

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-271/84-23

Docket No. 50-271

License No. DPR-28

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 and Framingham, Massachusetts

Inspection Conducted: October 15-19, 1984

Inspectors: *W. Oliveira* 11/9/84
G. Napuda, Lead Reactor Engineer date
W. Oliveira 11/9/84
W. Oliveira, Reactor Engineer date
W. Oliveira for 11/9/84
C. Woodard, Reactor Engineer date
Approved by: *J. Spraul* 11-9-84
J. Spraul, Acting Chief date
Management Programs Section
Engineering Programs Branch

Inspection Summary: Inspection on October 15-19, 1984 (Report No. 50-271/84-23)

Areas Inspected: Routine, unannounced inspection of the audit program, corrective action responses to the audits, procurement, and material control. The inspection involved 45 hours offsite by three region based inspectors and 50 hours onsite by two region based inspectors.

Results: No violations were identified.

DETAILS

1. Persons Contacted

- W. Anson, Training Department Supervisor
- *L. Bozek, Operations Quality Group Senior Engineer (Yankee Atomic Electric Company, YAEC)
- R. Clark, Operational Quality Group Training Coordinator (YAECO)
- *D. Dyer, Operations Quality Group Engineer (YAEC)
- J. Golanka, QA Technician (YAEC)
- *N. Limberger, Operations Superintendent
- E. Linuamood, Operations Training Supervisor
- *R. Martin, Quality Design and Procurement Supervisor (YAEC)
- *R. Milligan, Administrative Supervisor
- *R. Fagodin, Engineering Support Supervisor
- *A. Parker, Quality Audit and Engineering Group Engineer (YAEC)
- *J. Pelletier, Plant Manager
- *D. Pike, Operations QA Manager
- C. Parrovecchio, QA Technician (YAEC)
- *R. Purinton, Stores and Purchasing Supervisor
- *J. Sinclair, Assistant to Vice-President/Manager of Operations
- R. Tamm, Construction QA Engineer (YAEC)
- J. Taylor, Operations Quality Group Auditor (YAEC)
- R. Wanczyk, Technical Services Superintendent

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- *W. Raymond, Resident Inspector

The inspectors also interviewed other licensee personnel during the inspection.

*Denotes those present at the exit interview.

2. Licensee's Action on Previous Inspection Findings

(Closed) Unresolved Item (271/79-18-01): Inprocess inspection/surveillance in lieu of inspection hold/witness points. Based on the discussion in items 83-22-05 and 83-22-06 below and a review of the implementation of these two types of QA/QC overview, it was determined that an acceptable balance had been achieved between the two methods.

This item is therefore closed.

(Closed) Unresolved Item (271/81-08-12): Scope of the quality trending system. The trending effort now addresses NRC items, licensee event reports, audit findings, nonconformance reports (material deficiencies), and plant incident reports. Also included are quantitative data (numbers), recurrent items, recurrent departments, locations and causes. Deficiencies are categorized into the 18 Appendix B criteria and 10 other criteria such as technical specifications (TSs) and health physics. This effort is

currently being input into a computerized data base and a program is being developed to provide various comparison between the various fields of search. Licensee representatives acknowledged that the addition of a qualitative factor (importance or significance of the deficiencies) would enhance the benefits that would be derived from this effort and that a trend summary of the report details would more easily highlight any identified significant results.

Based on the foregoing review this item is closed.

(Open) Violation (271/82-22-01): Failure to enter traceability information onto maintenance work orders. The training of employees in Revision 12 to procedure A.P. 0021, Maintenance Requests, and its implementation are the only actions needed to complete corrective measures as described in licensee letters to NRC RI, dated December 13, 1983 and May 1, 1984. It was determined that the status of these efforts should not preclude completion of remaining corrective actions within the time frame stated in the latter letter.

This item remains open pending verification of corrective action completion.

