# U.S. NUCLEAR REGULATORY COMMISSION REGION I

Report No. 50-423/85-08

Docket No. 50-423

License No. CPPR-113

Priority --Category B

Licensee: Northeast Nuclear Energy Company P.O. Box 270 Hartford, Connecticut 06101

Facility Name: Millstone Nuclear Energy Station, Unit 3

Inspection At: Waterford, Connecticut

Inspection Conducted: February 4-7, 1985

Section, DRS

elo ja Inspectors: Finkel, Lead Reactor Engineer

Approved by:

J Anderson, Chief, Plant Systems

Inspection Summary: Inspection on February 4-7, 1985 (IE Report No. 50-423/85-08)

Areas Inspected: Routine, unannounced inspection by one region-based inspector of activities pertaining to the installation of safety-related instrumentation equipment. The inspection involved 31 inspector hours onsite by one region-based inspector.

Results: No violations were identified.

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# DETAILS

## 1.0 Persons Contacted

### Northeast Nuclear Energy Company

- F. Comstock, Jr., Quality Assurance
- K. Gray, Jr., Staff Assistant, Quality Assurance
- D. Miller, Jr., Startup Manager
- \*L. Nadeau, Assistant Project Engineer

## Stone and Webster Engineering Company

\*J. Capozzoli, Jr., Supervisor of Construction Services \*P. Clark, Chief Inspection Supervisor \*L. Peterson, Senior Engineer \*G. Turner, Manager of Field Quality Control \*W. Vos, Senior Engineer, Field Quality Control

\*Denotes those personnel present at exit meeting.

### 2.0 Facility Tour

The inspector observed work in the reactor building and specifically in the cubicles which contained the steam generators and the pressurizer. Specific work activities and completed work observed by the inspector included instrumentation tubing and separation barrier installations.

No violations were identified.

## 3.0 Licensee Actions on Previous Inspection Findings

(Closed) <u>Construction Deficiency Report 84-00-10</u> - Westinghouse Process Control Cabinets (7300 Series) have wiring problems. During test check-out of the Westinghouse Process Control Cabinets, the licensee established that internal wiring of these cabinets was not in accordance with the applicable Westinghouse field change instructions.

The licensee completed a 100% inventory of all wire terminations with the Westinghouse cabinets. Westinghouse identified wiring deficiencies in Field Deficiency Reports (FDRs) which were then corrected by the licensee.

This item is closed.

(Closed) <u>Construction - Deficiency Report 84-00-11</u> - Westinghouse Motors on Limitorque Motor Operated Valves not qualified. (MOVs) The licensee has ordered qualified motors to be installed in the MOVs during the last quarter of 1985. The qualified motors are listed in the Master Deficiency List (MDL) for system 3304A (Chemical & Volume Control System) item Z12771.

This item is closed.

(Closed) <u>Deviation 83-18-02</u> pertaining to Final Safety Analysis Report (FSAR) Amendment 3, pages 8.3-43 states that "cable splices in raceways are prohibited." The licensee made a splice in manhole #3.

The splice in the manhole will remain in the manhole and will not be pulled into the underground duct. Based on this installation location and the licensee premise that a manhole can be inspected and, if necessary, the splice can be tested, it was determined that this splice was not a deviation to the FSAR. This item has been accepted by the NRC and documented in branch technical position 8.0.

This item is closed.

## 4.0 Instrument Components and Systems - Procedure Review

The licensee has defined their instrumentation criteria in Specification 943 titled, "Instrumentation, Installation, Piping and Tubing," Revision 9, October 1984.

### 4.1.1 Group A

Group A includes, as a minimum, piping and tubing systems from the root connection to the instrument as QA Category I, Seismic.

## 4.1.2 Group B

Group B is classified to ANSI B31.1, Class 4. ANSI (American National Standards Institute) Power Piping and all addenda thereto, including Summer 1973 Addenda (issued June 30, 1973).

#### 4.2. Quality Control Inspection Criteria

The inspector reviewed the quality control inspection attributes for the installation of instrumentation equipment and instrumentation testing. The criteria for tubing slope, separation, seismic mounting, material and galvanic protection were defined in the quality control inspection criteria.

Discussions held with various instrumentation inspectors indicated that they were knowledgeable with the required quality control inspection criteria and that they have been identifying problems on the nonconformance and disposition (N&D) form.

No violations were identified.

### 4.3 Quality Assurance Audits - Instrumentation

During the review of the quality assurance audit program audit No. A-40817 on the instrumentation system was selected by the inspector for review. The results of the audit were answered in October 6, 1983. Long term items, identified in the October 6, 1983, were being implemented during this inspection period. Changes in the requirements of the surveillance and in-process inspection criteria were being used by the instrumentation inspectors. The requirements to upgrade the inspectors and to develop a training program on the I-943 specification has been conducted by the licensee. A records review by the inspector and discussions with the licensee inspectors indicated that they were knowledgeable of the criteria in specification I-943.

