

U. S. NUCLEAR REGULATORY COMMISSION  
REGION V

Report No. 50-288/89-01

Docket No. 50-288

License No. R-112

Licensee: Reed College  
Portland, Oregon 97202

Facility Name: Reed Reactor Facility (RRF)

Inspection at: Reed College, Portland, Oregon

Inspection Conducted: August 1-4, 1989

Inspector:

H. S. North  
H. S. North, Senior Radiation Specialist

8/21/89  
Date Signed

Approved by:

F. A. Wenslawski  
F. A. Wenslawski, Chief  
Facilities Radiological Protection Section

8/22/89  
Date Signed

Summary:

Inspection on August 1-4, 1989 (Report No. 50-288/89-01)

Areas Inspected: Routine unannounced inspection by a regionally 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 3u703, 40750, 86740 and 92717 were addressed.

Results: In the five areas inspected, no violations or deviations were identified. The licensee conducts an effective program capable of meeting their safety objectives.

DETAILS1. Persons Contacted

- \* Dr. D. Bennett, Vice President-Provost
- \* Dr. L. Ruby, Director RRF, Professor of Nuclear Science
- \* J. M. Pollock, Associate Director RRF
- \* Dr. D. Garrity, Chairman, Radiation Safety Committee, Professor of Chemistry
- \* S. Herbelin, Senior Reactor Operator (SRO), Acting Reactor Supervisor
- D. Moriwaki, Reactor Operator (RO)
- Dr. M. W. Parrott, Reactor Health Physicist, Health Physics Consultant

(\*) Denotes those individuals attending the exit interview.

2. Reactor Operations (40750)a. General

Drs. James L. Powell and Douglas Bennett have replaced Drs. Bragdon and Cronyn as the President and Vice President-Provost, Reed College, respectively. The remainder of the RRF administrative and academic staff remain as described in Inspection Report 50-288/88-02. Both the Director and Associate Director RRF are licensed SRO's. An additional SRO license is held by a professor at Pacific University. The principal operating staff, SRO's and RO,s, are students, who have completed the necessary training as an extra curricular activity. The normally assigned Reactor Supervisor, a student SRO, was not present on the campus during the summer. This position was filled by a student SRO in an acting capacity for the summer. At the time of the inspection a three week, National Science Foundation workshop, involving irradiation of geologic samples, was being conducted on the Reed campus.

The inspection established that reactor operations were consistent with the information provided in the licensee's annual report for the period September 1, 1987 - August 31, 1988. The inspector observed reactor operation including startup and shutdown, power increase, sample irradiation and handling and recovery from an unanticipated event. The licensee's program and staff appear to be adequate to meet their safety objectives. No violations or deviations were identified.

b. Organization

Except as noted in the previous report section, the licensee's organization, related to reactor operations, remains as previously described. A total of three committees, the Reactor Review Committee (RRC), the Reactor Operations Committee (ROC) and the Radiation Safety Committee (RSC) are active on campus. The RRC is, in fact, an incorporation (integration) of the ROC and RSC as subcommittees. The two subcommittees do not meet as a single

committee, each conducting their meetings as independent entities. The RSC and ROC are specifically identified in the Technical Specifications (TS). The licensee plans to propose an amendment to the TS, combining the ROC and RSC into one committee with two subcommittees. The committees are reconstituted each year. The membership meets the requirements specified in the TS. Formal minutes of committee meetings are maintained and were on file. Since June 1988 the ROC had met three times and the RSC twice, at the time of the inspection. It was noted that the ROC reviewed all proposed procedure changes, new, changed or revised experiments, and 10 CFR 50.59 changes. Due to infrequent committee meetings and the committees diligence in reviewing procedure changes, proposed procedure changes are frequently delayed. This has occurred at a time when the licensee has been revising, updating and reformatting a significant number of procedures. It was noted that the licensee's organization and operations met the requirements specified in TS Sections I. Administrative Requirements 1.- 5.

The licensee is supported in the area of health physics by a consultant, two days per month. The consultant reports to the Vice President-Provost and the RRF Director. The consultant is supported by a Reactor Assistant, a student employee, who functions as a health physics technician at the reactor facility and at on campus laboratories conducting activities licensed by the State of Oregon.

