

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-271/83-06

Docket No. 50-271

License No. DPR-28 Priority -- Category C

Licensee: Vermont Yankee Nuclear Power Corporation
RD 5, Box 169
Ferry Road
Brattleboro, Vermont 05301

Facility Name: Vermont Yankee Nuclear Power Station
Inspection at: Vernon, Vermont
Inspection Conducted: March 27, 1983 -April 1, 1983

Inspector: P. Clemons 4/19/83
P. Clemons, Radiation Specialist date

Approved by: M. Shanbaky 4/25/83
M. Shanbaky, Chief, Facilities Radiation Protection date
Section, Radiation Protection Branch

Inspection Summary:

Inspection conducted on March 29, 1983 - April 1, 1983 (Report 50-271/83-06)

Areas Inspected: Routine unannounced safety inspection of the radiation protection program including: followup on previous inspection findings, advanced planning and preparation, training, contaminated hydrolaser, exposure control, posting, radioactive and contaminated material control, surveys and source leak test. The inspection involved 38 inspector hours onsite by one regionally based inspector.

Results: No violations were identified.

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DETAILS

1. Persons Contacted

J. Pelletier, Plant Manager
S. Jeffers, Operations Superintendent
W. Wittmer, Maintenance Superintendent
*D. Reid, Technical Service Superintendent
*R. Leach, Chemistry and Health Physics Supervisor
*R. Pagodin, Engineering Support Supervisor
*D. Mohler, Plant Health Physicist

Other licensee employees were contacted or interviewed during this inspection.

*Attended the Exit Interview on April 1, 1983.

2. Purpose

The purpose of this routine inspection was to review the licensee's radiation protection program with respect to the following elements:

- Status of outstanding items;
- Review of advance planning for the outage;
- Training of contractor personnel;
- Review of the Hydrolaser shipment;
- Review of exposure control;
- Review of posting and radiation and contamination control
- Review of surveys;
- Review of source leak, tests; and
- Review of procedures.

3. Status of Previously Identified Items

(Open) Inspector Followup Item (80-BU-10) Review 1977 feasibility study for pathways and monitoring potential for unmonitored, uncontrolled release to the environment. The documentation provided by the licensee was inadequate to demonstrate that the 1977 feasibility study was completed. The documentation indicated that pathways for liquid releases were addressed, but pathways for gaseous releases were not addressed.

(Closed) Violation (82-13-1A) Failure to maintain quality assurance records for casks. A revised procedure was reviewed that required quality assurance "hold points" that will require that records be maintained.

(Closed) Unresolved (82-13-2A) Review and determine status of qualifications of Plant Health Physicist. The inspector examined the Plant Health Physicist qualifications against the qualification requirements established for this position by the current plant Technical Specifications. The qualification requirements were met.

(Closed) Violation (82-14-02) Failure to post and mark a hot spot radiation area. This violation was withdrawn in a letter to the licensee dated March 5, 1983.

4. Advanced Planning and Preparation

The licensee's efforts in advanced planning and preparation for major tasks were reviewed against the criteria contained in 10 CFR 20.201, "Standard for protection against radiation", ANSI 18.1, "Selection and training of nuclear power plant personnel", Regulatory Guide 8.27, "Radiation protection training for personnel at Light Water Cooled Nuclear Power Plants", and applicable station procedures.

The licensee's performance relative to these criteria was determined from discussions with the Plant Health Physicist, and other members of his staff. Approximately twenty-five major tasks had been identified, and it was determined that ALARA reviews had been completed for the tasks.

The licensee stated that the health physics staff was increased by 35-40 contractor personnel. The additional people are junior and senior technicians. The inspector determined that qualified licensee Supervisors were directing all health physics activities during the outage.

Within the scope of this review, no violations were identified.

5. Personnel Training

Personnel training was reviewed against criteria contained in 10 CFR 19.12, "Instructions to Workers" and Regulatory Guide 8.27, "Radiation Protection Training for Personnel at Light Water Cooled Nuclear Power Plant".

The licensee's performance relative to these criteria was determined from discussions with members of the Training Department and review of training records for approximately twenty contractor personnel.

Within the scope of this review, no violations were identified.

