

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-440/84-09(DRP); 50-441/84-09(DRP)

Docket Nos. 50-440; 50-441

Licenses No. CPPR-148; CPPR-149

Licensee: Cleveland Electric Illuminating Company
Post Office Box 5000
Cleveland, OH 44101

Facility Name: Perry Nuclear Power Plant, Units 1 and 2

Inspection At: Perry Site, Perry, Ohio

Inspection Conducted: May 1 through June 30, 1984

Inspectors: J. A. Grobe

M. L. Gildner

Approved By: *RC Knop*
R. C. Knop, Chief
Reactor Projects Section 1C

7-18-84
Date

Inspection Summary

Inspection on May 1 through June 30, 1984 (Reports No. 50-440/84-09(DRP);
50-441/84-09(DRP))

Areas Inspected: Routine unannounced inspection by resident inspectors of licensee action on previously identified items, licensee action on 10 CFR 50.55(e) reportable items, allegations, Plant Operations Review Committee, Low Pressure and High Pressure Core Spray systems flush procedures, Magnaflux radiography incident, Perry Nuclear Power Plant Simulator, and Quality Hotline. The inspection involved a total of 127 inspector-hours onsite by two NRC inspectors including 24 inspector-hours onsite during off-shifts.

Results: Of the eight areas inspected, no items of noncompliance or deviations were identified in seven areas; one item of noncompliance was identified in the remaining area (failure to follow tagging procedure - Paragraph 6).

DETAILS

1. Persons Contacted

- M. R. Edelman, Nuclear Group Vice President
- *C. M. Shuster, Nuclear Quality Assurance Department
Manager
- *B. D. Walrath, Operational Quality Section General
Supervising Engineer
- E. Riley, Construction Quality Section General Supervisor
- T. Boss, Quality Audit Supervisor
- *K. C. Kaplan, Procurement and Administrative Quality
Section
- L. O. Beck, Nuclear Licensing and Fuel Management
Section General Supervising Engineer
- E. M. Buzzelli, Nuclear Licensing and Fuel Management
Section
- *M. E. Milkovich, Nuclear-Licensing and Fuel Management
Section
- A. F. Silakowski, Perry Training Section General Supervisor
- J. J. Waldron, Perry Plant Department Manager
- R. J. Tadych, Operations Section General Supervisor
- R. A. Stratman, Nuclear Services Section General Supervisor
- *M. D. Lyster, Plant Operations Superintendent
- B. L. Barkley, Nuclear Test Section General Supervising
Engineer
- G. H. Gerber, Mechanical Test Support Element Senior Project
Engineer
- R. E. Jaquin, Administrative and Scheduling Element Senior
Engineer
- G. Jensen, NSSS Unit Lead Test Engineer
- A. M. Peck, Mechanical Test Support Unit Lead Test Engineer
- E. Walden, Magnaflux

The inspectors also contacted other licensee and contractor personnel during this inspection.

*Denotes those attending the exit interview on June 29, 1984 and one or more of several other exit interviews.

2. Licensee Action on Previously Identified Items

- a. (Closed) Unresolved Item (440/83-35-02): Terminal block identification. The inspector noted during the inspection that terminal and terminal block identification were not consistent. The licensee issued nonconformance report No. LKC-2575. An Engineering Change Notice (ECN) was issued against the general drawing lead sheet designating the marking techniques for terminals and terminal blocks. L. K. Comstock (LKC) revised their cable terminations procedure No. 4.3.6 to incorporate the above ECN. During a Construction Quality Section (CQS) surveillance of the revised

practice, it was noted that terminal block orientation was not specified. Nonconformance report LKC-2942 was issued and the ECN revised to also address this concern.

The inspector reviewed the closed out nonconformance reports, craft training records and close out CQS surveillance inspection reports. No discrepancies were noted. This item is considered closed.

- b. (Closed) Noncompliance (440/83-35-01): Violation of cable training radius. The inspector found about thirty (30) cables hanging over the blind end of a cable tray in the cable penetration rooms. The cables were improperly supported resulting in the exceeding of manufacturer's recommended bend radius. The conditions were documented on nonconformance reports LKC-2568 and LKC-2569. The standard cable tray drawings were revised by ECN 10560-33-2244, Rev. A, to remove the blind ends and install cable drop outs to prevent bend radius problems as above. The subject cables were resupported and megger tested for damage.

The inspector reviewed the nonconformance reports, ECNs, the test data, and the closeout surveillance inspection report SE-2292. This item is considered closed.

- c. (Closed) Unresolved Item (440/83-18-01): Potential violation of separation criteria internal to safety-related switchgear. The inspector noted a conduit entering a 1E switchgear cabinet that was marked as being non-1E. Inside the enclosure, a color-coded IE cable was in the non-1E conduit. The cable was coiled inside the cabinet and marked spare. This condition potentially violated the separation criteria. The subject cable was pulled, then designated as spare, and relabeled non-1E. This was in accordance with approved procedures in effect at the time. Following the inspection, a rework was issued to pull the cable back to a convenient junction box. Engineering identified nine (9) additional similar redesignations. In February 1984, the CQS performed an audit of these redesignated cables and found they had been removed from the cabinets and the associated conduits also removed. This audit was documented on CQS surveillance inspection report No. SE-2227. This item is considered closed.

