

U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-186/80-05

Docket No. 50-186

License No. R-103

Licensee: University of Missouri  
Research Park  
Columbia, MO 65201

Inspection Conducted: October 8-10, 1980

Inspectors: *K. R. Ridgway*  
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10/27/80

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10/27/80

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Projects Section 4

10/25/80

Inspection Summary

Inspection on October 8-10, 1980 (Report No. 50-186/80-05)

Areas Inspected: Routine unannounced inspection of records, logs and organization; review and audit functions; requalification training; procedures; surveillance and maintenance; refueling; fuel shipping; experiments; and followup action relative to IE Circulars and Open inspection items. This inspection involved a total of 44 inspector-hours onsite by two NRC inspectors including 0 inspector-hours onsite during off-shifts.

Results: No items of noncompliance were identified in eight areas inspected.

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## DETAILS

### 1. Personnel Contacted

- \*R. M. Brugger, Director, MURR
- \*C. W. Tompson, Chairman, Reactor Advisory Committee
- \*C. McKibben, Reactor Manager
- \*M. Vonk, Reactor Operations Engineer
- S. Gunn, Reactor Services Engineer
- A. Meyer, Assistant Services Engineer
- D. McGinty, Reactor Physicist
- \*B. Bezenek, Shift Supervisor
- O. Olsen, Manager, Reactor Health Physics

### 2. Organization, Logs and Records

The facility organization was reviewed and verified to be consistent with the Technical Specifications and/or Hazards Summary Report. The minimum staffing requirements were verified to be present during reactor operations, and fuel handling or refueling operations.

The reactor logs and records were reviewed to verify that:

- a. Required entries were made.
- b. Significant problems or incidents were documented.
- c. Facility was being maintained properly.
- d. Records were available for inspection.

The inspector noted that three senior operators (including two Shift Supervisors) had terminated and two trainee replacements had been obtained. One former trainee had received his operator license. No significant organizational changes had been made. The Associate Director was temporarily on loan to the National Bureau of Standards Research Reactor.

No items of noncompliance or deviations were identified.

### 3. Reviews and Audits

The licensee's review and audit program records were examined by the inspector to verify that:

- a. Reviews of facility changes, operating and maintenance procedures, design changes, and unreviewed experiments had been conducted by a safety review committee as required by Technical Specifications or Hazards Summary Report.

- b. That the review committee and subcommittees were composed of qualified members and that quorum requirements and frequency of meetings had been met.

The present license and Technical Specifications do not require internal audits to be performed, however, the Reactor Advisory Committee (RAC) procedure or Charter dated September 26, 1974 states that the Action Subcommittee shall also provide audits of reactor operations for the information of the Committee. As far as can be determined, no formal audit has been conducted by this subcommittee. The inspector noted that audits of Radwaste Shipping and the Health Physics Program had been made by other individuals and committees.

The RAC Charter above also states that "the Reactor Safety Subcommittee (RSS) shall act for the RAC in performing the detailed reviews of circumstances of all abnormal occurrences and violations of the Technical Specifications and the remedial measures taken or to be taken to prevent recurrence." The RSS has not met since late in 1979 even though several abnormal occurrences have taken place in 1980. This indicates that the RSS has not reviewed abnormal occurrences and corrective actions in a timely manner.

The above matters were discussed at the close out meeting.

No items of noncompliance were identified.

#### 4. Requalification Training

The inspector reviewed procedures, logs and training records; and interviewed personnel to verify that the requalification training program was being carried out in conformance with the facility's approved plan and NRC regulations. Biennial requalification examinations had been conducted in September and November of 1979.

No items of noncompliance were identified.

#### 5. Procedures

The inspector reviewed the licensee's procedures to determine if procedures were issued, reviewed, changed or updated, and approved in accordance with Technical Specifications and HSR requirements.

This review also verified:

- a. That procedure content was adequate to safely operate, refuel and maintain the facility.
- b. That responsibilities were clearly defined.
- c. That required checklists and forms were used.

