

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-440/84-06(DPRP); 50-441/84-06(DPRP)

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, OH

Inspection Conducted: March 1 through April 30, 1984

Inspector: M. L. Gildner

*R C Knop*

5-18-84  
Date

Approved by: R. C. Knop, Chief  
Reactor Projects  
Section 1C

*R C Knop*

5-18-84  
Date

Inspection Summary

Inspection on March 1 through April 30, 1984 (Reports No. 50-440/84-06(DPRP)  
50-441/84-06(DPRP))

Areas Inspected: Routine inspection by the Resident Inspector of safety-related construction activities including following actions on previous inspection findings, evaluating actions on 10 CFR 50.55(e) items, evaluation of licensee action with regard to I.E. Bulletins, concerns on herbicide usage, concerns of the NRC Construction Appraisal Team, observation of concrete placement, inspection of fire training facilities, plant tours, housekeeping, equipment maintenance, and SALP meetings. The inspection involved a total of 124 inspector-hours onsite by one NRC inspector and includes 19 inspector-hours during off-shifts.

Results: No items of noncompliance were identified in the areas inspected.

## DETAILS

### 1. Persons Contacted

- \*C. M. Shuster, Manager, Nuclear Quality Assurance Department
- \*E. Riley, General Supervising Engineer, Construction Quality Section
- M. Kritzer, Civil/Structural Unit Supervisor, Construction  
Quality Section
- G. M. Daderko, Civil Quality Engineer, Construction Quality Section
- J. P. Hingey, NDE Level III
- B. D. Walrath, General Supervising Engineer, Operational Quality Section
- R. E. Evans, Fire Protection Coordinator, Perry Plant Department
- \*K. Kaplan, Senior Engineering Technician, Procurement and Administration  
Quality Section

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

\*Denotes those attending one or more of the exit meetings.

### 2. Licensee Action on Previously Identified Items

(Closed) Noncompliance (440/80-07-03; 441/80-07-03): "Failure to Provide Acceptance Criteria for Small Safety-Related Backfill Placements." The licensee's program for Class A backfill requires compaction testing of third lift for placements of less than 50 cubic yards per lift. The inspector's concerns were that the acceptance criteria for the compaction testing was not representative of the underlying two lifts. The licensee explained that the first line QC surveillance of the placements and compaction is identical for all lifts and is documented on Great Lakes Construction Form QC-47. The density test for the third lift is in fact located at the interface of the second and third lift and therefore representative of total placement. The licensee also has a program of monitoring settlement of buildings placed on fill. The inspector has reviewed these periodic settlement measurements and no consequential settling has occurred. The requirements of CEI Specification SP-225 Section 1.06.7 meet the commitments of Perry PSAR Appendix 2I Section X and Perry FSAR Section 2.5.4.5.2 for in-place density testing. This item is considered closed.

(Closed) Unresolved Item (440/80-07-05; 441/80-07-05): "Records of Certification of Compaction Equipment Could Not Be Located." Compaction equipment was tested to obtain an anticipated compaction factor so that an approximate amount of compaction activity could be performed prior to actual density testing. Sand cone density testing is the only acceptance standard. The compaction performance data for each type of equipment was not retained. Since this data was only used to establish a minimum number of passes prior to sand cone testing, the lack of the performance data is not considered significant. This item is considered closed.

(Open) Unresolved Item (440/84-02-01; 441/84-02-01): "Code Component Repair Without ANII Involvement." The inspector met with members of the licensee's operational QA staff and representatives of the licensee's Authorized Nuclear Inspection Agency, The Hartford Steam Boiler Inspection and Insurance Company. The inspector's concerns with ASME Section XI requiring ANII involvement in work performed on code stamped components was fully discussed by all parties. Agreement was reached as to what the extent of that involvement should be and how best to incorporate that involvement into the existing program. Pending the inspector's review of the revised procedures detailing the ANII's involvement in ASME Section XI work, this item remains open.

3. Licensee Actions on 10 CFR 50.55(e) Items

(Closed) 10 CFR 50.55(e) Reportable Item (440/82-20-EE; 441/82-20-EE) (DAR-109) "Diesel Generator Class 1E Control Circuits not Qualified to IEEE 383." Certain of the Transamerica Delaval Diesel Generators control circuits were supplied with cable which failed the IEEE 383 Insulation Flame Test required for safety-related service. The cable manufacturer's temperature rating may be exceeded during operation of the diesel generator possibly rendering the unit inoperable. The condition was tracked by Nonconformance Report TAS-0022 and was dispositioned in accordance with T.D.I. Service Information Memorandum No. 361 specifying cable replacement with cable meeting the IEEE 383 requirements. The work has been completed and disposition verified by Quality Assurance.

