

APPENDIX

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-192/86-01
50-602/86-01

License: R-82
CPRR: 123

Dockets: 50-192
50-602


Licensee: University of Texas
College of Engineering
Austin, Texas

Facility Name: TRIGA Mark I

Inspection At: Austin, Texas

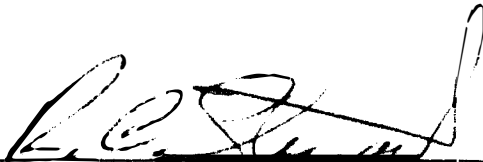
Dates of Inspection: April 10-11, 1986

Inspectors:



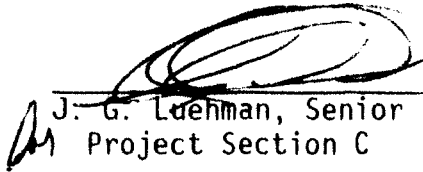
G. E. Constable, Chief, Project Section C,
Reactor Projects Branch

6/4/86
Date



R. C. Stewart, Reactor Inspector, Operations
Section

6/4/86
Date



J. G. Luehman, Senior Resident Inspector,
Project Section C

6/4/86
Date

Accompanying
Personnel:

D. Tondi, NRR
J. Dosa, NRR

Approved:



G. E. Constable, Chief, Project Section C,
Reactor Projects Branch

6/4/86
Date

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Inspection Summary

Inspection Conducted April 10-11, 1986 (Reports 50-192/86-01 and 50-602/86-01)

Areas Inspected: Routine, announced inspection of: (1) Plant Status; (2) Facility Organization, Logs, and Records; (3) I&E Notices and Bulletins; (4) Review and Audit Functions; (5) Procedures; (6) Surveillance; (7) Experiments; (8) Health Physics; (9) Emergency Planning; (10) Transportation Activities; (11) Requalification Training; and (12) Plans for a New Reactor Facility.

Results: Within the 14 areas inspected no violations or deviations were identified.

DETAILS1. Persons Contacted

- *T. Bauer, Supervisor, Reactor Operations, UT
- B. Broadus, Chief, Engineering Services, Office of Facilities, UT
- H. Wilson, Architect, Wilson Stoelt, J. E. Morton, Inc.
- H. A. Walls, Director, Office of Planning Services, UT
- A. B. Thompson, UT
- H. W. Bryant, Radiation Safety Officer, UT
- L. W. Hamlin, Radiation Safety Specialist, UT
- M. Krause, Senior Reactor Operator, UT
- *D. Klein, Director, Nuclear Engineering Laboratory, UT
- B. Clements, SRO (in training), UT
- D. Eppes, Nuclear Technical Specialist, UT

*Present at exit interview.

2. Licensee Action on Previous Inspection Findings

Not inspected.

3. Unresolved Items

Unresolved items were not identified during this inspection.

4. Plant Status

During this inspection the NRC inspectors witnessed the reactor startup checks and startup for Run 2298, steady state operations at 250 KW(t), and the reactor shutdown. The only problem that occurred during the period of observation was a reactor period scram during the startup checks due to electronic noise.

No violations or deviations were identified.

5. I&E Information Notices

A list of 27 I&E Information Notices (through 85-92) designated as having possible applicability to research reactor facilities was compiled and used to check the licensee's handling of the information. The reactor supervisor was found to have reviewed all the Notices and, when appropriate, placed selected Notices on file for review by the facility staff.

No violations or deviations were identified.

6. Logs, Records, and Organization

The inspectors reviewed the licensee's organization to determine compliance with Technical Specifications (TSs). Additionally, selected logs and records were reviewed to ensure operations and maintenance activities were properly conducted. The documents reviewed included:

- a. Reactor Log Books 25 and 26
- b. Reactor Maintenance Log 3
- c. Weekly Instrument Calibration Books 9 and 10

No violations or deviations were identified.

7. Reviews and Audits

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

- 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 TS.
- b. The review committee and/or subcommittee were composed of qualified members and quorum and frequency of meeting requirements had been met.
- c. Required safety audits had been conducted in accordance with TS requirements and any identified problems were resolved.

Annual audits were conducted by the nuclear reactor committee and were documented in the reactor committee meeting minutes.

The inspector also reviewed the design changes made to the reactor instrumentation as outlined in the licensee's letter dated July 30, 1982. The maintenance log book reflected the as-built details, acceptance/preoperational tests to ensure the changes conformed to TS requirements.

In addition, the inspector reviewed experiments conducted at the facility (including the accompanying proposed reactor experiment forms) verifying that the committee recommendations relative to experiments were implemented.

No violations or deviations were identified.

8. Requalification Training

The inspectors reviewed the licensee's requalification training to verify it was being performed as required by the NRC approved program dated

November 25, 1974, supplemented January 1, 1975, and May 21, 1976. The "Requalification Document" book maintained by the facility supervisor was reviewed and found to be satisfactory. One needed improvement was identified. The subject of requalification lectures and not just the number of lectures an individual attended should be documented to ensure all subjects required by the program are periodically covered for each licensed operator. The licensee will make this change in the next revision of the requalification training program.

No violations or deviations were identified.

