

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-354/85-39

Docket No. 50-354

License No. CPPR-120

Priority --

Category B

Licensee: Public Service Electric and Gas Company
80 Park Plaza
Newark, New Jersey 07101

Facility Name: Hope Creek Generating Station, Unit 1

Inspection At: Hancocks Bridge, New Jersey

Inspection Conducted: August 5 -9, 1985

Inspectors:

R. J. Paolino, Lead Reactor Engineer

9-19-85
date

C. H. Woodard, Reactor Engineer

9/20/85
date

Approved by:

C. J. Anderson, Chief, Plant System
Section, DRS

9/20/85
date

Inspection Summary:

Inspection Period - August 5 - 9, 1985 (Inspection Report No. 50-354/85-39)

Areas Inspected: Routine unannounced inspection by regional based inspectors of licensee work activities, procedures and documentation pertaining to the installation of instrumentation systems, components and associated control circuits. The inspectors also conducted a review of the Fire Protection Program as it relates to the scheduled fuel receipt and a review of the status of previously identified open items. The inspection involved 59 inspection-hours on site by two region based inspectors.

Results: No violations were identified. The licensee's Fire Protection Program as noted in section 6 of this report was determined to be adequate to receive fuel on site.

DETAILS

1.0 Persons Contacted

1.1 Public Service Electric and Gas Company

F. A. Boppel,	Senior Staff Engineer
R. Braddick,	Nuclear Site Protection Engineer
S. La Bruna,	Assistant General Manager - HCO
J. F. Duffy,	Supervisor of Engineering
A. E. Giardino,	Site Quality Assurance (QA) Engineer
R. T. Griffith,	Principal Quality Assurance Engineer
P. Kudless,	Maintenance Manager - HCO
E. C. Logan,	Site Manager
I. Mermelstein,	Licensing Engineer
M. F. Metcalf,	QA Startup Engineer
*J. J. Pantages,	Senior Staff Engineer
R. Scaletti,	Training Coordinator Fire Protection/Safety
R. S. Salvesen,	General Manager - HCO
A. Sternberg,	Principal QAE
T. Storey,	Senior Fire Protection Engineer
R. J. Thompson,	Senior Reactor Supervisor

1.2 Bechtel Power Corporation

*W. R. Cole,	Lead Site QAE
J. A. Dahnert,	Senior QC Staff Assistant
W. Goebel,	QAE
G. Goldsmith,	Resident Engineer
*J. R. Howell,	Assistant Lead Electrical Engineer
G. Moulton,	Project QAE
*D. K. Sakers,	Assistant Project Construction QCE
P. Vander Veer,	Field Engineer

1.3 General Electric Company

P. Craig,	Field Engineer
J. Watson,	Field Engineer

1.4 U. S. Nuclear Regulatory Commission

*S. K. Chaudhary,	Senior Resident Engineer
A. R. Blough,	Senior Resident Engineer
*J. J. Lyash,	Resident Inspector

* denotes personnel not at exit meeting.

2.0 Facility Tour

The inspector 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 or noncompliance with NRC requirements or licensee commitments. Particular note was taken regarding the presence of quality control inspectors and indications of quality control activities through visual evidence such as inspection records, material identifications, nonconformance and acceptance tags. In addition, the inspector interviewed craft and supervisory personnel encountered in the work area.

No violations were identified.

3.0 Status of Previously Identified Items

(Closed) Construction Deficiency Report No. 84-00-13 pertaining to the Comsip - supplied Control Panel for the Safety Auxiliary Cooling System and for the Reactor Building Filtration, Recirculation and Ventilation System. These panels were supplied with internal wiring which was not qualified for class 1E harsh environment.

The inspector verified the removal, procurement and replacement of the wiring by the licensee. Verification was based on review of Design Change Notice No. 43 to specification No. E-1408-0(Q); Procurement document No. 10855-E170A(Q), and Quality Control Inspection records under QC file No. E170A. Control Panel Nos. 1AC 201 and 1CC 281 were examined to confirm wire replacement.

This item is closed.

(Closed) Construction Deficiency Report No. 84-00-17 pertaining to excessive actuation time for voltage balance relays (Brown-Boveri ITE-60) in the emergency diesel generator switchgear. The inspector verified the repair and replacement of the voltage balance relay. Acceptance of the relay was based on test procedure No. TPR-KJE-0074.

This item is closed.

