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

REGION I

Report No. 79-17

Docket No. 50-271

License No. DPR-28 Priority -- Category C

Licensee: Vermont Yankee Nuclear Power Corporation

20 Turnpike Road

Westborough, Massachusetts 01581

Facility Name: Vermont Yankee Nuclear Power Station

Inspection At: Vernon, Vermont and Shrewsbury, Massachusetts

Inspection Conducted: October 22-31, 1979

Inspectors: T. F. Stetka, Reactor Inspector — 11/27/79 date

D. V. Kehoe, Reactor Inspector — 11/27/79 date

_____ — _____ date

Approved by: E. C. McCabe, Jr., Chief, Reactor Projects Section No. 2, RO&NS Branch — 12/3/79 date

Inspection Summary:
Inspection on October 22-31, 1979 (Report No. 50-271/79-17)
Areas Inspected: Routine, unannounced inspection of plant operations, critical fire areas, control rod drive return line relocation, licensee action on Information Notice 79-20, Licensee Event Reports, activities of the Nuclear Safety Audit and Review Committee, and, licensee actions on previous inspection findings. Facility tours were conducted. The inspection involved 55.5 hours onsite by two region-based inspectors.
Results: One item of noncompliance was identified (Infraction-failure to check operability of a redundant system during removal of a pump from service).

Region I Form 12
(Rev. April 77)

DETAILS

1. Persons Contacted

a. Licensee Personnel

*L. Anson, Training and Document Control Supervisor
*L. Bozek, Operational Quality Assurance (YAEC)
*R. Burke, Engineering Support Supervisor
W. Conway, Plant Superintendent
P. Donnelly, I&C Supervisor
*D. Girroir, Technical Assistant
S. Jefferson, Reactor and Computer Supervisor
B. Leach, Health Physicist
*W. Murphy, Assistant Plant Superintendent
J. Pelletier, Maintenance Supervisor
*D. Pike, Manager, Operational Quality Assurance (YAEC)
*R. Sojka, Operations Supervisor
G. Wyman, Chemistry and HP Supervisor

b. Yankee Atomic Electric Company (YAEC) Personnel

**L. Heider, Vice-President
***J. Hoffman, Manager, Mechanical Engineering Group
**R. Martin, Senior Engineer, Operational Quality Assurance
**D. Moody, Manager of Operations
**D. Pike, Manager, Operational Quality Assurance
**L. Reed, Operational Quality Assurance
R. Wanczyk, Plant Operations Engineer

c. State of Vermont Personnel

*Mr. P. Paull, State Nuclear Engineer (Vermont Public Service Board)

The inspectors also interviewed other licensee personnel.

*Present at the October 26, 1979 exit interview.
**Present at the October 31, 1979 exit interview.
***Contacted via telephone call.

2. Licensee Action on Previous Inspection Items

(Closed) Unresolved Item (271/77-08-01): The licensee completed Plant Design Change Request (PDCR) 79-11, adding a high point vent and connections to the condensate system to provide keep full capability to the RCIC and HPCI systems when their suctions are lined up to the torus.

(Open) Noncompliance (271/78-29-03): Failure to provide adequate procedures. The inspector reviewed the revisions to AP-0155 and AP-0156 and concluded that they were adequate. The inspector further determined that the design modification to remove the interface between the demineralizer system piping and the instrument racks had been completed but the documentation package including procedure updates had not been completed. This item remains open pending NRC review of the modification documentation.

(Open) Noncompliance (271/79-12-01): Failure to start reactor feed pump as required by procedure. The inspector noted that operations personnel had been instructed on the need to monitor critical parameters during reactor startup, but could not determine that any corrective action with respect to procedural adherance had occurred. The licensee acknowledged the inspectors comment and stated that operations personnel would be reinstructed on the importance of procedural adherence. This item remains open.

(Closed) Noncompliance (271/79-12-02): Failure to write MR prior to conducting corrective maintenance. The inspector verified that the licensee had implemented the corrective action as specified in his letter (D. E. Moody to E. J. Brunner) dated October 9, 1979.

(Closed) Unresolved Item (271/79-12-04) Revision of OP-1200, OP-1201, OP-5204, and OP-5224 to include return to normal criteria. The inspector reviewed the referenced procedure revisions and concluded that they adequately address return to normal criteria.

3. Review of Plant Operations

a. Shift Logs and Operating Records

The inspector reviewed the records listed below for compliance with the licensee's administrative procedure for Operations Department Logs.

(1) Night Orders for the period October 1-23, 1979.

(2) Lifted Lead/Installed Jumper Log for the period July 10, 1979 through October 20, 1979 and a sample verification of installed jumpers and lifted leads.

(3) Chemistry Logs for the period August 20, 1979 through October 1, 1979.

(4) Maintenance Request Log for the period July 16, 1979 through October 23, 1979.

(5) Control Room Operator (CRO) Log for the period August 16, 1979 through October 24, 1979.

(6) Auxiliary Operator Logs for the period October 1, 1979 through October 23, 1979.

(7) Shift Supervisor's Log for the period August 16, 1979 through October 24, 1979.

(8) Work Request Log for the period July 16, 1979 through October 24, 1979.

