

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-440/85073 (DRP); 50-441/85024 (DRP)

Docket No. 50-440; 50-441

License 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: October 7-11 and October 14-18, 1985

Inspector: *C. H. Scheibelhut*
C. H. Scheibelhut

10/31/85
Date

Approved by: R. C. Knop, Chief

Reactor Projects, Section 1A

Date

Inspection Summary

Inspection on October 7-11 and October 14-18, 1985 (Reports No. 50-440/85073 (DRP); 50-441/85024 (DRP))

Areas Inspected: Routine safety inspection by a Regional Inspector of licensee actions on previous inspection findings, 10 CFR 50.55(e) items, and evaluation of licensee action with regard to IE Circulars, confirmatory items called for in the Safety Evaluation Report, and allegations. The inspection involved a total of 72 inspector-hours onsite by one NRC inspector and includes 0 inspector-hours during off-shifts.

Results: No violations, deviations, or safety significant issues were identified.

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Details

1. Persons Contacted

Cleveland Electric Illuminating Company

C. M. Shuster, Manager, Nuclear Quality Assurance Department (NQAD)
J. J. Waldron, Manager, Perry Plant Technical Department (PPTD)
S. F. Kensicki, Technical Superintendent, PPTD
R. L. Vondrasek, General Supervising Engineer, Nuclear Engineering Department (NED)
G. Chasko, Surveillance Engineer, PPTD
B. B. Liddell, Operations Engineer, PPTD
R. L. Luse, Support Services Engineer, PPTD
N. J. Lehman, Staff Analyst, PPTD
R. A. Newkirk, Senior Staff Engineer, NED
T. G. Swansiger, Supervisor, NQAD
F. H. Sondgeroth, Senior Engineer, NED

The above listed personnel attended the exit interview on October 18, 1985. The inspector also interviewed other licensee and contractor personnel during the course of the inspection.

2. Licensee Actions on Previously Identified Items (92701, 92702)

- a. (Closed) Unresolved Item (440/85010-04 (DRP)): "Annunciator Response Instruction Discrepancies". During a review of the Standby Liquid Control System (SLCS) preoperational test, the inspector found four instances of Alarm Response Instructions (ARI) identifying incorrect annunciator locations. Also, one annunciator had no ARI. Additionally, there was inconsistency between the FSAR, Technical Specifications, preoperational test procedures and an ARI with respect to the high and low storage tank level setpoints.

The four annunciators incorrectly located in the ARIs were moved as a result of the Detailed Control Room Design Review (DCRDR). The annunciator not covered by an ARI was added by the DCRDR. There was an inconsistency among the various documents in the storage tank level setpoints.

The licensee is in the process of rewriting all ARIs written in the system specific format such as ARI-C41 covering the SLCS. These ARIs are being rewritten into a panel based format such as ARI-H13-P601-18 and H13-P601-19 covering the SLCS and other systems. This is being done to place the ARIs in a format more useful in the control room. Special Project Plan 0501, "Operations Manual Verification", was initiated to provide additional assurance that plant operation commitments are identified and incorporated into the operations manual. The plan also requires review of all operations manual instructions for consistency with the as-built condition of the plant. The inconsistencies in the SLCS storage tank low level and high level setpoints have been resolved. The FSAR will continue to not show the values. The Technical Specification values have been incorporated into the pertinent ARIs and preoperational test.

These setpoint changes were made in accordance with Plant Administrative Procedures (PAP)-1403, "Control of Setpoints", and received the required review.

The inspector reviewed the approved ARIs H13-P601-18 and H13-P601-19 and inspected the panels and found them in agreement. The inspector also reviewed the Technical Specifications for SLCS high and low level setpoints and found agreement in the ARIs and amended pre-operation test procedure, TP 1C41-P-001, for the SLCS and found agreement. The inspector also reviewed Special Project Plan 0501 and PPA-1403 and concluded that concerns of this nature will be satisfactorily reviewed and resolved. This item is closed.