In this area the licensee's program appeared adequate to meet their safety objectives. No violations or deviations were identified.

c. Review and Audit

The ROC and RSC establish audit schedules which are implemented by various members of the committees. The ROC conducted an audit of the bimonthly and annual checklists, for the period January 1987 to May 1988, in June 1988 with a follow-up audit of weekly checklists and the main log and general facility operations 90 days later. The Director RRF responded to the audit findings. The results of an audit of the same general topics was scheduled for review at the next meeting of the ROC. The RSC had established an audit schedule and had conducted an audit of the emergency plan. The audits appeared adequate to meet the licensee's safety objectives. No violations or deviations were identified.

d. Corrective Actions for Unusual Events and Occurrences

Since the last inspection the licensee had reported several events.

On October 18, 1988, the licensee reported a small chemical fire in the chemistry building which houses the RRF, on October 17, 1988. The fire was extinguished by students promptly, however, the smoke alarms were activated and the fire department responded. The RRF was shut down, secure, with no experiments in progress and unoccupied at the time. The fire department evacuated portions of the chemistry building and used blowers to clear the smoke. The reactor staff was not notified of the event promptly and therefore

did not inform the Region V office of the event until the following day. The licensee has taken corrective action to assure that the RRF staff will be promptly notified of such events in the future. The licensee had initiated action to revise the emergency plan to limit Notification of Unusual Events, to those fires, to which the fire department responds and which require evacuation of the entire chemistry building. The licensee submitted a report of this event dated January 17, 1989, which proposed the corrective actions noted above.

On December 16, 1988, the reactor experienced an unanticipated increase in power due to withdrawal of the safety rod. The Director and Associate Director promptly investigated the event which had been observed by an RO performing operations as a part of the requalification program. Repeated operation subsequently established that the safety rod control rod drive switch was the apparent problem. The licensee reported the event to the NRC promptly and by letter reports dated January 6 and 10, 1989. In a telephone discussion with the Region V office on December 19, 1988, the licensee agreed not to make the reactor critical until the cause of the aberrant behavior of the safety rod was fully understood. The agreement was confirmed in a letter to the licensee from Region V dated December 21, 1988. Subsequent testing by the licensee and discussions with General Atomics staff members established that the problem was mechanical sticking of the control rod switch. Following cleaning, lubrication and testing of the switch the licensee reported their findings during a January 6, 1989, telephone discussion with Region V staff. The licensee requested authorization to resume reactor operations. The licensee was requested to submit the Report on Errant-Control-Rod Incident of 12/16/88 to NRR for review following which the matter of recommenced operations would be readdressed. In a conference call on January 9, 1989, which included the licensee, NRR and Region V, the licensee was informed that reactor operations could be resumed. The licensee was also asked to provide information on the safety significance of the event, a discussion of the planned maintenance/surveillance for the faulty switch and information to support the issuance of an Information Notice on the switch problem. The licensee provided this information in a letter dated January 10, 1989. During the inspection it was verified that the cleaning of the rod actuating switches had been added to the annual maintenance schedule. Procedure SOP-66, Cleaning of Operator Actuated Rod Switches, received committee approval and was implemented in May 1989.

During the inspection, while the reactor was being operated by the student SRO and RO, the TRIGA tube recovery device, used to recover capsules from the "lazy susan" irradiation facility, failed and came apart while a capsule recovery was in progress. The SRO and RO carried out the recovery of all the parts from the device using good radiation protection practices, reassembled the recovery device and recovered the capsule. It is noted that the operators kept the RRF faculty staff advised of the event and plans for recovery.

The licensee's response to these events indicates an appropriate degree of sensitivity to safety concerns and appeared to demonstrate a high level of student operator proficiency. No violations or deviations were identified.

e. Experiments

Records of approved experiments were examined. Experiment No. 1 Routine Irradiations Utilizing Rotating Specimen Rack or Pneumatic Transfer System, had been revised to incorporate all or portions of routine experiments 3, 4, 13 and 14. A total of 16 additional routine experiments were examined. All experiments were identified as ROC approved and signed. The most recently approved experiments were experiment 21, Electronically Measured Control Rod Drop Times, and experiment 22, Rod Drop Time Measured with Electro-Optical Isolator. These two experiments had been implemented to replace rod drop timing using stop watches with an electronic timer which sensed the rod magnet off indication and the rod down indicator light. Experiment 22 provided for optical sensing of the control panel indicator lights which precludes any potential for signal feedback to the control panel. Review of the ROC meeting minutes and experiments established that all experiments had been examined for unreviewed safety questions, as required by 10 CFR 50.59, and reviewed and approved by the committee prior to implementation. The documents presented to the ROC for review included the 10 CFR 50.59 review, the proposed procedure or change and supporting documentation.