(Closed) Unresolved Item No. 84-21-01 pertaining to application of protective covering for battery cable and terminal lug assembly. The inspector reviewed vendor recommendations for protection against corrosive atmosphere in the battery room. The recommendation consisted of applying a corrosive-inhibiting grease on the exposed cable and terminal lug surfaces.

The inspector examined the application of a corrosion-inhibiting grease type NO-OX-ID verifying compliance with section IV, paragraph 4.2 of Vendor (CD Batteries) instruction manual.

This item is closed.

(Closed) Unresolved Item No. 85-03-02 pertaining to edge distance criteria for installation of conduit clamp straps. Documents reviewed by the NRC inspector include:

- Unistrut Test Report No. C-120
- Licensee evaluation of conduit clamp edge distance (document No. 02-79141) dated March 4, 1985.
- Comparison of the B-line and Unistrut clamp (attachment 2)
- B-line value Test Nos. BLE-7784 and BLE-7938

Results of the test indicated the deflection for the conduit clamp strap is negligible compared to the thickness of the clamp strap. For future installations the licensee is recommending 1/2 inch minimum edge distance for 3/4 inch through 4 inch conduits when the tributary length is greater than 9 ft. For 5 inch and 6 inch conduits the edge distance is to be 1 inch.

This item is closed.

(Closed) Unresolved Item No. 85-03-03 pertaining to replacement of Rosemount Transmitter Model No. 1151 with the environmentally qualified Model No. 1153B. The inspector reviewed vendor Instruction Manual No. 4302, revision B; General Electric (GE) Instruction Manual No. 225A4537 and GE Field Design Instruction (FDI) - WTIQ verifying that the environmental qualification parameters have been incorporated in the instructions for installing The Model 1153B Transmitter.

The tracking mechanism for completing new work resulting from installation of the Model 1153B Transmitter is provided through the use of Exhibit E of Components/Systems Turnover procedure No. SWP/P-134. GE drawing Nos. 163C1564 for model no. 1151 and 188C7360 for Model 1153B indicate the calibration range is the same for both units and that no additional loop testing would be required.

This item is closed.

4.0 Instrument (Components and Systems) -- QA Record Review

To determine whether technical requirements contained in the FSAR for safety related instrumentation have been adequately translated into specifications, procedures and instructions, the inspector examined the following documents:

- "Station Control of Calibrated Measuring and Test Equipment" - Procedure No. SA-AP.ZZ-022(2) approved April 26, 1985.

- SWP/P-103 revision 5, "Calibration of Testing Instruments, Tools and Equipment."
- Construction Quality Control Manual, revision 0, Section VII, "Control and Measuring and Testing Equipment" (Control Copy No. 082).
- SWP/P-135 revision 2, "Release of Equipment and Devices to PSE&G for Calibration or Testing (RFT)."
- SWP/P-14, "Material Receipt, Storage and Handling."
- SWP/P-15, "Maintenance of Material in Storage."
- SWP/P-22, "Construction Safety Tagging."
- SWP/P-137, "Processing and Implementation of SDR's."
- SWP/P-138, revision 1, "Review and Implementation of Design Change Package."
- EDPI-4.73-0 Project Design Change and Configuration Control Procedure."
- Drawing No. C51-1070-21(1)-12.
- SWP/P-5, "Field Change Request/Field Change Notice/Startup Change Requests."
- SWP/P-J-100, revision 3, "Instrument Installation, Card and Work Plan/Procedure Control."
- SWP/P-J-101, revision 0, "Instrument Field Design, Materials, Installation Surveillance/Inspection."
- SWP/P-T-103, revision 2, "Leak Testing of Instrument Piping Systems."
- SWP/P-57, "Installation of Instrumentation."
- SWP/P-E-18, "Termination Installation."
- Drawing No. J-0400, "Instrument Index."
- SWP/P-J-100 Work Forms, Exhibit A & B (sheets 1, 2 & 3).
- Procedure No. 1085/I-1.10, revision 2, "Installation of Instruments."
- Procedure No. 1085/I-1.00, revision 14, "Receiving Inspection."

The above documents are current, reviewed and approved by cognizant authorized personnel. The documents are of sufficient detail and clarity for adequate work performance and control.