The inspector reviewed the documentation of the work and inprocess inspections. No deficiencies were noted. It was noted that a pin connector was found to be cracked on Unit 2 D.G. 2R43C001B and was documented on Nonconformance Report P033-3112 (LKC-4004). This connector will be replaced utilizing approved procedures pending receipt of a qualified replacement from T.D.I. This item is considered closed.

(Closed) 10 CFR 50.55(e) Reportable Item (440/83-04-EE; 441/83-04-EE) (DAR-117) "Piping Supports Supplied by Transamerica Delaval Do Not Meet ASME Section III NF Requirements." Transamerica Delaval supplied Diesel Generator auxiliary skid mounted piping supports without material certification and unique identification as required by ASME Section III Subsection NF for ASME Section III, Class 3 piping associated with the Emergency Diesel Generators. The supports were seimically qualified but failed to meet Code requirements. The support designs were modified as necessary to comply with applicable ASME requirements. The supports were upgraded with Code materials supplied by CEI, T.D.I. and G.E.

The inspector reviewed documentation detailing the modification work and inprocess inspections. The inspector has also visually sampled completed work for compliance with work travelers. No deficiencies were noted. This item is considered closed.

(Closed) 10 CFR 50.55(e) Reportable Item (440/83-18-EE; 441/83-18-EE) (DAR-141) "Unrepresentative Radiographs for Two Borg-Warner Valve Assemblies." While evaluating a radiograph penetrameter anomaly, it was noted that on-site end prep radiographs did not match radiographs supplied by the manufacturer, Borg-Warner. This mismatch was documented on two



nonconformance reports; TAS-0049 for valve S/N 56484 and TAS-0050 for valve S/N 77821. The manufacturer was able to explain the differences for valve S/N 56484 as machining done after the radiographs were taken. The licensee concurred and subsequently closed NR TAS-0049.

The licensee committed to compare the installation radiographs with those supplied by the manufacturer to determine if any additional mismatches existed. A total of 137 Unit 1 valves were compared yielding only one additional mismatch, valve S/N 77823. A comparison between the two mismatched valves showed that the shop radiographs for the two valves had been mismarked and interchanged at the manufacturer. The valve manufacturer was notified of the finding and authorized the Project Organization to change the valve radiographs to reflect the proper valve identification.

The inspector verified the valve radiograph interchange and concurs with the licensee that the event was an isolated case resulting from a minor programmatic problem at the manufacturer. The licensee subsequently closed the remaining nonconformance report and withdrew the 50.55(e) report. This item is considered closed.

(Closed) 10 CFR 50.55(e) Reportable Item (440/84-07-EE; 441/84-07-EE) (DAR-160) "Design of Diesel Generator Logic Inconsistent with FSAR." The Perry FSAR diesel generator logic diagram (Figure 8.3-6) does not agree with either the description contained in the FSAR nor with the diesel generator elementary wiring and interconnection diagrams (B-208-216 and B-209-216). The licensee has analyzed all three documents and has determined that the FSAR logic figure is in error. The logic figure will be revised to detail the correct logic. The licensee withdrew this item as not being reportable under 10 CFR 50.55(e). The inspector has reviewed Engineering Design Deficiency Report No. 003 and concurs with the withdrawal. This item is considered closed.

(Closed) 10 CFR 50.55(e) Reportable Item (440/84-08-EE; 441/84-08-EE) (DAR-161) "Synchronization Between Standby Diesel Generator and Alternate Preferred Power Source." The licensee discovered a discrepancy between the FSAR and actual diesel generator capabilities. The FSAR states that the standby diesel generator can not be synchronized with the alternate preferred power source from the diesel generator room. However, sufficient controls are available in the diesel generator room to accomplish this operation. The FSAR will be revised to reflect this capability. The licensee has withdrawn this as not being reportable under 10 CFR 50.55(e). The inspector has reviewed Engineering Design Deficiency Report No. 004 and concurs with the withdrawal. This item is considered closed.

#### 4. Evaluation of Licensee Action With Regard to IE Bulletins

(Closed) IE Bulletin 83-08: Electrical Circuit Breakers with Undervoltage Trip Functions Used in Safety-Related Applications. The licensee determined that no Westinghouse type DB or DS or General Electric type

AK-2 circuit breakers with undervoltage features are used in safety related applications at Perry. Safety-related breakers in circuits requiring undervoltage protection receive an electrical trip signal from an external sensing device and are not subject to the failure mode described in IE Bulletin 83-08. This item is closed.

5. Concerns on Herbicide Usage

In response to a motion filed before the Atomic Safety and Licensing Board by the Ohio Citizens for Responsible Energy regarding the use of herbicides to control vegetation along transmission lines, a Notice of Violation was issued to Cleveland Electric Illuminating by USNRC Region III on March 28, 1984, for a material false statement in its license application concerning environmental impact. As this enforcement action did not result from a specific inspection of the licensee's facility, it is without a tracking identification number. For administrative purposes of the Commission and the licensee, this Notice of Violation will be tracked under this inspection report. (440/84-06-01; 441/84-06-01)

No additional responses to this item of noncompliance are required from the licensee as a result of this item being tracked under this inspection report.

