

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-354/86-13

Docket No. 50-354

License No. CPPR-120

Priority --

Category B

Licensee: Public Service Electric & Gas Company
Post Office Box 236
Hancocks Bridge, New Jersey 08038

Facility Name: Hope Creek Generating Station

Inspection At: Hancocks Bridge, New Jersey

Inspection Conducted: February 10-14, 1986

Inspectors: *Blasius for* 3-6-86
H. Gregg, Lead Reactor Engineer date
Blasius 3-6-86
R. Papilio, Lead Reactor Engineer date
Approved by: *C. J. Anderson* 3/6/86
C. J. Anderson, Chief, Plant Systems date
Section, DRS

Inspection Summary: Inspection on February 10-14, 1986 Report No. 50-354/86-13.

Areas Inspected: Routine unannounced inspection by region based inspectors to review and close out previously identified open items, and to review the licensee's activities related to snubbers. The inspection involved 82 inspection-hours on site by two region based inspectors.

Results: No violations were identified.

DETAILS

1.0 Persons Contacted

1.1 Public Service Electric & Company

R. Brandt, Nuclear Dept. Inspection Service Engineer
*J. Carter, Manager Startup Group
C. Conner, Operations Manager
*R. Douges, Lead Quality Assurance Engineer (QAE)
G. Duncan, Senior Engineer, ISI Group
*J. Duffy, Site Engineer
*N. Dyck, Response Coordinator Team Chairman
A. Kao, Principal Engineer
*J. Hagan, Station Planning Manager
*A. Giardino, Station QA Manager (Hope Creek)
*A. Gray, Licensing Engineer
*R. Griffith, Principal QAE
P. Kundless, Maintenance Manager
*S. La Bruna, Assistant General Manager
M. Massaro, Lead Engineer
W. Merrit, Senior Technical Supervisor
*J. Ranalli, Site Engineer
J. Pantazes, Senior Staff Engineer
*R. Salveson, General Manager (Hope Creek)

1.2 Bechtel Power Corporation

*H. Boalani, Stress Group Supervisor
*C. Jaffee, Startup Engineer
T. Giordano, Site Engineer
*W. Goebel, QAE
*N. Griffin, Project Field Engineer
G. Iaska, QAE
J. Lezenby, Project Engineer
J. McKenzie, Field Engineer
*G. Moulton, Project QAE
J. Schott, Engineer (San Francisco)
K. Vnaide, Field Engineer

*denotes personnel present 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 Hope Creek facility. 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 inspection personnel and indications of quality control activities through visual

evidence such as inspection records, turnover tags, material identification, nonconformance and acceptance tags.

No violations were identified.

3.0 Snubber Inspection

The inspector reviewed the general site activities related to snubbers. This included review of the following:

- Final stroking program being performed by the architect engineer (Bechtel Corporation)
- Observations of work being performed on drywell snubbers
- Quality control inspection records related to those snubbers observed
- Status of responsibility for Technical Specification (TS) surveillances after construction turnover of snubbers
- FSAR requirements for snubbers
- Snubber records and test documentation

3.1 Final Stroking Program

The inspector reviewed the final snubber stroking program being performed by Bechtel per procedure SWP/P-143 Revision 1. The program objectives are to demonstrate that snubbers have not been damaged after final inspection and that snubbers are free to move through their full stroke range. The requirements of this procedure are applicable to all snubbers both mechanical and hydraulic.

The inspector determined that the plant has 50 hydraulic snubbers manufactured by E System Company, Montek Division and approximately 1200 mechanical snubbers manufactured by Pacific Scientific Company Ken-Tech Division.

The inspector verified that this program was completed in December 1985 and was satisfactorily performed in accordance with the procedure.

3.2 Work Observations in Drywell

Based on the final stroking program findings of damaged snubbers and protective covers removed, Bechtel issued a Quality Action Request (QAR F-307) to again perform a visual examination of all drywell snubbers and to correct all problems (Nonconformance reports NCR-9024 and 9025 were issued to perform the work). The inspector performed a

walkdown in the drywell and observed the field engineering work being performed on snubber PSA Ser No. 1306 from hanger 1-P-AE-035-H04Q. The inspector observed the setting and retorquing of the end paddles and the stroking of the snubber through the full range of travel. The inspector also observed installed: E System 50 KIP snubber Ser No. 089 on hanger 1-P-BB-014-H001, PSA Size 35 (double) snubber Ser No. 9913 on hanger 1-P-AB-058-H11, and PSA Size 10 (double) snubber Ser 13540 and 13535 on hanger 1-AB-062-H13.

The inspector verified that the in process field work was being performed in accordance to the procedures and that QC was on hand and was performing the required checking and sign-offs.