3. Licensee Action on 10 CFR 50.55(e) Reportable Items

- a. (Closed) 10 CFR 50.55(e) Reportable Item (440/83-12-EE; 441/83-12-EE) (DAR-130): Sediment found in the underdrain system. During a routine inspection of the underdrain system manholes by the licensee, several weepholes and porous concrete pipes showed various degrees of blockage. Core samples of the porous concrete were taken and sent to Portland Cement Association (PCA) for petrographic analysis. The analysis revealed the deposits to be calcium carbonates from the ground water. The drainage pipes were cleaned utilizing a low pressure hydro-laser.

In order to determine the extent of deposit buildup in the actual porous concrete, the system was flooded and an even increase in level was recorded on all level instruments. The water was pumped down, and again the level instruments recorded an even and uniform decrease in system level. The licensee has committed to perform this continuity test every two years to check the operability of the system. Normal routine readings of the level instruments will indicate if there develops any abnormalities in the interim periods.

The inspector has reviewed the test data and the PCA report. No irregularities were noted. This item is considered closed.

- b. (Closed) 10 CFR 50.55(e) Reportable Item (440/84-16-EE; 441/84-16-33) (DAR-174): Diesel generator engine recorder transducer. The concern addressed that the failure of the engine recorder transducer could cause degradation of the associated Class 1E power supply. The transducer was qualified for Class 1E service and so documented in Action Test Report No. 17372-82N. General Electric - Instrument Products Division was contacted about the transducers ability to comply with Regulatory Guide 1.75 isolation requirements. General Electric stated that a short or "hot" short to the output would not degrade the input of the transducer. The licensee subsequently withdrew this as being a reportable item. This item is considered closed.
- c. (Open) 10 CFR 50.55(e) Reportable Item (440/84-23-EE; 441/84-23-EE) (DAR-184): Reactor core isolation cooling system (RCIC) inboard isolation valve closure time. The General Electric (GE) design specification and the Perry Final Safety Analysis Report (FSAR) specify a closure time of 10 seconds against full differential pressure of 1177 pounds per square inch (psi) for the RCIC steam supply line inboard containment isolation valve, 1E51-FC63. The Gilbert (GAI) specification for that valve was revised and only included a required opening time of 20 seconds against a differential pressure of 741 psi. The applicant evaluated the design specification and determined that valve 1E51-F063 had been changed from a normally open to a normally closed valve, removing the necessity for a closure time specification. The applicant has in process a change request to revise the appropriate FSAR section. The applicant concluded that this item is not reportable under 10 CFR 50.55(e). This item will remain open pending NRR's review of the FSAR change and a review of the preoperational test.

4. Followup on Allegations

- a. (Closed) Allegation (RIII-84-A-0002): LaPeerle Foundry and Machine. An anonymous allegation was received indicating that a pump housing cast at LaPeerle Foundry and Machine for "an atomic plant in Ohio" was improperly manufactured. The applicant contacted all pump suppliers, including General Electric, for safety-related systems and concluded that LaPeerle Foundry and Machine has not supplied pump housings for any safety-related system at the Perry Nuclear Power Plant. This allegation is considered closed.

- b. (Closed) Allegation (RIII-83-A-0106): Operator training program. An allegation was received indicating that an individual training to become qualified as a reactor operator instructor had obtained a copy of a weekly examination prior to its administration midway through an eight week systems course conducted by General Electric. The allexer also indicated that the individual's test scores had jumped from below average to significantly above average at that time. The inspector examined the individual's weekly test scores and found consistently above average test scores throughout the course with no singularly outstanding test score. Additionally, the individual is not involved in the reactor operations training area. The inspector interviewed the Training Section General Supervisor and the involved General Electric instructor and ascertained that the integrity of examinations is adequately safeguarded and the applicant has a strong policy that includes dismissal of employees involved in cheating.

The inspector will continue to review the area of examination control during routine training program inspections.

This allegation is unsubstantiated and the allegation is considered closed.

No items of noncompliance or deviations were identified.

5. Plant Operations Review Committee

The inspector reviewed Plant Administrative Procedure PAP-0103, Revision 1, "Plant Operations Review Committee" (PORC), utilizing the criteria in Section 13.4.1 of the Final Safety Analysis Report, Sections 4.1 and 4.4 of ANSI N18.7-1976, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants", and Section 6.5.1 of NUREG 0123, "Standard Technical Specifications for General Electric Boiling Water Reactors BWR/6". The inspector verified that PAP-0103 included requirements governing the responsibilities and authority of the committee, membership and alternate membership, quorum, meeting frequency, control of agendas, minutes and records, and interface with the Nuclear Safety Review Committee. The inspector examined minutes from PORC meetings 82-11 and 84-11 through 84-17 conducted in December 1982 and April and May 1984 to verify that PORC activities were conducted in accordance with PAP-0103. In addition, the inspector verified that the procedures which came to PORC for review and approval at PORC meeting 84-18 on June 21, 1984, were handled according to PAP-0103.

