

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-440/86008(DRP)

Docket No. 50-440

License No. NPF-45

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

Facility Name: Perry Nuclear Power Plant, Unit 1

Inspection At: Perry Site, Perry, OH

Inspection Conducted: March 4 through April 8, 1986

Inspectors: J. A. Grobe
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Approved By: *RC Knop*
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Section 1B

4/22/86

Date

Inspection Summary

Inspection on March 4 through April 8, 1986 (Report No. 50-440/86008(DRP))

Areas Inspected: Routine unannounced inspection by resident and region based inspectors of previous inspection items, operating procedures, surveillance testing, operational safety, maintenance activities, preventive maintenance programs, allegations, onsite review committee activities, operating administrative controls implementation, startup testing activities (including fuel loading), and other activities. This inspection involved a total of 406 inspector-hours onsite by five NRC inspectors including 147 inspector-hours during off-shifts.

Results: Of the 10 areas inspected, one violation was identified in each of two areas (inadequate review of a tag-out prior to authorization and attempted performance of associated work - Section 8) and (inadequate procedural controls for establishing the operating status of plant instruments - Section 10).

Facility Operating License No. NPF-45 was issued for Perry, Unit 1 on March 18, 1986. Actions required to correct the violation concerning plant instruments was made a condition of the operating license. Fuel loading began on March 21, 1986 and was approximately 50% complete at the close of this inspection.

DETAILS

1. Persons Contacted

- M. R. Edelman, Vice President, Nuclear Group
- A. Kaplan, Vice President, Nuclear Operations Division
- *C. M. Shuster, Manager, Nuclear Quality Assurance Department (NQAD)
- *M. D. Lyster, Manager, Perry Plant Operations Department (PPOD)
- *R. A. Stratman, General Supervising Engineer, Operations Section, PPOD
- J. J. Waldron, Manager, Perry Plant Technical Department (PPTD)
- *S. F. Kensicki, Technical Superintendent, PPTD
- R. P. Jadgechew, General Supervising Engineer, Instrumentation and Controls Section, PPTD
- *B. D. Walrath, General Supervising Engineer, Operational Quality Section, NQAD
- *A. F. Silakoski, Operations Section, Senior Engineer, PPOD
- *D. J. Takas, General Supervisor, Maintenance Section, PPOD
- *P. A. Russ, Compliance Engineer, PPTD
- *T. L. Heatherly, Operations Engineer, PPTD
- M. W. Gmyrek, Senior Operations Coordinator, PPOD
- T. E. Hicks, Operations Engineer, PPTD

*Denotes those persons attending the exit interview held on April 8, 1986.

2. Licensee Action on Previous Inspection Items (92701, 92702)

- a. (Open) Violation (440/86006-01(DRP)): Inspectors followup of licensee actions regarding this item are discussed in Section 3 of this report.
- b. (Open) Open Inspection Item (440/85018-01(DRP)): Complete installation of raceway separation barriers required to meet Institute of Electrical and Electronics Engineers (IEEE) 384-1974 independence requirements. The inspector was informed by licensee personnel that the licensee's quality assurance organization had completed plant wide inspections to identify damaged, incomplete, or uninstalled raceway separation barriers. The inspections resulted in the issuance of approximately 107 Work Requests to repair damaged barriers. At the close of the inspection, approximately 18 of the Work Requests remained open. Additionally, 14 Nonconformance Reports which documented approximately 59 raceway separation violations (i.e. instances where barriers were required) associated with ongoing design changes remained open. Licensee personnel characterized the identified remaining work as "ongoing" and typical of raceway separation barrier deficiencies, which will be encountered throughout plant life, specifically associated with plant modifications. The inspectors agreed with this characterization, but stated that in order to close this item, the licensee would have to establish, prior to initial criticality, that remaining or future identified raceway separation barrier deficiencies are suitably evaluated and where necessary, compensatory measures established to preclude the introduction of an unreviewed safety question as defined in 10 CFR 50.59.

