

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-440/85041(DRS)

Docket No. 50-440

License No. CPPR-148

Licensee: Cleveland Electric Illumination Company
Post Office Box 5000
Cleveland, Ohio 44101

Facility Name: Perry Nuclear Power Plants, Unit 1

Inspection At: Perry Site, Perry, Ohio

Inspection Conducted: June 26-28, July 10-12, 1985

Inspector: *C. C. Williams for*
J. H. Neisler

7/31/85
Date

Approved By: *C. C. Williams*
C. C. Williams, Chief
Plant Systems Section

7/31/85
Date

Inspection Summary

Inspection on June 26-28, and July 10-12, 1985 (Report No. 50-440/85041)

Areas Inspected: Routine safety inspection of licensee activities relative to IE Bulletins; IE Circulars, previous inspection findings; instrumentation installation, electrical cables and raceway installation, including NRC as-built verification; and cable voltage drops. The inspection involved a total of 34 inspector-hours on site by one NRC inspector.

Results: No violations or deviations were identified during this inspection.

DETAILS

1. Persons Contacted

Principle Employees

*C. M. Shuster, Manager, Quality Assurance
*E. Riley, General Supervisor, Quality Assurance
*G. Parker, Unit Supervisor, NQAD
*R. Vondrasek, General Supervising Engineer, NED
*S. Kensicki, Technical Supervisor, PPTD
*G. Sondgeroth, Senior Engineer, Licensing
*N. J. Lehman, Staff Analyst, PPTD
*E. Willman, Senior Engineer, NED
*K. Turosky, Associate Staff Analyst, PPTD
*F. Stead, Manager, NED
*R. Neuendorf, Operations Audit Coordinator, NQAD
*W. J. Boyd, Quality Engineer, NQAD
*S. Tulk, Unit Supervisor, NQAD
K. Cimonelli, Lead Quality Engineer, CQS
E. Condo, Quality Engineer
H. Putre, Supervisor, Equipment Qualification
S. Litchfield, Equipment Qualification Engineer
R. Peters, Quality Engineer, CQS
D. Duff, Quality Engineer, CQS
W. Morris, Quality Engineer, CQS
E. Thomas, Equipment Qualification Engineer
R. Matthys, Lead Quality Engineer, CQS
H. Spackman, Operations Quality Section, NQAD
*J. Ioannidi, Site Project Manager, G/C
*R. Szczech, Operations Engineer, Tech/Compliance
G. Hicks, Element Supervisor, NTS

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (440/84007-06): Inadequate information on the qualifications of Rosemount Model 1152 pressure transmitters. The inspector examined documentation attesting to the replacement of all Model 1152 pressure transmitters in safety-related applications with qualified Model 1152 pressure transmitters.

3. Inspection and Enforcement Bulletins

(Closed) IE Bulletin 80-06 (440/80006-BB): Engineered Safety Feature (ESF) Reset Controls. The inspector determined that the requirement to identify the involved systems has been completed. Reset deficiencies in these systems have been corrected. Testing of these systems has not been accomplished. The closeout of this bulletin and the acceptable testing of the reset controls is included and tracked in NUREG 0887, Perry Safety Evaluation Report, Section 7.3.2.5 as license condition No. 6.

(Closed) IE Bulletin 80-16 (440/80016-BB): Potential misapplication of Rosemount Inc. models 1151 and 1152 pressure transmitters with either A or D output codes. The inspector examined documentation certifying that all model 1152 pressure transmitters and model 1151 transmitters with either A or D output coders had been replaced in safety related systems.

4. Inspection and Enforcement Circulars

(Closed) IE Circular 80-01 (440/80001-CC): Service advice for General Electric Company induction disc relays. The inspector verified that the circular was received by licensee, that a review for applicability was performed and that appropriate corrective actions were effected.

