

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-440/79-02; 50-441/79-02

Docket No. 50-440; 50-441

License No. CPPR-148; CPPR-149

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

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

Inspection At: Perry Site, Perry, Ohio

Inspection Conducted: March 13-16, 1979

Inspectors: *FCH*
F. C. Hawkins

4/2/79

G. F. Maxwell
G. F. Maxwell

4-2-79

Approved By: *D. W. Hayes*
D. W. Hayes, Chief
Engineering Support Section 1

4/2/79

Inspection Summary

Inspection on March 13-16, 1979 (Report No. 50-440/79-02; 50-441/79-02)

Areas Inspected: Audit observations, audits of Newport News Industrial Corporation; CEI actions taken relative to RIII Immediate Action Letter of February 8, 1978; electrical purchases and material storage; review of Ernst-Comstock QA Implementing Procedures and Quality Records relative to civil activities (Units 1 and 2). This inspection involved a total of 42 inspector-hours onsite by two NRC inspectors.

Results: Of the areas inspected, no items of noncompliance were identified.

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DETAILS

Persons Contacted

Principal Licensee Employees

- *M. R. Edelman, Manager, Nuclear QA Department
- *C. W. Groscup, Manager, Nuclear Engineering Department
- *D. A. Fitzpatrick, Site Construction Manager
- *W. J. Kacer, CQS General Engineering Supervisor

Other Personnel

- *J. P. Coyle, Vice President (KEI)
- *T. J. Arney, CQS Quality Engineering Supervisor
- *P. L. Gibson, CQS Quality Control Supervisor
- *E. Riley, SO Contracts Manager
- *H. Crane, SO Lead Mechanical CA
- *A. Kaplan, SO General Construction Supervisor
- *P. P. Martin, PQS/QA, General Engineering Supervisor
- G. Gibson, CQS Quality Control Engineer
- T. Thompson, CQS Quality Control Engineer
- K. Snyder, Resident Geotechnical Engineer
- R. Ross, Ernst-Comstock Quality Control Supervisor
- B. Palmer, Ernst-Comstock Civil Engineering Field Inspector
- W. Ware, CQS Quality Control Engineer

*Denotes those who attended the exit interview.

Licensee Action on Previous Inspection Findings

(Closed) Noncompliance (440/78-14-01; 441/78-13-01): Inadequate inspection of safety-related backfill activities. In response to this finding, Great Lakes Construction Company (GLC) committed to hire an additional Level I Soils Inspector, whose responsibility shall strictly be the field surveillance of backfilling activities, to verify compliance with preplacement, placement and compaction requirements.

GLC presently has a total of three qualified and certified full time Soils Inspectors and one Concrete Inspector who is certified Level I Soils. In addition, TQCP 8 Rev. 3, Section 3.3.1 was revised to further clarify the responsibilities of the GLC QC Soils Inspector.

This item is closed.

{Closed} Noncompliance (440/78-14-02; 441/78-13-02): Timely corrective action to follow-up/close-out CQC AR's was not taken by the licensee.

The inspector reviewed the Surveillance/Inspection Action Request Log and verified that AR Nos. 1 through 135 were closed. To assure timely

follow-up, the CQC Supervisor receives a computer printout twice a month from CQS, Quality Administration, which shows the status of the open Surveillance/Inspection AR's. The CQS/Quality Control Supervisor reviews the report and determines which AR's require follow-up action and notifies the initiator.

This item is closed.

Functional Areas Inspection - Section I and II.

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Section I

Prepared by F. C. Hawkins

Reviewed by D. W. Hayes, Chief
Engineering Support
Section 1

1. Plant Tour

On March 13, 1979, (second shift) the inspectors toured the Unit 1 and Unit 2 containment buildings, control complex and diesel generator building. Due to inclement weather, no safety-related work was observed in process. It was noted that CEI QA/QC personnel were present onsite to assure proper inspection of safety-related work activities should work commence.

