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

Region I

Report No. 50-354/80-09
50-355/80-09

Docket No. 50-354
50-355

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

Licensee: Public Service Electric and Gas Company

80 Park Place

Newark, New Jersey 07101

Facility Name: Hope Creek Generating Station, Units 1 and 2

Inspection at: Hancocks Bridge, New Jersey

Inspection conducted: June 2-27, 1980

Inspectors: W. H. Bateman 7/18/80
W. H. Bateman, Resident Inspector date signed

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_____ date signed

Approved by: R. W. McGaughy 7/24/80
R. W. McGaughy, Chief, Projects Section date signed

Inspection Summary:

Unit 1 Inspection on June 2-27, 1980 (Report No. 50-354/80-09):
Areas Inspected: Routine, announced inspection by resident inspector of work in progress including nozzle modifications to the reactor pressure vessel (RPV), PDM vent line bellows repair, backfilling and compaction testing, in place storage and maintenance, storage of materials and equipment in outside lay down areas, installation of torus piping, and structural steel installation and welding activities inside containment. The inspector also reviewed licensee action on previous inspection findings and performed site tours on a regular basis. The inspection involved 55 hours on site by the resident inspector.
Results: No items of noncompliance were identified.

Region I Form 12
(Rev. April 77)

Unit 2 Inspection on June 2-27, 1980 (Report No. 50-355/80-09):
Areas Inspected: Routine, announced inspection by resident inspector of work in progress including backfilling and compaction testing, maintenance of materials and equipment in storage, and drywell and torus welding activities. The inspector also reviewed licensee action on previous inspection findings and performed site tours on a regular basis. The inspection involved 23 hours on site by the resident inspector.
Results: No items of noncompliance were identified.

DETAILS

1. Persons Contacted

Public Service Electric and Gas Company

A. Barnabei, Site QA Engineer
*T. Brauchle, Senior Construction Engineer
*A. E. Giardino, Project QA Engineer
R. Inverso, Senior Construction Engineer
L. Jankowski, Site QA Engineer
*P. Kudless, Principal Construction Engineer
P. T. Liu, Site QA Engineer
K. McJunkin, Senior Construction Engineer
*R. Pochank, Senior Construction Engineer
D. Skibinski, Site QA Engineer
*A. C. Smith, Project Construction Manager

Bechtel Power Corporation (Bechtel)

B. Bain, Lead Field Welding Engineer
*J. Gatewood, Lead Site QA Enginer
*W. Hindle, Project Field Engineer
*R. Hanks, Project QC Engineer
R. Hanselman, Field Welding Engineer
*P. Hudson, QA Engineer
*C. Kasch, Assistant Project QC Engineer
*D. Long, Project Superintendent
K. Mills, QC Engineer
*M. Macondray, Assistant Project Field Engineer
D. Reel, QC Engineer
P. Schuetz, Lead Civil Field Engineer
S. Vezendy, Lead Welding QC Engineer
P. Willis, QC Engineer

Pittsburgh-Des Moines Steel Company (PDM)

J. Benedetti, QC Engineer
R. Langer, Assistant Project Superintendent
M. Stiger, QA Manager

Scheider, Inc.

W. Goebel, Site QA Manager

General Electric Installation and Services Engineering (GEI&SE)

R. Burke, Project Manager
C. Clark, Field Engineer
D. George, Welding Engineer
F. Hatmaker, Site QC Supervisor
V. Kenney, Site QC Supervisor

Peabody Test Labs

P. Bonner, Concrete and Materials Technician
R. Davis, Site Project Manager
B. Hennessey, Shift Supervisor
H. Dody, Site QC Supervisor

The inspector also talked with other site personnel.

*Denotes those present at at least one of the weekly exit interviews.

2. Site Tour

Daily tours of the site were made to observe the status of work and construction activities in progress. Because of the announced delay in the commercial operation dates of Units 1 and 2, the amount of activity during this inspection period was minimal. The inspector noted the presence of and interviewed QC and construction personnel. Work items were examined for obvious defects or noncompliance with regulatory requirements or licensee conditions. Areas observed included:

Unit 1: Work on RPV pedestal, vent line bellows repair, structural steel installation inside the dryweil, backfill operations, RPV nozzle modification, storage and maintenance activities, and torus piping installation.