- b. (Closed) Open Item (440/85033-15 (DRP)): "Review of 8 Routine Battery Surveillance Instructions". As part of a regional request, the inspector reviewed the licensee's program for maintenance and testing of the plant batteries for conformance to the requirements of Regulatory Guide 1.129, Rev. 1, "Maintenance, Testing and Replacement of Large Lead Storage Batteries for Nuclear Power Plants", and IEEE-450, "Recommended Practice for Maintenance, Testing, and Replacement of Large Lead Storage Batteries for Generating Stations and Substations". The inspector found that the program conformed to the requirements and recommendations of the Regulatory Guide and IEEE Standard. However, Plant Maintenance Instruction (PMI)-0024 contained all of the inspection requirements regardless of their periodicity. The inspector was concerned that this would cause confusion when implementing the instruction.

The licensee wrote three PMIs (-0034, -0035, and -0036) to cover the weekly, quarterly, and annual non-class 1E station batteries. Also written were Surveillance Instructions (SVIs) R42-T502, Rev. 1, "Weekly 125V Battery Voltage and Category A Limits Check", -R42-T5204, "125V Battery Category B Limits, Terminal Corrosion, and Electrolyte Temperature Check" (a quarterly check), and -R42-T5207, "Battery Racks/Cell Plates, Terminal Corrosion and Connection Resistance Check" (an 18-month check). The SVIs cover the Class 1E station batteries. To cover water additions and equalizing charges to all batteries, Generic Electrical Instructions (GEIs)-039, "Exide Battery Equalizing Charge", and -090, "CDD Battery Equalizing Charge", were written.

The inspector reviewed the above eight instructions, the Regulatory Guide and the IEEE standard and found that the instructions adequately covered the requirements and would not cause confusion when implemented. This item is closed.

- c. (Closed) Unresolved Item (440/85033-20 (DRP)): "VLI-R44-1, Rev. 0, Discrepancies". During a review of Valve Lineup Instructions (VLIs), the inspector found discrepancies between the VLIs and the Piping and Instrumentation Diagrams (P&IDs). In one instance, the P&ID indication was open while the VLI indication was closed. In other instances the P&ID indication was locked open while the VLI indication was open.

In the first instance, the P&IDs are generally drawn to show a system in operation, while the VLIs are written to show a "plant secured" status which is a benchmark status for writing operating instructions. Therefore, discrepancies between the two may be expected and are normal. In the second instance however, commitments in the FSAR require certain valves to be locked open or closed and these commitments must be reflected in the P&IDs and VLIs.

The licensee revised PAP-0503, "Preparation of Valve Lineup Instructions", to include the requirement of showing valves locked open or closed if called for in the FSAR or other licensing commitments. A review was made of the FSAR and the other licensing commitments to identify all valves that are required to be locked. This review has been completed. Engineering Change Notices (ECNs) or Design Change Packages (DCPs) have been written and approved to change the P&IDs. Most of these have been completed and the others are in progress. Temporary Change Notices (TCNs) have been written to change the affected VLIs and are in effect.

The inspector reviewed the results of FSAR and commitments review, the ECNs and DCPs written, the revised PAP, and the TCNs written to change existing VLIs. The review showed that the locked valve commitments made in the FSAR and other licensee commitments are or will be reflected in the P&IDs and VLIs. The particular VLI that the inspector examined previously had been corrected. The revised PAP also permits the operating department to require locking valves that are not required to be locked by the FSAR and P&IDs. These valves include cross connections between systems, isolation between portions of systems released for unit one operation and incomplete portions of the remaining system, those related to Technical Specifications that would reduce man-hours expended on surveillance requirements, etc. Thus, VLIs can contain locked valve indications not shown on the P&IDs. This situation is acceptable. The inspector also determined that the bulk of the revised P&IDs have been included in Amendment 19 to the FSAR. This item is closed.

- d. (Closed) Violation (440/85046-02 (DRP)): "Untimely distribution and training for a temporary change to PAP-1402 and procedural weaknesses for controlling those activities". During a tour of the facility, the inspector noted that Temporary Change Notice (TCN)-005 for PAP-1402, "Control of Lifted Leads, Jumpers, Temporary Electrical Devices and Mechanical Foreign Items", was being entered into the control room operations manual seven days after its effective date. Further inspection revealed that the effective date was the same as the approval date and no special arrangements were made for distribution of the procedure to the appropriate locations or training to the new procedure by the involved personnel.

