

April 6, 2001

Mr. James Scarola, Vice President
Shearon Harris Nuclear Power Plant
Carolina Power & Light Company
Post Office Box 165, Mail Code: Zone 1
New Hill, North Carolina 27562-0165

SUBJECT: EVALUATION OF RELIEF REQUEST CC-VR3 RELATED TO DISASSEMBLY
OF COMPONENT COOLING WATER SYSTEM CHECK VALVES - SHEARON
HARRIS NUCLEAR POWER PLANT (TAC NO. MB0706)

Dear Mr. Scarola:

By letter dated December 5, 2000, you submitted relief request CC-VR3 for relief from certain requirements of the 1989 Edition of the American Society of Mechanical Engineers Code, Section XI for the Harris Nuclear Plant. Specifically, you requested a one-time alternative to defer disassembly and inspection of component cooling water system check valves during refueling outage (RFO) 10.

The staff has reviewed and evaluated relief request CC-VR3 as documented in the enclosed Safety Evaluation. The staff has determined that compliance with the existing requirement would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety. Accordingly, the request for relief is authorized pursuant to Title 10 of the *Code of Federal Regulations*, Section 50.55a(a)(3)(ii) for RFO10.

Sincerely,

/RA/

Richard P. Correia, Chief, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-400

Enclosure: Safety Evaluation

cc: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELIEF REQUEST CC-VR3 RELATED TO DISASSEMBLY OF

COMPONENT COOLING WATER SYSTEM CHECK VALVES

CAROLINA POWER & LIGHT COMPANY

SHEARON HARRIS NUCLEAR POWER PLANT

DOCKET NO. 50-400

1.0 INTRODUCTION

Title 10 of the *Code of Federal Regulations* (10 CFR), Section 50.55a, requires that inservice testing (IST) of certain American Society of Mechanical Engineers (ASME) Code Class 1, 2, and 3 pumps and valves be performed in accordance with Section XI of the ASME *Boiler and Pressure Vessel Code* (the Code) 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. 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. NRC guidance contained in Generic Letter (GL) 89-04, "Guidance on Developing Acceptable Inservice Testing Programs," provides alternatives to the Code requirements that are acceptable. Further guidance is given in GL 89-04, Supplement 1, and NUREG-1482, "Guidelines for Inservice Testing at Nuclear Power Plants."

In a letter dated December 5, 2000, Carolina Power & Light Company, licensee for the Shearon Harris Nuclear Power Plant (HNP), submitted relief request CC-VR3 for the second 10-year interval of the IST program.

The second 10-year IST interval for HNP began February 2, 1998, and is scheduled to end May 1, 2007. The IST program was developed in accordance with the requirements of the 1989 Edition of the ASME Code by implementation of the 1987 ASME/ANSI *Operations and Maintenance (OM) Standards* Part 1, Part 6, and Part 10 (OM-1, OM-6, and OM-10) for IST of safety and relief devices, pumps, and valves.

The NRC's findings with respect to authorizing the alternative and granting or denying the IST program relief request are given below.

2.0 RELIEF REQUEST CC-VR3

Relief is requested from the requirements of OM-10, paragraph 4.3.2.2, which states that each check valve shall be exercised or examined in a manner which verifies obturator travel to the closed, full-open, or partially-open position required to fulfill its function. If impractical, the Code allows valves to be disassembled and inspected during refueling outages.

The staff's approval of HNP Relief Request CC-VR2 dated February 1, 1999, authorized a sample disassembly and inspection plan for the check valves (1CC-216, 1CC-227, and 1CC-238) in the component cooling water (CCW) system supply lines to the reactor coolant pump thermal barriers. This alternative testing method, described in Relief Request CC-VR2, would require one or more of these valves to be disassembled and inspected during the upcoming refueling outage, RFO10. However, during RFO10, a steam generator replacement project is scheduled. These valves are located in the same area as the steam generators and the licensee proposes to defer disassembly and inspection of these valves until RFO11. This one-time relief request, CC-VR3, is described below.