(Open) Unresolved Item (271/83-22-02): Review of nonsafety-related procurement orders. A November 1, 1983 internal memorandum, Administrative Supervisor/Superintendent of Operations, recommended that a procedure(s) be revised to include this review. However, this recommendation has been in abeyance pending the final decisions associated with the licensee response to IE Generic Letter 83-28 (ATWS). However, QA Department auditors review samples of these purchase orders as discussed in item 271/83-22-07 below.

This item remains open and will be reviewed during a subsequent inspection.

(Closed) Unresolved Item (271/83-22-03): Ensure correct completion of material issues and remove inaccuracies in nomenclature for stores computer code. Items are identified by major systems and the current computer inventory control program does not provide for a detailed sub-component breakdown for identification purposes. The licensee has been exploring the possibility of developing a computer program with this capability, including a spare parts study, and input the data into the recently procured VAX computer system. However, the licensee has taken steps to resolve this item by instructing stores personnel to include the correct application description on the Material Issue so as to further clarify the major catalogued description.

This item is closed.

(Closed) Inspector Followup Item (271/83-22-04): Completion of annual maintenance training for 1982 and 1983. Attendance records indicated that maintenance personnel received training in 1982 and 1983. The training syllabus for these training sessions showed that 1982-83 licensee event

reports, plant authorization requests, plant and engineering design change requests, and administrative and operating procedure changes were included. A personal copy of the newly revised safety manual was given to attendees during the two safety training sessions on May 29, 1984.

This item is closed.

(Closed) Violation (271/83-22-05): Failure to perform a meaningful number of independent inspections and procedural guidelines for same. Inspection logs show 83 independent inspections were performed in 1983 and 88 this year as compared to 29 in 1981 and 23 in 1982. This included 23 inspections of maintenance activities and six valve lineups this year. New procedures require Operations QA (OQA) notification at the beginning of all safety-related maintenance work and OQA is now doing an in-line review of maintenance requests (MRs). Onsite OQA has been budgeted five positions and two are vacant because one individual has recently resigned and another has not yet reported for work (medical processing is currently underway). Two corporate QA Engineers and two contractor individuals were used by onsite OQA during the recent major shutdown. The foregoing is in accordance with that described in licensee letter to NRC RI dated December 13, 1983.

This item is closed.

(Closed) Violation (271/83-22-06): Failure to conduct random QA surveillances. A QA matrix has been developed that shows the areas that will be overviewed by QA surveillances and when these areas were addressed by such monitoring. Over 200 such surveillances have been conducted during this year. Selected surveillance reports were reviewed and a determination made that they were performed in an adequate fashion. The foregoing is in accordance with that described in licensee letter to NRC RI dated December 13, 1983.

This item is closed.

(Closed) Inspector Followup Item (271/83-22-07): Verify that audit checklists continue to address sample review of nonsafety-related purchase orders for correct classification. The annual audit of procurement was ongoing during this inspection. The two corporate QA Engineers conducting the audit were observed and interviewed, and their checklist was reviewed. A checklist characteristic was a review of purchase orders classified as nonsafety-related to assure correct classification, the auditors did this review, and their knowledge in this audit area was adequate.

This item is closed.

(Closed) Inspector Followup Item (271/83-22-08): Verify that a matrix for assuring all QA elements, including TSs, is developed for 1984. Two matrices have been developed, one for the TSs and one for Appendix B criteria. The TS matrix lists major plant systems, fire protection, security plan and radiation protection along with those groups responsible for

implementation of established requirements. The other lists 71 quality elements under the 18 criteria and the groups responsible for implementation requirements. Both were determined to be adequate.

This item is closed.

(Closed) Unresolved Item (271/83-22-09): Establish a method to ensure nonsafety-related plant alteration requests (PARs) are reviewed for proper classification. Procedure OQA-III-6, Review of Plant Alteration Requests, Revision 0, describes the review of these requests by QA for correct classification and for considerations such as the effect of the modification on the integrity of adjacent or inter-related safety class structures, system or components.

This item is closed.