The licensee reviewed the implementation of PAP-1402 between its effective date and the date of entry into the control room operations manual. Although several temporary alterations were installed and removed during this period, the concurrences required by the TCN were obtained using previously approved methods. The following corrective actions were taken:

- PAP-0502, "Preparation, Review, Approval, Revision and Cancellation of Administrative Procedures", has been changed to require that the date when a procedure or temporary change becomes effective shall permit sufficient time for training and controlled distribution.
- PAP-0211, "Procedure and Instruction Training", has been changed to require training of appropriate personnel when a temporary change to a Plant Administrative Procedure is issued.
- Administrative personnel involved in the processing of procedures and any subsequent temporary changes were reinstructed in the requirements for expeditious processing of these documents to controlled copy holders within required time limits.
- Training of personnel affected by TCN-005 to PAP-1402 was accomplished.

The inspector reviewed the revised PAPs-0502 and -0211 and found that the required changes had been made. The inspector visited the training section and reviewed the records of training of personnel to the requirements of recent TCNs to administrative procedures. The record of training of personnel to the requirements of TCN-005 to PAP-1402 was also reviewed. The reviews showed that timely training of personnel to the new requirements of TCNs to administrative procedures is taking place, and sufficient time is allowed for the training before the effective date of a TCN. This time also allows distribution of a TCN before its effective date. This item is closed.

- e. (Closed) Open Item (440/85066-01 (DRP)): "Format Inconsistency in Approved SVIs". The inspector found inconsistencies in the format of Surveillance Instructions (SVIs) written in accordance with two different revisions of Technical Administrative Procedure (TAP)-0503, "Preparation of Technical Specification Surveillance Instructions". The earlier revision (3) did not indicate that quality records were generated as a result of performing the SVI. The later revision (4) had the required records capture statement in the format but did not indicate that the data package cover sheet was a quality record.

The licensee issued TCN-001 to TAP-0503 to list by name all the quality records expected to be generated by performing the SVI. The licensee also indicated that any SVI run to fulfill a license requirement would be revised or have a TCN to conform to the format indicated in TAP-0503, Rev. 4 and TCN-001.

The inspector reviewed TCN-001 to TAP-0503 and found it satisfactory. Since any SVI must conform to the latest version of TAP-0503 before use (either by revision or TCN), the inspector has no further concerns in this area. The item is closed.

- f. (Closed) Violation (441/84006-01): "Material false statement concerning the use of herbicides to control vegetation along

transmission lines". The inspector reviewed pertinent documentation concerning this violation including the Director's Decision under 10 CFR 2.206 (DD-83-17), the applicant's response to the Notice of Violation dated April 25, 1984, and the NRC acknowledgement letter to the applicant dated December 12, 1984. The incomplete statement has been corrected.

The NRC has concluded that the applicant's initial false statement and its failure to correct the staff's use of the statement in the Final Environmental Statement, did not have significant regulatory impact nor appear to have been intentional. This item is considered closed.

- g. (Closed) Open Inspection Item (441/84025-02): "Management control of responses to inspection findings". In response to an open inspection item regarding the test program, the applicant revised a procedure which was subsequently changed deleting the programmatic requirements that resolved the original concern. To prevent recurrence of this type of breakdown, the applicant realigned the test program organization placing more supervisory emphasis on responsiveness to inspection findings and control over the processing of test section administrative procedure revisions. These actions appear to have been adequate due to the lack of recurrence of this type of item. This item is considered closed.

No violations or deviations were identified.

3. Safety Evaluation Report Follow-up Inspection Items (92701)

The Office of Nuclear Reactor Regulation (NRR) has requested that Region III inspectors confirm that the licensee has acceptably implemented certain Three Mile Island (TMI) action items and confirmatory issues as described in the Safety Evaluation Report (SER) for Perry, Unit 1 (NUREG-0887 with Supplements 1 through 6). In Inspection Reports 50-440/85022, 50-441/85012, and 50-440/85033, these items were listed as Open Items and entered into the Region III tracking system for future inspection. The items reported below are the results of the inspection of certain of the items.

