

U. S. NUCLEAR REGULATORY COMMISSION
REGION I

DOCKET/REPORT NO.: 50-354/94-03
LICENSE NO.: NPF-57
LICENSEE: Public Service Electric and Gas Company
FACILITY NAME: Hope Creek Generating Station
INSPECTION AT: Hancocks Bridge, New Jersey
INSPECTION DATES: February 22 - 25, and March 21 - 25, 1994

INSPECTOR:

Robert A. McBrearty
Robert A. McBrearty, Reactor
Engineer, Materials Section, EB, DRS

April 19, 1994
Date

APPROVED BY:

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Materials Section, EB, DRS

4/20/94
Date

Areas Inspected: An announced inspection was conducted of the licensee's inservice inspection (ISI) program and related activities. The inspection was conducted to ascertain that those activities were carried out in accordance with applicable ASME Code and regulatory requirements.

Results: The ISI program and related activities comply with applicable code and regulatory requirements. The licensee is aware of the latest regulatory requirements regarding augmented reactor pressure vessel weld volumetric examinations, and has appropriately scheduled implementation of those examinations.

DETAILS

1.0 INSERVICE INSPECTION (ISI) ACTIVITIES (IP-73753)

Public Service Electric and Gas Company, the licensee, has assumed responsibility for the preparation, update, and maintenance of its ISI program and ten-year long-term inspection plan. Southwest Research Institute was originally contracted to perform those functions and prepared the existing long-term plan that was submitted for approval to the NRC. The licensee had previously assumed those responsibilities at the Salem sites, and now has complete control of the ISI program at all three of its nuclear facilities.

Examination Plans and Schedules

To ascertain that the appropriate ASME Code required examinations were scheduled for implementation during the 1994 refueling outage, the ten-year ISI Program Long-Term Plan and the outage examination schedule were selected for inspection.

The scope of examinations required by the ASME Code, Section XI for the first ten-year inspection interval is identified by the ten-year program plan. The plan further identifies during which outage each item will be examined.

A number of welds on the main steam system were listed on the outage schedule, but not on the long-term plan. Also, reactor pressure vessel (RPV) welds that, according to the long-term plan, were scheduled for examination during the current refueling outage (the first outage of the third inspection period), did not appear on the outage schedule.

The licensee substituted main steam welds identified as "high stress" welds in place of the originally scheduled low stress main steam welds. The reactor pressure vessel welds originally scheduled for the 1994 outage were to be ultrasonically examined using mechanized, automated, examination equipment. The mechanized examinations were rescheduled to later in the third inspection period, and other reactor vessel welds were scheduled in their place.

The scheduling changes are documented and will be incorporated into the long-term plan at its next update by the licensee.

Augmented Reactor Pressure Vessel (RPV) Weld Examinations

The NRC, via the Code of Federal Regulations, has revoked all previously granted reliefs under 50.55a to licensees for the extent of volumetric examination of reactor pressure vessel welds specified in Item B1.10 of Examination Category B-A, Table IWB-2500-1 of subsection IWB. All licensees are required to augment their RPV examinations by implementing once, as part of the ISI interval in effect on September 8, 1992, the examination requirements for RPV shell welds specified in Item B1.10, Category B-A, 1989 Edition of Section XI, subject to conditions specified in paragraph 50.55a(g)(6)(ii)(A)(3) and (4). The augmented examinations, when not deferred, in accordance with

50.55a(g)(6)(ii)(A)(3) shall be performed in accordance with the related procedures specified in the Section XI Edition and addenda applicable to the interval in effect on September 8, 1992, and may be used as a substitute for the RPV shell weld examinations scheduled for implementation during that interval.

Hope Creek cannot defer to the next inspection interval the augmented vessel weld examinations because its ten-year interval had more than 40 months remaining when the rule became effective. The augmented examinations at the site are scheduled for performance during the last refueling outage of the third inspection period, which is the last outage of the first ten-year inspection interval. The interval is scheduled to end on December 20, 1996, but may be extended to accommodate the start of the refueling outage. At this time, the precise date was not established.

