UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 10, 2010

Mr. Thomas Joyce
President and Chief Nuclear Officer
PSEG Nuclear
P.O. Box 236, N09
Hancocks Bridge, NJ 08038

SUBJECT: SAFETY EVALUATION OF RELIEF REQUEST V-05 FOR THE THIRD 10-YEAR INTERVAL OF THE INSERVICE TESTING PROGRAM FOR HOPE CREEK GENERATING STATION (TAC NO. ME3322)

Dear Mr. Joyce:

By letter dated February 5, 2010, PSEG Nuclear LLC submitted relief request V-05 which proposed an alternative to certain inservice testing (IST) requirements of the American Society of Mechanical Engineers (ASME) *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code) for Hope Creek Generating Station (HCGS). The relief request applies to the third 10-year IST interval which began on December 21, 2006, and will end on December 20, 2016. The subject relief request involves an extension to the test interval for two pressure relief valves in the low pressure coolant injection system.

The U.S. Nuclear Regulatory Commission staff has completed its review of the subject relief request as documented in the enclosed Safety Evaluation (SE). Our SE concludes that: (1) compliance with the specified IST requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality or safety; and (2) the proposed alternative provides reasonable assurance of the operational readiness of the subject relief valves. Therefore, pursuant to Section 50.55a(a)(3)(ii) of Title 10 of the *Code of Federal Regulations*, the proposed alternative is authorized for HCGS. The proposed alternative is authorized until restart after refueling outage R16, which is currently scheduled to begin in October 2010.

If you have any questions concerning this matter, please contact the HCGS Project Manager, Mr. Richard Ennis, at (301) 415-1420.

Sincerely,

Harold K. Chernoff, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-354

Enclosure:
Safety Evaluation

cc w/encl: Distribution via Listserv

UNITED STATES
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO RELIEF REQUEST V-05

FOR THE THIRD 10-YEAR INTERVAL OF THE INSERVICE TESTING PROGRAM

PSEG NUCLEAR LLC

HOPE CREEK GENERATING STATION

DOCKET NO. 50-354

1.0 INTRODUCTION

By letter dated February 5, 2010, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML100541618), PSEG Nuclear LLC (PSEG or the licensee) submitted relief request V-05 which proposed an alternative to certain inservice testing (IST) requirements of the American Society of Mechanical Engineers (ASME) *Code for Operation and Maintenance of Nuclear Power Plants* (OM Code) for Hope Creek Generating Station (HCGS).

As discussed in the licensee's letter dated February 5, 2010, following a review of the HCGS IST program, PSEG identified discrepancies in the scheduling of periodic relief valve testing. Specifically, PSEG discovered, in January 2010, that two relief valves in the low pressure coolant injection (LPCI) system (1BCPSV-F025B and 1BCPSV-F025D) were improperly categorized as being able to be tested while the station is online. To meet the 10-year test interval requirement in the OM Code, these valves would be required to be tested no later than April 28, 2010. The licensee stated that testing the valves before refueling outage R16 (currently scheduled to begin in October 2010) would constitute a hardship because the plant would need to be shutdown to perform the testing. As such, PSEG requested that the 10-year test interval be extended until restart from refueling outage R16. The licensee's proposed alternative was submitted pursuant to Section 50.55a(a)(3)(ii) of Title 10 of the *Code of Federal Regulations* (10 CFR), on the basis that compliance with the specified requirements would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

2.0 REGULATORY EVALUATION

Section 50.55a of 10 CFR, requires that IST of certain ASME Code Class 1, 2, and 3 pumps and valves be performed at 120-month (10-year) IST program intervals in accordance with the specified ASME Code and applicable addenda incorporated by reference in the regulations, except where alternatives have been authorized or relief has been requested by the licensee and granted by the Nuclear Regulatory Commission (NRC or the Commission) pursuant to paragraphs (a)(3)(i), (a)(3)(ii), or (f)(6)(i) of 10 CFR 50.55a. In accordance with

10 CFR 50.55a(f)(4)(ii), licensees are required to comply with the requirements of the latest edition and addenda of the ASME Code incorporated by reference in the regulations 12 months prior to the start of each 120-month IST program interval. In accordance with 10 CFR 50.55a(f)(4)(iv), inservice tests of pumps and valves may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in 10 CFR 50.55a(b), subject to NRC approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions and addenda are met.

In proposing alternatives or requesting relief, the licensee must demonstrate that: (1) the proposed alternatives provide an acceptable level of quality and safety; (2) compliance would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety; or (3) conformance is impractical for the facility. Section 50.55a authorizes the Commission to approve alternatives and to grant relief from ASME Code requirements upon making necessary findings. NRC guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," provides alternatives to ASME Code requirements which are acceptable. Further guidance is given in GL 89-04, Supplement 1, and NUREG-1482, Revision 1, "Guidance for Inservice Testing at Nuclear Power Plants."

