

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-440/85035(DRS)

Docket No. 50-440

License No. CPPR-148

Licensee: Cleveland Electric Illuminating Company
P.O. Box 5000
Cleveland, OH 44101

Facility Name: Perry Nuclear Power Plant, Unit 1

Inspection At: Perry Site, Perry, OH

Inspection Conducted: June 11-14, 1985

Inspector: *D. H. Danielson*
K. D. Ward

7/2/85
Date

Approved By: *D. H. Danielson*
D. H. Danielson, Chief
Materials and Processes Section

7/2/85
Date

Inspection Summary

Inspection on June 11-14, 1985 (Report No. 50-440/85035(DRS))

Areas Inspected: Unannounced, routine safety inspection to followup on actions related to a previous inspection finding, 10 CFR 50.55(e) item and an IE Bulletin; review of activities related to reactor coolant loop piping, safety related piping and components. The inspection involved a total of 25 inspector-hours onsite by one NRC inspector including seven inspector-hours during off-shifts.

Results: No violations or deviations were identified.

DETAILS

1. Persons Contacted

Cleveland Electric Illuminating Company (CEI)

*C. Shuster, Manager
*F. Stead, Manager
*P. Martin, General Supervisory Engineer
*M. Kritzer, Unit Supervisor
*C. Thompson, Technical Aide
E. Riley, General Supervisor
K. Kaplan, Senior Engineering Technician

Raymond Kaiser

L. Erbacher, Lead Mechanic/Piping Inspector

Gilbert Associates, Incorporated (GAI)

G. Parker, Unit Supervisor
R. Matthys, Lead Piping
M. Destefano, Mechanic/Piping Inspector

NRC Representatives

*D. Keating, Senior Resident Inspector

The inspector also contacted and interviewed other licensee and contractor employees.

*Denotes those present at the exit meeting.

2. Licensee Action on Previous Inspection Findings

(Closed) Noncompliance (440/83031-04). This noncompliance involved the following two issues identified in the Construction Appraisal Team (CAT) report.

- a. The licensee's HVAC contractor's corrective action programs failed to promptly identify, evaluate and correct recurring deficiencies in installed and QC accepted HVAC duct supports. This noncompliance was closed in Inspection Report No. 50-440/85018.
- b. Equipment purchased by Gilbert Associates Incorporated (GAI), did not meet FSAR commitments and the licensee did not initiate a timely corrective action to resolve the identified problems.

The NRC inspector reviewed the final response dated January 22, 1984, and the FSAR change requests that were incorporated in the FSAR.

The following is the equipment identified in the Construction Appraisal Team (CAT) report:

- . Valve E50-F063: Gilbert Associates Incorporated (GAI) evaluated the disparity identified. Changes required based upon this evaluation were made to the appropriate documents in accordance with CEI procedures.
- . Valves E51-F022: FSAR change request 84 was initiated. This change request was incorporated in an FSAR amendment.
- . Pump E12-C002: FSAR change request 51 was initiated. This change request was incorporated in an FSAR amendment.
- . RCIC turbine E51-C002: Confirmation was received from General Electric that the serial number observed in the field conforms to the procurement requirements.
- . Valve actuation installation. Numerous steps were taken to resolve this problem.

In the Summer of 1982, a spare parts survey of Limitorque nameplate data was performed. The survey identified over 100 valves containing potential problems with valve actuator model numbers. On July 29, 1982, CEI instructed Gilbert Associates Incorporated (GAI) to investigate this problem as stated in letter PY-CEI/GAI 5305. GAI responded to this letter on October 1, 1982, in PY-GAI/CEI 13050, stating they would contact Borg-Warner to resolve problems associated with actuator model numbers. Borg-Warner responded to the GAI inquiry on February 18, 1983, stating that they would revise and resubmit the drawings to agree with the stress reports. At the same time, the valve operators used on motor-operated valves were reviewed and revised as necessary. Subsequently, the drawings were revised and transmitted to the Project Organization. A comparison of model numbers in the specification versus the model numbers in the qualification documents has been completed. From this comparison, specifications were revised as necessary.

The complete FSAR was reviewed by CEI to assure that it reflected the final design. This review assured that all procurement documents were consistent with the FSAR. Appendix N, of the PPM has been revised to include the Design Change Request (DCR) Program. One of the intents of this program was to assure that any changes to the FSAR was identified in advance. The ECN program was revised to include the identification of a DCR, thus eliminating the possible recurrence of future problems of this nature.

The NRC inspector agreed with actions taken by the licensee and considers this item closed.

