

U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 50-354/85-23

Docket No. 50-354

License No. CPPR-120

Priority --

Category B

Licensee: Public Service Electric and Gas Company

80 Park Plaza - 17C

Newark, New Jersey 07101

Facility Name: Hope Creek Generating Station, Unit #1

Inspection At: Hancocks Bridge, New Jersey

Inspection Conducted: May 13 - 17, 1985

Inspectors: M. J. Schaeffer
M. J. Schaeffer, Reactor Engineer

6/14/85
date

C. H. Woodard
C. H. Woodard, Reactor Engineer

6/14/85
date

Approved by: J. Anderson for
C. J. Anderson, Chief, PSS,
Engineering Branch, DRS

6/18/85
date

Inspection Summary: Inspection on May 13-17, 1985 (IE Report No. 50-354/85-23)

Areas Inspected: Routine, unannounced inspection by two region-based inspectors of activities pertaining to the installation of safety-related electrical equipment, inspection of the preventative maintenance program, and inspection of Licensee's actions on previously inspected items. The inspection involved 72 hours of direct inspection time on site.

Results: No violations were identified.

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DETAILS

1.0 Persons Contacted

1.1 Public Service Electric and Gas Company

- *Mr. A. Barnabei, Principal Quality Assurance Engineer
- *Mr. R. Donges, Lead Quality Assurance Engineer
- *Mr. C. Fuhrmeister, Lead Quality Assurance Engineer
- *Mr. R. Griffith, Principal Quality Assurance Engineer
- Mr. K. Hedjar, Site Engineering
- *Mr. C. Kaffee, Start-Up Engineer
- Mr. P. Kudless, Maintenance Manager
- *Mr. S. La Bruna, Assistant General Manager
- *Mr. M. Metcalf, Quality Assurance Start-Up Engineer
- Mr. W. Mokoid, Senior Maintenance Planning Supervisor
- Mr. W. Preitts, Lead Electrical Start-Up Engineer
- *Mr. J. Rush, Maintenance Engineer
- Mr. M. Shedlock, Senior Maintenance Supervisor

1.2 Bechtel Power Corporation

- Mr. V. Shell, Lead Cable Pulling and Termination QC Engineer
- Mr. J. Miller, Cable Pulling and Termination QC Engineer

1.3 Stone and Webster Engineering Corporation

- *Mr. R. Donnellon, Maintenance Department Supervisor
- Mr. J. Rucki, Construction Maintenance Supervisor

1.4 United States Nuclear Regulatory Commission

- *Mr. S. Chaudhary, Senior Resident Inspector

*Denotes Personnel present at exit meeting

2.0 Facility Tour

The inspectors observed work activities in progress, completed work and plant status in several areas during a general inspection of the site. The inspector examined work items for obvious defects of noncompliance with NRC requirements and Licensee commitments. Specifically, the tour included inspection of channel A, B, and C's 4160 volt Emergency Switchgear, 480 volt Unit Substations, 480 volt Motor Control Centers and associated Batteries, Chargers, Inverters, and Diesel Generators.

No violations were identified.

3.0 Licensee's Action On Previously Identified Items
 (open) CDR 84-00-04 General Electric HEA Relay Trip Force
 Values Out Of Specification/Malformed Torsion Springs

General Electric identified to the Licensee, in Service Advice Letter PSM 175.1, that HEA relays manufactured between September, 1980 and August, 1983 may exhibit Trip Force values which could cause malfunction. The potential for malfunction is related to a design change that was implemented during the above time frame. GE recommended to the Licensee that all HEA relays manufactured between the above dates (corresponding to a two alpha designator date code) should be inspected to determine the force required to trip the relay; and any HEA relay not meeting the specified force be replaced. The A/E advised the Licensee that thirteen (13) HEA relays installed in safety related systems failed to meet the specified Trip Force values when tested according to the vendors instructions.

Bechtel generated Nonconformance Report No. 3108 to document the inspection, testing, and replacement of the defective HEA relays. In addition, the Licensee was advised by General Electric in Service Advice Letter PSM 165.1 that certain HEA relays manufactured between May, 1979 and December, 1980 may fail to operate due to malformed torsion springs. Bechtel generated Nonconformance Report No. 2264 to document and control the suspect hardware.

The inspector reviewed the corrective action taken by the Licensee and concluded that there was insufficient data available to close these items at this time.

