

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

Region I

Report No. 77-01

Docket No. 50-47

License No. R-65 Priority -- Category D

Licensee: U. S. Army Materials & Mechanics Research Center

Watertown Arsenal

Watertown, Massachusetts 02172

Facility Name: AMMRC

Inspection at: Watertown, Massachusetts

Inspection conducted: September 22, 1977

Inspectors: *R. Architzel*
R. Architzel, Reactor Inspector

10/14/77
date signed

L. Morrholm
L. Morrholm, Reactor Inspector

10/14/77
date signed

Approved by: *E. C. McCabe*

E. C. McCabe, Chief, Reactor Projects
Section No. 2, RO&NS Branch

date signed
10/18/77
date signed

Inspection Summary:

Inspection on September 22, 1977 (Report No. 50-047/77-01)
Areas Inspected: Routine, unannounced inspection of facility operations during long term shutdown. A facility tour was conducted. The inspection involved 6 inspector hours onsite by two NRC inspectors.
Results: Two items of noncompliance were identified (Infraction-not performing monthly checks of heating and ventilation, Paragraph 4.b; Infraction-not posting high radiation area, Paragraph 5.)

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DETAILS

1. Persons Contacted

Mr. J. Brett, Boilerman Supervisor
Mr. A. Hovsepian, Fire Prevention Specialist
Mr. G. Flanders, Electrical Technician
Mr. J. Hall, Safety Technician
*Mr. J. O'Connor, Reactor Facility Supervisor
Mr. W. Walsh, Maintenance General Foreman

*denotes those present at the exit interview.

2. Administration and Organization

- a. No change in facility organization has been made since the previous inspection.
- b. The Reactor Safeguards Committee (RSC) membership is as described in Region I Inspection Report 047/75-01 dated December 12, 1977.

The inspector reviewed the minutes of RSC meetings held on November 18, 1976 and May 24, 1977. These meetings included reviews of the quarterly facility radiation surveys.

No unacceptable conditions were identified.

3. Operations

a. Logs and Records

To review the conduct of operations since the previous inspection, the inspector examined, on a sampling basis, the following licensee records covering the periods indicated:

- (1) Records of Access to Reactor Facility, August 26, 1976 through September 22, 1977.
- (2) Cathodic Protection Surveillance Record, September 6, 1976, through September 5, 1977.
- (3) Reactor Safeguards Committee Minutes, November 18, 1976, through May 24, 1977.

- (4) Fire Prevention Inspection Reports, August 30, 1976 through August 29, 1977.
 - (5) Weekly Reactor P. M. Inspection Reports, August 26, 1976, through August 30, 1977.
 - (6) Reactor Facility Radiation and Contamination Surveys, October 16, 1977 through July 25, 1977.
- b. The facility remains in a shutdown "standby" status. Containment entries are made only for periodic surveillance and inspections. No other use has been made of the facility.

No changes to this status are anticipated.

No unacceptable conditions were identified.

4. Surveillance Tests

- a. Technical Specification 4.a.(1) requires a weekly visual inspection of the heating and ventilation systems. The inspector reviewed the Intelligence and Security Branch (ISB) records of access to the reactor facility in order to verify that individuals with responsibility in this area made entries to the facility at least weekly.

No unacceptable conditions were identified.

- b. Technical Specification 4.a.(2) requires a monthly check of all heating and ventilation equipment in accordance with a written checklist.

The inspectors review of completed checklists revealed that the required inspection was not performed during the months of February and July of 1977. The person responsible for performing the inspections stated that his work load was too great in February to perform the inspection and that he was on annual leave in July. No alternate individual had been directed to accomplish the required check.

This item is repetitive in that failure to perform weekly checks of heating and ventilation equipment pursuant to Technical Specification 4.a.(1) was identified in Inspection Report 047/75-01. Failure to perform monthly checks in accordance with written checklists is an Infraction level Item of Noncompliance (047/77-01-01).

- c. Technical Specification 4.c requires a check of fire fighting equipment be performed at least monthly.

These checks are conducted by the Post Fire Marshal who completes a Fire Prevention Inspection.

The inspector reviewed the reports and conducted a tour of the facility to verify fire protection/prevention adequacy.

No unacceptable conditions were identified.

- d. Technical Specification 4.d requires that the fire alarm system be operability checked semi-annually.

The inspector's review of the ISB access records indicated that entries to the facility to check fire alarm operability had been made.

No unacceptable conditions were identified.

- e. Technical Specification 4.b requires that voltage and current readings of the cathodic protection system be obtained quarterly and that the effectiveness of the system be checked semiannually using a half-cell.

The above checks are made by the Arsenal Facility Engineering Branch.

The inspector reviewed the results of checks made on the following dates:

September 6, 1976	SATISFACTORY
December 3, 1976	SATISFACTORY
March 4, 1977	GROUND FROZEN
June 7, 1977	SATISFACTORY
September 5, 1977	SATISFACTORY

No unacceptable conditions were identified.

5. Radiation Protection

Technical Specification 3.a requires that a facility radiation survey, including smears, be performed at least quarterly.

The inspector reviewed records of surveys conducted on October 16, 1976, January 17, April 2, and July 13 and 25, 1977.

Using an NRC instrument, (Digi/Master, Serial 001010) the inspector conducted an independent survey of the facility. The following results were obtained and they were in agreement with the licensee's posted radiation levels.

<u>Area</u>	<u>Radiation (MREM/Hour)</u>
Opposite Control Room Over Pool	2.3
Ion Exchanger Column	2.0
Under Ladder Grate to Pool	5.0

While performing the tour, the inspector noted that there were no high radiation area signs on the access path to the core plate area of the reactor vessel. The licensee's surveys indicated radiation levels of 2.3 REM/hr in the vicinity of the core plate. A subsequent survey performed by the licensee on October 10, 1977, resulted in readings of 2.95 R/hr on contact with the core plate and a 265 mrem/hr general area reading 3 feet from the core plate. Access to the High Radiation Area is controlled in that the facility is locked under control of the Intelligence and Security Branch.

Failure to post a High Radiation Area as required by 10 CFR 20.203(c)(1) is an Infraction level Item of Noncompliance (047/77-01-02).

6. IE Circular 76-03

The inspector verified that IE Circular 76-03 had been received and reviewed for applicability by cognizant licensee staff members.

The inspector had no questions in this area.

7. Exit Interview

The inspector met with the licensee representative (denoted in paragraph 1) at the conclusion of the inspection. The inspector summarized the purpose and scope of the inspection and the findings. The licensee acknowledged the Items of Noncompliance.