(Closed) Unresolved Item (271/83-22-10): No formalized review of safety-related modification requests/proposals for proper classification. Procedure OQA III-3, Review of Engineering Design Change Requests, Revision 6, and OQA III-2, Review of Plant Design Change Requests, Revision 7, address safety classification in the review of these documents by QA.

This item is closed.

(Closed) Unresolved Item (271/83-22-11): Escalation procedure to resolve disagreements on safety classifications between corporate and plant engineering staffs. Engineering instruction WE-005, Standard Memorandum, Revision 5, acceptably describes the method for resolving disagreements between these two groups.

This item is closed.

3. Audit Program

3.1 Requirements/References

- FSAR Section 1.9, Quality Assurance Program
- YOQAP-1-A, Operational Quality Assurance Manual, Revision 15
- OQA XVIII-2, In Plant Audit Program
- A.P. 0800 Material and Service Procurement, Revision 10
- A.P. 0801 Receipt Inspection, Revision 12
- Regulatory Guide 1.38 which endorses ANSI N45.2.2-1972, Packaging, Shipping, Receiving, Storage and Handling of Items for Nuclear Power Plants
- Regulatory Guide 1.144 which endorses ANSI N45.2.12-1977, Requirements for Auditing of Quality Assurance Program for Nuclear Power Plants
- Regulatory Guide 1.123 which endorses ANSI N45.2-13-1976, Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants
- Regulatory Guide 1.146 which endorses ANSI N45.2.23-1978, Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants

3.2 Program Review

The Operational Quality Assurance Audit and Engineering Group (OQA &EG) of Yankee Atomic Electric Company (YEA Co) is responsible, in accordance with OQA XVIII-2, for the planning, development and conduct of in-plant audits; the evaluation of the corrective action responses; and the bimonthly reporting of the status to management. OQA&EG enlists auditors and technical experts from the Maine Yankee, Yankee Rowe and Vermont Yankee sites to support the YAE Co in-plant audit program. Annual in-plant audits selected for review were: Corrective Action (6/27/83), Plant Changes (10/2/84), Fire Protection (3/22/84), Procurement and Material Control (11/16/83) and Training (7/20/84). The review included discussions with the auditors regarding the development of the attribute/check lists, preparation for the audits, the conduct of the audit and reporting the results, and verification of the corrective action responses.

The OQA group, at the Vermont Yankee (VY) site, monitors the status of approved corrective action and reports the results to OQA&EG.

The qualifications of the auditors who performed the selected in-plant audits were reviewed and the qualifications were found to be adequate for the audited areas.

3.3 Program Implementation

Findings as well as specific audit areas from selected audits discussed in paragraph 3.2 were followed-up at the VY site. The inspectors verified the corrective action taken to assure that not only did the action correct the immediate problem/deficiency in a timely manner, but also that the action to prevent recurrence was adequate. Special emphasis was given to procurement and preventive maintenance (PM) of items in storage. The store room was visited and the inspectors reviewed the following items to determine if the QA checklist for procurement had been properly completed, if shelf life had been properly considered by the QA reviewer, and if the items were properly classified (i.e., safety related or not).

- NAMCO limit switches, Purchase Order (PO) 463
- HPCI overspeed trip valve, PO R 21493
- Pilot head subassembly, PO R 18557
- Seal ring for emergency diesel generator (EDG) air start valve, PO 8019
- Spherical bearing for EDG, S/C 20BE 144483
- ASCO temperature switch for EDG oil system, PO 20650
- Safety valve for EDG air start system, PO 21300
- Seal ring for control rod drive (CRD), PO 19672
- Service water pump bearing, head flange gasket and packing, PO 16472
- Robotarm actuator seals and gaskets, PO 8725
- CRD repair parts, PO 12259
- GE relays, PO 21488

- Torque switch assembly (limitorque), PO 20515
- Quad ring, PO 21004
- MSIV bottom cover gasket kits, O-rings and lever shafts, PO 20145
- Bulkhead adaptors and CRD O-rings, PO 5549
- Viton seals, PO 4376
- Limitorque motor, PO 5215

3.4 Findings

- 3.4.1 Initiation of any corrective action to an in-plant audit finding can conceivably exceed the ninety days necessary for concurrence by OQA&EG of the corrective action response to the audit finding by the fact that:

An audit report revision could extend the response time by the audited organization even though the revision had no effect on the findings. Audit Report No. VY 83-08 Revision 1, for example, was initially issued August 31, 1983 then revised and reissued on November 16, 1983.