These items remain open.

4.0 Electrical (Components and Systems)--Work Observations

The inspector observed work in progress, partially completed work, and completed/turned over equipment to PSE&G to determine whether the requirements of applicable specifications and work procedures have been met in areas relating to installation and maintenance.

- 4.1 The inspector examined channels A, B, and C which included 4160 volt Switchgear's 10A401, 10A402, and 10A403; 480 volt Unit-Substations 10B410, 10B420, and 10B430; 480 volt Motor Control Centers' 10B411, 10B421, and 10B431 on elevation 130' in the DG building. In addition, the inspector examined the associated Batteries, Chargers, and Inverters. The inspector examined the previously mentioned equipment/components for cleanliness, adequate ventilation, proper identification, and maintenance.

No violations were identified.

- 4.2 The inspector toured the emergency diesel generator areas and observed welding performed on the generator coil guard baffles. Re-welding was required to correct a manufactures defect. This was reported by Louis Allis Corporation (10 CFR 21) in their letter to NRC dated March 29, 1985. Intermittent fillet welds had failed on the coil guard baffles at another facility. Failure of the welds could have caused the baffle to be pulled into the generator thereby causing failure. The repair consisted of a continuous fillet weld on the baffle on the opposite side of the skip fillet welds. This continuous fillet weld was done in accordance with the manufactures instructions.

No violations were identified.

5.0 Electrical (Components and Systems)--Record Review

The inspector reviewed pertinent work and quality records for activities relating to the procurement of electrical components and systems to ascertain whether the records meet established procedures and whether the records reflect work accomplishments consistent with NRC requirements and FSAR commitments in the areas of documentation, receipt inspection, quality control, and installation.

- 5.1 This determination was based on the review of the following:

- E-109 (Q), Technical Specification For 4160 Volt Metal-Clad Switchgear,
- E-117 (Q), Technical Specification for 480 Volt Unit Substations,
- E-118 (Q), Technical Specification for 480 Volt Motor Control Centers,
- E-151 (Q), Technical Specification for Battery Charges,
- E-150 (Q), Technical Specification for Batteries,
- E-154 (Q), Technical Specification For Instrument Alternating Current Power Supply,
- SWP/P-E-33, Installation of Electric Control Boards, Control Complex Equipment, Switchgear, Motor Control Centers, Load centers and Distribution Panels,
- PQCI, R-1.00, Project Quality Control Instruction-Receiving Inspection,
- PQCI, E-6.0, Project Quality Control Instruction-Installation of Electrical Equipment

The components were procured in accordance with the procurement specifications and installed and inspected in accordance with prescribed procedures.

No violations were identified.

6.0 Preventive Maintenance Activities---Start-Up/Operations

The inspector reviewed the Licensee's progress in overcoming the delays in implementing operational preventive maintenance of equipment and systems turned over to PSE&G from Bechtel. The Licensee was cited for these untimely delays in preventive maintenance during a previous inspection (85-17) conducted April 15-18, 1985. At that time there were more than four hundred (400) past due items. During this inspection the Licensee has made considerable progress in reducing the number of past due items. As of May 9, 1985, the number of past due PM items was approximately eighty four (84). The inspector randomly selected twenty six (26) items from the Inspection Maintenance Report (IMR 8580) and requested the work orders from the Licensee. The Maintenance Work Orders were reviewed for compliance to prescribed PSE&G procedures and found acceptable. Subsequent to the review, the inspector emphasized to the Licensee that during the start-up and operational phase, maintenance requirements may change for certain types of equipment and that the manufactures instructions regarding maintenance will reflect these changes and need be indicated on the Maintenance Work Orders. The Licensee acknowledged awareness of this and showed the inspector examples of where PSE&G's operational maintenance organization is extracting from the vendors equipment manuals the maintenance requirements necessary to properly maintain equipment in the start-up and operational phase.

No violations were identified.

7.0 Exit Meeting

The inspector met with licensee and construction representatives (denoted in paragraph 1.0) at the conclusion of the inspection on May 17, 1985 at the construction site.

The inspector summarized the scope of the inspection, the inspection findings and confirmed with the licensee that the documents reviewed by the team did not contain any proprietary information. The licensee agreed that the inspection report may be placed in the Public Document Room without prior licensee review for proprietary information (10 CFR 2.790).

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