3. System Operating Instruction Review (42450)

Prior to fuel load, detailed NRC reviews of Perry Plant System Operating Instructions (SOIs) identified significant technical errors as documented in Inspection Report No. 50-440/86006(DRP). As a result of the inspectors' findings, the licensee committed to perform a detailed technical review of all SOIs for systems defined as safety-related in PAP-0205, Revision 3, "Operability of Plant Systems," prior to use under the operating license. This commitment was documented in a letter from Mr. Murray R. Edelman, Vice President, Nuclear Group, CEI, to Mr. James G. Keppler, Regional Administrator, Region III, NRC, dated March 4, 1986. To assure that the 24 SOIs required to have a detailed technical review prior to fuel load as committed to by the licensee were adequate, the inspectors performed the following detailed review of a sample of the SOIs included in this group. This review was performed using the licensee's Operations Administrative Procedure (OAP)-0502, Revision 0, "Preparation of System Operating Instructions," and the applicable Piping and Instrumentation Diagrams (P&IDs).

SOI-F42, Revision 3, "Inclined Fuel Transfer System (Unit 1)"

SOI-P51/52, Revision 4, "Service and Instrument Air System"

SOI-C11, Revision 6, "Control Rod Drive Hydraulic System (Unit 1)"

In addition, a non-detailed review of the following SOIs was performed. This inspection included a step by step review to assure a logical progression, but did not include comparing the instruction with controlled drawings or other reference material.

SOI-R43, Revision 4, "Division 1 and 2 Diesel Generator System (Unit 1)"

SOI-C51, Revision 3, "Source Range Monitoring System (Unit 1)"

The inspectors also reviewed the following SOIs which are required for fuel load and were previously reviewed in Inspection Report No. 440/86006, to assure that the inspectors' comments were appropriately incorporated during the licensee's detailed technical review of the instructions.

SOI-P47, Revision 3, "Control Complex Chilled Water System"

SOI-G33, Revision 3, "Reactor Water Cleanup System (Unit 1)"

The inspectors' review of the above SOIs indicated that the licensee's Detailed Technical Review Program is adequate. No significant technical errors were identified during the inspectors' review and the improvements made as a result of the licensee's review program should prove beneficial during plant operations. These improvements included the correction of both technical errors and administrative concerns, such as typographical errors, adding additional information, and providing consistent procedural format above that normally required by administrative procedures.

To assure that the licensee's Detailed Technical Review Program continues to produce adequate SOIs, the inspector will continue to review samples of approved SOIs consistent with the licensee's review program schedule. The inspectors' SOI review is being tracked by open item 440/86006-01(DRP).

No violations of regulatory requirements or deviations from commitments were identified.

4. Monthly Surveillance Observations (61726)

The inspectors witnessed all portions of the monthly surveillance required for Containment Pressure High Master Trip Unit 1E12-N662B. The inspectors noted the proper performance of Surveillance Instruction (SVI)-E12-T0357-B by direct observation. The Instrumentation and Control (I&C) technicians assigned the surveillance had a working copy of the instruction at the job location. The Unit Supervisor (US) and the Supervising Operator (SO) had authorized performance of this surveillance. The test equipment in use (Measuring and Test Equipment (M&TE) No. L70-S006I) was within current calibration and the calibration sticker was attached. The inspectors noted that the I&C technician informed the SO of channel inoperability during the surveillance. The SO acknowledged the condition and noted same in the unit log. At the conclusion of the surveillance, the I&C technicians restored the system to operation and informed the SO of satisfactory completion of the surveillance.

While observing this surveillance, the inspectors requested the I&C supervisor to define the purpose of green adhesive labels affixed to Instruments 1E12-N662B and 1B21-N691B. The I&C supervisor responded that these green labels were applied during the preoperational test program and did not have any current significance. The inspectors then asked if the same label affixed to the M&TE was of the same origin and significance. The I&C supervisor informed the inspectors that on the test equipment the presence of this label meant that a "quick-check" had been performed. The inspectors interviewed the M&TE supervisor to ascertain the purpose of the quick-check. While not proceduralized, the M&TE supervisor stated that a quick-check was performed on test equipment as it was checked out of the tool room. The quick-checks provided added confidence that test equipment was still within calibration tolerances while between formal calibration due dates. The inspectors reviewed the test instrument file folder for M&TE No. L70-S006I. The inspectors noted numerous quick-checks were performed between the required three month calibration. The M&TE supervisor stated that if a piece of test equipment failed, these quick-checks may be used to evaluate required rework.