During the document review the inspector noted that the Source Range Monitor (SRM) and the Intermediate Range Monitor (IRM) drawing No. C51-1070-21(1)-12 specifies a coaxial cable connector No. UG1213/U which uses a teflon dielectric. The SRM/IRM coaxial cable connectors are located beneath the Reactor Vessel and would be subject to high radiation exposure which degrades the teflon dielectric. The licensee has ordered and received replacement coaxial connectors with radiation resistant "Rexolite" dielectric. However, the radiation resistant connectors with "Rexolite" have not been installed to-date. The licensee indicated an evaluation will be performed to determine the appropriate time for replacement of the connectors with the teflon dielectric.

No violations were identified.

5.0 Instrument Calibration -- Work Observation

The inspector examined the calibration facility, observing the licensee in the process of calibrating electrical crimping tools. Calibrated Items examined by the inspector include:

- Crimp Tool Nos. 1654 and 1816
- Pressure Gauge No. 2527
- Torque Tester No. 2852

Calibration Procedure No. HC-VP-21 revision 0 was used to calibrate the crimp tools. Procedure No. HC-VP-8 revision 4 was used to calibrate the pressure gauge.

No violations were identified.

6.0 Fire Protection Program

The inspector reviewed the licensee's Fire Protection Program to determine licensee's readiness to receive fuel on site.

The items examined to determine this include:

- Prefire plan for the fuel lay down area, elevation 201'-0. (No M10-FRH-II-47/rev. 0)
- Fire Department Response Procedure No. M10-FRH-I-002 dated August 1, 1985

- Prefire plan for Control Room No. M10-FRH-I-001
- Radiation Protection Fire Plan No. M10-FRH-I-003
- Station Security Program Procedure No. SA-AP.ZZ-033(Q)
approved July 6, 1985
- Station Fire Protection Program Procedure No. SA-AP.ZZ-025(Q)
approved June 12, 1985
- Receipt of New Fuel - Procedure No. SA-AP.ZZ-039(Q)
dated July 8, 1985
- Fire Department Drill Procedure No. M10-FDT-022 revision 0,
dated May 3, 1985
- New Fuel Inspection - Procedure No. RE-FR.ZZ-004
dated August 2, 1985

In performing the procedures review, the inspector noted that the administrative Procedure No. SA-AP.ZZ-025(Q) revision 1, references a Bechtel Fire Brigade. The licensee stated that this was in error and will be changed to reference the PSE&G Fire Brigade. Revision 2 to the procedure incorporating this change, has been reviewed and approved by the Site operation Review Committee (SORC). Discussions with the licensee indicated the Fire Brigade will be comprised of dedicated personnel from a six man, trained fire fighting team per shift. Members, three from the Salem Nuclear Facility and three from the Hope Creek facility, will be sufficiently knowledgeable to understand the effects of fire and fire suppressants on safe shutdown capability. However, FSAR section 9.5.1.5.2 references an eight man trained fire brigade. The licensee has prepared an FSAR amendment submittal to change the eight man brigade to a six man brigade.

The inspector examined fire brigade training records, training program and drill participation records. The records indicate personnel meet the requirements established for the Salem Nuclear Facility. Hope Creek training on Hope Creek systems and walk through is scheduled for the week of August 12-23, 1985. One shift (fire brigade) has been in operation at the Hope Creek facility for 1 year. Brigade members participated in one drill (a Hazard Spill) on August 6, 1985 with satisfactory results.

Inspection of the lay down area indicates the licensee has the required Hose Stations and Portable Fire Extinguishers necessary to combat a fire in the area. Water for the Hose Stations will come from the Fire Water Storage Tank. Daily surveillance to assure availability of at least 75,000 gallons of water is planned. Smoke detectors installed in the laydown area will not be functional, in time for fuel receipt. The licensee is committed to 24 hour surveillance of the area by the Security and Fire Brigade personnel. Temporary filtered air for the fuel storage

area (elevation 201'-0) will be provided by existing construction fans on elevation 178'-0. The fire house and fire truck are presently located in the Salem facility. In the event of a fire at the Hope Creek facility, Salem fire brigade personnel and the fire truck must cross security posts at the Salem Nuclear Facility and the Hope Creek Facility. Practice drills indicated the trip can be made in less than 5 minutes. However, the licensee is planning to place a control gate near the fire house providing quick access to either facility. This gate is scheduled for completion in mid-September, 1985.

7.0 Exit Meeting

The inspectors met with licensee and construction representatives (denoted in Details, paragraph 1) on August 9, 1985 at the Hope Creek Site to discuss the scope of the inspection and inspection findings. At no time during this inspection was written material provided to the licensee.