2. Review of Quality Assurance Implementing Procedures-Civil, Units 1 and 2

The inspector reviewed selective Ernst-Comstock (E-C) QA/QC procedures and compared them with the requirements specified in CEI/E-C contract specification SP-33-4549-00, Section 5:08.16, Attachments A and B, dated February 11, 1977.

- a. Ernst-Comstock QA/QC Procedure 4.3.12. Excavation and Backfill for Underground Electrical Duct Banks, Conduits, and Manholes (conditional acceptance dated August 8, 1978).

The detailed review of Procedure 4.3.12 revealed discrepancies between it and Specification SP-33, Attachment B. The discrepancies involved backfill sampling and testing frequencies for Class A fill.

The licensee acknowledged the identified discrepancies between CEI Specification SP-33 and E-C QA/QC Procedure 4.3.12 and indicated that action to resolve the conflicts would be complete by April 15, 1979. The inspector has no further questions at this time. (440/79-02-01; 441/79-02-01)

Note - the inspector verified that the more stringent sampling and testing frequencies specified in Specification SP-33 were being followed.

- b. Ernst-Comstock QA/QC Procedure 4.3.13. Reinforcing Steel, Electrical Ducts and Embedments Installation for Underground Duct Banks and Manholes (conditional acceptance dated August 28, 1978).

- c. Ernst-Comstock QA/QC Procedure 4.3.12, Concrete Placement for Underground Duct Banks and Manholes (conditional acceptance dated August 23, 1978).

No items of noncompliance were identified.

3. Review of Quality Records, Ernst-Comstock Civil Activities

- a. Qualification of Inspection Personnel - The inspector reviewed the training and qualification records of two E-C QC Civil inspectors and determined that each met the requirements of ANSI N45.2.6.
- b. Records of Backfill Activities - The inspector reviewed two completed backfill report packages generated by E-C QC Department. Each package included the following specific items:

- (1) Package No. DRI-CC (In place package for Class A fill under ducts). Reference Backfill Map I.D. 426-630.
 - (a) Backfill Map
 - (b) Daily Backfill Test Report Summary - Tests No. 12EC, 13EC, 13EC(A) retest.
 - (c) Area Excavation Report
 - (d) Density of Soil In-Place by Sand Cone Method (ASTM D1556)
 - (e) Sieve Analysis of Fine and Coarse Aggregates (ASTM A136)
 - (f) Relative Density of Cohesionless Material (EM 1110-2-1906)
- (2) Package No. DRI-CC, Reference Backfill Map I.D. 426-630B.
 - (a) Backfill Map
 - (b) Daily Backfill Test Report Summary - Tests No. 18EC, 19EC, 20EC, 21EC, 22EC, 22EC(A), 23EC, 23EC(A), 24EC, 24EC(A), 25EC, 26EC, 42 and 43.
 - (c) Area Excavation Report
 - (d) Density of Soil In-Place by Sand Cone Method (ASTM D1556)
 - (e) Sieve Analysis of Fine and Coarse Aggregates (ASTM C136)
 - (f) Relative Density of Cohesionless Material (EM 1110-2-1906)

- c. Records of Concrete, Reinforcing Steel, and Embedment Placement Activities - The inspector reviewed two completed concrete, reinforcing steel and embedment placement report packages generated by E-C QC Department. Each package included the following specific items:

- (1) Package No. DRI-CC(B), Located West of CC-0.
 - (a) Pre-Placement Checklist (Concrete and Steel Items)
 - (b) Placement Checklist (Concrete)
 - (c) Placement Checklist (Steel Items)
 - (d) Field Variance Authorization No. 1014-33-30
 - (e) In Process Concrete Test Results Report (Unit Weight, Percent Entrained Air, Slump, Temperature)
 - (f) Compressive Strength Cylinder Test Results, Cylinders No. 9268 through 9273
 - (g) Post-Placement Curing Records
- (2) Package No. DRI-CC(B-3), Located West of CC-0
 - (a) Pre-Placement Checklist (Concrete and Steel Items)
 - (b) Placement Checklist (Concrete)
 - (c) Placement Checklist (Steel Items)
 - (d) Field Variance Authorizations No. 1044-33-34, 1057-33-37, 1058-33-38, 1059-33-39, 1061-33-40 and 1061-33-41.
 - (e) Engineering Change Notice No. 1379-33-46
 - (f) In-Process Concrete Test Results Report (Unit Weight, Percent Entrained Air, Slump, Temperature)
 - (g) Compressive Strength Cylinder Test Results, Cylinders No. 17162 through 17167
 - (h) Post-Placement Curing Records

No items of noncompliance were identified.