Subsequently, the inspectors discussed this matter with the Lead I&C Engineer and the M&TE supervisor to ascertain the degree to which the quick-checks were relied upon in the evaluations performed for M&TE nonconformances identified by formal calibrations. The inspectors were informed that the evaluations of instruments calibrated by a piece of M&TE which was found to be nonconforming included all such instruments calibrated since the last formal calibration of the piece of M&TE. Credit for the quick-checks was not taken for evaluations of safety-related instrumentation or other instrumentation required by or utilized to establish conformance with technical specifications.

The practice of checking M&TE prior to use during the normal calibration intervals is endorsed by IEEE Standard 498-1985, "Requirements for the Calibration and Control of Measuring and Test Equipment Used in Nuclear Facilities." The inspectors have no further concerns in this area.

The inspectors also witnessed portions of the following surveillance tests to verify by direct observation that required administrative authorizations had been obtained prior to test initiation, test instruments were calibrated, and testing was conducted in accordance with the test procedures:

<u>Surveillance Test</u>	<u>Date Performed/Witnessed</u>
APRM Trips Channel G Functional Test	March 23, 1986
Standby Liquid Control Pump Operability Test	March 21, 1986
Reactor Mode Switch Refuel Position Interlock	March 20, 1986

No violations of regulatory requirements or deviations from commitments were identified.

5. Operational Safety Verification (71707)

The inspectors observed control room operations, reviewed applicable logs, and conducted discussions with control room operators during this inspection period. The inspectors verified the operability of selected emergency systems, reviewed tag-out records and verified tracking of Limiting Conditions for Operation associated with affected components. Tours of the intermediate, auxiliary, reactor, and turbine buildings were conducted to observe plant equipment conditions including potential fire hazards, fluid leaks, and excessive vibrations, and to verify that maintenance requests had been initiated for certain pieces of equipment in need of maintenance. The inspectors by observation and direct interview verified that the physical security plan was being implemented in accordance with the station security plan.

The inspectors observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. During this inspection period, the inspectors walked down the accessible portions of the Standby Liquid Control System to verify operability.

These reviews and observations were conducted to verify that facility operations were in conformance with the requirements established under technical specifications, 10 CFR, and administrative procedures.

Following a reactor scram resulting from spurious Intermediate Range Monitor (IRM) signals on March 31, 1986, the inspectors noted that "full-in" rod position indication for a number of rods was not received at the full core display on the reactor operator's panel until the scram was reset. By subsequent discussions with licensee personnel regarding this observation, the inspectors learned that the licensee had made similar observations on a number of occasions following scram testing. It was believed that with

the reactor vessel depressurized, control rods inserted far enough beyond the normal full-in position, that the full-in reed switches on the rod position indicating probe were not aligned with the permanent magnet on the control rod drive piston. The reed switches, therefore, did not remain closed long enough to be scanned by the Rod Control and Information System (RC&IS) for display. The inspectors were informed by the licensee that personnel at the River Bend Nuclear Power Facility had experienced similar RC&IS behavior but that under normal operating conditions (reactor pressurized) full-in indication was received. The inspectors requested that the licensee obtain a position from General Electric Company as to whether or not this aspect of RC&IS performance was per design. This matter is an open item pending receipt and review of the requested information (440/86008-01(DRP)).

6. Monthly Maintenance Observations (62703)

On March 20-21, 1986, the inspectors observed/reviewed repair of the Standby Liquid Control System pump couplings to ascertain that the work was conducted in accordance with approved procedures, regulatory guides, and industry codes or standards, and in conformance with technical specifications.

The following items were considered during this review: the limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; and, parts and materials used were properly certified.

No violations of regulatory requirements or deviations from commitments were identified.

