

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-352/84-53

Docket No. 50-352

License No. CPPR-106 Priority -- Category B

Licensee: Philadelphia Electric Company

2301 Market Street

Philadelphia, Pennsylvania 19101

Facility Name: Limerick Generating Station, Unit 1

Inspection At: Limerick, Pennsylvania

Inspection Conducted: September 17-21, 1984

Inspectors: *R. Paolino*
R. Paolino, Lead Reactor Engineer

1-14-85
date

F. Paulitz
F. Paulitz, Reactor Engineer

1-14-85
date

Approved by: *C. Anderson*
C. Anderson, Chief, Plant Systems
Section, Engineering Programs Branch

1-24-85
date

Inspection Summary:

Inspection on September 17-21, 1984 (Inspection Report 50-352/84-53)

Areas Inspected: A routine unannounced inspection consisting of work observation, work in progress and completed work activities and documentation review relative to the Power Generation Control Complex (PGCC), to ascertain whether these activities are being accomplished in accordance with NRC requirements and licensee SAR commitments. This inspection involved 80 inspection hours on site by two region based inspectors.

Results: One violation was identified with three examples of failure to follow procedures.

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DETAILS

1. Persons Contacted

1.1 Philadelphia Electric Company

- *J. M. Corcoran, Field QA Branch Head
- *T. E. Dey, Quality Assurance Engineer
- *C. R. Endriss, Regulatory Engineer
- *G. Lauderback, Quality Assurance Engineer
- *J. Lisa, Quality Assurance Engineer
- *J. Phillabum, Licensing Engineer
- E. F. Sproat, Electrical Project Engineer

1.2 Bechtel Power Corporation

- *G. C. Bell, Quality Assurance Engineer
- *B. Bradley, Quality Assurance Engineer
- *G. Kelly, Quality Assurance Engineer
- *J. Greenberg, Field Engineer
- A. Martella, Electrical Engineer
- *G. Szoka, Field Engineer

1.3 U.S. Nuclear Regulatory Commission

- *S. Chaudhary, Senior Resident Inspector
- *J. Wiggins, Senior Resident Inspector
- *R. M. Gallo, Chief, Reactor Project Section No. 2A

*Denotes those present at the exit meeting conducted on September 21, 1994.

2. Facility Tour

- 2.1 The inspector observed work activities in progress, completed work and construction status in various areas of the site. Work items were examined for obvious defects or noncompliance with NRC requirements and licensee commitments. Particular note was taken regarding the presence of quality control personnel and indication of quality control activities through visual evidence such as inspection records, material identifications, nonconformance and inspection tags. In addition, the inspector interviewed craft and supervisory personnel encountered in the work areas.

No violations or deviations were identified.

3. Instrumentation/Electrical -- Record Review

3.1 The inspector reviewed pertinent work and quality records for the PGCC installation to ascertain whether the records meet established procedures and whether the records reflect work accomplishments consistent with NRC requirements and licensee commitments.

3.1.1 Documentation examined for this determination include:

a) Field Design Disposition Request (FDDR)

- HHI-1406 dated February 12, 1980, for Fuse tied to 120 volt AC side.
- HHI-1062 dated April 1, 1980, for Power Supply.
- HHI-1064 dated April 10, 1980, for Broken/Damaged Cable.
- HHI-1120 dated September 5, 1980, for Panel Wiring.
- HHI-1123 dated September 10, 1980, for Terminal Connections.
- HHI-1124 dated June 8, 1980, for Substandard Wiring.
- HHI-1142 dated November 14, 1980, for Wiring Discrepancy.
- HHI-1171 dated January 28, 1983, for Junction Box.
- HHI-3302 dated April 6, 1984, for Power Supply.
- HHI-3017 dated February 9, 1984, for Incorrect Wiring.
- HHI-3040 dated February 16, 1984, for As-built Wiring.
- HHI-3057 dated May 17, 1984, for Incorrect Wiring.
- HHI-3060 dated February 24, 1984, for As-built condition.
- HHI-3074 dated March 1, 1984, for As-built Condition.

-- HHI-3179 dated April 18, 1984, for As-built Condition.

b) Connection Diagrams

-- Panel No. H12-626.

-- Drawing No. 851E446TN, Revision 10, Sheet 2.

-- Drawing No. 807E556TN, Revision 20, Sheets 3 & 4; Revision 25, Sheets 1, 2 and 5.

-- Panel H12-P647.

-- Drawing No. 164C5451, Revision 11, Sheet 1.

-- Drawing No. 865E200TN, Revision 20, Sheet 2; Revision 22, Sheet 4 and Revision 23, Sheet 1 and 3.

The above reports were found to be current, legible, easily retrievable, signed and approved by authorized personnel.

No violations or deviations were identified.

4. Instrumentation/Electrical - Work Observations

4.1 The inspectors observed work performance, partially completed work and completed work pertaining to the installation of the Power Generation Control Complex (PGCC) to ascertain whether the requirements of applicable specifications, procedures and instructions were met and that the as-built configuration reflects the installed system.

4.1.1 The inspector examined the PGCC system noting that control panel 10C601 contained the following deficiencies which are in violation of 10 CFR50, Appendix B, Criterion V.

10 CFR 50, Appendix B, Criterion V states, in part, that, "Activities affecting quality shall be prescribed by documented instruction --- and shall be accomplished in accordance with these instruction."

a. Division I (red) and Division III (blue) safety related cables entering the bottom of panel 10C601 do not meet project separation criteria specified in Wire and Cable Notes and Details No. E-1412. Sheet 6.5 (3rd paragraph), Revision 9 of E-1412 states in part, that: "A minimum separation distance of 6 inches shall be maintained between class IE wiring of different divisions.

Division I and Division III cables entering the bottom of panel 10C601 were less than 1 inch apart. A follow-up inspection by the licensee to determine the extent of the separation violation identified four additional control panels that violated project separation requirements. The licensee has issued a Finding Report No. N-423 to address this issue. (352/84-53-01)

- b. Cable entry ports on top of control panel 10C601 were not sealed to prevent entry of dirt and dust into the control panel as required by procedure E-1406.

The licensee has identified similar deficiencies noted in Housekeeping Deficiency Notice No. LGS-84-0547 dated September 7, 1984, for panel Nos. OAC588 and OBC588.

Section 5.13 of Sheet 5.2.1, Revision 3, states, in part, that: "Entrances for cable into the top of equipment from cable trays shall be sealed for dust and debris ---". The licensee has issued a Finding Report No. N-425 acknowledging additional panels in violation of E-1406 criteria. (352/84-53-02)

- c. Communication wires (Temporary modification) used during test phase of system checkout were tied to safety related wiring in several PGCC panels including panel 10C601. The orange tags affixed to the non-safety communication wires did not contain the information specified in the Temporary Modifications Control Procedure No. AD6.8-4 required to ensure removal and restoration of wiring to the original configuration.

Section 5.3 of Administrative Procedure (AD) 6.8.4 states, in part, that: "On this tag the following information is entered:

- a. System/Sub-System Designator.
- b. Temporary Modification log number.
- c. Name of System Startup Engineer authorizing the modification.
- d. Modified component name.
- e. Date tag is attached."

The licensee has issued a Finding Report No. N-427 to address this issue 352/84-53-03.

5. Exit Meeting

The inspector met with licensee and construction representatives (denoted in paragraph 1) at the conclusion of the inspection on September 21, 1984 at the construction site. The inspector summarized the scope and the inspection findings discussed herein.

At no time during this inspection was written material provided to the licensee.