission products have been detected in the primary coolant.

4. Major changes in the reactor facility, procedures, and new tests or experiments, or both, 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:

There were no major changes in facility procedures, tests, or experiments.

5. Summary of the nature and amount of radioactive effluents released or discharged to the environs beyond the effective control of the University as determined at or before the point of such release or discharge. (Included, to the extent practical, are estimates of individual radionuclides present in the effluent. If the estimate average release after dilution or diffusion is less than 25 percent of the concentration allowed or recommended, a statement to this effect is used);

Argon-41: The operating records show that less than 0.09% (based on 24.11 kWh of energy production) of the concentration allowed by 10CFR20, Appendix B, Table II were released to the environs.

Others: No measurable amounts of other radioactive effluents were released to the environs.

6. Summarized results of any environmental surveys performed outside the facility;

No environmental surveys outside the facility were required to be performed since the trigger level, based on surveys inside the facility, was not exceeded.

7. Summary of exposure received by facility personnel and visitors where such exposures are greater than 25 percent of that allowed or recommended;

No facility personnel or visitors had exposures greater than 25% of that allowed or recommended.