During review of PAP-0103, Revision 1, the inspector generated concerns regarding the qualifications, training and authority of the PORC chairman, alternate chairman, members and alternate members, the emergency PORC meeting process, the distribution of PORC records and the conformance of the PORC procedure to Section 6.5.1 of the Standard Technical Specifications. The applicant is reviewing those concerns and resolution will be tracked as an open inspection item (50-440/84-09-01; 50-441/84-09-01).

No items of noncompliance or deviations were identified.

6. Low Pressure (1E21) and High Pressure (1E22A) Core Spray Systems
Flush Procedures

- A. The inspector reviewed the following instructions and procedures to determine if the applicant had an adequate program for mechanical flush of fluid systems:

1E21-F-062-M (Revision 2)	Flush Instruction for Low Pressure Core Spray System 1E21
1E22-F-063-M (Revision 3)	Flush Instruction for 1E22A System - High Pressure Core Spray System
61-0501 (Revision 4)	Flush Instruction Preparation
61-0507 (Revision 4)	Mechanical Flush/Cleaning Program Guidelines
61-1402 (Revision 1)	Control of Mechanical Foreign Items
PA1002 (Revision 2)	Cleaning of Fluid Systems and Associated Components

The flush procedures, 1E21-F-062-M and 1E22-F-063-M, were prepared, reviewed and approved in accordance with Nuclear Test instructions 61-0501 and 61-0507 and Project Administration procedure PA1002.

The two mechanical flush procedures appear adequate to clean the respective systems suction line from the suppression pool and discharge line up to and including the full flow test return line to the suppression pool and, for the 1E22A system, the suction line from the discharge line to the condensate storage tank. All associated vents, drains, and instrument lines are also flushed. The injection valves, injection lines to the reactor pressure vessel, and core spray spargers are not flushed using these instructions; they are part of the integrated system flush including the reactor pressure vessel.

The inspector has two concerns resulting from this review. The first concern relates to post-flush system cleanliness maintenance. The applicant does not have administrative controls governing area housekeeping and work cleanliness during activities involving open systems which had previously been cleaned. This issue had previously been identified and will remain an open item (440/84-11-12; 441/84-11-12). The second concern relates to the interface between individual system flushes and the integrated system flush. The inspector will review the administrative controls for the interface between the individual system flush procedures and the integrated system flush procedure prior to its initiation to ensure that adequate controls exist to prevent recontamination of previously flushed piping or, where necessary, to reflush piping that will be recontaminated. This issue will be tracked as an open inspection item (440/84-09-02; 441/84-09-02).

- b. The inspector walked down sections of the 1E21 and 1E22A systems and verified that temporarily installed equipment was identified with a "Mechanical Foreign Item" (MFI) tag and the MFI log was reviewed to verify that selected MFI tags were being tracked. Two discrepancies were noted during those reviews. MFI 868 which documented the installation of a temporary gauge on the drain line downstream of valve 1E21-F0527 was properly installed and recorded on the MFI tag index, but was not listed in the system MFI tag log. Because of this discrepancy in the logs, the gauge may have been overlooked during system restoration. MFI 881 which documented the installation of temporary tubing and a temporary gauge on the drainline downstream of valve 1E22-F0529 was not properly filled out; no name and date were entered into the "Installed By" section of the tag. These two discrepancies are considered examples of one item of noncompliance for failure to properly implement the Control of Mechanical Foreign Items, Procedure No. 61-1402 (440/84-09-03).

7. Magnaflux Radiography Incident

On June 10, 1984, at approximately 12:40 a.m., two individuals exited an area where Magnaflux was conducting radiographic examination of a weld. Those two individuals were not being monitored for radiation exposure. Following a detailed reenactment of the incident, Magnaflux concluded that the individuals received minimal radiation exposure. The individuals were apparently missed during the search of the area prior to radiography. A Region III radiation safety specialist will review the event, Magnaflux's response to the event and proposed corrective actions during a future inspection.

No items of noncompliance or deviations were identified.

8. Perry Nuclear Power Plant Simulator

The Perry Nuclear Power Plant simulator arrived onsite during the week of May 28, 1984, and is expected to be operational for an operator training class on July 30, 1984. Currently, the simulator includes the horseshoe area and other main control panels. In the future, the applicant expects to install selected back panels and a remote shutdown panel with active simulation.

9. Quality Hotline

On June 26, 1984, the applicant established a 24-hour "Quality Hotline" as part of a new "Call for Quality" program. Wallet cards were distributed to all site personnel describing the program and how to report quality concerns while maintaining confidentiality. A number of concerns have already been received and resolved by the applicant.

10. Open Inspection Items

Open inspection items are matters which have been discussed with the applicant, which will be reviewed further by the inspector, and which involve some action on the part of the NRC or the applicant or both. Open inspection items disclosed during the inspection are discussed in Paragraphs 5 and 6.

11. Exit Interview

The inspector met with site representatives (denoted in Paragraph 1) on June 29, 1984. The inspector summarized the scope and results of the inspections.