

APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-407/82-01

Docket: 50-407

License: R-126

Licensee: University of Utah
College of Engineering
Salt Lake City, Utah 84112

Facility Name: University of Utah Triga, Mark 1

Inspection at: University of Utah, Salt Lake City, Utah

Inspection conducted: May 10-12, 1982

Inspectors:

J. P. Jaudon
J. P. Jaudon, Reactor Inspector, Reactor Project Section C
(paragraphs 1, 3, 4, 7, 8, and 10)

6/8/82
Date

for

M. F. Murphy
M. F. Murphy, Reactor Inspector, Reactor Project Section C
(paragraphs 1, 2, 5, 6, 9, and 10)

6/8/82
Date

Approved:

R. E. Hall
R. E. Hall, Chief, Reactor Project Section C

6/8/82
Date

Inspection Summary

Inspection Conducted May 10-12, 1982 (Report 50-407/82-01)

Areas Inspected: Routine, unannounced inspection of the licensee's organization, operations and maintenance logs, and operating procedures; licensee's internal review program; requalification program; surveillance; experiment review; radiation and environmental protection; emergency planning programs; and annual reports. The inspection involved 30 inspector-hours onsite by two NRC inspectors.

Results: Within the eight areas inspected, one violation was identified in one area (failure to follow procedures, paragraph 2).

DETAILS

1. Persons Contacted

University of Utah

- *Dr. G. M. Sandquist, Reactor Supervisor
- *Mr. Kevin Crawford, Senior Reactor Operator
- *Mr. C. Jensen, Senior Reactor Operator
- Mr. R. J. Hoffman, Radiation Safety Officer

*Denotes those attending the exit interview.

2. Reactor Organization, Logs, Records, and Operating Procedures

Within the area of organization, the NRC inspector observed that the facility organization is consistent with the Technical Specifications.

The following logs and records for the period April 10, 1981, through May 11, 1982, were reviewed:

Reactor Operations Log

Reactor Startup and Termination Checklists

Maintenance Log

Monthly Inspection Sheets

Power Recorder Trace for March and April 1982

Review of the power recorder trace for March and April 1982 indicated power operations that were not recorded in the reactor operations log. Comparison of the reactor startup and termination checklists for the same time period revealed that startups were attempted but not completed, primarily because of recorder problems. Further review of the reactor operations log revealed that for reactor operations, as defined in the Technical Specifications, conducted on January 13, 14, and 19, 1982, the operator failed to sign the log entries.

The Nuclear Engineering Laboratory Operation Manual, which was approved and reviewed by Reactor Safety Committee and signed by the Reactor Administrator/Committee Chairman, states, in paragraph 4.5:

"4.5 Reactor Operations Log

"The reactor operations log books will contain a complete record of all operations and events which affect the Triga reactor. Log book entries should be made in accordance with the following directions:

- "1. Entries for each day will constitute a new entry.
- "2. Each entry should give:
 - a. time of event
 - b. description of event
 - c. action taken
 - d. initials of person making entry (each individual entry need not be initialled, but it must be evident who made the entry)"

* * *

- "6. The operator shall sign the log book before begins operation of the reactor."

Failure to follow approved procedures in making correct log entries is an apparent violation of the Technical Specifications. (8201-01)

3. Surveillance

The purpose of this inspection was to ascertain whether or not surveillance was conducted in accordance with the requirements of the Technical Specifications, Section 4.

The NRC inspector reviewed the records of surveillance tests conducted since the last inspection. From this record review, it was determined that all required surveillance tests had been completed as required. The NRC inspector observed the conduct of a "monthly check" procedure by a senior operator. There were no questions about the conduct of the test.

From the review of completed surveillance tests, the NRC inspector noted that in general they were completed legibly and that all required data was recorded. Two exceptions were noted: (1) on August 20, 1981, the temperature of tank water was not recorded in step 9 of the semiannual thermocouple calibration; and (2) an operator had failed to sign a semiannual thermal power calibration completed April 16, 1982. The NRC inspector noted that there was no procedural requirement for review of completed surveillance tests; however, several of the surveillance tests bore the signature of the Reactor Safety Committee. During interviews, licensee representatives stated that all completed surveillance tests were reviewed. Incorporation of a review requirement for completed surveillance tests in licensee procedures is considered to be an open item and will be checked during a future inspection. (8201-02)

No violations or deviations were identified.

4. Requalification Training

The purpose of this inspection was to verify that the licensee's requalification training program was conducted in accordance with the approved training plan and 10 CFR 55.

The NRC inspector reviewed the licensee's training records. It was found that the status of annual written examinations was current. There were no questions concerning the depth or content of written examinations which had been given. The conduct of an annual oral board for each operator is a licensee commitment in the approved training plan. Licensee representatives stated that operators had been quizzed orally but admitted that documentation of this could be improved. Documentation of oral examinations is considered to be an open item and will be checked during a future inspection. (8201-03)

No violations or deviations were identified.

5. Review and Audit

The minutes of the licensee's Reactor Safety Committee (RSC) meetings were reviewed. Records indicated that the RSC met quarterly and conducted reviews as required. The responsibilities of the RSC are outlined in Technical Specifications 6.1.b and 6.2, Sections 1 and 3.4 of the Nuclear Engineering Laboratory Operations Manual and are further amplified by "Reactor Safety Committee - Rules and Procedures," dated September 29, 1977.

No violations or deviations were identified.

6. Experiments

Experiments performed during the period April 10, 1981, through May 11, 1982, were found to have been completed, reviewed, and approved in accordance with Technical Specifications and Section 2 of the Nuclear Engineering Laboratory Operations Manual.

No violations or deviations were identified.

7. Annual Operating Reports

The NRC inspector discussed preparation of annual reports with licensee representatives. Licensee representatives indicated that there had been a tendency to prepare annual reports by markup of the previous report instead of writing the report specifically for the individual reactor involved. Licensee representatives indicated that future reports would be prepared in the specific format applicable to each reactor.

No violations or deviations were identified.

8. Radiation Control

The purpose of this inspection was to ascertain whether or not the licensee's radiation protection and contamination control program was adequate and consistent with 10 CFR requirements.

The NRC inspectors noted that reactor spaces at the licensee's facility were properly posted and that personnel were using dosimetry equipment. It was also found that radiation monitoring equipment available to the operators was in calibration at the time of the inspection.

The NRC inspectors reviewed personnel exposure records. There were no instances noted in which individuals had exceeded their dose limits.

The NRC inspectors also noted that there had been no recorded environmental releases of radioactive materials and that the licensee was conducting environmental monitoring.

No violations or deviations were identified.

9. Emergency Procedures

Emergency procedures are contained in Section 5 of the Nuclear Engineering Laboratory Operations Manual. Up-to-date emergency call lists were prominently posted in several locations within the laboratory complex. The NRC inspector observed activation of and security personnel response time to the intruder alarm system.

No violations or deviations were identified.

10. Exit Interview

An exit interview was conducted May 12, 1982, with those personnel denoted in paragraph 1 of this report. At this interview, the NRC inspectors summarized the scope and findings of this inspection.