2.1 Licensee's Basis for Requesting Relief

The licensee states:

HNP IST Program Plan HNP-IST-002-2nd Interval groups three check valves 1CC-216, 1CC-227, and 1CC-238 into a sample disassembly group as required by Relief Request #CC-VR2. These valves are located inside primary containment in the Component Cooling Water (CCW) supply lines to the individual Reactor Coolant Pump (RCP) thermal barrier heat exchangers. A Steam Generator Replacement Project is scheduled for RFO10. These valves are located in the same area as the steam generators. These valves are not provided with external position indication.

Due to the steam generator replacement, valve disassembly would pose workers to additional hazards both in the industrial safety and radiological areas while also creating schedule hardships without a compensating increase in the level of quality and safety. For this reason, CP&L requests a one-time relief for any check valve disassemblies for this specific check valve group.

During RFO9, two of the three valves (1CC-216 & 1CC-238) in the group were disassembled which is one additional valve disassembly above that required by Relief Request #CC-VR2.

CP&L will resume the disassembly plan as specified in Relief Request #CC-VR2 with a disassembly of 1CC-216 & 1CC-227 in RFO11. Please note that the disassembly of 1CC-216 in RFO11 will reset the six-year clock to prevent violation of the maximum six-year disassembly requirement.

2.2 Alternative Testing

The licensee proposes:

A summary of the revised check valve disassembly schedule reflecting the proposed relief request (RR) is as follows:

| Valve # | Group RR# | RFO8 10/98 | RFO9 03/00 | RFO10 09/01 | RFO11 03/03 | RFO12 09/04 | RFO13 03/06 | RFO14 09/07 |
|---------|-----------|---------------|---------------|----------------|----------------|----------------|----------------|----------------|
| 1CC-216 | CC-VR2 | | X | RR | X | | X | |
| 1CC-227 | CC-VR2 | X | | | X | | | X |
| 1CC-238 | CC-VR2 | | X | | | X | | |

2.3 Evaluation

The valves for which the licensee requests relief are simple check valves located in the CCW system supply lines to the RCP thermal barriers (1CC-216, 1CC-227, and 1CC-238). The valves open to provide coolant to the three RCP thermal barrier heat exchangers. The Code, OM-10 paragraph 4.3.2.2, requires that each check valve be exercised or examined in a manner which verifies obturator travel to the closed, full-open, or partially-open position required to fulfill its function. If impractical, the Code allows valves to be disassembled and inspected during refueling outages.

The staff's approval of HNP Relief Request CC-VR2, dated February 1, 1999, authorized the licensee to employ a sample disassembly and inspection plan for these check valves. This alternative testing method, described in relief request CC-VR2, requires disassembly and inspection of valve 1CC-216 during the upcoming refueling outage, RFO10. In the licensee's December 5, 2000, submittal, a one-time alternative sampling schedule to that described in Relief Request CC-VR2 is proposed. The licensee proposes to defer disassembly and inspection 1CC-216 during RFO10, and instead, disassemble and inspect two valves (1CC-216 and 1CC-227) during RFO11 scheduled for March 2003.

During RFO10, a steam generator replacement project is scheduled. The subject CCW check valves are located in the same area as the steam generators. The licensee states that disassembly and inspection of the valves at this time would pose workers to additional hazards both in the industrial safety and radiological areas. Compliance with the Code requirements, or even the alternative described in Relief Request CC-VR2, would result in hardship without a compensating increase in the level of quality and safety.

The licensee disassembled and inspected two of the valves (1CC-216 and 1CC-238) during RFO9 in March 2000. No evidence of binding or failure of valve internals was found, nor were the valves incapable of being full stroke exercised. Therefore, this alternative sampling schedule provides reasonable assurance of the valves' operational readiness.

3.0 CONCLUSION

The licensee's proposed one-time alternative to the requirements of OM-10 paragraph 4.3.2.2 for testing of the CCW system check valves during RFO10 is authorized pursuant to 10 CFR 50.55a(a)(3)(ii). Compliance with the Code requirements results in hardship without a compensating increase in the level of quality and safety.

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Date: April 6, 2001

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