7. Mechanical/Electrical Preventive Maintenance (MEPM) Review (62700)

The inspectors performed a review of the licensee's MEPM program to assure that preventive maintenance is being adequately identified, tracked, scheduled, and performed in accordance with prescribed procedures. The inspectors reviewed the following licensee procedures:

PAP-0902, Revision 2, "Work Request System"

PAP-0903, Revision 2, "Repetitive Task Program"

PAP-0905, Revision 4, "Work Order Process"

PAP-0906, Revision 0, "Control of Mechanical/Electrical Preventive Maintenance"

MAP-0203, Revision 0, "Conduct of Maintenance"

MAP-0304, Revision 0, "Equipment Qualification Maintenance Requirements"

The Repetitive Task Program includes a highly sophisticated computerized system that allows any licensee personnel to originate periodic maintenance requests for plant components, which if approved, will result in a Repetitive Task Card being automatically generated at the periodic interval specified by the approved maintenance request. This Repetitive Task Card is used to generate the appropriate work package required to perform the requested maintenance. The program monitors the completion status of all Repetitive Task Cards and provides management with status reports of all MEPM covered by this program.

During the inspectors' review of the Repetitive Task Program, the above listed procedures, and subsequent discussions with licensee maintenance personnel, the following concerns were identified:

- a. Approval of repetitive task entry forms, which results in a Repetitive Task Card being generated, including subsequent changes, are performed by the Technical Section Engineer. However, Section 6.5 of PAP-0906, currently allows the Work Supervisor authorization to reschedule the task without concurrence from the Technical Section Engineer or the Nuclear Design and Analysis Section (ND&AS), the section responsible for identifying required maintenance to assure that safety-related equipment maintains its Environmental Qualifications. The inspectors believe rescheduling should only be allowed with the above engineering concurrence to assure that a proper evaluation for equipment operability is performed.
- b. PAP-0903, Section 6.8, states that if a repetitive task is "missed," the Repetitive Task Program automatically closes out the task, enters the task as "missed" in the Repetitive Task History File, and reschedules the task for the following day. During interviews with licensee maintenance personnel, the inspectors determined that once a repetitive task has been missed, the new Repetitive Task Card issued for the missed task will be automatically assigned a "latest date due," which is based on the amount of time provided on the original Repetitive Task Card between the original "due date" and the original "latest date." This calculated slip time is automatically added to the new due date (the day following the "latest date" on the original or previous Repetitive Task Card). The inspectors are concerned that this automatic reschedule program for missed repetitive task lacks both Technical Section Engineering and ND&AS input. Missed repetitive maintenance may result in a system being considered inoperative and therefore, should require immediate engineering review and evaluation to determine impact on plant operations. Furthermore, when the existing system produces a new Repetitive Task Card, for missed tasks, it does not provide the maintenance personnel with the "original due date" on the new Repetitive Task Card. By continuing to automatically reschedule missed task when the latest due date is exceeded, it is possible that a task may not be performed for extended lengths of time.
- c. PAP-0906, Section 6.6, provides instructions for revising repetitive task that does not include the review of ND&AS when equipment qualifications may be concerned.

When the above concerns were brought to the licensee's attention, the inspectors were shown unapproved change documentation that supported their claim that they were previously aware and in the process of correcting most of the areas the inspectors had identified.

In addition to the above review, the inspectors randomly chose two plant components, a non safety-related Control Rod Drive Pump and a safety-related large Emergency Service Water Pump, and reviewed the components vendor manuals to determine the vendor's recommended maintenance for the components. The inspectors then compared the vendor recommended maintenance with what was required by the Repetitive Task Program and found some disparity between the two. The adequacy of the licensee's program for determining MEPM requirements and the bases for the identified disparities is considered an open item (440/86008-02(DRP)).

8. Followup on Allegation (99014)

- a. (Closed) Allegation (AMS-RIII-86-A-0044): The inspectors received information from an individual that Work Order (WO) tag-out sheets were not always adequate to control the work identified in the WO. An example was given where during performance of rotating spectacle flange 1E12-D501B, associated with the RHR Containment Pool Cooling System, the tag-out sheet was inadequate in that it did not assure that the piping associated with the flange was isolated from the upper fuel pool.