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Section II

Prepared by G. F. Maxwell

Reviewed by D. W. Hayes, Chief
Engineering Support
Section 1

1. CEI Audit Observations - Units 1 and 2

On March 14, 1979, the inspector reviewed the CEI Audit Action Request Status Log and computer printout of CEI audit observations; the following were observed:

- a. CEI observation audit of Dick Corporation, Audit Action Request AAR No. 009 dated July 18, 1977 documented that "Dick Corporation FQC Manager" signed off, to close, a nonconformance (NR No. 20) prior to the disposition of the nonconformance being performed. This AAR (No. 009) was not followed up by QA personnel until February 19, 1979, and was finally closed on March 1, 1979; even though the action due date was August 17, 1977.
- b. Other Audit Action Requests and supportive documents were reviewed and found to have been adequately tracked by CEI QA personnel. The inspector noted that the observation noted in Paragraph 1.a, CEI audit observation, was an isolated case for CEI open audit observations. The inspector had no further questions at this time.

No items of noncompliance were identified.

2. CEI's Investigation and Audits of Newport News Industrial Corporation (NNICO) - Units 1 and 2

- a. NNICO is a site contractor responsible for the installation and inspection of the containment steel for both Units 1 and 2. The inspector was informed by the licensee that NNICO has also been designated as the contractor responsible for installation and inspection of NSSS and Balance of Plant mechanical equipment. NNICO's work efforts to date relative to installation of mechanical equipment has been no more than setting equipment in place.
- b. The inspector reviewed correspondence and audit results relative to NNICO's QA Program and its implementation. The inspector observed that since October 10, 1978, CEI has written Corrective

Action Requests (CAR) No. CAR 0450, 0462, 0463 and 0464. In general the CAR's documented significant problems related with NNICO's QA Program in several areas which included conditions contrary to the requirements of 10 CFR 50, Appendix B, Criterion VI; VIII; XII; XIII; XVII and XVIII. The following are examples of the types of conditions documented in these CAR's:

- (1) CAR 0450 was transmitted to NNICO as an attachment to a CEI letter dated October 12, 1978; the letter "strongly recommended" the NNICO be in full compliance with the requirements (which were delineated in the CAR) by December 15, 1978. Some of the 35 unsatisfactory conditions which were identified in the CAR include:
 - (a) Failure to have procedures, instructions, drawings and records distributed to and/or used by the NNICO personnel performing work.
 - (b) Failure to provide adequate protection for safety related materials.
 - (c) Failure to properly identify mechanical equipment such as RHR pumps, CRD pumps and Off-Gas Preheaters.
 - (d) Failure to properly identify nonconforming materials.
 - (e) Failure to adequately identify storage areas for materials.
 - (f) Failure to require that calibration shop forward records of traceability for equipment which was calibrated.
 - (g) Failure to follow-up on readings which were taken with measuring devices which were found to be out of calibration.
 - (h) Failure to calibrate test and measuring equipment, as required by NNICO QA Program.
 - (i) Failure to review and approve procedures used by the vendor to perform calibrations.
 - (j) Failure to document inspection results in accordance with QA Program requirements (reference weld history cards).
 - (k) The NNICO Field QA Manager failed to conduct and schedule audits.

