U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-354/80-20
50-355/80-20

Docket No. 50-354
50-355

License No. CPPR-120
CPPR-121 Priority -- Category A

Licensee: Public Service Electric & Gas Company

80 Park Plaza - 17C

Newark, New Jersey 07101

Facility Name: Hope Creek Units 1 and 2

Inspection at: Hancocks Bridge, New Jersey

Inspection conducted: December 2-5, 1980

Inspectors: [signature] for
S. K. Chaudhary, Reactor Inspector
S. D. Ebneter, Chief, Engineering Support
Section 2, RC&ES Branch

1-22-81
date signed

date signed

date signed

Approved by: [signature] for
S. D. Ebneter, Chief, Engineering Support
Section 2, RC&ES Branch

1-22-81
date signed

Inspection Summary:

Inspection on December 2-5, 1980 (Combined Inspection Report No. 50-354/80-20 and 50-355/80-20)
Unit 1
Areas Inspected: Routine unannounced inspection by a regional based inspector of the licensee activities in the area of concrete construction and inspector qualification and certification. The inspection involved 20 hours on site by one regional based inspector and 4 hours by a section chief.
Results: One item of noncompliance was identified in the area of inspector qualification in Unit 1.

Unit 2
Areas Inspected: Routine unannounced inspection by a regional based inspector of the licensee activities in the area of concrete construction and inspector qualification and certification. The inspection involved 12 hours on site by one regional based inspector.
Results: No items of noncompliance were identified.

Region I Form 12
(Rev. April 77)

DETAILS

1. Persons Contacted

Public Service Electric & Gas Company

*A. E. Giardino, Project QA Engineer
R. C. Robinson, Senior QA Engineer
*R. Donges, QA Engineer
*P. Kudless, Project Construction Manager

Bechtel Power Corporation

*A. J. Bryan, Asst. PCQCE
*J. B. Gatewood, Lead Site QA Engineer
*W. Hindle, Project Field Engineer
*L. E. Rosetta, Field Construction Manager
*J. Galley, Manager of Construction SFHO

U. S. Nuclear Regulatory Commission

*S. D. Ebneter, Chief, Engineering Support Section 2, RC&ES Branch
*W. H. Bateman, Senior Resident Inspector

* denotes persons attending exit interview.

In addition to the above several more licensee and constructor personnel were contacted during the inspection.

2. Plant Tour

The inspector conducted a walk-through tour of the plant site to assess general conformance to project work procedures and good construction practices in the areas of concrete preplacement preparation, soils backfill operations, and test lab operations. A licensee QA engineer and NRC Senior Resident Inspector accompanied the inspector on this tour.

No items of noncompliance were identified.

3. Qualification of Inspection Personnel

The inspector reviewed the records and held discussions with licensee and constructor personnel regarding the qualification and certification of quality control inspection personnel. The inspector reviewed the following documents:

-- BQCM, Section II, "Qualification, Indoctrination, Certification and Training," Revision 0, 10/1/75.

-- Training and Certification records of ten (10) QC personnel randomly selected for review.

-- ANSI N.45.2.6-1973, "Qualification of Inspection, Examination, and Testing Personnel for the Construction Phase of Nuclear Power Plants."

-- NRC Regulatory Guide 1.58.

-- QC Inspection Report: 1-R-BF-912-C-1-20, and QCIR: 1-R-B-F-908, covering concrete inspection between 10/10/78 and 10/23/78.

Based on the review of above documents and discussions with licensee and constructor personnel, the inspector determined as follows:

a. The certification folder for an inspector indicated a level II certification on the summary sheet, however, the supporting documentation indicated level I capability only. In response to the inspector's question the licensee informed the inspector that it was a typographical error. The licensee corrected the certification indicating level I capability.

b. The Construction Quality Control Manual, Section II, paragraph 3.9.3 requires that a quality control inspector be sufficiently trained and be familiar with details of inspection procedures before he is allowed to carry out an inspection pursuant to the procedure. However, a quality control inspector not trained and indoctrinated in the project procedures for concrete preplacement, placement, and post placement inspection was allowed to carry out these inspections between 10/10/78 and 10/23/78. These inspections are documented in inspection reports IR-1-R-BF-912 and IR-1-R-BF-908.

This is a violation of 10 CFR 50, Appendix B, Criterion V. (50-354/80-20-01)

The inspector further observed that the licensee's program of inspector qualification and certification requires that to be certified for inspection a person shall have a specific period of "related" and "equivalent" inspection experience on a power plant or "similar" construction project. In response to this inspector's inquiry as to what the licensee considered "related," "equivalent" and "similar," the licensee stated that any inspection experience in any discipline on any construction site is considered by the licensee to fulfill the above requirement. The inspector observed that the licensee had certified an inspector to level I capability in welding, although the individual had indicated his experience as concrete block mason foreman responsible for the quality of related work in unspecified

construction projects. The records of his training indicated a total of six (6) hours of classroom instruction in project welding procedure before his certification.

Furthermore, the licensee's program requires that an individual need be trained, indoctrinated, and examined for proficiency in only two inspection procedures before the certification for any level of capability, but the certification qualifies an inspector for inspections in a full range of discipline i.e. civil, welding, electrical, etc. In response to the inspector's question as to the validity of such a broad certification on the basis of such a limited demonstration of capability, the licensee stated that the inspectors not trained in any specific inspection procedure are not allowed to inspect in such area per the construction quality control manual. The supervisor of the inspector is responsible to administratively control such unauthorized inspections. However, on further review of documentation the inspector noticed that such unauthorized inspections have occurred at the site, and were not controlled and/or detected during inspection or even during the review of the inspection reports by a level II inspector. (See noncompliance). Also, the licensee was not able to show any formal instruction and/or procedure establishing administrative control to prevent such occurrences now or in the future.

By reviewing the previous NRC inspection reports for the preceding twelve months the inspector determined that at least three more citations have been issued to the licensee for inadequate QC inspections. The inadequacies of all the inspections can be attributed to a general lack of sufficient training in inspection procedures and project requirements. Following are the examples of noncompliances identified by NRC in past twelve months period.

354/80-14-04 - misunderstanding of bolt tightening requirements -
355/80-14-01 apparently due to lack of knowledge and proper training.

354/80-04-04 - unawareness of, and lack of response to excessive drop
355/80-04-01 of concrete.

355/80-02-01 - incomplete bend testing of Nelson stud not recognized by QC, consequently concrete placement was released.

Based on the above observations the inspector considers this a weak area of licensee's quality assurance program.

4. Review of Licensee's QA Audits

The inspector reviewed the audit reports and held discussions with licensee personnel. The audit reports were reviewed to determine licensee's involvement and audit program in the area of inspector qualification and certification. Following audit reports were reviewed:

H-116; H-185
H-191; H-203

Based on the above review and discussions the inspector determined that the licensee has audited the program on proper schedule, has informed the constructor of the audit findings, and has properly followed up on open items, however, the inspector observed that the licensee audit program, as implemented now, did not identify the weakness of inspector qualification/certification program. Apparently, this failure of the audit program is attributable to the program's heavy emphasis on assessing the degree of compliance of existing project procedure rather than the effectiveness and adequacy.

No items of noncompliance were identified.

5. Exit Interview

The inspector met with the licensee representatives (denoted by * in paragraph 1) at the conclusion of the inspection. The inspector summarized the purpose, scope, and the findings of this inspection.