Unit 2: Backfill operations and activities relating to establishment of structural integrity of torus and drywell for possible long term storage.

No items of noncompliance were identified.

3. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (354/80-05-05; 355/80-05-04): Use of the lower class code requirements at a code boundary. The inspector reviewed an April 30, 1980 letter from ASME to Bechtel wherein it states that the use of the lower class code requirements at code boundaries is appropriate.

(Closed) Unresolved Item (354/80-07-05): Crack patterns in paint covering Dravo large bore pipe shop welds. The inspector witnessed performance of a liquid penetrant test on two shop welds. The test results indicated that no defects were present in these welds.

4. Backfill and Compaction Operations - Units 1 and 2

The inspector observed backfill and compaction operations on the south and west sides of the power complex for compliance to the requirements of Bechtel Technical Specification C-034(Q), Rev. 4 entitled "Technical Specification for Placing and Compacting Structural Backfill". The backfill operation involved dropping loose backfill in lifts no greater than 8" in depth and then compacting the soil using both power tampers and heavy rollers. The inspector observed that water was sprayed over the backfill to maintain moisture requirements for satisfactory compaction results and that power tampers were in use adjacent to vertical structures and in the area directly above the service water piping. QC personnel were interviewed to determine if field density tests, compaction tests, and gradation tests were being performed as required. The inspector witnessed the digging of holes as part of the density testing by the sand cone method and also witnessed the use of the nuclear density gauge.

Additionally, Peabody Test personnel were interviewed and test results reviewed to ensure qualified test personnel were performing the required testing and that test results were in conformance with requirements.

No items of noncompliance were identified.

5. Safety Related Piping - Unit 1

Schneider, Inc. is a subcontractor to PDM with the responsibility to fabricate and install certain piping associated with the drywell and torus. The inspector observed various piping activities including welding to ensure conformance to the various requirements of the ASME Code and job-site documents. In particular piping storage, spoolpiece fabrication, welder qualifications, and weld material control were reviewed.

No items of noncompliance were identified.

6. Drywell to Torus Vent Line Bellows Repair - Unit 1

PDM completed removal of all the damaged bellows assemblies and work is proceeding to weld prep where required. The new bellows assemblies have arrived on site and are presently stored in their shipping containers. The inspector reviewed PDM repair procedure RP-20, "Replacement of Damaged Bellows Assemblies", to ensure that Code requirements will be complied with during reinstallation of the bellows assemblies. As a result of this

review the inspector had a question as to the validity of the qualification of PDM weld procedure specification WPS 76-84, "Shielded Metal-Arc Process McKay E309L-16 ASME Section III, Div. 1", Rev. 0. This procedure was qualified to weld P #8 GP 1 material to P #1 GP 2 and was intended to be used to make the dissimilar metal weld between the stainless steel bellows and the carbon steel pipe leading into the torus. The question specifically related to the lack of impact test results for the heat affected zone of the carbon steel portion of the WPS qualification test plate. Paragraph NE-4335.2 of Subsection NE of Section III of the 1974 through Winter 1974 Addenda of the ASME Boiler and Pressure Vessel Code requires impact testing of the heat affected zone of any P #1 material if the P #1 material originally required impact testing per paragraph NE-2311. In this case the P #1 material being welded did require impact testing. PDM's initial response to this question was that the thickness of the P #1 material at the weld joint was less than 5/8" thick and, therefore, was exempt from impact test requirements per paragraph NE-2311. The inspector then proceeded to measure the actual (not design) thickness of the P #1 material at the proposed joint and found it to range from approximately ½" to 7/8" thick. PDM evaluated this information and issued an Engineering Corrective Action Request (ECAR) to identify the problem. PDM stated they would provide a WPS with impact test results on the heat affected zone or would grind sufficient material off the P #1 material to bring the thickness to 5/8" or less.

No items of noncompliance were identified.