- (l) Failure to assure that audit personnel are adequately qualified.
 - (m) Failure for audit personnel to be independent of areas being audited.
 - (n) Failure to document audit results.
- (2) CAR 0462 was written by CEI documenting that NNICO had failed to perform magnetic particle testing (MT) of welds in accordance with the specification requirements and therefore ASTM E-109-63, Paragraph 1.2. This condition caused CEI to issue, in addition to CAR 0462, a "stop-work" order for all welds that require MT in accordance with ASMT E-109-63 and subsequently reported as a 10 CFR 50.55(e) condition to USNRC RIII.
- (3) CAR 0463 was written by CEI documenting that NNICO had improperly fabricated and installed backing rings for the containment steel. This condition also caused CEI to issue NNICO a "stop-work" order for all fabrication and installation of backing rings at the Perry site.
- c. Since the issuance of CAR 0450, mentioned above, there have been several meetings and letters written to document CEI's and NNICO's positions and actions taken relative to the 35 unsatisfactory conditions noted in the CAR. The inspector reviewed the most recently documented review, which CEI has not yet transmitted to NNICO, relative to the 35 conditions. The inspector noted from the review and interviews with CEI QA personnel that approximately 33% of the unsatisfactory conditions have not yet been satisfactorily resolved by NNICO.
- d. The inspector was informed, by CEI QA personnel, that as a result of the aforementioned CAR(s):
- (1) CEI CQE has been requested to increase the amount of overview/surveillance which is presently spent on NNICO.
 - (2) CEI site QA personnel has increased the frequency of audits covering special process which are being conducted by NNICO.
 - (3) CEI has held a meeting with NNICO's upper management, during the week of March 12, 1979, and has been assured that actions will be taken to resolve the unsatisfactory conditions which relate with NNICO's QA Program.

Followup review is planned. (440/79-02-02; 441/79-02-02)

No items of noncompliance were identified.

3. CEI Action Relative to RIII Immediate Action Letter of February 8, 1978

The inspector reviewed correspondence which CEI has generated relative to item 8 of the RIII Immediate Action Letter of February 8, 1978. As a result, the inspector noted:

- a. CEI has recently reviewed the various site contractors QA programs. The programs were found not to be in full agreement with their respective Quality Assurance Specification requirements. To correct these differences, CEI is requiring the contractors to revise their QA Programs to meet the specification requirements and in some cases, the specifications will be revised to reflect existing CEI QA Program requirements.
- b. CEI is planning to compare these specifications and site contractors QA Programs with CEI's recently developed Project Administrative Procedures and CEI's Corporate QA Program. The inspector was informed that this review would be completed for all site contractors by mid April, 1979.

Item 8 of the RIII Immediate Action Letter of February 8, 1978, cannot be closed as the aforementioned review of site contractors QA Programs may require revisions to CEI's Project Administrative Procedures; these procedures delineate CEI's commitments to certain Regulatory Guides.

No items of noncompliance were identified.

4. Other Areas Inspected

- a. The inspector reviewed Ernst-Comstock's receiving inspection reports and the supportive documents which were supplied by the manufacturers for cable tray and hardware purchased through purchase orders numbered 512-001-1185, release 1; 512-1001-1185, release 10 and 512-1001-1026, release 23.
- b. During a tour of the Control Complex, on March 13, 1979, at elevation 620' the inspector observed several Class 1E switchgear units and control cabinets which were stored in place. The inspector observed that the storage requirements for this equipment specify inside storage with ambient temperature to be greater than 40°F. Comstock personnel took temperature readings in the Control Complex at elevation 620' and found the temperature to be less than the required 40°F; subsequently Comstock QA personnel documented this condition on nonconformance report numbered E-C73 and Audit Finding Report No. 28. On March 16, 1979, the inspector was informed that Comstock personnel are installing additional heat to the applicable switchgear units and control cabinets to assure that temperatures are maintained above 40°F. The inspector has no further questions about this matter at this time.

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- c. The inspector was informed that the installation of Class 1E cables will probably start on or about October, 1979.

No items of noncompliance were identified.

Exit Interview

The inspectors met with licensee representatives (denoted under Persons Contacted) at the conclusion of the inspection on March 16, 1979. The inspectors summarized the purpose and findings of the inspection. The licensee acknowledged the findings reported herein.

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