- a. (Closed) SER Open Item (440/85022-01 (DRP)): "TMI Item I.A.1.1; Verify that the licensee has implemented the on-shift technical advisor. (SER 13.1.2.4 and 13.5.1.2)". The licensee has implemented the requirement for having a Shift Technical Advisor (STA) as part of every operating shift as follows:
- Table 6.2.2-1, "Minimum Shift Crew Composition", of the Perry Plant Technical Specifications indicates that an STA is required during conditions 1, 2, and 3.
 - Technical Administrative Procedure (TAP)-0101, "Duties of the Shift Technical Advisor", delineates the duties of the STA.
 - Training Manual (TM)-7.3, "Departmental Training - Technical Section", delineates the training required for an STA.

The inspector reviewed TMI Item I.A.1.1, SER Sections 13.1.2.4 and 13.5.1.2, Technical Specifications, Table 6.2.2-1, TAP-0101, and TM-7.3. The review showed agreement between the requirements of the TMI item and the SER sections and the implementation as expressed in the TAP and TM. The inspector also reviewed the STA training records and found that the training required in TM-7.3 for STAs has been completed for nine individuals. Of the nine, three are also licensed SROs. Based on the above evidence, this item is closed.

- b. (Closed) SER Open Item (440/85022-13 (DRP)): "TMI Item I.G.1; Determine that additional training is given during low-power testing. (SER 14.2)."

The licensee wrote TM-D1.5, "Preoperational and Startup Test Training Program" to implement the requirements of TMI Item I.G.1.

The inspector reviewed TMI Item I.G.1 and TM-D1.5 and found that the TM implements the requirements of the TMI item. The inspector also reviewed training records generated under TM-D1.5 and found that the training program is in progress. This item is closed.

- c. (Closed) SER Open Item (440/85022-18 (DRP)): "TMI Items II.D.1 and II.K.3.16; Verify that testing of relief and safety valves has been completed. (SER 3.9.3.2.1, 5.2.3, and 5.2.4)." In SER Section 3.9.3.2.1, it was concluded that the licensee had committed to the requirements of TMI Item II.K.3.16 to the extent practicable at this time. TMI Item II.D.1 requires testing of the reactor relief and safety valves under expected operating conditions for design basis transients and accidents.

General Electric Company (GE) supplied the reactor safety and relief valves for the Perry Plant. GE also supplied a certification testing plan and procedure (511.1216) and a product quality certification for each valve that indicated that the valve was tested in accordance with the plan.

The inspector reviewed the testing plan and procedure and the requirements of Item II.D.1 and concludes that the valves were adequately tested to comply with the TMI item. This item is closed.

- d. (Closed) SER Open Item (440/85022-23 (DRP)): "TMI Items II.F.1.4, II.F.1.5, and II.F.1.6; Verify that instruments have been installed to monitor containment pressure, water level, and hydrogen. (SER and SSER2 7.5.2.5)". On April 23-25, 1985 certain members of the Instrumentation and Control Systems Branch of the Division of Nuclear Reactor Regulation, NRC, made a Perry site visit to verify certain aspects of the plant instrumentation and control system. The group issued a trip report documenting their findings. The report was transmitted to the licensee by letter (B. J. Youngblood to M. R. Edelman) dated May 31, 1985. Section h of the report details the review of containment pressure, water level, and hydrogen concentration instrumentation required by TMI Action Plan Items II.F.1.(4), (5), and (6). The conclusion was that the instrumentation adequately fulfilled the requirements of the TMI items. Based on the above verification, this item is closed.