The Associate Director of the RRF had developed a computer program to evaluate the activity of irradiated mineral samples at any future time, beginning at T=0. The ROC had reviewed and approved the program for use at the facility.

It appeared that the licensee was providing appropriate controls on experiments to meet their safety goals. No violations or deviations were identified.

f. Site Tour

During the inspection the RRF was toured several times. It was noted that housekeeping was very good in the control and reactor rooms. In other portions of the facility the quality of housekeeping was not as noticeable due to the crowded nature of the facility and the age of much of the equipment. However it was noted that significant efforts had been expended to improve and maintain good housekeeping. The tours included the counting room, laboratory, control room, reactor room and equipment room. Independent surveys in the control, reactor and mechanical equipment rooms were performed using an ion chamber survey instrument NRC-015844, due for calibration September 26, 1989. The survey results were consistent with the results of licensee surveys, both those performed at the time of the inspection and those documented in survey records.

The inspector had the opportunity to observe the student RO and SRO during startup and completion of the Startup Checklist, including rod drop time measurement, interlock verifications including, instrument scram settings, source count rate interlock, single rod motion interlock and core excess reactivity check and reactor shutdown. Operation at 5 W, 5 kW and approach to and operation at full power (administratively limited to 94%, 235 kW) was observed. The licensee had imposed the administrative limit due to a fluctuating response of the power indicating channel and recorder. The licensee had taken action to minimize the fluctuations by repositioning the circulating water return to minimize the apparent vibration of the detector. The licensee reported that the apparent fluctuations had been reduced to approximately  $\pm 1\%$  of full power. The licensee had not approved operation at increased power following the change in the cooling water discharge flow path.

The inspector also witnessed the operation of the pneumatic irradiation sample transfer system (rabbit) and "lazy susan" facilities and the insertion and removal of samples from these devices. It was noted that the operators used good radiation protection practices in the recovery of samples.

It was noted that the operating procedures reflected the as-built system and that the operators were familiar with the procedures. It was noted that the operators were able to conduct their activities in accordance with the procedures, without having the procedures in hand. Current copies of the operating and emergency procedures were available in the control room.

Shortly before the inspection began the licensee had received a shipment of fuel and spare parts from the University of California, Berkeley TRIGA facility. The shipment included four new, unirradiated fuel elements (20% enriched), used irradiated fission chambers and several fuel storage racks. The licensee noted that this material addition to the facility inventory significantly added to the potential operating lifetime of the reactor. The licensee stated that prior to the receipt of the new fuel the only fuel on hand, in addition to the core, was one dummy element and one element which had been dropped while being moved, several years earlier. The lower core plate locating pin had been damaged and the element was not usable. Both of these elements were stored in the reactor pool. The University of California, Berkeley had requested authorization for the use of a Model No. TRIGA-1, Type USA 9034/AF shipping container for the fuel transfer to the RRF in a letter dated July 24, 1989. The licensee had performed and documented receipt surveys of the packages when they arrived. Confirmatory surveys by the inspector were consistent with the licensee's results. It was verified that the fuel handling tool was secured in its place of storage by a lock.

With respect to the administrative limit on full power operation discussed above, the licensee expressed concern related to the potential for being cited for exceeding the maximum authorized licensed power level if minor fluctuations in the indicated power

level exceeded the 100% power indication. The inspector informed the licensee that the intent was to operate at a steady state power level of 100% and that minor fluctuations which indicated power in excess of 100% were not considered to be indicative of steady state operation. It was noted that should the indicated power remain above the 100% indicated power level for any appreciable time the power should be reduced.

The licensee's program in this area appeared to be consistent with their safety goals. No violations or deviations were identified.

g. Records Review

The following licensee records were reviewed:

Main Log (Console Log); "Log Book #35, February 25, 1989 to -----". Records maintained in black ink, scrams in green and fuel movements in red. Table of rod worths in 5 unit increments in the back of the book (totals- safety \$4.06, shim \$4.12, regulating \$1.59). Records for the period February 25 - August 2, 1989 were reviewed. "Log Book #34, 24 May 1988 - 25 Feb 1989". Records for the period July 29, 1988 to February 14, 1989 were reviewed. It was noted that the Director RRF reviewed and signed the logs at approximately monthly intervals.

"Weekly Checklist" for the period June 1 to August 2, 1989 were reviewed. These records addressed radiation monitors (area, air particulate and continuous air), pool water level, primary and secondary cooling systems and instrument air supply. Signed by the checker and Reactor Supervisor.