The review by the Manager of Operations (MOO) Committee of the corrective actions also extends the actual start date of the corrective action as shown below:

<u>Audit Report</u>	<u>Issued</u>	<u>Plant Response</u>	<u>MOO</u>
83-01	9/26/83	11/16/83	12/31/83
83-07	8/29/83	10/19/83	1/28/84
83-08	8/31/83	1/20/84	4/10/84

OQA&EG and OQA acknowledged this problem and are taking steps to closely monitor the progress of corrective action responses. This is an unresolved item. (27-/84-23-01).

- 3.4.2 Appendix A to AP 0800 lists the QA requirements for inclusion into POs as applicable. Revision 9 (4/14/83) of A.P. 0800 added a new requirement to Appendix A to consider the maximum shelf life of non-metallic spare parts or material which may have a manufacturer's recommended maximum shelf life. Items selected from the store room and followed up with review of documentation and subsequent discussions with management indicate that little action if any has been taken on safety-related items with shelf life purchased prior to issuance of A.P. 0800 Revision 9.

Examples of POs for non-metallic spare parts that had not been integrated into the shelf life program were noted on POs 0019, 21300, 19672, 16472, 21004, 20145, 5549 and 4376. The items procured under these POs were received between 1975 and 1983. Licensee management representatives acknow-

ledged the expressed concern that such material may have aged to the extent of not being suitable for use in a safety-related system and still be inadvertently installed. This item is unresolved and is referred to NRC RI management for appropriate action. (271/83-23-02).

- 3.4.3 The preventive maintenance program addresses the replacement of parts, subject to deterioration, in items that are installed and in use. However, the shelf life program does not include those items such as ASCO and NAMCO switches that contain diaphragms, gaskets, O-rings and other material that can deteriorate in storage. Examples of POs for these components were 20650 and 463 respectively. Additionally, a pilot head sub assembly purchased under PO R 18557 had a "cure date 1982" stamped on the carton containing the assembly. No shelf life documentation was prepared or any action taken by VY personnel regarding this assembly. Licensee management acknowledged the expressed concern that components containing degraded parts could be installed such that their failure could circumvent built-in redundancy in safety-related systems like the ECCS. This item is unresolved and is referred to NRC RI management for appropriate action. (271/84-23-03)
- 3.4.4 The selected items for the emergency diesel generators (EDGs) were purchased as nonsafety-related spares. OQA personnel have indicated that these spares, if purchased today, would be purchased as safety-related items. Management is studying this matter regarding previously purchased nonsafety-related items now classified as safety-related items. This item will be reviewed in subsequent NRC:RI inspection. (271/84-23-04).
- 3.4.5 The selected safety valve (PO 21300) for the EDG air start system, though purchased as a nonsafety-related spare for the air compressor, can be used as a spare for the air accumulators which are in a safety-related system. However, this is not an item of concern since present procedures, when properly implemented, eliminate the introduction of nonsafety-related spares into the safety-related systems.

4.0 Management Meetings

The licensee's management was informed of the scope and purpose of the inspection at an entrance interview conducted on October 15, 1984. The findings of the inspection were discussed with licensee representatives during the course of the inspection. An exit interview was conducted on October 1, 1984 at the conclusion of the inspection (see paragraph 1 for attendees) at which time the findings were presented to licensee management.

At no time during this inspection was written material provided to the licensee by the inspectors.