- e. (Closed) SER Open Item (440/85022-24 (DRP)): "TMI II.F.2; Verify that instrumentation for detecting inadequate core cooling have been installed. (SER, SSER3, and SSER5 4.4.7)". In paragraph j of the trip report referenced in paragraph d, above, the staff reviewed the instrumentation pertinent to Item II.F.2. They concluded that it was adequate and no concerns were identified. Based on the above verification, this item is closed.
- f. (Closed) SER Open Item 440/85022-25 (DRP)): "TMI Item II.F.3; Verify that instrumentation for monitoring accident conditions has been installed. (SER, SSER5, SSER6 7.5.2.2)". In a letter from H. L. Thompson, Director, Division of Licensing, Office of Nuclear Reactor Regulation to C. E. Norelius, Director, Division of Reactor Projects, Region III, dated October 10, 1985, Mr. Thompson withdrew his request for Region III verification of TMI Action Plan Item II.F.3. Accordingly, this item is closed.
- g. (Closed) SER Open Item (440/85022-33 (DRP)): "TMI Item II.K.3.21; Determine that the testing of the capabilities of the HPCS and LPCI systems is in accordance with TMI Action Plan Item II.K.3.21. (SER 7.3.2.1)". The TMI item noted that HPCS and LPCI systems flow could be manually terminated by an operator. Therefore, it required an automatic restart of these systems on loss of water level if an initiation signal were still present. The BWR Owners Group took a position that the requirement was unnecessary for a number of reasons. In SER Section 7.3.2.1, the staff supported the reasoning and concluded that the issue was resolved without the requirement for automatic restart of the HPCS and LPCI systems. Therefore, no verification is required and the item is closed.
- h. (Closed) SER Open Item (440/85022-37 (DRP)): "TMI Item III.D.3.4; Determine that equipment to ensure control room habitability has been provided. (SER 6.4)". In SER Section 6.4 the staff found that the control room design satisfied the requirements of TMI Item III.D.3.4 and was acceptable. Inspection Report 50-440/85017 details the witnessing of preoperation test TPOM25/26-P001, "Control Room Heating, Ventilation, and Air Conditioning (HVAC) and Emergency Recirculation System", by a Region III inspector. The successful conclusion of this test verified that the design was valid and the equipment satisfactory for operation. This item is closed.

No violations or deviations were identified.

4. Licensee Actions on 10 CFR 50.55(e) Items (92700)

- a. (Closed) 10 CFR 50.55(e) Report (440/81006-EE (DAR 56)): "Nonsafety sensing lines on safety-related receiver tanks". The design of the division one and two diesel generator air starting system has two compressed air receiver tanks and starting air compressors per diesel generator. Each receiver tank was equipped with an air sensing line and pressure switch which automatically started its corresponding air compressor on low pressure. The sensing line had a manually operated isolation valve at the tank. The tank and isolation valve were designed to seismic category I criteria. The

sensing line and pressure switch were not designed to seismic category 1 criteria. Therefore, during a seismic event, the line and/or pressure switch could be assumed to fail and the receiver tank depressurize, thereby preventing the diesel generator from starting.

The licensee abandoned the pressure switch, sensing lines and valves and replaced them with blind flanges on the receiver tanks thereby eliminating the hazard. To start and stop the nonsafety-related air compressors the licensee utilized existing pressure transducers that sense the pressure in the right and left starting air manifold of the diesels. While this system is not safety related, it is designed to seismic category 1 criteria and would not be assumed to fail during a seismic event. During preoperational testing of the diesel generator sets, the system performed satisfactorily.

The inspector examined the equipment in the field and concurs that the hazard has been removed and the problem resolved. Since the changes have been made on the unit one diesels only, this item is closed for unit one.

- b. (Closed) 10 CFR 50.55(e) Report (440/85010-EE (DAR 232)): "Part 21 from Brown Boveri dated March 19, 1985, concerning 480 volt circuit breaker that may have damaged control wire insulation". The Brown Boveri Company (BBC) notified the NRC and the licensee of a potential deficiency with some BBC K line circuit breakers based on experience at another nuclear plant. When the breakers were racked out to the full disconnect position with the compartment door closed, the top edge of a dust shield could damage the insulation on auxiliary switch control wires. BBC also submitted instructions for repairing any damaged control wire insulation and adding a sponge rubber strip to the top back of the dust shield to preclude future damage to insulation.

The licensee submitted a 10 CFR 50.55(e) report to the NRC and wrote Nonconformance Report (NR) NDS 118 to document the potential deficiency and provide a disposition. Under the NR, 36 Work Authorizations (WAs) were written to identify the breakers that may be affected, inspect the individual breakers for insulation damage, repair damage found, and add the sponge rubber strip to the dust shield. Quality control wrote separate inspection reports to document the inspection and work performed under the WAs. A total of 96 BBC breakers, including two in the warehouse, were inspected for damaged insulation and installation of the foam rubber strip. No instance of damaged insulation was found. The foam rubber strips were installed in all of the breakers inspected.

