

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

Region I

Report No. 50-225/79-01

Docket No. 50-225

License No. CX-22 Priority -- Category G

Licensee: Rensselaer Polytechnic Institute  
Department of Engineering and Science  
Troy, New York

Facility Name: Rensselaer Polytechnic Institute Critical Facility

Inspection at. Maxon Road, Schenectady, New York

Inspection conducted: February 1-2, 1979

Inspectors: T. F. Stetka for  
T. F. Stetka, Reactor Inspector

2/15/79  
date signed

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Approved by: E. C. McCabe, Jr.  
E. C. McCabe, Jr., Chief, Reactor Projects  
Section No. 2, RO&NS Branch

2/15/79  
date signed

Inspection Summary:

Inspection on February 1-2, 1979 (Report No. 50-225/79-01)

Areas Inspected: Routine, announced inspection of facility reactivation following long term shutdown. The inspection included a facility tour and review of organization and administration, facility procedures, surveillance, experiments, emergency procedures and previous inspection findings. The inspection involved 9.5 hours onsite by one regional based inspector.

Results: No items of noncompliance were identified.

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## DETAILS

### 1. Persons Contacted

- \*\* D. Harris, Facility Director
- \* P. Nelson, Critical Facility Supervisor

Rensselaer students were also interviewed during the course of the inspection.

- \* present at exit interview.
- \*\* contacted via telephone.

### 2. Licensee Action on Previous Inspection Findings

(Open) Followup Item (225/77-03-01): The licensee will write, approve and issue an administrative procedure to include the following information:

- Responsibilities of operators to adhere to procedures;
- A method of changing or deviating from procedures including necessary approval and level of subsequent review; and
- The method of review and approval of new and changed procedures.

This item remains open pending completion of this action.

(Closed) Followup Item (225/77-03-02): The inspector observed a walk-through of the Pre-Startup Checklist as identified in Paragraph 5 of this report.

(Open) Followup Item (225/77-03-03): The licensee is considering installation of a pneumatic irradiation facility. The installation and testing of this facility has not commenced and the licensee has not conducted a 10 CFR 50.59 review. Progress on this item will be reviewed during subsequent inspections.

(Closed) Followup Item (225/78-02-01): Inspection verified that the individual identified in this item is no longer involved in facility operation.

### 3. General

This facility is changing in status from long term shutdown to operational. This inspection verified the licensee's state of preparation for return to operation.

### 4. Facility Tour

Upon arrival at the facility, the inspector accompanied a licensee representative on a facility tour of the following areas:

- Reactor Room;
- Fuel Vault;
- Control Room; and,
- Counting Room.

During the tour, the inspector utilized a radiation monitoring instrument to check radiation levels and observed the condition of these various areas of the facility for the general state of cleanliness, housekeeping and adherence to fire protection guidelines.

No inadequacies were identified.

### 5. Organization and Administration

#### a. Personnel Changes

The Nuclear Safety Review Board (NSRB) membership has changed with respect to one individual and a new Critical Facility Supervisor has been appointed. These changes will be reported in the licensee's Annual Operating Report.

#### b. Review of Licensed Operators

The inspector conducted a review of the system employed by the licensee to assure that personnel assigned to critical facility operation who are required to have an NRC, RO and SRO license did in fact have such a license. The inspector verified that the minimum staffing requirements were satisfied. This was based on a review of the NRC license file and Operations Log Book entries and initials.

The facility's licensed operators have recently had their licenses reactivated by the NRC Operator's Licensing Branch (OLB). Letters documenting this reactivation were not available for review. These letters will be reviewed during a subsequent inspection (225/79-01-01).

c. Requalification Training

The licensee's requalification training program was discussed with licensee representatives and it was concluded that a program review must be conducted. Only one operator will be requalified. This item (225/79-01-02) is unresolved pending review of the requalification program.

d. NSRB Review and Audits

The inspector reviewed the minutes of NSRB meetings conducted on January 25, 1978, December 29, 1978 and January 5, 1979. As a result of this review the following items were identified.