(9) Tagging Order Log for all outstanding entries and a sample verification of present tagging status.

Inspection consisted of verifying adequate management review, correct identification of problem areas, completeness, and determination that conditions contrary to the Technical Specifications did not exist.

During the inspector's review of the Shift Supervisor's Log the following log entry, dated September 14, 1979 and concerning disabling the "A" Residual Heat Removal Service Water (RHRSW) pump to repair the pump status indicating lights, was made: "Adjustments were made to the mechanism and indications restored to normal before alternate Technical Specification testing could be started." Review of Maintenance Request (MR) 79-717 and the Potential Reportable Occurrence (PRO) report indicate that RHRSW "A" was disabled at 1530 hours by racking out the breaker to adjust the mechanism that controlled these indicating lights. The adjustment was made and the breaker racked in by 1615 hours. The pump was subsequently tested for operability. As noted in the log entry, there was no attempt to check operability of the pump or operability of the redundant RHRSW subsystems prior to disabling the "A" pump. Disabling of the "A" pump represents voluntary entry into a degraded mode of operation.

Failure to immediately check operability of the redundant RHRSW subsystem while intentionallly disabling the "A" pump is contrary to the requirements of TS 3.5.C.2 and 4.5.C.2 and is an item of noncompliance (271/79-17-01).

6. Facility Tours

The facility was engaged in a refueling outage. Therefore, particular emphasis was placed on radiation area controls, plant housekeeping conditions, and fire protection controls.

The tours encompassed the following areas:

-- All levels of the reactor building;

-- Turbine building;

-- Diesel Generator rooms;

-- Cable Spreading room;

-- Rad Waste building;

-- Switchgear room; and,

-- Interior and exterior of the torus.

(1) Shift Staffing

The inspector verified by spot checks that the operating shift met Section 6 of the Technical Specification with regard to numbers and licenses. The inspector also observed a shift turnover on October 24, 1979 to verify that continuity of system status was maintained.

(2) Radiation Areas

Radiation control zones were observed to verify proper identification and implementation. These observations included review of step-off pad conditions, disposal of anti-contamination clothing and area posting. Passage of personnel through the radiation check point was observed on numerous occasions to verify the adequacy of the licensee's contamination controls. These observations were made during peak traffic periods (i.e., lunch hour and shift changes).

No inadequacies were identified.

(3) Plant Housekeeping Conditions

Storage of material and components was observed with respect to safety and fire hazards. The licensee is replacing anchor bolts to meet the requirements of IE Bulletin 79-02 and many areas were in need of cleanup. The licensee was also completing maintenance activities associated with the refueling outage and was in the process of cleaning up the plant. Progress on housekeeping conditions will be examined during subsequent inspections.

(4) Fire Protection

Fire extinguishers and fire fighting equipment were observed to be unobstructed and recently inspected for operability. No evidence of smoking was observed in designated "No Smoking" areas and the cardox fire suppression systems were observed to be operable.

4. Critical Fire Area Inspection

Nuclear Reactor Regulation (NRR) has performed evaluations of fire protection programs at all operating plants. These evaluations have identified, in the NRR Fire Protection Safety Evaluation Report (SER), critical areas where a fire may affect redundant safe shutdown systems.

The Vermont Yankee critical fire areas are the switchgear and cable spreading rooms. The licensee is modifying these areas to provide additional fire protection and expects to complete these modifications by the end of the 1980 Refueling Outage.

A review of administrative procedures, fire permits, and surveillance tests was conducted to verify that: provisions have been made and implemented to establish fire watches as required; surveillance tests are being conducted to meet Technical Specification requirements; and controls are adequate to control combustible material and ignition sources in the critical fire areas. The following procedure and surveillance tests were reviewed:

-- AP 0042, Plant Fire Protection; Rev 3; and,

-- OP 4020, Surveillance of Fire Protection Equipment, Rev. 7.

The following specific sections of OP 4020 were reviewed to verify that the required surveillance tests were being conducted:

-- Section I, Six Month CO_2 Fire Extinguisher and Cardox Bottle Surveillance and data recorded on November 29, 1978 and May 31, 1979;

-- Section J, Six Month Surveillance-Fire Detection Functional Test and data recorded on August 28, 1978, March 15, 1979, and September 6, 1979;

-- Section Q, Operating Cycle Test of the Cardox System and data recorded on August 2, 1978 and July 10, 1979; and,

-- Section R, Operating Cycle Check of Fire Barrier Seals and data recorded on October 4, 1978.

Tours of the critical fire areas (as discussed in paragraph 3.b) verified implementation of the fire protection controls. The inspector had no further questions on this item.

5. Control Rod Drive Return Line Relocation

The inspector reviewed the licensee's actions with respect to this modification to determine if the necessary Technical Specification (TS) changes had been made. The licensee proposed a TS change to NRR on October 5, 1979. That proposal makes valve deletions and additions to Tables 4.2.7.a and 4.2.7.b which list the primary containment isolation valves.

No inadequacies were identified.