6. Surveys

The licensee's survey program was reviewed against the criteria contained in the 10 CFR 20.201, "Surveys". The licensee's performance relative to this criteria was determined from discussions with members of the health physics staff and review of survey data for the period March 1983.

Within the scope of this review, no violations were identified.

7. Hydrolaser Shipment

On March 16, 1983, the licensee released a hydro-lasing pump unit to be returned to Hydro-Nuclear, Inc. in Medford, N. J.

On March 17, 1983, Hydro-Nuclear Services, Inc. of Medford, New Jersey informed NRC Region I that the hydro-lasing pump unit mounted on a flatbed trailer and used for decontamination work at the Vermont Yankee plant had been received at the Hydro-Nuclear facilities in Medford, NJ with detectable radioactive contamination inside the equipment. Both Vermont Yankee and NRC Region I dispatched personnel to New Jersey to make confirmatory measurements on March 17.

These measurements indicated that maximum contamination levels on accessible, interior portions of the equipment were approximately 0.4 mrem/hr, fixed, and 3,000-4,000 dpm/100 cm² removable. Vermont Yankee surveyed the pump unit on March 15, 1983, prior to releasing the equipment from the plant. This survey indicated contamination levels were less than 0.1 mrem/hr, fixed, and less than 1,000 dpm/100 cm², removable. Table I-1., "Acceptable surface contamination levels", of NUREG/CR-2082, "Monitoring for compliance with decommissioning termination survey criteria", recommends a removable limit of 1,000 dpm/100 cm² for beta-gamma emitters for equipment being released for unrestricted use.

49 CFR 173.397 states that removable contamination is considered significant when surface contamination on packages exceeds 22,000 dpm/100 cm² when averaged over 300 cm². 49 CFR 173.427 of the Department of Transportation regulations that will take effect on July 1, 1983, allows internal contamination on empty packages up to 2,200,000 dpm/100 cm². The contamination levels on the Hydrolaser appear to be insignificant.

Within the scope of this review, no violations were identified.

8. Exposure Control

The external exposure control program was reviewed against criteria contained in 10 CFR 20.101, "Radiation dose standards for individuals in restricted areas", and Procedure No. A. P. 0506, Revision 6, "Personnel Monitoring". The licensee's performance relative to these criteria was determined by reviewing the "year-to-date" data contained in the "Vermont Yankee Daily Exposure Log" for the period January 1 - March 30, 1983.

Within the scope of this review, no violations were identified.

9. Procedure Review

The adequacy and effectiveness of the licensee's procedures were reviewed against the criteria contained in 10 CFR 20.103, "Exposure of individuals to concentrations of radioactive material in restricted areas", and Technical Specifications 6.5, "Procedures".

Procedures reviewed included:

"Radioactive Source Accountability Inventory and Leak-Testing", Procedure No. A.P.4500, Revision 6.

"Personnel Monitoring", Procedure No. A.P. 0506, Revision 6.
 "Radiation Work Permits", Procedure NO. A.P.0502, Revision 11.
 "Respiratory Protection", Procedure NO. A.P.0505, Revision 9.
 "Employee/Contractor Indoctrination Training," Procedure No. VYAPF0723.
 "Area and Equipment Decontamination", Procedure No. R.P.0521, Revision 5.
 "Body Burden Counting," Procedure No. O.P.053
 "Radwaste, Casks, Drum and Box Handling", Procedure No. O.P.2511,
 Revision 8.

Within the scope of this review, no violations were identified.

10. Source Leak Test

The source leak test program was reviewed against the criteria contained in Procedures No. A.P.4500, Revision 6, "Radioactive Source Accountability, Inventory, and Leak Testing". The licensee's performance relative to these criteria was determined by examining leak test records.

Within the scope of this review, no violations were identified.

11. Review of Posting and Radiation and Contamination Control

The posting and radiation and contamination control program was reviewed against the criteria contained in 10 CFR 20.201, "Surveys" and 10 CFR 20.203, "Caution signs, labels, signals and controls".

The licensee's performance relative to these criteria was determined by direct observation during tours of the licensee's facilities.

Within the scope of this review, no violations were identified.

12. Exit Interview

The inspector met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on April 1, 1983. The inspector summarized the purpose and scope of the inspection, and the inspection findings.