The augmented examinations will be performed to the extent required by the 1989 Edition of Section XI. Ultrasonic examinations are expected to be performed using automated equipment from the outside surface of the reactor pressure vessel, and, if necessary to attain more coverage of specific welds, will be supplemented by manual examinations. ASME Section XI 1983 Edition through Summer 1983 addenda, IWB-3510, will provide the acceptance standards.

Pressure Tests

Public Service Electric and Gas Company originally had planned to conduct three refueling outages during the second inspection period at Hope Creek. Based on that planning, various pressure tests that must be conducted once per period were scheduled for completion during the third refueling outage of the period. Subsequent to the second outage, the licensee decided to shift the third outage into the third period. Because of the change in scheduling, which occurred too late to complete the tests in the second period, the licensee opted to take advantage of the provisions of ASME Section XI, 1983 Edition through Summer 1983 addenda, IWB-2412(b). That paragraph permits an inspection period to be decreased or extended by as much as one year to enable an inspection to coincide with a plant outage. The extension of the second period is only for pressure tests that were scheduled for the cancelled third outage of that period. All other ISI examinations that are performed during the current outage will be credited to the third period.

Observations

During the course of this inspection, the visual examination was performed of reactor pressure vessel internals. The examinations were conducted using remotely controlled underwater video cameras and the results were recorded on videotape. The tapes of the examination of lower core spray nozzles, upper and lower core spray spangers, and tack

welds that lock the adjusting screws that are threaded into jet pump restrainer brackets, were selected for inspection. The inspection was performed to determine whether the videotapes were of sufficient quality to permit the licensee to assess the quality of the inspected component.

The examination of the jet pump restrainer bracket adjusting screws revealed cracked tack welds on jet pump no. 9, no. 19, and no. 20. Two adjusting screws are threaded into each jet pump restrainer bracket, and each screw is locked in position by two tack welds. One weld was cracked on each of the three jet pumps so that, in each case, one of the two welds remained intact. General Electric Company engineers at San Jose, California were evaluating the cracked welds, and, at the time of this inspection, the licensee had received a verbal "use-as-is" disposition from San Jose. The adjusting screw weld examination was performed in response to General Electric Company's service information letter (SIL) No. 574, dated October 5, 1993.

All of the videotapes were observed to be of excellent quality, camera movement was slow enough to permit sharp image focus, and, overall, were capable of providing the data analyst with the information necessary for a meaningful evaluation and disposition of the component quality. The tapes were in the licensee's review process at the time of this inspection.

The visual examination of the core shroud had not been performed at the time of this inspection.

Conclusions

Substitutions and changes to the long-term inservice inspection program plan are documented and will be incorporated into the plan at the appropriate time.

The licensee was aware of the one-time augmented volumetric examination of certain reactor pressure vessel welds and has scheduled their implementation as required by 10 CFR 50.55a.

Underwater remote visual examination of reactor pressure vessel internals was performed by qualified personnel, and the results were recorded on videotape, which are of excellent quality.

2.0 EXIT MEETING

The inspector met with licensee representatives, denoted in Attachment 1, at the conclusion of the inspection on March 25, 1994. The scope and findings of the inspection were summarized, and were acknowledged by the licensee.

ATTACHMENT 1

Persons Contacted

Public Service Electric and Gas Company

- *J. Clancy, Technical Manager, Hope Creek
- *M. Gray, Licensing Engineer, Hope Creek
- *J. Nichols, Manager, Reliability and Assessment
- *M. Oliveri, Nondestructive Examination Supervisor, Inservice Inspection
- *S. Sienkiewicz, Senior Staff Engineer, Inservice Inspection
- *D. Tauber, Acting Manager, Hope Creek Quality Assurance
- *W. Treston, Senior Supervisor, Hope Creek Inservice Inspection

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- *C. Marschall, Senior Resident Inspector

*Denotes those present at the exit meeting.