7. Review of Nonroutine Events Reported by the Licensee - Unit 1

On August 31, 1979 the licensee reported a potential significant deficiency in accordance with the requirements of 10 CFR 50.55(e) involving lack of post weld heat treat (PWHT) test data for weld filler material that would be post weld heat treated. In inspection reports 80-01 and 80-02 the inspector reviewed the PDM repair procedure designed to replace the unsatisfactory filler material. This procedure, RP-19, has since been revised to require the removal of a substantial amount of material adjacent to both sides of four of the affected welds to ensure that all the questionable filler material is removed. For assembly 5HA5 weld symbol 54B and assembly 5HA7 weld symbol 54B, approximately 5" of material adjacent to each side of the weld seams (total of four) is to be removed and dutchmen installed to replace the removed material. There was no change to the repair method to remove, reweld, and reinspect seam 55G on assembly 5HA5. The repair procedure, RP-19, is entitled, "Repair Procedure for Coupon Removal and Repair, and Weld Wire Removal and Repair of Electrode Purchased Without PWHT Test Results", and this latest revision is Revision D. PDM's electrode ID number for the affected filler material is 3297.

No items of noncompliance were identified.

8. Containment Piping Penetrations - Unit 1

PDM is adding extensions to 31 second course drywell penetrations. The penetrations affected are P-19, J-11 through J-37, J-39. J-40, and J-49. Work on this project was partially complete when the pipefitters went out on strike and has not progressed since that time. The inspector reviewed a preliminary copy of PDM's air test procedure designed to satisfy the ASME Section III Subsection NE Code requirements for an overpressure test of all the new welds. Because the containment overpressure test was conducted some time ago, these 31 penetrations must be tested individually to meet the Code overpressure test requirements. PDM procedure PTP-2, "Primary Containment Vessel Penetration Test Procedure", Rev. 0 requires that each penetration or group of penetrations undergo in sequence a gross leak test at 5 psig, an overpressure test at 71.5 psig, and finally a leak test at 62 psig. This basic procedure is consistent with the original overpressure test procedure and the ASME Code. Weld maps will be used to keep track of the test results and to ensure that all welds are examined.

No items of noncompliance were identified.

9. Reactor Pressure Vessel Nozzle Modification - Unit 1 and 2

As discussed in several earlier inspection reports, GEI&SE is replacing the safe ends on the reactor pressure vessels. This replacement work was stopped on the Unit 2 RPV and is nearly complete on the Unit 1 RPV. No final radiographs of the welding were available as GEI&SE is concerned that additional grinding of the weld surfaces may be required to get a surface contour suitable for ultrasonic testing which is scheduled to take place in the near future. Preliminary radiographs, however, reportedly show that the welds are sound and meet ASME Code requirements. The inspector observed the final phases of the nozzle welding activity on the Unit 1 RPV and verified welder qualification and weld material control including weld rod issue records, filler metal storage (both in heating ovens and sealed containers), and access control to filler material issue station.

No items of noncompliance were identified.

10. Structural Steel Erection Inside Containment Drywell - Unit 1

The inspector witnessed the installation of box girders inside the Unit 1 drywell. In particular conformance to the weld joint geometry requirements of AWS D1.1 was reviewed and weld material control was observed. Additionally, handling, modification, and fitup operations were observed to ensure that jobsite requirements were being adhered to.

No items of noncompliance were identified.

11. Storage of Materials and Equipment in Laydown Areas and In-Place - Units 1 and 2

The inspector toured outside laydown areas S-2 and 201 and Units 1 and 2 to observe storage conditions of material and equipment. The outside laydown/storage areas contained material ranging from pipe to embeds, from beam seats to rebar, etc. The material appeared to be stored in accordance with jobsite requirements except for some piping which was not stored off the ground and which was not adequately capped. Bechtel added the affected pipe spools to their punchlist for resolution when the pipefitters return to work. Equipment storage, both in the laydown areas and in the power complex, appeared to be adequate and to be receiving maintenance on a routine basis.

No items of noncompliance were identified.

12. Exit Interview

The inspector met with licensee and contractor personnel (denoted by an asterisk in Paragraph 1) on each Friday of this inspection report period. At these times the inspector summarized the scope and findings of that week's inspection activities.