3. Licensee Action on 10 CFR 50.55(e) Item

(Closed) 50.55(e) (440/80008-EE) DAR 37: Areas of rust on containment steel cladding. The NRC inspector reviewed the final report dated March 22, 1985, the DAR, related drawings and other documentation pertaining to this subject.

The Suppression Pool Corrosion Monitoring System (SPCMS) is in place and is functional. The collections of preliminary data will be in progress through the start-up of Unit 1. The monitoring plan has been finalized and was incorporated into plant procedures. The monitoring program consist of the following phases:

- . Periodic visual examination of the suppression pool welds will be performed from the elevation 599' 9" platform. If corrosion effects are observed either directly or through the other phases of the monitoring program, additional visual inspection will be performed by using an underwater TV camera or boroscope to further assess the condition.
- . Surveillance specimens of preconditioned stainless steel type 304 clad carbon steel plate were installed in the pool.
- . Electrochemical potential monitoring of the fissured heat affected zones of select pool welds will be performed.

In the event corrosion notch progression is noted, a localized coating system which has been investigated will be applied to the suppression pool welds.

On March 18, 1983, following an exit meeting with the licensee and NRC inspector Ray Cilimberg, discussions were held with Dr. MacDonald of the Ohio State University's Fontana Corrosion Center on the requirements for both the electrochemical potential monitoring and metallurgical examination phases of the program. The licensee continued to work with Dr. MacDonald on the establishment of monitoring criteria until it was completed.

The NRC inspector agreed with the actions taken by the licensee and considers this item closed.

4. Licensee Action on 1E Bulletin

(Closed) 1E Bulletin 80-08 (440/80008-BB): Nondestructive examinations (NDE) of containment liner penetration welds.

The NRC inspector reviewed the final responses dated July 10, 1980, and May 5, 1983, associated NDE records and other documentation related to the subject. The NRC inspector determined that the NDE of the flued head penetration connection welds (Nos. P410, P411, and P412) were performed in accordance with ASME Section III, Subsection NE requirements, as requested by the Bulletin.

The NRC inspector agreed with the actions by the licensee and considers this Bulletin closed.

5. Safety Related Piping, Welding - Review of Quality Records

Most of the welds in Unit 1 are painted or covered by insulation. The NRC inspector visually examined the following unpainted welds and additionally visually examined several painted welds that were in the same areas and found them to be acceptable.

Weld No. 12 - ISO. 1M51-3	Weld No. 7 - ISO. 1E51-5
Weld No. 13 - ISO. 1M51-3	Weld No. 24 - ISO. 1E51-5
Weld No. 17 - ISO. 1M51-5	Weld No. 25 - ISO. 1E51-5
Weld No. 18 - ISO. 1M51-5	Weld No. 2 - ISO. 1E51-5
Weld No. 4 - ISO. 1E12-003	Weld No. 3 - ISO. 1E51-6
Weld No. 5 - ISO. 1E12-003	Weld No. 2 - ISO. 1E51-3
Weld No. 2 - ISO. 1E12-006	Weld No. 4 - ISO. 1E51-3
Weld No. 11 - ISO. 1E41-1	Weld No. 5 - ISO. 1E51-3
Weld No. 3 - ISO. 1E12-007	Weld No. 3 - ISO. 1E51-3
Weld No. 1 - ISO. 1E51-8	Weld No. 7 - ISO. 1E51-3

The NRC inspector reviewed records for the following welds and ascertained that the records meet established procedures, reflected work accomplishment consistent with NRC requirements and FSAR commitments:

Weld No. 8 - ISO. 1-E21-7	Weld No. 3 - ISO. 1-G33-16
Weld No. 21 - ISO. 1-E12-24	Weld No. 1 - ISO. 1-E12-24

The NRC inspector reviewed field weld process sheets which covered visual and other NDE methods; weld history records; heat treatment records covering preheat and interpass temperature; welding material control records and welder qualification records pertaining to these welds. The NRC inspector also toured the weld rod issue room.

No violations or deviations were identified.

6. Reactor Coolant Loop Piping - Visual Examination of Welds

All the field welds in the reactor coolant loop piping system are covered with insulation. The NRC inspector reviewed quality records on the following welds including procedures, NDE records, drawings, NRs and joint process sheets.

Weld No. B33-1-A11	Weld No. B33-1-B3
Weld No. B33-1-A8	Weld No. B33-1-B5
Weld No. B33-1-A10	Weld No. B33-1-B4
Weld No. B33-1-A3	Weld No. B33-1-B8
Weld No. B33-1-A5	Weld No. B33-1-B9
Weld No. B33-1-A4	Weld No. B33-1-A7

The NRC inspector determined that the specified inspections were completed, weld history records were satisfactory and that the records reflected adequate weld quality.