"Bi-monthly Checklist", eight completed checklists completed during the period May 5, 1988, - July 20, 1989, were reviewed. These checklists addressed functional test of the reactor room ventilation isolation system, low water alarm test, CAM oil level, secondary water pressure low alarm test, safety light test and check of the TRIGA capsule retrieval tool fishing line. Signed by the Reactor Supervisor and RRF Director.

"Semi-annual Checklist", reviewed for the periods July-August 1988, January-March and June-July 1989. These checklists addressed calibration of the continuous air, area radiation and stack monitors, control rod calibration, rod drop time verifications, portable survey instruments, "lazy susan" lubrication, inspection and testing of the "rabbit" system, emergency supply check, collection and analysis of environmental samples and drying the "lazy susan" with desiccant. Signed by the Reactor Supervisor and RRF Director.

"Annual Checklist", the January 13, 1989, checklist was reviewed. This checklist addressed console checkout (as per Gulf General Atomic manual), fuel element inspection, control rod inspection (due only on even years), bulk water temperature alarm, flush and bleed air from heat exchanger, power calibration and verification of last

service of ventilation system. Signed by the Reactor Supervisor and RRF Director.

"PCN" (Procedure Change Notice Log), maintained in the control room contained new and revised procedures. Sign-off sheets for operators were contained in the log.

"Stack Monitors-Book 2", contained records of gas stack monitor (GSM) calibrations. Calibrations were performed July 26, 1988 and June 29, 1989.

"Health Physics Book 3B-Environmental Samples", identified the sample types, dates of collection and analytical results. Samples were analyzed by U.S. Testing Co. Samples analyzed included water both upstream and down stream from the secondary cooling water outfall from the RRF. The upstream and downstream samples were  $3.97 \text{ E}0 \text{ pCi/l}$  and  $2.16 \text{ E}0 \text{ pCi/l}$ , respectively, for samples collected on January 10, 1989. The reactor was operated at 5 W and 200 kW on January 9 and 3 W and 150 kW on January 10, 1989. One sediment and four soil samples showed no significant activity above background. The last previous environmental samples were collected July 21, 1988.

"Wipe Test Log Book", recorded the results of smear samples collected as required by SOP-G2 Health Physics Wipe Tests. Results recorded in units of  $\mu\text{Ci}/100\text{cm sq}$ . No contamination above the procedure identified limit of  $0.005 \mu\text{Ci}/100\text{cm sq}$  was identified. The log entries were signed and reviewed by the Reactor Supervisor.

"Area Monitor-RAM-Semi Yearly Calibration Reports", contained records of the calibration of the area monitor. Calibrations were performed on July 25, 1988 and January 11, 1989.

"Continuous Air Monitor-CAM-Calibration Reports", recorded the results of calibrations performed on July 25, 1988, and January 10 and June 29, 1989.

"Control Rod Calibrations", documented the results of calibrations performed on January 17-18, 1989, using RODCAL version 4.063. The reported values were Shim \$4.30, Reg \$1.67 and Safety \$4.26.

The licensee's system of records appeared adequate to support their safety objectives. No violations or deviations were identified.

#### h. Procedures

The licensee had been reviewing, revising and reformatting procedures. The procedures were all submitted to the ROC for comment and approval prior to implementation. Due to infrequent committee meetings the review and approval process tended to delay the implementation of revised procedures. During the inspection selected procedures were reviewed including:

Reed Reactor Facility Administrative Procedures  
 SOP-02 Health Physics Wipe Tests  
 SOP-30 Calibration of the CAM (being revised)  
 SOP-31 Gaseous Stack Monitor Calibration (being revised)  
 SOP-32 Particulate Stack Monitor Calibration (being revised)  
 SOP-33 Control Rod Calibration  
 SOP-50 Filling Out Irradiation Requests (being revised)  
 SOP-52 Shipping Radioactive Materials (in approval process)  
 SOP-66 Cleaning of the Operator Actuated Rod Switches

In addition the "Reed Reactor Facility-Standard Operating Procedures-Copy No. 1", was examined.