3.3 Quality Control Records of Work

The inspector reviewed the QC records of the specific snubbers observed during the walkdown. The inspector determined that QC Instruction P-2.10 and the QC Inspection records (QC file No. 3D49, Log Nos. P-375, 412, and 504) for Shock Suppressor Stroking, and Torquing defined the required work activity.

QC was fully involved and the records were signed at each acceptance point and were properly completed.

3.4 Status of TS Snubber Surveillance Responsibility

The inspector reviewed the status of future responsibility within the TS surveillance requirements. The inspector determined that all TS visual and functional test surveillances are under the ISI department and that only the service life monitoring item is under the maintenance department. The licensee's personnel stated procedures are in process to enable performance of these activities but are not complete.

3.5 FSAR Requirements for Snubbers

The inspector reviewed the FSAR provisions related to design specification requirements, performance tests including both production and qualification tests, and the construction verification, preoperational and power test program. Each of these areas were determined to be adequately addressed.

3.6 Snubber Records and Test Documentation

The inspector reviewed the snubber documentation records and determined that the individual production test records for PSA mechanical snubber were not in the documentation package. (It was noted that

the production test records of the hydraulic snubbers was in the documentation package.)

The inspector verified that FSAR required production tests of all snubbers. The inspector review of the Bechtel ordering specification P-401Q determined that it does not contain provisions for production testing records for mechanical snubbers. Therefore, the inspector could not obtain any verification that individual production testing was performed, if performed where these records are and that they met the manufacturers functional operability criteria.

This item remains unresolved pending the licensee providing information that: production testing was performed on mechanical snubbers and availability of the test data, test results met the acceptance criteria, and test records are those of the installed snubbers (50-354/86-13-01).

4.0 Status of Previously Identified Items

- 4.1 (Closed) Circular No. 77 CI-11 leakage of Containment Isolation Valves with Resilient Seats. This circular advised of excessive leakage problems in large butterfly valve elastomeric seat material losing resiliency, wearing due to cycling, and degradation due to environmental conditions.

The licensee has BIF containment isolation valves with EDPM seat material, (not the manufacturer or seat material described in the IE Circular). Additionally, the seat material will be replaced every five years per the manufacturer's maintenance procedure. The licensee is knowledgeable of the leakage concerns and plans to address this in their future maintenance program.

This item is closed.

- 4.2 (Closed) Circular No. 78-CI-07 Damaged Components of a Bergen-Paterson Series 25000 Hydraulic Test Stand. This test stand utilizes a 2 pin fixed loading system, which unlike the actual snubbers with spherical type bushings, doesn't allow transmission of bending moments in the vertical plane. Bergen-Paterson recommended periodic inspection and provided acceptance criterion for the fixture components. The NRC circular asked licensee to review their snubber testing device to determine if a similar problem could develop and to consider the need for periodic inspection and replacement of components.

The licensee's Response Coordination Team has reviewed the circular, and the Technical personnel is knowledgeable about the need to prevent misalignment bending moments. The licensee has not purchased Bergen Paterson snubbers and does not intend to purchase a Bergen Peterson hydraulic test stand. The purchase of a test machine has not been authorized and is still being considered, however, the licensee has committed to operating and maintaining a snubber test stand in accordance with the manufacturers recommendations if one is purchased. The licensee's activities satisfactorily address the IE circular concerns.

This item is closed.

4.3 (Closed) Circular No. 80-CI-10 pertaining to failure to maintain Environmental qualification of equipment.

The circular recommends that the licensee review its current maintenance procedures and administrative policies to ensure that adequate administrative controls exist to ensure equipment that is environmentally qualified is not degraded upon completion of maintenance.

The licensee has reviewed equipment subject to harsh and mild environments to identify maintenance and surveillance action required to maintain the qualified condition of equipment. Site engineering instruction (SEI) 2-6 has been issued and equipment qualification sheets completed which identify the requirements to the plant maintenance department. Maintenance procedure SA-AP.ZZ-009(Q) on control of station maintenance provides requirements and precaution to ensure equipment qualification is not degraded when performing maintenance activities. Training of maintenance personnel includes use of approved procedures and use of approved materials.

This items is closed.

4.4 (Closed) Bulletin No. 80-BU-06 pertaining to Engineered Safety Feature Reset Controls to meet containment isolation dependability per NUREG-0737 item II.E.4.2. The bulletin requires that the licensee review and verify all drawings of systems serving safety-related functions to determine whether or not upon reset of an ESFS actuation signal, all associated safety-related equipment remains in its emergency mode.

The inspector reviewed the following correspondence between the licensee, Architect Engineer and the NSSS vendor in response to Bulletin 80-06: Reference No. BLG-1879, GB-84-154, GB-84-156, BLP-15570, BLP-15880, BLP-14799, BLG-1899, GB-83-121 and GB-83-74 and GB-83-12. The General Electric's assessment (letters GB-83-12 and GB-53-74) of the NSS containment isolation dependability identifies 17 valves requiring redesign of the control logic to prevent reopening of its valve following a reset of the isolation logic.