No violations or deviations were identified.

7. Reactor Coolant Loop Piping - Weld Heat Treatment

The NRC inspector determined that approved procedures were available for preheating as required by a specific welding procedure specification and that these procedures properly specified acceptable preheating methods, provided requirements for monitoring and recording preheat temperature before, during and after welding.

The NRC inspector specifically reviewed post weld heat treatment activities that were performed for the cartridge assembly for the recirculation pump No. 1B33-C001-A and B and the recirculation flow control valve No. 1B33-F060-A and B. This review revealed that preheat control procedures were followed during field welding activities, approved and adequate procedures were available and the requirements were complied with for the conduct of postweld heat treatment. This system complied with the applicable requirements of the ASME Code for the heating and cooling rates, metal temperatures, temperature uniformity and control limits.

No violations or deviations were identified.

8. Safety-Related Components - Review Completed Work and Quality Records

The NRC inspector reviewed completed work and quality records related to snubber clevis pads (Nos. 1-S360A-1, 1-S363A-1, and 1-S360-B) and main steam guides (Nos. 1-B21G101A, 1-B21G101B, 1-B21G101C and 1-B21G101D). The inspector reviewed documents relative to storage, installation, cleanliness, material certification and other related documentation.

No violations or deviations were identified.

9. Safety-Related Piping - Welding Procedure Specifications and Quality Assurance Procedures

The NRC inspector ascertained that quality assurance plans, instructions and procedures were established, and that they conform to the QA program as described in Chapter 17 of the FSAR.

The NRC inspector determined that the contractor/licensee had established procedures for preparation, qualification approval/certification, distribution and revision of welding procedure specifications (WPS), that the procedures had been qualified in accordance with the ASME Code, Section IX, and that the supporting procedure qualification records (PQRs) were adequate and available as requested, and that all mechanical tests required by the ASME Code, Sections III and IX were completed and properly documented in the PQRs.

No violations or deviations were identified.

10. Safety-Related Piping - Special Welding Applications

The NRC inspector reviewed selected records of weld repairs and determined that they were conducted in accordance with applicable requirements and specified procedures. The welds were:

Weld No. 01 - ISO. 1E12.38 root concavity
Weld No. 25 - ISO. 1E12.33 unacceptable root
Weld No. 02 - ISO. 1E12-29 porosity
Weld No. 02 - ISO. 1E21-8 relevant defect
Weld No. 08 - ISO. 1N11-20 relevant defects
Weld No. 21 - ISO. 1E12-24 nonfusion

The NRC inspector reviewed weld repair procedures, qualification of these procedures, related NDE records and certification of welders who performed the repairs and found them to be acceptable.

The NRC inspector also verified routine inprocess activities for special welding applications including preheat requirements, NDE, welding and other related documentation from the field weld process sheets of the following welds:

Weld No. 16 - ISO. 1E12-26	Weld No. 25 - ISO. 1E12-35
Weld No. 17 - ISO. 1E12-26	Weld No. 18 - ISO. 1E12-23
Weld No. 18 - ISO. 1E12-26	Weld No. 41 - ISO. 1E22-2
Weld No. 26 - ISO. 1E51-8	Weld No. 28 - ISO. 1E51-8

No violations or deviations were identified.

11. Reactor Coolant Loop Piping - Special Welding Applications

The NRC inspector reviewed selected records of weld repairs and determined that they were conducted in accordance with applicable requirements and specified procedures. The welds included in this review were: Weld No B33-1-A6-R1, burn thru; Weld No. B33-1-B2, excessive build-up; Weld No. B33-1-B1, Weld No. B33-1-A8 and Weld No. B33-1-A9, under filled areas and slight undercut on final weld surface; Weld No. B33-1-A7, incomplete penetration and contaminated by paint spray. The inspector reviewed the welding procedures used for the weld repairs; qualifications of the procedures; related NDE records, certification of welders who performed the repairs; travelers; joint process control sheets and filler metal requisition sheets and found them to be acceptable.

No violations or deviations were identified.

12. Exit Interview

The inspector met with site representatives (denoted in Persons Contacted paragraph) at the conclusion of the inspection. The inspectors summarized the scope and findings of the inspection noted in this report. The inspector also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspector during the inspection. The licensee did not identify any such documents/processes as proprietary.