6. Construction Appraisal Team Concern

The USNRC Construction Appraisal Team in its report on the Perry facility (440/83-31; 441/83-30) identified four construction program areas of concern. No response was required of the licensee, however the licensee did address these concerns in a December 23, 1983, letter to Region III management. One of these concerns is a question of the possible long term integrated effects on drywell wall leakage resulting from some six to eight thousand expansion anchors being installed in it. The significance of this potential problem is such that it should be tracked by the Commission and the licensee. Therefore, this item which is explained in detail in IE Report No. 50-440/83-31; 50-441/83-30 will be tracked under this inspector's report as an Unresolved Item. (440/84-06-02; 441/84-06-02)

7. Observation of Containment Annulus Concrete Placement

The inspector observed preplacement inspection of the Unit 1 containment annulus at the 575 foot level between azimuths 273 degrees and 355 degrees prior to placement RB1-AF2-574-10. The placement was from the base mat up to the first containment shell stiffener ring in the area of some of the ECCS suction penetrations into the suppression pool. No discrepancies were noted in the inspection.

The inspector observed the placement and inprocess testing for a placement between two containment shell stiffener rings in Unit 1 containment annulus between azimuths 267 degrees and 099 degrees. This placement was designated as RB1-AF6-584-10. Placement and consolidation techniques were in accordance with approved procedures. The inprocess testing, which was performed by an independent agency, was performed at appropriate intervals and used correct technique. The inprocess test results were within the

specified acceptance criteria. Post placement inspection of the area yielded no items of concern or deficiencies.

No items of noncompliance were identified.

#### 8. Site Fire Brigade Training Facilities

The inspector reviewed the preparations for the Perry Plant Department Fire Brigade training. The training will consist of a forty hour and a one hundred twenty hour course of instruction, drills, and actual fire extinguishing training. The training facilities, which are at present not totally finished, consist of a classroom area, a structure simulating plant obstructions to provide training in maneuvering about in a smoke filled plant in fire fighting equipment, several outdoor pads for actual fire extinguishing of various types of fires, and a fire tower to provide instruction in handling fires with vertical involvement from open grate decks or ladders similar to conditions found within the plant.

The inspector reviewed the training program and equipment to be used. The training facilities and equipment to be used have a high correlation between the conditions and equipment available in the plant. The inspector made the following observations and comments about these facilities and program.

- A. The training area does not have any permanent water source. Water is to be provided with a hose from a distant hydrant. A permanent hydrant identical to those found on site should be installed with a tap-off to a hose manifold identical to those found inside the plant.
- B. Plant management should attend the courses in order to attain an understanding of the capabilities and limitations of the plant fire brigade and factor that knowledge into fire response procedure development.
- C. The SCBA "maze" should be factored into all respiratory protection training to provide evaluation of personnel under "work" conditions.

No items of noncompliance were identified.

#### 9. Plant Tours, General Housekeeping, and Equipment Maintenance

The inspector made numerous tours of the plant and plant site. Work associated with the Unit 1 refueling floor, upper and lower fuel pools and the fuel transfer tube are nearing the final stages of construction in preparation for testing required prior to fuel receipt on site. The training center is preparing for receipt and installation of the Perry Control Room Simulator to be operational in July, 1984. Unit 1 reactor building is the focal point of construction activities with completing the installation of piping supports, cable pulling, and instrumentation sensing lines.

Overall housekeeping is good in most areas, but those areas with high congestion still pose some problems. Effort is evident in the minimizing congestion in areas used for scaffolding and staging storage.



Equipment maintenance continues to be a problem. The overlapping of work from different groups is causing some things to be overlooked. The ECCS pump motors were recently color coded and the painting required the protective covers to be removed. At the time of the inspector's last tour through this area, the covers had not been reinstalled.

10. SALP Meeting With Licensee Management

On April 10, 1984, the Resident Inspector and members of USNRC Region III management met with senior management personnel of the Perry Project to review the regulatory performance during the SALP IV appraisal period. The details of that appraisal are documented in a separate report (440/84-08; 441/84-08). The contributing factors were discussed in detail including licensee tentative comments for each of the functional areas. SALP board recommendations for performance improvement in certain areas were actively discussed by those present.

11. Unresolved Items

Unresolved Items are matters about which more information is required in order to ascertain whether they are acceptable items, Items of Noncompliance, or Deviations. An Unresolved Item is discussed in Paragraph 6.

12. Exit Interviews

The inspector, singularly or in conjunction with region based inspectors, met with persons noted in Paragraph 1 on March 8, 16, April 10, 12, and 27, 1984, to discuss the scope and results of the inspection.