5. Functional or Program Areas Inspected

a. Instrumentation (Components & Systems) - Review of Quality Assurance Implementing Procedures

The inspector reviewed the quality assurance implementing procedures of the major instrumentation contractor to ascertain their adequacy; conformance to the approved Quality Assurance Program; and providing the appropriate controls to assure instrumentation systems are installed according to plant design criteria. The inspector selected the following Johnson Controls Incorporated procedures for review:

QAS-201-PNPP	Qualification and Certification of QA/QC Personnel
QAS-202-PNPP	Auditor Training and Qualification
QAS-203-PNPP	Indoctrination and Training of Non-QA/QC Personnel
QAS-401-PNPP	Design Control
QAS-403-PNPP	Preparation and Submittal of As-Built I/F Drawings
QAS-404-PNPP	Hanger Balancing Program
QAS-501-PNPP	Procurement Document Control
QAS-601-PNPP	Preparation and Approval of the I/F Planner and I/F/Package
QAS-701-PNPP	Document Control
QAS-702-PNPP	Control of Field Questions, Field Variance Authorizations and Engineering Change Notices
QAS-802-PNPP	Receiving Inspection
QAS-904-PNPP	Weld Material Control
QAS-1101-PNPP	Control of Inspections
QAS-1102-PNPP	Installation, Inspection and Repair of Hilti-Kwik Bolts, Concrete holes, Drywell Liner Plate Holes and Support Baseplates (Safety Related)
QAS-1601-PNPP	Nonconformance Control
QAS-1701-PNPP	Corrective Action

No violations or deviations were identified in this area.

b. Cable and Raceway As-Built Verification

The inspector performed a walkdown inspection of selected cable trays, conduits and electrical power cables in the reactor building

to determine whether the as-built configuration of the raceways and cable installation conforms to the latest design or as-built drawings and licensee commitments.

The inspection involved the review of cable pull slips, cable qualification documentation, weld filler material, control procedures, craft and inspector training, quality inspection records and installation records. In addition, the inspector visually examined the physical installations as to the location, routing, supports, separation, identification and terminations. Components selected were as follows:

<u>Conduit</u>	<u>Cable Tray</u>	<u>Cables</u>
1R33C3821B	254(B)	1M51F4B
1R12C190B	111(A)	1M51F2A
1D23P63B	1C41F8(B)	1C41F8B
		1R22C162B
		1R61A182B
		1R23F17B
		1R23F20C
		1R23F22C
		1R22C282B
		1R22C170C
		1R61A1038B
		1R61A970B
<u>Junction Box</u>	<u>Equipment</u>	
JB-1-3144	1M51-C001B	
JB-1-3834	1M51-C001A	
	1C41-C001B	

No violations or deviations were identified in this area.

c. Cable Voltage Drops

The inspector reviewed the licensee's program for evaluation of voltage drops in Class 1E circuits to determine the adequacy of cable sizing criteria used during design and construction. The inspector also determined whether the licensee had applied adequate management controls to preclude the installation of undersized cables in Class 1E systems. The inspector examined the following documents:

- Letter PY-CEI/GAI-5212, dated June 4, 1982, transmitted the results of CEI Engineering's Design Verification Review; section II.J of the review addressed voltage drop calculations for cables included in the computer routing program. Specifically, the review questioned the lack of feedback from the field of actual routed lengths and states that Gilbert Associates Incorporated (GAI) programs should include requirements for feedback to engineering for verification of the preliminary voltage drop calculations.
- Letter PY-GAI/CEI-12714, dated July 6, 1982, provided GAI's response to the CEI Design Summary Report and agreed to revise the Perry Project Design Criteria, Chapter 2, to include a table of maximum allowable circuit lengths for each cable size and to develop a computer program to identify installed power and control circuits that exceeded allowable lengths so that these circuits could be evaluated for excessive voltage drops.

- Internal memo's within the CEI site engineering organization, dated February 1, 1983 and February 3, 1983, identified that possible excessive voltage drops existed in circuits numbers E22, R25, P45, R45 and E51.
- Letter PY-GAI/CEI-16656, dated September 9, 1984, transmitted the results of a DC circuit review that had been performed in response to INPO (SER) 80-83 and recommended installing larger conductors or parallel circuits in some long DC circuits.

In addition to the above documentation, the inspector reviewed calculation sheets containing the voltage drop calculations for approximately fifteen circuits and computer data identifying circuits having potential for excessive voltage drop. The inspector also reviewed the licensee's current program for Class 1E cable voltage drop evaluation. This program establishes procedure and criteria for reviews and calculations to evaluate the as-installed circuits and to provide corrective action when the voltage drop is found to be excessive. The licensee informed the inspector that over 39,000 circuits had been evaluated, approximately 12 had been reported pursuant to 10 CFR 50.55(e) as having excessive voltage drop and that corrective action had been initiated to reduce the voltage drop to specified levels.

No violations or deviations were identified.

6. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection and summarized the scope and findings of the inspection. The licensee representatives acknowledged the inspector's comments. The inspector also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspector during the inspection. The licensee did not identify any such information as proprietary.