The redesign of twelve valves' control logic impacted the Bailey Equipment and the remaining five valve control logic redesign impacted General Electric equipment. One additional valve was identified requiring control logic modification for sensing of diverse parameters for isolation initiation. This modification had no impact on Bailey equipment.

Modifications were made in accordance with General Electric FDI-WTJB and P&ID Nos. 43, 49, 51, 55 and 59.

The Test Package Release (TPR) - RLC-0197 included the retest of the modification (DCP-146) per General Test Procedure No. 7 Revision 1 and No. 27 Revision 2. The modification/redesign was completed as of November 20, 1985.

Verification by the licensee was completed on December 26, 1985.

This item is closed.

- 4.5 (Closed) 81-BU-01 Surveillance of Mechanical Snubbers. This bulletin related to deficiencies in International Nuclear Safeguards corporation (INC) snubbers and required actions to be taken by licensee's to assure functionability of mechanical snubbers.

The inspector verified that the licensee has reviewed the bulletin and has taken actions in response to the bulletin even though the bulletin was not specifically addressed to this licensee. The licensee also has FSAR commitments to verify snubber functionability.

The inspector verified that the Architect Engineer (Bechtel Corporation) has recently completed (in December 1985) the Final Snubber Stroking Program as defined in procedure SWP/P143 Revision 1. All snubbers both mechanical and hydraulic have been stroked. This program identified concerns in the drywell, required an additional walkdown and inspection of drywell snubbers, and repair and replacement of any damaged snubbers. This activity is approximately 95% completed. The inspector has determined that the licensee has satisfactorily responded to the IE Bulletin.

This item is closed.

- 4.6 (Closed) Unresolved Item No. 85-61-03 pertaining to SER (section 8.3.1.8) requirement that licensee perform tests to verify that class 1E electrical motors will not be subjected to starting or operating voltages of less than 80% of normal. The inspector reviewed test data for the design accident loading sequence (Hot/Cold Diesel) per procedure No. PTP-BB-3 Part A) verifying that the Diesel generator starting voltage did not go below 80% of normal. The test data

indicates the minimum diesel generator voltage when load starts were in excess of 3328 Volts (80% of normal). Diesel generator voltage recovery was in excess of 3744 volts after load starts. No deficiencies were identified.

This item is closed.

- 4.7 (Closed) Unresolved Item No. 85-61-04 pertaining to SER (section 8.3.1.1.0) requirement that the licensee perform tests of the emergency diesel generators to verify load acceptance capability following prolonged no-load operation.

The inspector reviewed tests performed per procedure No. PTB-BB-3A in which each diesel generator was operated for four hours unloaded, then loaded to full load for 1/2 hour and then to 110% of full load for 2 hours. The units were then operated at full load for an additional 22 hours. No deficiencies were identified.

This item is closed.

- 4.8 (Closed) Unresolved Item No. 85-61-06 pertaining to SER (Section 915.6) requirement that the licensee clarify the statement regarding the capability of the air start system of five starting cycles without recharging the air receivers. In addition, the licensee is to provide the actuating pressures and alarms and verify low pressure alarm set points that indicate to the operator that the compressor is not maintaining system pressure.

The inspector reviewed the preoperational test procedure No. PTP-KJ-1 Revision 6 which has been revised to meet the requirements of the SER noted above. No deficiencies were identified.

This item is closed.

- 4.9 (Closed) Violation Item No. 85-51-01 pertaining to inadequate design control that lead to the incorrect disposition of a nonconformance report by the licensee. The licensee in NCR's No. 7967 and 7968 identified inadequate separation between redundant channel instruments. These were incorrectly dispositioned by the licensee as "use as is" on the basis that the instruments did not serve related and redundant functions when these instruments do serve redundant and related functions.

The inspector reviewed the licensee's response to this violation in their letter to Dr. T. Murley Region I dated January 14, 1986. The inspector concluded that the licensee has now provided an adequate "use as is" disposition based on a seismic II/I walkdown and a hazards review to address the specific incorrect disposition. In addition, the licensee reviewed thirty-three additional NCRs with "use as is" dispositions to verify the adequacy of the justifications

provided. It was determined by the licensee that the problem with NCRs No. 7967 and 7968 is an isolated instance. Furthermore Bechtel site resident engineering supervisors have instructed their personnel to be more rigorous in documenting the basis for "use as is" NCR dispositions. The inspector had no further questions.

This item is closed.

5.0 Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violations or deviations. An unresolved item is discussed in paragraph 3.6 of this report.

6.0 Exit Meeting

The inspector met with the licensee's representative (identified in paragraph 1.0) at the conclusion of the inspection on February 14, 1986, to summarize the findings of this inspection. The NRC Resident inspector, R. Borchardt, was also in attendance.

During this inspection, the inspector did not provide any written material to the licensee.