

U.S. NUCLEAR REGULATORY COMMISSION
REGION V

Report No. 50-243/92-03
Docket No. 50-243
License No. R 10G
Licensee: Oregon State University
Corvallis, Oregon
Facility Name: TRIGA Mark II Reactor
Inspection at: Corvallis, Oregon
Inspection Date: February 19-21, 1992

Inspectors:

Phillip M. Qualls
P. M. Qualls, Reactor Inspector

3/19/92
Date Signed

Approved by:

James H. Reese
J. H. Reese, Chief,
Safeguards, Emergency Preparedness,
and Nonpower Reactor Branch

3/20/92
Date Signed

Summary:

Areas Inspected: Routine announced inspection by a region based inspector of the reactor operations program; including reactor operations, health physics, emergency planning and preparedness, transportation activities, follow-up items, and exit interview. Inspection procedures 30703, 40750, 86740, and 92700 were used.

Results: In the areas inspected, no violations or deviations were identified. One program strength was noted by the inspector; the active involvement of the Reactor Operations Committee in facility oversight.

DETAILS

1. Persons Contacted:

The below listed persons were contacted during the course of the inspection.

- * A. G. Johnson, Director, Radiation Center
- * B. Dodd, Reactor Administrator
- S. E. Binney, Chairman, Reactor Operations Committee
- J. F. Higginbotham, Senior Health Physicist
- * D. S. Pratt, Health Physicist
- * T. V. Anderson, Reactor Supervisor
- A. D. Hall, Senior Reactor Operator
- S. M. Cordell, Radiation Protection Technician
- J. F. Hopkins, Office Specialist
- D. K. Dalton, Office Specialist
- O. Stephens, Student

* Attended exit meeting on February 21, 1992.

2. Class II Research and Test Reactor Operations (MC40750)

The inspectors reviewed the operations, health physics, emergency preparedness, and requalification training for the TRIGA reactor. The items reviewed are discussed in the following subparagraphs.

a. Organization

The inspectors reviewed the licensee's organization and found that the licensee's organization was consistent with the description of the organization described in section 6.1 of their Technical Specifications (TS).

b. Annual Reports

The inspectors reviewed the annual reports for the periods July 1, 1989 through June 30, 1990 and July 1, 1990 through June 30, 1991. The information reported was consistent with the inspector's observations during this inspection.

c. Logs and Records

The inspectors reviewed selected operating logs and maintenance records for 1991 and early 1992. The inspectors noted that the records and logs were up to date with adequate information included to properly document facility operations. The inspectors also noted that problems were clearly identified and documented in the logs and that the maintenance logs left a clear reviewable record of the maintenance accomplished.

d. Procedures

The inspectors verified that operator responsibilities are clearly defined in licensee procedures. The procedures also establish

review requirements for procedural changes. The inspectors reviewed operating procedures and verified that they were technically adequate and met TS requirements. The inspectors verified that the operators were using the current approved procedures.

e. Regualification Training

The inspector reviewed selected licensed operator regualification records. Licensee records indicated that all regualification requirements were being tracked and completed as required by their approved regualification plan.

f. Surveillance

The inspectors reviewed selected surveillance records for the Continuous Air Monitor (CAM) and for the Fuel Element Temperature instrument calibrations. No cases of missed surveillance requirements were identified. The procedures reviewed appeared to adequately meet TS requirements.

g. Experiments

The inspectors reviewed the licensee's experiment records. All experiments had been properly reviewed and approved by facility management and the Reactor Operation Committee (ROC).

h. Reactor Operation Committee

The inspectors reviewed the ROC meeting minutes and audit reports. The meetings appeared to be at a depth that indicated that the ROC was very involved in reactor activities. The meetings were held as required by TS with a very good attendance record by committee members. The inspector noted that the ROC had well documented and comprehensive audit records. The audits were conducted as required by TS. The audits were comprehensive and were discussed at ROC meetings. The ROC chairman ensured that independence was maintained by requiring that each audit be performed by a person not affiliated with the area being audited. Adverse findings were tracked by the ROC until corrective actions were complete.

i. Health Physics

The inspectors reviewed the health physics practices at the facility. The radiation areas were properly posted. Survey records were reviewed by the inspectors and verified by conducting a confirmatory survey. The surveys were conducted at the required frequency. The inspectors verified that all survey instrumentation observed was in calibration. The inspectors observed a licensee radiation survey and verified that proper radiological practices were utilized. The inspector reviewed exposure records for 1991 and verified that no significant personnel exposure had occurred. The inspectors noted that the low exposures received by the facility staff was indicative of an effective ALARA program. The licensee has modified the facility to become a zero release facility and hence released no

liquid effluents. Gaseous effluents were minimized through the use of purge gases to prevent atmospheric argon from becoming activated.

j. Design Changes

The inspectors reviewed selected modifications made to the facility subsequent to the last inspection. All appeared to have been properly reviewed, approved, and implemented. Records show proper ROC and 10 CFR 50.59 review prior to change implementation.

k. Emergency Preparedness

The inspectors verified through records review that drills were being conducted in accordance with licensee emergency plan requirements. Interviews with non-reactor technical staff personnel indicated that they had been trained on the proper response to an emergency. A review of the licensee's emergency plan and associated emergency procedures was performed. The procedures adequately implemented the plan requirements. An inspection of the licensee's emergency kits and a spot check of selected items with an inventory list conducted. No significant deficiencies were identified with the emergency kits.

l. Facility Tour

The inspectors toured the reactor facility including the supporting mechanical, electrical, and ventilation rooms. All areas were well maintained and facility housekeeping was in order. Instrumentation was in calibration, emergency response equipment was available and maintained, and no fire or personnel hazards were identified.

m. Observed Facility Operations

The inspectors observed a reactor startup and completion of the prestart checkoffs, steady-state reactor operations, completion of the reactor shutdown, and a test of the fire alarm. In all cases the facility staff performed the activity in a competent professional manner, proper procedures and checklists were utilized, and the activities accomplished safely and expeditiously.

No violations or deviations were identified.

3. Transportation Activities (MC86740)

The inspectors verified through discussions with facility personnel that some shipments of radioactive materials are accomplished by the facility using the NRC reactor license. The remainder are accomplished using the facilities State of Oregon license. The inspectors reviewed the documentation of the NRC licensed shipments. The documentation was in order and no deficiencies were identified.

No violations or deviations were identified.

4. Follow-up of Open Items (MC92701)

a. PQ-91-01 (CLOSED) 200 Gallon Backflush Line Leak

On February 15, 1991, the licensee reported, to the NRC, an event which resulted in a reduction of reactor tank water level. The event resulted from a cracked pipe. During the event the licensee noted that the tank level alarm did not actuate. As corrective action the licensee modified the piping system and changed the testing method for the level detector. The inspectors reviewed the licensee's corrective actions to prevent recurrence and found them to be acceptable. This item is closed.

No violations or deviations were identified.

5. Exit Meeting

The inspectors met with the licensee management on February 21, 1992. The items listed in this report were discussed at that time. At that time the inspectors also noted that the involvement of the ROC in facility operation was a significant program strength.