The inspectors performed a review of the WO prepared and issued to perform the spectacle flange rotation described above (WO No. 86-0735). As a result of this review and a subsequent review performed by the licensee's Quality Assurance Department at the inspectors' request, the following was determined:

On March 3, 1986, during the performance of the tag-out associated with the WO to rotate the flange, the operator isolated the equipment specified on the tag-out sheet and began draining the pipe. After several minutes, the draining was stopped when the operator determined that current plant conditions would prevent this piping from being drained. It was found that the tag-out instructions were based on the assumption that the upper fuel pool level was below the siphon-breaker associated with this particular line. The water was not radioactive so no Radiation Work Permit was required. Since the fuel pool level was actually approximately two feet above the siphon-breaker, the operator was draining water directly from the fuel pool. When this conclusion was discovered, he discontinued the activity. The WO was then returned to the control room and subsequently taken off the Plan-of-the-Day work schedule. The WO was then placed back in the WO Control Station files without further action or comment.

Apparently the US had decided that the tag-out error was due to his failure to properly consider local plant conditions (Containment Upper Pool Water level). Since no significant safety concern resulted or could have resulted from this error, the US did not generate a Condition Report or other documentation. Therefore, no actions were taken to change the WO or to otherwise prevent recurrence.

Review and approval of the tag-out sheets associated with the above WO appeared to be inadequate in that PAP-1401, Revision 1, "Equipment Tagging," was not followed in the following three areas.

- Section 6.2.5(6) states in part that after the tag-out sheet has been prepared, the person in charge shall review the tag-out sheet to ensure that the tag-out provides the necessary control and protection and that the tag-out sheet is properly completed.
- Section 6.2.6(4) states in part that the reviewer should note any significant effects of the tag-out or component, system, plant operability, and any other noteworthy comments in the "Reviewer's Notes" Section.
- Section 6.2.7(3) states in part that the US shall authorize a tag-out only after an evaluation of the effects of the tag-out on current plant status.

In all three cases the responsible individual failed to identify that the fuel pool level must be below the elevation of the siphon-breaker in order to rely on the siphon-breaker as a boundary for the tagged out system. This is considered a violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," in that the review and approval of the tag-out sheets were not adequately accomplished in accordance with the approved procedure described above (440/86008-03(DRP)).

This allegation was substantiated. Review and approval of the tag-out sheets for the WO referred to in the allegation was found to be inadequate and resulted in the identification of a violation as described above. Review of the licensee's corrective action will be performed during a subsequent inspection and tracked under the violation item number.

- b. (Closed) Allegation (AMS-RIII-85-A-0171): The NRC received anonymous allegations relative to deficiencies in coating applications at Perry on October 16, 1985. The NRC provided the technical details of five allegations in a letter to the licensee on November 4, 1985. The licensee responded to the technical content of these allegations on December 13, 1985 (Enclosure 1 to this report). The NRC reviewed the results of the licensee's inspection of the five allegations and performed a selected independent review of Concerns 2, 3, 4, and 5 to corroborate the licensee's findings. This independent review was documented in Inspection Report No. 50-440/85084(DRS).

Concern No. 1 referred to a list, provided by the allegor, of names of Metalweld, Inc., employees, including management, technical, quality control, and craft personnel, that were alleged as users and/or sellers of controlled substances (primarily cocaine and marijuana) the allegor also stated that marijuana was used daily within the plant protected area.

The licensee's response to this concern stated that "Background checks and inspections of applicable work areas failed to substantiate the improper use of controlled substances at the Perry plant." To further

substantiate that work was performed in accordance with the quality standards at Perry, the licensee performed a reinspection of 28 selected areas in which the identified craft and inspection personnel had worked common areas. The licensee reported that no deficiencies with the work were noted. The licensee also stated that they reviewed the contractor's quality program and found the program to be effective in ensuring quality workmanship at every stage of the process.

NRC Review

The NRC met with representatives of Cleveland Office of the U.S. Drug Enforcement Administration, the Director of the Lake County, Ohio, Narcotics Agency and licensee security personnel to discuss this concern. The records of the U.S. Drug Enforcement Administration and the Lake County Narcotics Agency were reviewed and did not reveal any information identifiable with Metalweld employees named in the allegation.

The inspection performed by the NRC and reported in Inspection Report No. 50-440/85084(DRS) included a sample of review of the results of the licensee's review of the 28 selected areas and independent reviews of the other concerns raised in the allegation. There was no evidence identified by the NRC or the licensee that indicated the alleged use of controlled substances by Metalweld employees affected the quality of the safety-related coatings at the Perry Nuclear Power Plant. Based on the information available and the reviews by the NRC and licensee, this allegation was considered to be closed.

