

February 13, 2003

Mr. Bryce L. Shriver
Senior Vice President
and Chief Nuclear Officer
PPL Susquehanna, LLC
769 Salem Boulevard
Berwick, PA 18603-0467

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - RELIEF
REQUEST FOR AUTHORIZATION TO USE SAMPLE DISASSEMBLY AND
INSPECTION PROGRAM AS AN ALTERNATIVE TO THE ASME CODE,
SECTION XI, REQUIREMENTS (TAC NOS. MB7291 AND MB7292)

Dear Mr. Shriver:

In a letter dated November 27, 2002, PPL Susquehanna, LLC (PPL, the licensee), submitted Relief Request No. 35 (RR-35) for Susquehanna Steam Electric Station, Units 1 and 2 (SSES-1 and 2), for relief from certain requirements in the 1989 Edition of the American Society of Mechanical Engineers (ASME), *Boiler and Pressure Vessel Code* (ASME Code), Section XI. The ASME Code, Section XI, references OMa-1988, Part 10, for valve inservice testing (IST) requirements. Specifically, the licensee requested relief from paragraph 4.3.2., "Exercising Tests for Check Valves," which addresses the required frequency for testing the high pressure coolant injection/reactor core injection cooling (HPCI/RCIC) vacuum tank condenser pump discharge check valves. PPL is currently in its second 10-year interval IST which began on June 1, 1994, and will end on May 31, 2004.

The U.S. Nuclear Regulatory Commission (NRC) staff has reviewed the proposed relief request against the requirements of ASME Code, Section XI, 1989 Edition. The results of the review are provided in the enclosed safety evaluation.

RR-35 proposed an alternative test to use a sample disassembly and inspection program for four identical HPCI/RCIC check valves located in the vacuum tank condenser pump discharge line in SSES-1 and 2 during refueling outages. The NRC staff has concluded that this proposed alternative to the ASME Code requirements is consistent with NRC guidance in Generic Letter 89-04, Position 2. Therefore, relief is granted to use the alternative for the duration of the second 10-year interval IST program pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.55a(f)(6)(i). Granting relief pursuant to 10 CFR 50.55a(f)(6)(i) is authorized by law and will not endanger the life or property or the common defense and security, and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

B. Shriver

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If you have any questions, please contact your project manager, Rich Guzman, at (301) 415-1030.

Sincerely,

/RA by PTam for/

Richard J. Laufer, Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosure: Safety Evaluation

cc w/encl: See next page

B. Shriver

- 2 -

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Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosure: Safety Evaluation

cc w/encl: See next page

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ACCESSION NO.: ML030440409

*SE provided. No major changes made.

OFFICE	PDI-1/PM	PDI-2/LA	EMEB/SC*	OGC	PDI-1/SC
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DATE	2/10/03	2/11/03	2/4/03 SE DTD	2/12/03	2/13/03

OFFICIAL RECORD COPY

Susquehanna Steam Electric Station,
Units 1 & 2

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO RELIEF REQUEST NO. 35 TO USE SAMPLE DISASSEMBLY AND INSPECTION
PROGRAM AS AN ALTERNATIVE TO THE AMERICAN SOCIETY OF MECHANICAL
ENGINEERS (ASME) BOILER AND PRESSURE VESSEL CODE
SECTION XI, REQUIREMENTS
PPL SUSQUEHANNA, LLC
ALLEGHENY ELECTRIC COOPERATIVE, INC.
SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2
DOCKET NOS. 50-387 AND 388

1.0 INTRODUCTION

By letter dated November 27, 2002, PPL Susquehanna, LLC (the licensee), submitted Relief Request No. 35 (RR-35) for use at the Susquehanna Steam Electric Station, Units 1 and 2 (SSES-1 and 2), during its second 10-year interval inservice testing (IST) program which began on June 1, 1994, and will end on May 31, 2004. The licensee requested relief from certain requirements of the 1989 Edition of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* (ASME Code), Section XI. The ASME Code, Section XI, references Operations and Maintenance (OM) a-1988, Part 10, for valve IST requirements. Specifically, the licensee requested relief from paragraph 4.3.2, "Exercising Tests for Check Valves," which addresses the required frequency for testing the high pressure coolant injection/reactor core isolation cooling (HPCI/RCIC) vacuum tank condenser pump discharge check valves.