6. Information Notice 79-20

The inspector queried licensee representatives to determine whether licensed operators were aware of and had reviewed the information discussed in Information Notice 79-20, NRC Enforcement Policy-NRC Licensed Individuals. These representatives stated that the operators had reviewed 79-20 and provided the inspector with a sign-off sheet documenting that review.

The inspector had no further questions on this item.

7. Review of Licensee Event Reports

a. The inspector reviewed Licensee Event Reports (LERs) to verify that:

-- The reports accurately described the events;

-- The safety significance was as reported;

-- The report was accurate as to cause;

-- The report satisfied requirements with respect to information provided and timing of submittal;

-- Corrective action was appropriate;

-- Action has been taken; and,

-- The event was reviewed and evaluated by the Plant Operations Review Committee (PORC).

LERs 79-17, 79-19, 79-21, 79-24, and 79-25 were reviewed. The review identified the following items.

b. LER 79-17 reported a failure of the Containment Air Monitor (CAM) pump. That pump has been the subject of repeated failures and the inspector asked what actions were being taken to improve reliability. The licensee determined the repeated failures to be caused by moisture buildup in the design of the system by the addition of isolation and drain valves to minimize moisture buildup. That design modification is expected to be completed prior to plant startup. The licensee is also investigating an increased preventive maintenance schedule on the pump. The licensee's actions will be examined during subsequent inspection and this item is unresolved. (271/79-17-02)

c. LER 79-21 reported a loss of water in the torus level transmitter reference legs. The loss of water caused an erroneous indication for the torus water level and resulted in exceeding the Technical Specification limits. The licensee has instructed their technicians to check and refill the reference legs weekly and is adding this requirement to the technicians' work list. The licensee is also investigating a design change that will automatically keep these reference legs filled. This issue is unresolved pending addition of the weekly check requirement to the technicians' work list and the completion of the licensee investigation. (271/79-17-03)

d. LER 79-25 reported evidence of lower end plug (LEP) wear on "water" rods that are a part of the type 8 X 8R fuel assemblies. The wear was discovered during the reactor vendor's (General Electric) ongoing inspections of the 8 X 8R fuel. The licensee has installed into the core four test bundles that use a water rod with a different LEP design in accordance with Special Test Procedure 79-2, E4 Water Rod Replacement, change 0 and has performed safety evaluations for these test bundles. The inspector reviewed the licensee's procedures, the safety evaluations conducted by both the licensee and General Electric and discussed the event with both licensee and NRR personnel. Further action on this event will be reviewed during subsequent inspection. This item is unresolved. (271/79-17-04)

8. Nuclear Safety Audit and Review Committee (NSARC)

NSARC meeting minutes for both regular (scheduled) and special meetings for the period of May, 1978, through October, 1979, were reviewed to verify the following:

-- Membership, meeting frequency and quorum for each meeting was as required by the Technical Specifications (TS);

-- The NSARC review and audit responsibilities were consistent with those delineated in the Technical Specifications; and,

-- NSARC meetings were conducted with attendees having sufficient expertise in the fields reviewed to assure an adequate review was conducted.

The review of the regular meetings indicated that meeting 79-7-R conducted on April 13, 1979 had the minimum number of members available to just meet the TS quorum requirements. The NSARC consists of eleven members, however the TS requires only five members to constitute a quorum. Considering the amount of material reviewed during a regular meeting, the inspector questioned whether sufficient expertise was available to provide an adequate review.

While the licensee distributes the documentation necessary for committee review, evidence of committee member review (via a signoff sheet) may not appear until some time after a meeting has been conducted. It could not be determined whether all members review the necessary documentation prior to a meeting and therefore whether all necessary areas of expertise are represented.

The inspector was concerned that a committee member may not attend a meeting, may not have reviewed agenda documentation prior to the meeting and, subsequent to the meeting, may have comments on the meeting agenda in his area of expertise. A licensee representative stated that, in this case, the comment would be considered and an additional NSARC meeting called if required.

ANSI Standard N18.7-1976, section 4.2, requires a written program (for both audits and independent reviews) that contains provisions for assuring that personnel responsible for these reviews are kept informed of matters within their scope of responsibility. The licensee's "Charter for Vermont Yankee Nuclear Safety Audit and Review Committee" dated April 18, 1975, which provides the program description discussed in section 4.2, does not contain these provisions. While the licensee's Operational Quality Assurance Program (OQAP) requires compliance with this standard, that plan also designates the TS as the governing document. Since the TS does not require adherence to ANSI 18.7-1976, the licensee has taken the position to not comply with this standard in cases such as this. This item is unresolved pending the licensee's formal submittal of this position to the NRC for review. (271/79-17-05)

9. NRC In Office Review

a. NRC:RI in office review of the following LERs has been completed with no unacceptable conditions identified:

79-14	79-18
79-15	79-20
79-16	79-22
	79-23

b. NRC:RI in office review of Monthly Operating Reports for the months of August and September, 1979 has been completed with no unacceptable conditions identified.

10. 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 7.b, 7.c, 7.d and 8 of this report.

11. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection on October 26, 1979 and October 31, 1979, and summarized the scope and findings of the inspection as they are detailed in this report. During these meetings, the unresolved items and item of noncompliance were identified.