The licensee's procedures appeared to be adequate to meet their safety objectives. No violations or deviations were identified.

i. Requalification Training

The licensee conducts a requalification training program which incorporates the operating requirements for research and test reactors specified in 10 CFR 55.53 (e) and (f)(2). The requalification program incorporates applicable aspects of 10 CFR 55.59 (c)(1) through (6) as required by 10 CFR 55.59 (c)(7). The licensee's schedule for requalification training operates on a yearly schedule beginning and ending on July 1. During the training cycle beginning July 1, 1988, a total of 14 lectures were presented between July 7 and December 7, 1988. Two of the lectures were optional for RO and SRO requalification since they satisfied a State of Oregon training requirement for radioisotope handlers and users. Attendance lists were maintained. Individuals were responsible for reviewing the material presented during any missed lectures. Annual written comprehensive examinations are required for all ROs and SROs. An individual with a minimum passing grade of 70% on the written or operating portions of the examination or apparent deficiencies in operating skills, in the opinion of the Director, shall not operate the reactor except under the direct supervision of an SRO until an accelerated requalification program has been completed. Any RO or SRO who fails to achieve a score of 80% on any portion of the written examination must complete an accelerated requalification program. The 1989 lecture series included the following topics:

February 15- 10 CFR 20;  
 February 22- License, Technical Specifications, Administrative Procedures;  
 March 8- Biological Effects of Radiation;  
 March 29- Practical Operational Health Physics, Operation of the "lazy susan", Shipping Radioactive Material;  
 April 12- Reactor Console, Neutron Detection System;  
 April 19- Control Rods and Associated Drive Motors, Microswitches and Console Lights.

During the 1989 Paideia (ski two week vacation) schedule, eight days of lectures and reactor operations were conducted as well as tours

to the Richland low level waste disposal site and Trojan Nuclear Power Plant.

The licensee maintains records of RO and SRO reactor operation. These records include Reactor Observation Record (required reactivity manipulations), Operator Observation Record (record of operators performance during performance of various tasks).

The requalification files of five student ROs and SROs were examined. The records were adequate to demonstrate the accomplishment of the requalification training program.

The Requalification Training Program was adequate to accomplish the licensee's safety objectives. No violations or deviations were identified.

j. Surveillance

The inspector verified that the following surveillance activities were accomplished at or more frequently than required by the TS by reviewing licensee records:

TS F.5. The type and minimum number of safety circuits operable were as specified in TS Table I;

TS F.6. The type and minimum number of interlocks operable were as specified in TS Table II;

TS F.7. The reactor instrumentation and safety circuits listed in TS Table I were verified operable at least once per day when the reactor was operated;

TS F.8. Following maintenance or modification of the control or safety systems the system was verified operable (cleaning of control rod drive switches);

TS F.9.a. Control rod drop times less than one second;

TS F.9.b. Functional test of the ventilation system interlocks;

TS F.10. Linear power level channel calibrated annually by thermal power calibration;

The licensee's attention to surveillance requirements appeared adequate to meet their safety requirements. No violations or deviations were identified.

3. Health Physics (40750)

a. Posting

During tours of the facility, noted above, postings required by 10 CFR 19.11 and 20.203 were observed and verified to be as required by the regulations.

b. Personnel Monitoring

The licensee uses both pocket ionization chambers (PIC) and quarterly TLD badges and finger rings, supplied by a NVLAP accredited processor, to evaluate personnel exposures. TLD badges

are used to perform environmental radiation measurements in the reactor room and on the roof of the reactor facility. Exposures for 1988 and the first quarter of 1989 were reviewed. Results of the second quarter 1989 had not been received at the time of the inspection. All personnel exposures were less than 10% of the 1.25 rem/quarter limit specified in 10 CFR 20.101. A number of students with access to the facility, including ROs and SROs, were under 18 years old during the time period of the records examined. The maximum whole body lifetime exposure was 80 mrem. The maximum extremity exposure recorded was 70 mrem.

The PICs, used by the licensee, were calibrated, using an NBS (NIST) traceable sealed source, by a member of the licensee's ROC. PICs found to be faulty were discarded.

Since the last inspection the licensee had disposed of no radioactive liquid waste under the reactor license. Due to the relatively low power of the RRF and the difficulty of integrating under the curve of the stack gas monitor recorder, the licensee elected to evaluate gaseous effluents using a different technique. For the September 1, 1987, to August 31, 1988, annual report period, the licensee used the ratio of thermal energies of the RRF and the Oregon State University (OSU) TRIGA and the reported Argon-41 releases from OSU to estimate the release from the RRF. At the time of the inspection the licensee had not completed a similar or alternate calculation for the 1988-89 time period. For the last annual report the licensee's reported release using this method was 0.0608 Ci Ar-41. At the stack flow rate this was equivalent to an average release rate of  $3.07 \text{ E-9 } \mu\text{Ci/ml}$ , substantially less than the most restrictive value given in 10 CFR 20 Appendix B,  $4 \text{ E-8 } \mu\text{Ci/ml}$ .