The inspector determined that the required procedures were available and the contents of the procedures were adequate.

The inspector noted that several important items such as procedure changes and drawing changes, had not been included in the "Modification Record Checklist." The licensee stated the checklist would be reviewed and updated to include these and any other significant items.

No items of noncompliance were identified.

6. Surveillance

The inspector reviewed procedures, surveillance test schedules and test records and discussed the surveillance program with responsible personnel to verify:

- a. That when necessary, procedures were available and adequate to perform the tests.
- b. That tests were completed within the required time schedule.
- c. Test records were available.

No items of noncompliance were identified.

7. Experiments

The inspector verified by reviewing experiment records and other reactor logs that:

- a. Experiments were conducted using approved procedures and under approved reactor conditions.
- b. New experiments or changes in experiments were properly reviewed and approved.
- c. The experiments did not involve an unreviewed safety question i.e., 10 CFR 50.59.
- d. Experiments involving potential hazards or reactivity change were identified in procedures.
- e. Reactivity limits were not or could not have been exceeded during the experiment.

No items of noncompliance were identified.

8. Refueling (60745)

The facility refueling (fuel handling) program was reviewed by the inspector. The review included the verification of approved procedures

for fuel handling and the technical adequacy of them in the areas of radiation protection, criticality safety, Technical Specification and security plan requirements. The inspector determined by records review and discussions with personnel that fuel handling operations and startup tests were carried out in conformance to the licensee's procedures.

No items of noncompliance were identified.

9. Fuel Shipping

The inspectors reviewed records of the last irradiated fuel shipment made in November of 1979 to determine that conditions of the Certificate of Compliance for the GE Model 700 shipping cask and DOT regulations were followed.

The inspector noted that the licensee's Quality Assurance Program for Shipping Casks submitted on July 31, 1980, had been approved by the Transportation Certification Branch on September 10, 1980. The program is to be in use by December 1, 1980. This area will be inspected at a later time.

No items of noncompliance were identified.

10. Licensee Event Reports Followup

Through direct observations, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with technical specifications.

- a. On June 2, 1980, the licensee reported that the Emergency Generator (EG) failed to start during the weekly test on May 9, 1980. The reactor was shut down manually. The EG gas day tank was found empty and the starting limiter tripped.

After replacing this starter and filling the day tank, the EG was load tested satisfactorily. In addition the licensee has installed a sight glass on the EG day tank which is checked on a 4-hour frequency.

- b. On June 4, 1980, the licensee reported that the regulating blade driven gear was found to be defective and failed to function on May 16, 1980. The gear was replaced and tested before resuming operations.
- c. On August 29, 1980, the licensee reported that an improper valve lineup during a demineralizer change resulted in contamination of the primary water holdup tank and required a manual shutdown of the reactor. During the reactor shutdown the primary water inlet isolation valve failed to close. The primary water was cleaned up and the isolation valve repaired before resuming operations.

- d. On September 18, 1980, the licensee reported that the reactor was shut down by manual scram when it was discovered that the sample train in center test hold B was of incorrect length preventing the train from being secured. After adding spacers operation was continued.

11. IE Circular Followup

For the IE Circulars listed below, the inspector verified that the Circular was received by the licensee management, that a review for applicability was performed, and that if the circular was applicable to the facility, appropriate corrective actions were taken or were scheduled to be taken.

- a. IEC 79-08 - Attempted Extortion - Low Enriched Uranium.
- b. IEC 80-02 - Nuclear Power Plant Staff Work Hours.
- c. IEC 80-14 - Radioactive Contamination of Plant Demineralized Water System and Resultant Internal Contamination of Personnel.

12. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on October 10, 1980, and summarized the scope and findings of the inspection.

During telephone communications on October 16 and 19, 1980, licensee representatives agreed to:

- a. More timely Reactor Safety Subcommittee action on matters that are required to be brought before it for review and approval.
- b. Establish and maintain an audit system of the safety program as stated in the Charter of the Reactor Advisory Committee.