9. Onsite Review Committee (40700)

The inspectors reviewed the minutes of the Plant Operations Review Committee (PORC) meetings No. 86-42 through 86-54, 86-56 through 86-61, and 86-63 through 86-65, conducted prior to and during the inspection period to verify conformance with PNPP procedures and regulatory requirements. These observations and examinations included PORC membership, quorum at PORC meetings, and PORC activities.

No violations of regulatory requirements or deviations from commitments were identified.

10. Operating Administrative Controls (42400)

As discussed in Section 13 of NRC Inspection Report No. (440/86006(DRP)), in response to concerns expressed by the resident inspectors regarding implementation of the licensee's system of administrative controls for plant operation, the licensee had initiated the following actions to achieve improved performance:

- Training directed toward all individuals explaining the procedural and instructional framework for controlling activities and emphasizing the requirement for comprehensive procedure/instruction conformance.
- Closing out Corrective Action Request (CAR) 85-24 resulting in all persons being up-to-date with procedure/instruction training.

- Performing a broad scope surveillance inspection under the Quality Assurance program directed at assessing overall adequacy of the implementation of the Operations Manual in the operations, maintenance, surveillance, and health physics areas.

The inspectors determined by interviews with licensee personnel that procedural compliance training had been administered to Perry Plant Operating, Technical, and Quality Assurance Departments. Additional group training sessions will be scheduled and held for personnel assigned to the Perry Plant Services and Nuclear Engineering Departments.

Licensee quality assurance personnel assigned to followup CAR 85-24 informed the inspectors that the PPTD had completed required reading assignments identified in the subject CAR and was, therefore, up-to-date on procedure/instruction training. Corrective Action for the Perry Plant Operations, Maintenance, and Training Sections were reported to be 85%, 97%, and 90% complete, respectively. Remaining procedure/instruction training required by the CAR was expected to be complete sometime during the week of April 21, 1986. The licensee's quality assurance organization will then perform an audit to verify completion prior to closure of CAR 85-24.

On March 6-13, 1986, the licensee's Quality Assurance Department performed an audit of operations, maintenance and surveillance activities. The audit resulted in nine observations/recommended improvements; five in the area of operations, two in the maintenance area, and two in the surveillance area. Of particular significance was an observation concerning a lack of procedural controls for certain instrument valves. Specifically, on March 7, 1986, an audit team member observed a number of instruments with associated valves in abnormal positions, including a drywell pressure transmitter which had previously been declared operable and which was isolated from drywell atmosphere. Condition Report (CR) 86-236 was initiated the same day to require investigation and resolution of the identified problem. On March 8, 1986, instrument valve lineup checks were performed on approximately 500 instruments located on the 620' elevation of the reactor building resulting in the identification of 56 valves which were later determined to be mispositioned. A second CR (CR 86-238) was initiated to document these discrepancies and on March 10, 1986, the licensee's quality assurance organization issued CAR 86-01 which required evaluation of the extent of the instrument valve mispositioning and establishment of positive controls for instrument valve position, including independent verification.

Upon learning of this matter on March 11, 1986, the resident inspectors gathered detailed information regarding the nature of the problem, the probable root causes and licensee actions planned and taken. The licensee's corrective action plan in response to CAR 86-01 was formulated and documented as Special Project Plan (SPP)-1401, "Instrument Valve Lineup Verification," which was approved and implemented on March 12, 1986. Based upon discussions between NRC Region III and licensee personnel on March 13, 1986, SPP 1401 was revised and reissued the same day. Additionally, by letter dated March 14, 1986, from M. R. Edelman to J. G. Keppler, the licensee submitted the revised SPP as well as a chronology of licensee actions previously taken, a root cause evaluation, and a schedule for completing actions specified in the SPP.

Completion of actions as specified in the March 14, 1986 submittal was later incorporated into the Perry, Unit 1 operating license as part of license Condition 2.C.(1).

