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

REGION V

Report No. 50-27/79-~~01~~ 03

Docket No. 50-27 License No. R-76 Safeguards Group ____

Licensee: Washington State University
Pullman, Washington 99163

Facility Name: Nuclear Radiation Center

Inspection at: Pullman, Washington

Inspection conducted: December 17-19, 1979

Inspectors: A. E. Chaffee, Reactor Inspector — Date Signed 1/14/80

A. D. Johnson, Reactor Inspector — Date Signed 1/14/80

Date Signed

Approved By: B. H. Faulkenberry, Chief, Reactor Operatons
Section #2, Reactor Operations and Nuclear Support Branch — Date Signed 1/15/80

Summary: Inspection on December 17-19, 1979 (Report No. 50-27/79-01)

Areas Inspected: Routine, unannounced inspection of organization, logs and records; review and audit; requalification training, procedures; surveillance; experiments; and miscellaneous independent inspection effort including a tour of the facility and observing daily check of safety and control instrumentation and assent to full power operation. This inspection involved 24 regular inspector hours by two NRC inspectors.

Results: No items of noncompliance or significant deviations were identified within the scope of the inspection.

RV Form 219

DETAILS

1. Persons Contacted

*W. Wilson, Associate Director, Nuclear Radiation Center
*R. H. Filby, Director, NRC
S. Hawley, Reactor Supervisor
V. Sikorski, Reactor Operator

*Present at exit interview.

2. Reactor Operations - General

The use of the facility continues to be for mass spectrometer research and irradiation of samples for activation analysis. The information in the Annual Report for the period July 1, 1978 to June 30, 1979, was found to be consistent with that obtained during this and the previous inspection in December 1978. The previous reactor supervisor T. A. Lovas has been replaced by S. Hawley who was previously the reactor supervisor at Reed College.

3. Organization, Logs and Records

Organization, logs and records pertaining to plant operations since December 1978 were examined by discussions with facility personnel and a selected review of the following:

Annual Report dated from July 1, 1978 to June 30, 1979
Reactor Log
Maintenance Log
Reactor Startup Checkoff
Irradiation Data Log
Preventive Maintenance Checklists
Power Calibration Log
Control Element Worth Log
Irradiation Request Forms
Core Change Log
Scram Summary
Pulsing Summary
Operator Requalification Record
Fuel Temperature Strip Chart (10/20/79 - 11/5/79)
Log Power Strip Chart (10/15/79 - 11/5/79)

No items of noncompliance or deviations were identified.

4. Review and Audit

The licensee's review and audit program was examined by discussion with licensee management and a review of the Reactor Safeguards Committee Quarterly Audit Reports.

No items of noncompliance or deviations were identified.

5. Requalification Training

Discussions were held with licensee management and records of requalification training, including periodic and annual examinations, were examined to verify that the program was being implemented in accordance with the program approved by the NRC.

No items of noncompliance or deviations were identified.

6. Procedures

The inspectors reviewed the "Standard Operating Procedues (SOP)" of the licensee's facility for scope, technical adequacy, and conformance to the technical specifications. The inspectors discussed the procedures with the reactor staff and walked through the startup check list while it was being performed. All SOPs had been reviewed and approved by appropriate levels of management.

No items of noncompliance or deviations were identified.

7. Surveillance

The inspectors reviewed surveillance procedures and records of completed surveillance to verify adequacy and conformance to the technical specifications. The technical specification related parameters that were examined included: pulse reactivity; minimum reactor safety systems; control and safety rod drop times; core temperature; pulse rod drop time; excess reactivity; shut down margin; and power level calibration.

No items of noncompliance or deviations were identified.

8. Experiments

The inspectors examined greater than 20% of the experiments and irradiations conducted over the period from the previous inspection to this inspection. It was verified by examination of records and discussion with facility personnel that all experiments and irradiations had been reviewed and approved in accordance with procedures and technical specification requirements. There were no special tests or new experiements carried out under 10 CFR 50.59 during this inspection period. The reactivity effect of experiments were predicted beforehand and confirmed by measurements. The limits, shutdown margin, excess reactivity, and individual and total worth of experiements were not exceeded.

No items of noncompliance or deviations were identified.

9. Shutdown Margin

As discussed in inspection report 50-527/78-03, the licensee had agreed to submit a change to the technical specification for the determination of shutdown margin. The change was submitted by the licensee and subsequently approved by the NRC.

10. Independent Inspection

The inspection included a tour of the facility, observation of the daily startup checks, and subsequent reactor startup and operation at full power.

No items of noncompliance or unresolved items were identified.

11. Exit Interview

The inspectors met with the licensee representative (denoted in Paragraph 1) at the conclusion of the inspection. The scope and findings of the inspection were summarized and the following observations were made by the inspectors.

a. Procedures:

1. Pen and ink notes to improve clarity were entered in the Control Room copy of the operating procedures.

2. Revision status sheets for the Control Room copy of SOP's were not up to date.

b. Surveillance

Documentation showing the independent review of test performance was informal in several of the routine functional checks.

c. Experiment approval forms:

The standard irradiation Data form had been put on a computer. In the process the sample description section of the form was inadvertantly omitted.

d. Startup and Shutdown checklists:

On several occasions, contrary to past practice, where an individual other than the one performing the checkout approved the startup, one person, a SRO, completed the checklists and approved the actions.