

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

Region I

Report No. 50-271/78-23

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

Inspection conducted: October 9-13, 1978

Inspectors: R. A. Feil  
R. A. Feil, Reactor Inspector

11-6-78  
date signed

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date signed

Approved by: BW McLaughlin  
for S. D. Ebner, Acting Chief, Engineering Support  
Section #1, RC&ES Branch

November 17 1978  
date signed

Inspection Summary:

Inspection on October 9-13, 1978 (Report No. 50-271/78-23)

Areas Inspected: Routine, unannounced inspection by a regional based inspector of unresolved items and facility modifications to LPCI valves; UPS battery replacement, RWCU flow switch and spent fuel rack. This included review of associated procedures and records of installation and testing. The inspection involved 31 inspector hours on site by one NRC regional based inspector.

Results: No items of noncompliance were identified.

## DETAILS

### 1. Persons Contacted

- \*Mr. W. Conway, Plant Superintendent
- \*Mr. W. Murphy, Assistant Plant Superintendent
- Mr. J. Pelletier, Maintenance Supervisor

The inspector also interviewed other technical personnel during the course of the inspection.

\*denotes those present at exit interview

### 2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (271/78-03-01) Lack of Cognizant Engineer Initials on Drawings. Drawing No. A-21514-C, Revision A, Leveling Foot Assembly and Drawing No. D-20598-D, Revision F, Grid Top Casting, 7 x 10 were verified to have the cognizant engineer's initial placed on the required drawing for the respective revision.

(Closed) Unresolved Item (271/78-03-06) Lack of Alarm Procedure for high temperature in the fuel pool. A separate annunciator window on CRP 9-4 has been established to provide annunciation to control room personnel if there is an increase in fuel pool temperature above the alarm point of 120° F. The addition of the annunciator alarm has been incorporated into the appropriate operating procedures.

### 3. Low Pressure Coolant Injection (LPCI) Valves V 10-25A and B Redundant Automatic Opening Logic

The inspector reviewed the Plant Design Change Request and available records for the installation of redundant automatic open logic for LPCI injection valves V 10-25A and B.

The change involved installation of redundant contacts in the auto open logic for the inboard LPCI injection valves. The change ensures that both valves receive an automatic "open" signal in the event of a LOCA assuming a single failure in either logic chain. The existing relays that provide the redundant automatic open signal for the outboard LPCI Injection valves V 10-27A and B provided the necessary spare contacts to make the change.

The PDCR was reviewed and a determination made that the proposed change did not involve an unreviewed safety question as defined by 10 CFR 50.59(b).

No items of noncompliance were identified.

4. Uninterrupted Power Supply (UPS) Battery Replacement

The inspector reviewed the Engineering Design Change Request (EDCR) and available records for the UPS Battery replacement.

The battery banks had a history of poor specific gravity and cell voltage readings. An overcharge for the batteries, which was proposed by the manufacturer, resulted in excessive terminal post overheating and corrosion. Cleaning all connections resulted in acceptable overcharge tests. The licensee proposed changing to a new design battery to preclude the above problems. In addition to the new cells other equipment was installed: cell spacers, intercell connectors, interstep connectors and flame arrestors.

The EDCR was reviewed and a determination made that the proposed change did not involve an unreviewed safety question as defined by 10 CFR 50.59(b).

No items of noncompliance were identified.

5. Elimination of Reactor Water Clean Up (RWCU) Flow Switch

The inspector reviewed the PDCR for the removal of the RWCU flow switch and replacement with a spool piece. Material certificates, material receipt, welding, NDE and testing records were reviewed.

The modification was necessitated because of recurring leakage problems associated with the low flow switch. Two flow switches were removed and replaced with a welded spool piece. The modification eliminated a personnel safety hazard in the form of high radiation due to leakage associated with the flow switches. RWCU pumps are now tripped on low flow by the RWCU demineralizer flow signal, or if both demineralizers are not functioning and the RWCU bypass valve is closed, the pumps will not operate.

The PDCR was reviewed and a determination made that the proposed changes did not involve an unreviewed safety question as defined by 10 CFR 50.59(b).

No items of noncompliance were identified.

6. Spent Fuel Pool Rack Installation

The inspector reviewed the installation records of the new spent fuel pool racks for Phase 1. Inspection Report 50-271/78-03 covered other aspects of the modification. Records show that the racks were installed in accordance with written procedures. The procedures were completed and then evaluated by the cognizant individual responsible for the installation of the spent fuel racks. The PORC reviewed the completed procedure documentation. No anomalies were found.

No items of noncompliance were identified.

7. Exit Interview

The inspector met with the licensee's representatives at the conclusion of the inspection on October 13, 1978.

The inspector summarized the scope and findings of the inspection. The representatives acknowledged the inspector's findings.