Followup inspections by the resident inspectors to verify completion of actions required prior to fuel load included: direct observation of I&C personnel performing walkdowns to identify and document as-built instrument valve configurations and positions; independent review of licensee-generated instrument lists to verify inclusion of instruments specified in the March 14, 1986, submittal; review of interim as-built drawings for eight selected instrument loops; and, verification that instrument valves identified in CRs 86-236 and 86-238 were restored and maintained in their normal positions.

The identified failure to provide controls necessary to establish the operating status of safety-related instruments is contrary to 10 CFR 50, Appendix B, Criterion XIV and is considered a violation (440/86008-04(DRP)).

11. Startup Test Witnessing - Fuel Load and Control Rod Drive System
(72524, 72302)

Following issuance of the Perry, Unit 1 operating license on March 18, 1986, the resident inspection staff was augmented by regional office-based and Clinton site resident inspection personnel for the witnessing of operating, maintenance, surveillance, and startup test activities associated with initial fuel loading. The inspectors provided 24 hour a day coverage from commencement of fuel loading on March 21-24, 1986. Inspectors coverage for a portion of each operating shift was continued until March 29, 1986. Inspectors coverage was returned to a routine level for the remainder of the inspection period. Inspector observations of surveillance, operating, and maintenance activities are discussed in Sections 4, 5 and 6 of this report, respectively.

Inspectors activities directly related to initial fuel loading and control rod drive system testing consisted of the following:

- Identification and verification of compliance with technical specification requirements and license conditions applicable during initial fuel loading.
- Verification that nuclear instruments were properly calibrated and were operating with a measurable count rate.
- Verification by records and by observation of testing that the shutdown margin and control blade operability were being verified properly and at the required frequency.
- Verification of surveillance of monitoring instrumentation during interruptions of fuel loading.
- Observation of shift turnovers for conformance with administrative procedures.
- Reviews of control of personnel access to refueling floor.

- Observing use of the refueling status boards.
- Verification that personnel understood their specific responsibilities.
- Reviews of shift work schedules for conformance with maximum work time limits.
- Verification that a "master" copy of technically adequate procedures were assembled.
- Reviews of changes to the procedures for technical adequacy, for conformance with administrative procedures, and for proper management approval.
- Reviews of records of deficiencies or difficulties encountered to assure the adequacy of corrective action, and the review and approval of actions taken.
- Reviews of data sheet entries for legibility, traceability, and permanence.

Inspectors observations indicated fuel loading activities were well coordinated and that licensee personnel proceeded in a cautious and deliberate manner. Fuel loading activities were suspended on several occasions due to equipment problems.

The IRM System gave spurious high neutron flux signals on a number of occasions due to electrically induced "noise." On three of these occasions, the IRM signals resulted in the generation of a full reactor scram by the reactor protection system. Licensee investigation has tentatively concluded that the noise was the result of welding machine operation in the vicinity of the IRM preamplifiers. The licensee determined that the grounding of four of the IRM preamplifiers was accomplished via a metal grating. The licensee modified these ground circuits by routing cabling directly from the preamplifier cabinets to the ground buses. The inspectors will continue to monitor IRM system performance to verify the adequacy of licensee actions.

The refueling machine main hoist drive motor supply breaker tripped on overcurrent on numerous occasions. Each time, core alterations were suspended while troubleshooting and repair were attempted. Licensee actions included replacement of the supply breaker, fuses, power supply, and control circuitry components, meggering of the drive motor and adjustment and coordination of the electrically operated main hoist break mechanism. Subsequent to the close of this inspection, on April 9, 1986, the licensee identified a defective silicon controlled rectifier (SCR) in the power supply to the main hoist. Previously, all three SCRs (one for each phase) had been replaced and were, therefore, not suspect. Following re-replacement of the defective SCR, the main hoist drive has operated normally.

No violations of regulatory requirements or deviations from commitments were identified.

12. Open Inspection Items

Open inspection items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which involve some action on the part of the NRC or licensee or both. Open items disclosed during the inspection are discussed in Sections 5 and 7.

13. Exit Interviews (30703)

The inspectors met with the licensee representatives denoted in Section 1 throughout the inspection period and on April 8, 1986. The inspectors summarized the scope and results of the inspection and discussed the likely content of the inspection report. The licensee did not indicate that any of the information disclosed during the inspection could be considered proprietary in nature.



THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

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December 13, 1985

FY-CEI/OIE 0148 L

Mr. Charles E. Norelius, Director
Division of Reactor Projects, Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

RE: Perry Nuclear Power Plant
Docket Nos. 50-440; 50-441

Dear Mr. Norelius:

In response to your letter of November 4, 1985, relative to activities associated with Metalweld, Inc., The Cleveland Electric Illuminating Company (CEI) has investigated each of the five concerns noted. We have analyzed each concern, performed necessary inspections and conducted appropriate investigations to determine the validity and significance of the conditions. Additionally, appropriate actions have been taken to address both the specific concerns and root causes. Our review noted that Concerns 2, 3, and 4 were discovered during routine inspections and were documented and tracked on Nonconformance Reports prior to our receipt of your concern.

Below is a summary of the results of our investigations and inspections as well as the action taken to date to resolve each concern.

Investigative Results for Concern #1

Background checks and inspections of applicable work areas failed to substantiate the improper use of controlled substances at the Perry Nuclear Power Plant (PNPP). To further substantiate that work was performed in accordance with the high quality standards of PNPP, a reinspection of 28 selected areas was performed in which the identified craft and inspection personnel had worked common areas. No workmanship deficiencies were noted. This inspection coupled with a review of the contractor's quality program indicated that the program was effective in ensuring quality workmanship at every stage of the process.

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DEC 16 1985

Investigative Results for Concern #2

Investigation revealed that a Nonconformance Report (NR) was written on November 1, 1985 as a result of the identification of coating defects on the spray headers during a routine inspection. However, to determine if the defects were generic in nature, a visual inspection of all spray headers and a detailed inspection of four of the six spray headers was conducted. The inspection identified only minimal additional defects (3 spots the size of a quarter). The total area of defects (including the initial discovered defects) was only 0.75 square feet over a total area of 2,648 square feet. This amounts to a 0.03% defect ratio caused by overspray and/or construction damage. Investigation substantiated that these defects were not caused by excessive surface temperature or poor surface preparation. These defects were mapped and the NR was revised to address all minor defects. The coatings have been reworked.

Investigative Results for Concern #3

An investigation into this concern revealed that a Nonconformance Report was written on October 14, 1985 to address coating deficiencies on the polar crane box beam girder. Investigation revealed that the cracked coating was caused by failure of cohesion of the zinc primer on the weld area due to the unique configuration of the area. NDE examination of the weld (full penetration weld with fillet welds on each side) in the vicinity of the coating cracks indicated no weld defects exist. The coatings have been reworked.

Investigative Results for Concern #4

Investigation into this concern revealed that a Nonconformance Report addressing defective coatings on the auxiliary platform (referred to in the concern as the refueling floor bridge crane observation platform) was issued on September 11, 1985. Inspection of the platform revealed rusting had occurred due to inadequate surface preparation at the vendor's shop. Since the auxiliary platforms were the only equipment supplied by the vendor, it was determined to be an isolated case. We are currently in the process of reworking the coating on the platform.

Investigative Results for Concern #5

Interviews with cognizant personnel did not substantiate the use of tungsten carbide tipped drill bits to prepare surfaces for coating. However, interviews with QC inspectors and a painter revealed deburring tools were used by painters on structural steel shapes. Further discussion revealed that these devices are permitted by the Steel Structures Painting Council (SSPC). Each individual interviewed noted that these devices were not used on welds, pipe, or snubbers, and uses were limited to removing sharp edges from structural steel shapes. There were no indications that excessive metal was removed.

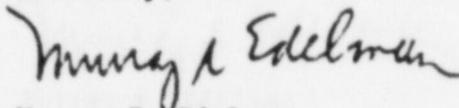
Mr. Charles E. Norelius

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December 13, 1985
FY-CEI/OIE 0148 L

Documentation outlining the extent of our investigation and supporting our results is being maintained on site. These files are open for your review. We believe the supporting documentation we have gathered will adequately address each of the concerns you have brought to our attention. If you have any questions, please call.

Sincerely,



Murray R. Edelman
Vice President
Nuclear Group

MRE:sab

cc: J. Silberg, Esq.
J. Grobe
K. Connaughton