#### c. Surveys

In addition to the contamination surveys performed by the reactor technician, recorded in the "Wipe Test Log Book", discussed above in report section 3.g., daily surveys are performed as a part of the "Startup Checklist". The results of these surveys were recorded on that form. The inspector observed an RO and SRO removing samples from the "lazy susan" and monitoring samples discharged from the "rabbit" irradiation system. The operators were using good radiation safety practices and evaluating each irradiated sample with a survey instrument at a distance prior to approaching the sample closely.

The licensee's health physics practices appeared to be adequate to protect the health and safety of the staff and the public. No violations or deviations were identified.

#### 4. Emergency Planning and Preparedness (40750)

The licensee maintained a complete copy of the Emergency Plan, Implementing Procedures and the Emergency Call List in the control room within arms reach of the operator. These documents were reviewed durin

the inspection. Since the last inspection the licensee has conducted three drills.

Scenarios:

June 24, 1988: Severe earthquake causes facility blackout, loss of communication and one personnel contamination event. Telephone calls made to Reed Security, NRC, Walnut Creek, CA, Oregon DOE. A post drill evaluation was performed and potential improvements identified.

December 3, 1988: Senior faculty SRO experiences heart attack at reactor console. RO in facility responds properly and takes corrective actions. Drill resulted in obtaining a qualified first aid instructor on campus due to an identified need.

April 15, 1989: Complex scenario involving personnel injury, radioactive material release, ambulance and (simulated) fire department response and contamination event.

In all cases post drill critiques and evaluations identified areas needing improvement. The licensee was taking corrective actions in these areas.

All agreement letters with the fire and police departments and ambulance service and hospital were current. The hospital declined to play in RRF drills, however the Reed staff were permitted to observe drills at the hospital when the hospital played during a Trojan Nuclear Power Plant drill. RRF staff members have been included as observers at Trojan emergency plan drills.

Training in the area of emergency response included a lecture, video and drill on April 15, 1989, the emergency drill of December 3, 1988 and a requalification meeting on September 29, 1988, addressing the emergency plan and procedures.

The licensee's emergency preparedness activities appeared adequate to meet their safety objectives. No violations or deviations were identified.

5. Transportation Activities (86740)

The licensee was in the process of reviewing and approving a new procedure SOP-52 Shipping Radioactive Materials. During 1988 a total of 10 and in 1989 a total of 15 transfers of radioactive materials from the RRF had occurred. The only individuals authorized to ship or transfer radioactive materials off campus are the RRF Director and Associate Director. With one exception all the transfers were to local (Portland, OR) facilities, licensed by the State of Oregon. The local recipients of materials from the RRF pick up the irradiated samples at Reed College. The licensee maintains records on the Reed Reactor Facility Shipping Form which was patterned on that used by Oregon State University. The only shipment which was not a local transfer was an air shipment of a short lived irradiation sample to Lawrence Berkeley Laboratory on December 7, 1988. For this single shipment of 6 E-3 mCi of Si-31, Mn-54 and Na-24

the licensee's committee approved the use of the new shipping procedure for this single use. The licensee delivered the shipment to the Portland International Airport in a Reed College vehicle. An examination of the shipping documents and survey records revealed no discrepancies. Prior to the shipment the licensee had purchased four new DOT certified 7A type A containers.

The licensee's transportation program appeared adequate to meet the requirements of 49 CFR and 10 CFR 71 and 20. No violations or deviations were identified.

6. Information Notices (92717)

The inspector verified that the licensee had received and reviewed Information Notice No. 89-09: Credit For Control Rods Without Scram Capability In The Calculation Of Shutdown Margin. Since all the RRF control rods have scram capability this Information Notice was not applicable (IN-89-09, Closed). The inspector discussed the need for an amendment to the facility license should the licensee wish to irradiate byproduct material. The licensee stated that there were no plans to irradiate such material (88-08-18, Closed). It was noted that the licensee had in place a formal program for the receipt, review and dissemination of pertinent information contained in Information Notices.

7. Exit Interview (30703)

The scope and findings of the inspection were discussed with the individuals denoted in Report Section 1. The licensee was informed that no violations or deviations had been identified. It was the inspectors conclusion that the facility was being operated in a safe and conservative manner.