2.0 REGULATORY EVALUATION

Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.55a requires that IST of certain ASME Code, Class 1, 2, and 3 pumps and valves be performed in accordance with the ASME *Code for Operation and Maintenance of Nuclear Power Plants*, and applicable addenda, except where alternatives have been authorized or relief has been requested by the licensee and granted by the Commission pursuant to paragraphs (a)(3)(i), (a)(3)(ii), or (f)(6)(i) of 10 CFR 50.55a. The Code of record for SSES-1 and 2 is the ASME Code, 1989 Edition, Section XI, which references OMa-1988, Part 10 for IST. 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 its facility. Section 50.55a authorizes the Commission to approve alternatives and to grant relief from ASME Code requirements upon making the necessary findings.

The Nuclear Regulatory Commission (NRC) guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," provides alternatives to the Code requirements which are acceptable to the staff. Further guidance is given in GL 89-04, Supplement 1, and NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants."

3.0 TECHNICAL EVALUATION

The NRC staff has reviewed the licensee's regulatory and technical analysis in support of its request for relief from ASME Code OM IST requirements as described in RR-35 for use at SSES-1 and 2.

The detailed evaluation below supports the conclusion that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by the operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the relief will not be inimical to the common defense and security or to the health and safety of the public.

3.1 Relief Request No. 35

In RR-35, the licensee requested relief from OMa-1988, Part 10, Paragraph 4.3.2, "Exercising Tests for Check Valves," as it relates to the required frequency for IST of the HPCI/RCIC vacuum tank condenser pump discharge check valves.

OMa-1988, Part 10, Paragraph 4.3.2, requires check valves be exercised nominally every 3 months. In RR-35, the licensee requests relief from this requirement pursuant to 10 CFR 50.55a(a)(3)(i) and proposes an alternative testing because the SSES-1 and 2 system designs provide no viable means for adequate quarterly closure testing of these check valves. The licensee's proposed alternative is to use a sample disassembly and inspection program for four identical HPCI/RCIC valves located in the vacuum tank condenser pump discharge line in SSES-1 and 2 during each refueling outage. Full-stroke operability will be verified by inspection during valve disassembly. The licensee will disassemble, inspect, and verify the structural soundness of internal components, and manually exercise the disc through its full stroke by using a different group valve during each refueling outage. By this sampling program, each group valve will be disassembled, inspected and manually exercised at least once every 8 years.

The licensee's proposed alternative is consistent with the guidelines of GL 89-04, Position 2. In GL 89-04, the staff established, in part, the following positions regarding testing check valves by disassembly and inspection:

- a. During valve testing by disassembly, the valve internals should be visually inspected for worn or corroded parts, and the valve disc should be manually exercised.
- b. Due to the scope of this testing, the personnel hazards involved and system operating restrictions, valve disassemble and inspection may be performed during reactor refueling outages.
- c. Where the licensee determines that it is burdensome to disassemble and inspect all applicable valves each refueling outage, a sample disassemble and inspection plan for groups of identical valves in similar applications may be employed.

The guidance, in part, further indicates if the fuel cycle is 24 months, each valve in a four-valve sample group would be disassembled and inspected once every 8 years.

The NRC staff finds that compliance with Code requirements is impractical because the system design provides no viable means for adequate quarterly closure testing of these valves. The licensee's proposed alternative testing is consistent with the guidelines of GL 89-04, Position 2, and provides reasonable assurance of the valves' operational readiness. The sample testing of one of four identical group HPCI/RCIC vacuum tank condenser pump discharge check valves during each refueling outage will provide assurance that the valves are capable of performing their required functions. On the basis of the above discussion, the requested relief is granted pursuant to 10 CFR 50.55a(f)(6)(i).

4.0 CONCLUSION

Based on the discussion above, the NRC staff concludes that the licensee's requested relief to use a sample disassembly and inspection program for four identical HPCI/RCIC valves located in the vacuum tank condenser pump discharge line at SSES-1 and 2 is granted for the duration of the second 10-year interval IST program pursuant to 10 CFR 50.55a(f)(6)(i), on the basis that compliance with ASME Code requirements is impractical. Granting relief pursuant to 10 CFR 50.55a(f)(6)(i) is authorized by law and will not endanger the life or property or the common defense and security, and is otherwise in the public interest giving due consideration to the burden upon the licensee that could result if the requirements were imposed on the facility.

Principal Contributor: F. Grubelich

Date: February 13, 2003