

March 1, 2002

Mr. Douglas E. Cooper
Site Vice President
Palisades Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES PLANT - RELIEF REQUEST RR-V-33a TO IMPLEMENT
CHECK VALVE CONDITION MONITORING PROGRAM (TAC NO. MB3228)

Dear Mr. Cooper:

By letter dated October 17, 2001, the Nuclear Management Company, LLC (the licensee), submitted Relief Request RR-V-33a requesting approval from the U.S. Nuclear Regulatory Commission (NRC) to implement the check valve portion of the American Society of Mechanical Engineers (ASME) *Code for the Operation and Maintenance of Nuclear Power Plants*, 1995 edition, 1996 addenda (OMa-1996 Code), including Appendix II, *Check Valve Condition Monitoring Program*, at the Palisades Nuclear Plant. The licensee proposes to implement the ASME OMa-1996 Code and Appendix II in phases for all check valves at Palisades, with full implementation of the ASME OMa-1996 Code by December 31, 2003. The licensee requested relief to implement the alternative on a phased-in schedule pursuant to Title 10 of the *Code of Federal Regulations*, Part 50, Section 50.55a(a)(3)(i).

The NRC staff has evaluated the licensee's request for approval to implement the check valve portion of the OMa-1996 Code, including the Appendix II Condition Monitoring Program, at Palisades. The NRC staff's safety evaluation is enclosed. The NRC staff finds the licensee's request to use the check valve portion of the OMa-1996 Code and related regulatory requirements with regard to implementation of Appendix II to be acceptable and it is, therefore, approved pursuant to 10 CFR 50.55a(f)(4)(iv). The NRC staff also finds the licensee's proposed phased-in implementation of the OMa-1996 Code and Appendix II requirements at Palisades to be acceptable and it is authorized pursuant to 10 CFR 50.55a(a)(3)(i) on the basis that the proposed alternative provides an acceptable level of quality and safety.

If you have any questions concerning this action, please call Mr. Darl Hood of my staff at (301) 415-3049.

Sincerely,
/RA/

William D. Reckley, Acting Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosure: Safety Evaluation

cc w/encl: See next page

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Palisades Plant

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November 2001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO THE INSERVICE TESTING PROGRAM

RELIEF REQUEST RR-V-33a

PALISADES NUCLEAR PLANT

DOCKET NO. 50-255

1.0 INTRODUCTION

Title 10 of the *Code of Federal Regulations*, Section 50.55a (10 CFR 50.50a), 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 ASME B&PV 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 10 CFR 50.55a(a)(3)(i), 10 CFR 50.55a(a)(3)(ii), or 10 CFR 50.55a(f)(6)(i). In proposing alternatives or requesting relief, the licensee must demonstrate that: (1) the alternatives would 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 would be impractical for its facility. The regulation at 10 CFR 50.55a authorizes the Commission to approve alternatives and to grant relief from ASME Code requirements upon making the necessary findings. The regulation at 10 CFR 50.55a(f)(4)(iv) states that IST of pumps and valves may meet the requirements set forth in subsequent editions and addenda that are incorporated by reference in paragraph (b), subject to Commission approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions and addenda are met.

By letter dated October 17, 2001, the Nuclear Management Company, LLC (NMC), submitted Relief Request RR-V-33a requesting the U.S. Nuclear Regulatory Commission's (NRC's) approval to implement the check valve portion of the ASME *Code for the Operation and Maintenance of Nuclear Power Plants*, 1995 edition, 1996 addenda (OMa-1996 Code), including Appendix II, *Check Valve Condition Monitoring Program*, at the Palisades Nuclear Plant. NMC proposed that implementation of the ASME OMa-1996 Code and Appendix II be phased-in for all check valves at Palisades. NMC committed to the full implementation of the ASME OMa-1996 Code by December 31, 2003. NMC requested relief to implement the alternative on the proposed implementation phased-in schedule pursuant to 10 CFR 50.55a(a)(3)(i).