The inspector reviewed the NR and associated WAs and QC inspection reports. The review showed that all potentially deficient breakers were inspected for insulation damage and had a foam rubber strip added in accordance with the BBC instructions. The inspector also examined five of the breakers, chosen at random, and found no insulation damage and the installed foam rubber strip. Since no inspections or work were done on unit two breakers, this item is closed for unit one only.

- c. (Closed) 10 CFR 50.55(e) Report (441/79007-EE) (DAR 15): "Natural gas pipeline break analysis". This report concerns the possibility of a potential hazard imposed on the plant due to an accidental rupture of the 20" (diameter) natural gas (99% methane) pipeline that traverses the site.

The applicant's final report dated January 30, 1980, stated that the results of an analysis performed by NUS Corporation indicated that accidents involving the release of natural gas from existing pipelines do not pose a hazard to the plant, as the concentration of the natural gas at all plant air intakes would be well below the flammable limit. This item is considered closed.

No violation or deviations were identified.

5. Evaluation of Licensee Action with Regard to IE Circulars (92717)

For the IE Circular listed below, the inspector verified that the Circular was received by the licensee management, that a review for applicability was performed, and if the Circular was applicable to the facility, appropriate corrective actions were taken or scheduled to be taken.

(Closed) IE Circular 80-04 (440/80004-CC, 441/80004-CC): "Securing of Threaded Locking Devices on Safety-Related Equipment". Several licensee event reports were submitted to the NRC addressing the inoperability of safety-related equipment caused by loosened threaded locking devices. IE Circular 80-04 was issued in response to these events and listed the events. It was recommended that the events be reviewed for applicability to the facility and that installation and maintenance procedures for safety-related equipment be reviewed to be sure the securing of locking devices is adequately covered.

The licensee reviewed the specific events in the Circular and found that they were not applicable to the Perry Plant. A review of the contractors' installation procedures was made. Three procedures were found that were revised to include cautions on the securing of locking devices. The licensee's Nuclear Test Section (NTS) reviewed their procedures and had to revise two procedures to address the locking devices. The licensee's maintenance section review of their procedures showed that three had to be revised to address locking devices.

The inspector reviewed the following revised contractor and licensee procedures:

- L. K. Comstock and Company, Inc. procedure 4.3.1, "Cable Tray and Conduit Installation"
- Pullman Power Products Co. procedure JS-1X-55, "Maintenance, Repair, Rework, Disassembly and Reassembly of All Types of Valves"
- Pullman Power Products Co. procedure 1X-55, "Disassembly and Reassembly of Valves"

- NTS Procedure GEN-E-003, "Motor Operated Valve Test"
- NTS Procedure TWP-M-032, "Disconnection of Air Operator Vortex Dampers"
- Maintenance Procedure PMI-004, "General Maintenance Checks"
- Maintenance Procedure MAP-0501, "Preparation and Formatting of Maintenance Instructions"
- Maintenance Procedure GEI-0014, "Limitorque Limit/Torque Switch Adjustment"

The review showed that in all cases, the revised procedures adequately addressed the proper installation of locking devices for threaded fasteners. This item is closed.

No violations or deviations were identified.

6. Licensee Actions on Allegations (99014)

Allegation (RIII-85-A-0138): "Allegation concerning diesel generator control circuit design deficiencies". This allegation was closed in Inspection Report 50-440/85066 because the licensee had corrected the deficiencies by modifying the control circuit design and changing the wiring to meet the new design. The licensee subsequently informed the inspector that the required wiring changes have not been completed.

The inspector still considers the allegation closed for unit one because of the control circuit design changes that have been approved for unit one. However, completion of the wiring changes is considered an open item (440/85073-01) subject to further inspection when they are completed.

7. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which will involve some action on the part of the NRC or licensee or both. An open item discussed during the inspection is discussed in paragraph 6.

8. Exit Interview (30703)

The inspector met with the resident inspector and licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on October 18, 1985. The resident inspector summarized the scope and findings of the inspection. The licensee acknowledged the inspector's findings. The licensee did not indicate that any of the information disclosed during the inspection could be considered proprietary in nature.