9. Procedures

The inspectors reviewed the facility procedures and found them to be acceptable. Safety-related procedures are dated to indicate approval by nuclear reactor committee.

No violations or deviations were identified.

10. Experiments

The inspector examined log book binder entitled "UT Nuclear Reactor Laboratory TRIGA Mark I Reactor Operations" related to proposed reactor experiment forms submitted to committee for approval and log book entries that document the conduct of the experiments. The inspector observed that administrative controls established by the licensee in regard to experiments appear to ensure compliance with TS. Reactivity measurements were not routinely recorded during the experiments.

No violations or deviations were identified.

11. Surveillance

The inspector reviewed "Technical Specification for UT TRIGA Research Reactor" dated July 1983, Section 4.1, entitled "Surveillance Requirements," in conjunction with the examination of log book entries and test records dating from October 17, 1979 through April 10, 1986. The inspector observed that TS requirements relative to annual, semiannual, and quarterly surveillance tests and calibrations were timely and well documented, reviewed and accepted by the designated licensee personnel.

No violations or deviations were identified.

12. Emergency Plan

The emergency plan dated July 29, 1983, was reviewed by the NRC inspectors. To help verify the licensee's compliance with the plan, the inspectors examined the emergency equipment locker and the first aid box. Additionally, the NRC inspectors tested the emergency lighting and questioned a senior reactor operator (SRO) about the emergency plan. In reviewing some of the licensee's procedures it was found that the

emergency telephone list in the reactor supervisor's book of procedures and the one posted in the emergency equipment locker were out of date. These lists were updated by the licensee prior to the end of the inspection.

Finally, the NRC inspectors verified that the licensee was properly documenting the results of emergency drills. The mechanism the licensee uses is to record the drill date and results in the nuclear reactor committee minutes.

No violations or deviations were identified.

13. Health Physics

The NRC inspector reviewed Health Physics Records (see below), directly observed radiological control practices and discussed various aspects of the facility radiation control program with members of the Nuclear Engineering Laboratory and Radiation Safety staff.

Records Reviewed:

Radiation Surveys - Monthly (outside)	1984-1985
Smears Surveys - Quarterly	1984-1985
Radiation Dosimetry Report	1984-1985, January/February 1986

Calibration Records:

CAM	September 21, 1985
Victoreen Thyac III, Model 1490	February 11, 1986
Gamma Survey Meter, Serial No. 10680	February 11, 1986

Most routine HP Surveys are conducted by the Nuclear Engineering laboratory staff. Radiation Safety Office personnel conduct the monthly outside radiation surveys and the quarterly Smear Surveys. The facility contamination limits are as follows:

0 - 200	DPM	OK
200 - 2000	DPM	Questionable
over 2000	DPM	Cleanup required

During a tour of the facility the NRC inspector observed an out of date NRC Form 3 posted in a laboratory (Room 125) adjacent to the Reactor Room. The correct NRC Form 3 was prominently posted in the reactor room and additional signs provided appropriate instructions in the event of an emergency. The licensee immediately replaced the out of date form. The NRC inspector also noted two abandoned exhaust lines through the reactor room ceiling were taped closed. After discussion with the NEL personnel the licensee agreed that a more permanent closure of the openings was warranted.

The overall radiation control practices at the reactor facility were deemed adequate.

No violations or deviations were identified.

14. Transportation Activities

Documentation pertaining to the receipt of two fuel shipments on April 10 and 16, 1985, was reviewed. Documents reviewed included:

- a. Quality Assurance Program dated March 22, 1985
- b. Fuel Shipment Procedures
- c. Loading and Unloading Procedures
- d. Radiation Surveys
- e. Nuclear Reactor Committee Meeting Minutes (for meetings just prior to and after the shipments)
- f. BMI - Cask Unloading Checklist
- g. Chem - Nuclear Bills of Lading
- h. Chem - Nuclear Radioactive Shipment and Receipt Records

No violations or deviations were identified.

15. Proposed Reactor Facility

On November 9, 1984, the licensee applied to the NRC for a permit to build a new reactor facility in a building to be constructed on a university research complex located about 7 miles from the present facility. The NRC issued the construction permit on June 4, 1985, and the University of Texas Board of Regents gave final authorization of the project (including decommissioning of the present facility) on April 10, 1986.

The NRC inspectors toured the site of the proposed facility and met with university officials and the project architect to review plans and drawings. The licensee expects to begin construction of the new facility in July 1986 with completion taking somewhat less than 2 years.

The NRC staff questioned whether the present NEL staff presented sufficient resources to properly oversee the planned construction and startup of the new facility while continuing to operate, maintain, and subsequently decommission the old facility. The NRC staff reminded the licensee that the NRC traditionally holds the license holder directly responsible for the quality of work done by their vendors and contractors.

The license agreed to review their staffing needs to determine if additional resources are needed to assure that commitments to the NRC are properly implemented during the construction and decommissioning of the two reactor facilities.

No violations or deviations were identified.

16. Exit Interview

The inspection scope and findings were summarized on April 11, 1986, with those persons indicated in paragraph 1 above. The licensee acknowledged the NRC inspectors findings. The licensee did not identify as proprietary any of the material provided to or reviewed by the NRC inspectors during this inspection.