- (1) An NSRB meeting was conducted on May 31, 1978, but the meeting minutes were not available for review. This item (225/79-01-03) will be examined during a subsequent inspection.
- (2) Review of the meeting minutes for January 5, 1979 indicated that the Director, Office of Radiation and Nuclear Safety, has been designated as "Ex-Officio" and therefore has no voting rights. The inspector stated that, since this individual's position is ex-officio, he can not be used to meet the quorum requirements for an NSRB meeting as was done during the January 5 meeting.

The licensee representative stated that the January 5 meeting was a re-review of a procedure reviewed and approved during the December 29, 1978 meeting at which a full quorum was present. The licensee representative also stated that future meetings would be conducted with voting members representing the necessary quorum.

This item is unresolved (225/79-01-04)

## 6. Logs and Records

The following logs and records were reviewed for the periods indicated.

- a. Scram Log for January, 1979.
- b. Alarm Log for January, 1979.
- c. Reactor Operations Log for June 1, 1978 through January 25, 1979.
- d. Maintenance Log for August 29, 1978 through January 15, 1979.

This review identified that some entries in the Maintenance Log were neither dated nor signed. In addition, the log was contained in a binder with other information which made retrieval of the log information difficult. These items were discussed with the cognizant licensee representative. This representative stated that log keeping methods would be improved and the log arranged in its own binder. This item (79-01-05) will be reviewed during a subsequent inspection.

## 7. Procedures

The inspector reviewed the following procedures for technical adequacy and conformance with Technical Specification requirements:

- Facility Operating Manual dated January 12, 1976;
- Startup Checkout and Pre-Startup Checklist including the completed checklists for the period January 11, 1979 through January 25, 1979;
- Reactor Startup Procedure;
- Reactor Operations Procedure;
- Reactor Shutdown Procedure;
- Scram Recovery Procedure;
- Fuel and Control Rod Handling Procedures; and,
- Waste Disposal and Refill Procedures.

Inspector "walk-through" of the Pre-Startup Checklist and Reactor Startup Procedure verified that the procedures in use accomplished their intended purpose and were the latest revision.

The inspector noted that the licensee still does not have administrative guidance in their procedures. This item was identified as item (225/79-03-01), is addressed in Paragraph 2 of this report and will be reviewed on subsequent inspections.

#### 8. Surveillance

The inspector reviewed the facility's Surveillance and Maintenance Procedures and verified, by review of test documentation, the completion of the following tests and calibrations.

- Area Monitoring System Calibration completed on January 5, 1979;
- Mobile Particulate Air Monitor Calibration completed on January 4, 1979;
- Rod Drop Tests completed on January 9, 1979;
- Water Fill and Dump Test completed on January 5, 1979;
- Startup Chemical Calibrations completed on January 2-3, 1979;
- Intermediate Level Channel Calibrations completed on January 8, 1979;
- Power Level and Safety Amplifier Calibrations completed on January 8, 1979; and
- Interlock and Scram Tests completed on January 9, 1979.

No inadequacies were identified.

#### 9. Experiments

The inspector reviewed the "Core Fissile Inventory Reduction by Reconfiguration" procedure approved by the licensee to provide critical reactor operation with a smaller fuel inventory.

No inadequacies were identified.

10. Emergency Procedures

The licensee is required by their "Emergency Procedures" to assure that all students are briefed on these procedures. This briefing is performed and the individuals receiving the briefing sign-off on a special sheet designated for this purpose. The licensee is revising this sheet and will have all current students sign-off on the new sheets. This item (225/79-01-06) will be reviewed during a subsequent inspection.

11. Unresolved Items

Unresolved items are those items for which further information is required to determine whether they are acceptable or items of noncompliance. Unresolved items are contained in Paragraphs 5.c and 5.d(2) of this report.

12. Exit Interview

The inspector met with a licensee representative (denoted in Paragraph 1) at the conclusion of the inspection on February 2, 1979. The inspector summarized the scope and findings of the inspection as they are detailed in this report. During this meeting the unresolved items were identified.