No violations were identified.

## 4.4. Nonconformance and Disposition Reports (N&Ps)

The following nonconformance and disposition (N&D) reports were reviewed by the inspector to determine if the problems were reviewed in a timely manner with positive corrective action being taken to resolve the concern. The N&D's were acted on in a timely manner and the corrective action resolved the problem identified on the N&D reports.

- -- N&D 11097, Excessive Conduits Lengths, Reference Specification E350,
- -- N&D 11096, Did n. + maintain minimum 6" separation criteria between conduit and reay, Reference Specification 350,
- -- N&D 11099 Conflit 3CC774BP is ½" from 3CX757NG, Class IE and Non-class IE, Reference Specification E350.

No violation were identified.

## 5.0 Instrumentation Inspection-Containment

On a sample basis, the inspector selected instrumentation lines from the Reactor Coolant System Loop 1 cubicle A and Loop 3 cubicle C. The inspector verified the tubing location and slope, containment penetration location, isolation valve location separation, and tubing protection. The instrumentation tubing was installed per the specification I-943 criteria and the drawings in 5.1.

### 5.1 Drawings

The inspector used the following drawings to verify the loop 1 and 3 instrumentation installation locations.

- -- Drawing No. 12179-EP-70A-9, Reactor Coolant Piping Sheet 1 and 2,
- -- Drawing No. 12179-C.I.-RCS-LP3,
- Drawing No. 206686-22 Revision 1, Westinghouse RCS Loop 2 Crossover, LP1-EC1
- -- FSK-25-1C
- -- EP 70A, B

The instrumentation tubing supports were located per the isometric drawings. The inspectors verification of location was in accordance with the licensee's inspection records for Loop 1 & 2 area location.

No violations were identified.

# 6.0 Hazard Review Program, January 1984, Revision September 1984

To determine if a barrier is required, when the 18" separation criteria between redundant trains cannot be meet during the instrumentation installation, the licensee used the criteria of the Hazard Review Program in establishing the acceptability of the installation.

## 6.1 Categories

The three categories of hazards considered in this report are pressure boundary failures, rotating machine failures and seismic induced interactions with safety-related structures and components. The separation items identified by the quality control inspector were reviewed by the inspector. The accept-as-is installations were supported with an analysis for each location as defined in the Hazard Review Program.

#### 6.2 Barrier Installation

Where barriers are required to be installed the design has yet to be developed. In each case identified by the quality control inspector, where a barrier has been determined to be required, the hazard engineer has the item recorded with a task assignment to develop a method to eliminate the problem. No violations were identified.

#### 7.0 Equipment Wiring Problems

7.1 The inspector identified internal wiring problems with the Reliance (83-11-01) and System Control (83-11-02) equipment during an inspection in 1983. The licensee has been working to resolve the problem.

# 7.1.2 CVI Wiring Problems

During installation inspection of the CVI Corporation equipment internal wiring problems similar to the problems identified in IE Report 50-423/83-11-01 and 83-11-02 were documented by the inspection organization in N&D 10926 and 10893. The types of problems with the CVI wiring are listed below:

- -- Improper crimping of lugs,
- -- Wrong size lugs for wire connectors,
- -- Terminations loose,
- -- Conductors pulling out of crimped lugs.
- -- jumpers to short to re-lug.
- Inspection of lugs cannot be made without disconnecting from the terminal.

# 7.1.3 Inspector Program

The vendor wiring of equipment is not being verified by the licensee until the equipment is scheduled to be wired to the plant wiring. At this point in time, the licensee will perform an internal wiring verification of the equipment.

## 7.1.4 Equipment Status

A status of what vendor electrical equipment has had its internal wiring reviewed for compliance to specification and which equipment still requires the verification to be performed is action required by the licensee to resolve the problems identified in 50-423/83-11-01 and 83-11-02.

The wiring problems identified in the Reliance Main Control Panel, System Controls Division of M. J. Electronics and other vendor supplied equipment are examples of the unresolved items discussed in IE Inspection Report 50-423/83-11.

This item is unresolved pending NRC review of the licensee corrective action. (85-08-01)

## 8.0 Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, or violations. An unresolved item identified during this inspection is discussed in Details, paragraph 7.

# 9.0 Exit Meeting

The inspector met with licensee and contractor representatives (denoted in paragraph 1) at the conclusion of the inspection on February 7, 1985. The inspector summarized the scope and findings of the inspection as described in this report.

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