The subject relief request applies to the third 10-year IST interval at HCGS which began on December 21, 2006, and will end on December 20, 2016. The Code of Record for the third interval was developed in accordance with the 2001 Edition through 2003 Addenda of the ASME OM Code.

3.0 TECHNICAL EVALUATION

3.1 The Licensee's Alternative

ASME OM Code, 2001 Edition through 2003 Addenda, Mandatory Appendix I, "Inservice Testing of Pressure Relief Devices in Light-Water Reactor Nuclear Power Plants," Section I-1350, requires that Class 2 and 3 pressure relief valves, with the exception of pressurized-water reactor main steam safety valves, be tested every 10 years, with a minimum of 20% of the valves from each valve group tested within any 48-month interval. This 20% shall consist of valves that have not been tested during the current 10-year test interval, if they exist.

The licensee's letter dated February 5, 2010, stated that relief valves 1BCPSV-F025B and 1BCPSV-F025D, Code Class 2 valves, provide overpressure protection for the LPCI "B" and "D" injection lines, respectively. To meet the 10-year test interval requirement in the OM Code, the subject valves would be required to be tested no later than April 28, 2010. PSEG requested that the 10-year test interval be extended until restart from refueling outage R16, which is currently scheduled to begin in October 2010.

The licensee's letter dated February 5, 2010, provided the following reason for the proposed alternative:

Removal and testing of the valves is performed when the unit is in a refueling outage because the discharge of these relief valves is connected to the torus and cannot be isolated from containment. Removal of these valves would result in a breach of containment.

Testing 1BCPSV-F025 "B" and "D" before refueling outage R16 would constitute a hardship, due to the inability to isolate the valve discharge piping from the containment during normal plant operation. In addition, testing 1BCPSV-F025 "B" and "D" before refueling outage R16 can only be accomplished with unusual difficulty. Specifically, the unusual difficulty consists in performing a plant shutdown.

3.2 NRC Staff Evaluation

NUREG-1482, Revision 1, dated January 2005 (ADAMS Accession No. ML050550290) gives licensees guidelines and recommendations for developing and implementing programs for the IST of pumps and valves at commercial nuclear power plants. Section 3.1.3 of NUREG-1482 provides NRC recommendations regarding scheduling of inservice tests. This section states that licensees must perform each applicable test within the specified time interval, with a maximum allowed extension not to exceed 25% of the test interval. As discussed in the NUREG, this recommendation applies to test intervals with a maximum duration of 2 years based on the Standard Technical Specifications. For an IST interval of 2 years, a 25% extension results in an extension of 6 months. The licensee's proposed alternative would extend the 10-year test interval for the subject relief valves by approximately 6 months (i.e., approximately 5% of the 10-year interval).

PSEG's letter dated February 5, 2010, stated that there are five LPCI system relief valves in the applicable test sample group. The licensee performed a review of the test history for these valves. The review determined that all of the valves in the test group, with the exception of one valve (1BCPSV-F025C), were successfully as-found lift setpoint surveillance tested during the 2nd and 3rd IST test intervals with no signs of external leakage. During testing of 1BCPSV-F025C on April 20, 2003, the as-found lift setpoint was found to be outside of the setpoint tolerance band. The licensee stated that a minor adjustment was made and the valve was successfully retested.

Based on the test results discussed above and the relatively short timeframe associated with the proposed extension of the 10-year test interval, the NRC staff finds that the proposed alternative provides reasonable assurance of the operational readiness of the subject relief valve. The NRC staff further finds that compliance with the OM Code 10-year test interval requirement for relief valves 1BCPSV-F025B and 1BCPSV-F025D would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety since the plant would need to be shutdown in advance of the upcoming refueling outage in order to test the valves.

4.0 CONCLUSION

Based on the above evaluation, the NRC staff concludes that: (1) compliance with the specified IST requirements would result in hardship or unusual difficulty without a compensating increase

in the level of quality or safety; and (2) the proposed alternative provides reasonable assurance of the operational readiness of the subject relief valve. Therefore, pursuant to 10 CFR 50.55a(a)(3)(ii), the proposed alternative is authorized for HCGS. The proposed alternative is authorized until restart after refueling outage R16, which is currently scheduled to begin in October 2010.

Principal Contributor: R. Ennis

Date: March 10, 2010

If you have any questions concerning this matter, please contact the HCGS Project Manager, Mr. Richard Ennis, at (301) 415-1420.

Sincerely,

/ra/

Harold K. Chernoff, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-354

Enclosure:
Safety Evaluation

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