



H. B. Barron  
Vice President

**Duke Energy Corporation**

McGuire Nuclear Station  
12700 Hagers Ferry Road  
Huntersville, NC 28078-9340  
(704) 875-4800 OFFICE  
(704) 875-4809 FAX

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U. S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, D. C. 20555

Subject: McGuire Nuclear Station, Units 1 and 2  
Docket Nos. 50-369, 50-370  
Request for Inservice Test Program Relief for Check Valve  
Testing

Reference: Nuclear Regulatory Commission Final Rule 10CFR Part 50  
"Industry Codes and Standards; Amended Requirements,"  
(64 FR 63392) dated September 22, 1999

10CFR50.55a(f), "Inservice testing requirements," requires inservice testing (IST) of certain components be performed in accordance with ASME Boiler and Pressure Vessel Code Section XI, "Rules for Inservice Inspection of Nuclear Plant Components," and applicable addenda. This requirement applies except where alternatives have been authorized or relief has been requested and granted by the NRC as described in the station IST Program.

The referenced final rule publication revised, in part, the requirements for the IST of check valves. The final rule publication noted that the NRC will favorably consider a request by a licensee under Section 50.55a(f)(4)(iv), to apply Appendix II, for check valves, in advance of incorporating the 1995 Edition, including 1996 Addenda of the ASME Code of Operation and Maintenance of Nuclear Power Plants (OMa-1996 Code) as its Code of record, if the licensee commits to the following requirements:

- 1) When ASME OMa-1996, Appendix II is implemented for a check valve group, the modifications to Appendix II contained in the rule will be satisfied:
  - (A) Valve opening and closing functions will be demonstrated when flow testing or examination methods (non-intrusive, or disassembly and inspection) are used;
  - (B) The initial interval for tests and associated examinations will not exceed two fuel cycles or 3 years, whichever is longer. Any extension of this interval will not exceed one fuel cycle per extension with the maximum interval not to exceed 10 years. Trending and evaluation of existing data will be used to reduce or extend the time interval between tests.

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(C) If the Appendix II condition monitoring program is discontinued, then the requirements of ISTC 4.5.1 through 4.5.4 must be implemented.

- 2) When fully implemented, all portions of ASME OMa-1996 Code that apply to check valves will be implemented for check valves not included in the Appendix II program.

Duke Energy Corporation believes that the implementation of the ASME OMa 1996 Code including Appendix II, will improve the performance of check valves and will optimize testing, examination and preventative maintenance. ASME OMa-1996 Code, Appendix II properly focuses testing, monitoring, or examination activities on problem valves and away from valves that exhibit acceptable performance. Therefore, Duke Power proposes the attached IST Program relief requests to apply ASME OMa-1996 Code (including Appendix II) for check valves.

When approved, Duke Energy's McGuire Nuclear Station will complete a two year transition to these recently NRC endorsed code requirements by October 2003. During the transition to ASME OMa-1996 Code, if the Appendix II program is discontinued for a valve or group of valves, the requirements of all applicable check valve portions of ASME OM Code-1995 Edition through 1996 Addenda will be implemented.

We request approval of this proposed alternative by December 15, 2001 in order to support adjusting check valve testing during McGuire's Spring refueling outage of 2002.

Should you have any questions concerning this letter, please contact Norman T. Simms at (704) 875-4685.

Sincerely,



H B Barron  
McGuire Nuclear Station

Attachment: McGuire Nuclear Station Generic Relief Request MC-GRV-04

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cc w/att:

L A Reyes, Regional Administrator, Region II  
U S Nuclear Regulatory Commission  
Atlanta Federal Center, Suite 23 T 85  
61 Forsyth Street, SW  
Atlanta, Georgia 30303 - 3415

R E Martin, Project Manager  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
One White Flint North, Mail Stop 8G9  
Washington, D.C. 20555

S M Shaeffer, Senior NRC Resident Inspector  
McGuire Nuclear Station

D J Roberts, Senior NRC Resident Inspector  
Catawba Nuclear Station

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bc w/att:

E L Hyland (MG05SE)  
P W Barrett (CN03SE)  
R E Dixon (MG05SE)  
C J Thomas  
N T Simms  
K L Crane

ELL (EC050)

**ATTACHMENT**

**RELIEF REQUEST**

**MC-GRV-04**

**Generic Relief Request**

Item Number: MC-GRV-04

Component Number (s): All check valves in the IST Program

Flow Diagram (s): All applicable

Function (s): All safety functions

Test Requirement: OM-10 (OMa-1988), Sections 4.2 - Inservice Test for Category A and B valves, along with section 4.3.2 - Exercise Test for Check Valves.

Basis for Relief: In order to take advantage of the American Society of Mechanical Engineer's (ASME) and Nuclear Regulatory Commission's (NRC) improvement efforts in developing a performance-based code (versus the current prescriptive code requirements), relief is being requested to implement the Appendix II, "Check Valve Condition Monitoring Program," per ASME OM Code-1995 Edition through 1996 Addenda. This is an approved and acceptable ASME Code alternative to testing check valves as set forth in ASME/ANSI OMa-1988, Part 10 section 4.3.2, "Exercising Tests for Check Valves." Relief is being requested in accordance with 10CFR50.55a(f)(4)(iv) due to the schedule that is being requested to implement the Condition Monitoring Program.

Check Valves will be monitored by the condition monitoring approach adopting the requirements of Appendix II, "Check Valve Condition Monitoring Program," in the ASME OM Code-1995 Edition through 1996 Addenda, subject to the three modifications found in 10CFR50.55a(b)(3)(iv).

The schedule for implementing the Appendix II condition monitoring program allows a time period for one complete refuel cycle to be completed, to test valves that can only be safely tested during a refuel outage, which is the case for some of the check valves not currently bi-directional tested. It will also allow sufficient time to establish the process and

procedures, and evaluate groupings, which are necessary to implement the Appendix II Condition Monitoring Program requirements. The implementation period requested is approximately two years and extends to December 31, 2003.

There are 74 Unit 1 and 68 Unit 2 check valves that are not currently tested in both the open and close directions, but will be bi-directional tested based on approval of this request. The initial evaluations performed will include those valves not currently bi-directional tested. Bi-directional testing improves the capability to detect failures. This code update for check valves only, is in advance of the March 1, 2004 required 10-year IST program Code update. This proposed alternative provides an acceptable level of quality and safety.

Code Alternative:

As an alternative to the testing or examination requirements of ISTC-3510, ISTC-3520, ISTC-3540, and ISTC-5221, the Owner may establish a condition monitoring program. The purpose of this program is both to improve check valve performance and to optimize testing, examination, and preventive maintenance activities in order to maintain the continued acceptable performance of a select group of check valves. The Owner may implement this program on a valve or a group of similar valves. The program shall be implemented in accordance with ASME OM Code-1995 Edition through 1996 Addenda, Appendix II, Check Valve Condition Monitoring Program. If the Appendix II program is discontinued for a valve or group of valves, the requirements of all applicable check valve portions of ASME OM Code-1995 Edition through 1996 Addenda will be implemented.

**ADDITIONAL INFORMATION:**

**ACCEPTANCE CRITERIA:**

Disassembly and inspection, non-intrusive test, and surveillance test acceptance criteria will be in accordance with station procedures.

**REFERENCES:**

Part 50 - Statements of Consideration for the Final Rule Effective November 22, 1999.

**APPROVAL REFERENCES:**

This request needs to be submitted and approved pursuant to 10 CFR 50.55a(f)(4)(iv) because it allows a period of time for implementing bi-directional testing of check valves currently tested in one direction only.