ENCLOSURE

The current Code of record for the Palisades IST check valve program is the ASME B&PV Code, Section XI, 1989 edition, which references the requirements of ASME/ANSI OMa-1988, Part 10.

The NRC staff's findings with respect to NMC's request to use the check valve portion of the OMa-1996 Code and related regulatory requirements, including the implementation of the Appendix II alternative, and NMC's proposed phased-in implementation of the OMa-1996 Code and Appendix II requirements at Palisades, are contained in this safety evaluation.

2.0 NMC'S RELIEF REQUEST

NMC requested relief from the requirements of ASME/ANSI OMa-1988, Part 10, to implement the check valve portion of the ASME OMa-1996 Code including the Appendix II, *Check Valve Condition Monitoring Program*, at Palisades. NMC requested approval in order to support the scheduled IST of check valves during the refueling outage of 2003. NMC proposed that the implementation of the ASME OMa-1996 Code and Appendix II be phased-in for all check valves at the Palisades Nuclear Plant. Relief was requested for the implementation on a phased-in schedule, pursuant to 10 CFR 50.55a(a)(3)(i). The phased-in implementation period requested is 2 years and extends to December 31, 2003. This code update for check valves is 3 years in advance of the required 10-year IST program code update. NMC commits to the full implementation of the ASME OMa-1996 Code by December 31, 2003.

2.1 NMC'S Basis for Relief

NMC's reason for the relief request is to establish a Condition Monitoring Program for the IST of certain check valves in preparation for Palisades' required 10-year IST program code update. NMC proposes to take advantage of the ASME/NRC OM Code improvement efforts in developing a performance-based code, because it allows a period of time for implementing bi-directional testing of check valves that are not currently tested in their IST program. NMC's Relief Request RR-V-33a referenced the NRC's 10 CFR 50.55a rule amendment that was published in the *Federal Register* (64 FR 51370, September 22, 1999). In this final rule, the NRC staff stated its expectations with regard to requests by licensees to apply Appendix II under 10 CFR 50.55a(f)(4)(iv) in advance of incorporating the ASME OMa-1996 Code as its Code of record.

The proposed implementation schedule allows a period of time (one refueling cycle) to test and phase valves into the program, particularly those not currently bi-directionally tested. This schedule also allows sufficient time to establish the process and prepare procedures and valve groupings required to implement the Appendix II Condition Monitoring Program.

At Palisades, there are 23 check valves that are not currently tested in both the open and closed direction. These check valves will be bi-directionally tested under this requested relief. Bi-directional testing improves the capability to detect valve degradation prior to failure. The initial check valve implementation evaluations performed will include those valves not currently bi-directionally tested.

The proposed implementation of the requirements of the check valve portion of the ASME OMa-1996 Code, including Appendix II, will be phased-in for all check valves at Palisades. NMC considers that the proposed alternative to phase-in the check valves, subject to the requirements of the OMa-1996 Code and related regulations, pursuant to 10 CFR 50.55a(a)(3)(i), provides an acceptable level of quality and safety.

3.0 NRC STAFF'S EVALUATION

NMC indicates that the testing and examination of the check valves will be managed by the condition monitoring approach by adopting the requirements of Appendix II contained in the OMa-1996 Code, subject to the three modifications identified in 10 CFR 50.55a(b)(3)(iv). NMC also indicates that the initial Appendix II implementation and evaluation activities performed will include those valves not currently bi-directional tested, and if the Condition Monitoring Program is discontinued for a valve or group of valves during the implementation process, the requirements of all applicable check valve portions of OMa-1996 Code will be implemented.

As part of its amendment to 10 CFR 50.55a, the NRC incorporated by reference the OM Code 1995 edition through the 1996 addenda, with certain modifications required when implementing Appendix II, as stated in 10 CFR 50.55a(b)(3)(iv). The amendment stated, "The NRC staff will favorably consider a request by a licensee under §50.55a(f)(4)(iv) to apply Appendix II, in advance of incorporating the 1995 Edition with 1996 Addenda of the ASME OM Code as its Code of record, if the licensee justifies the following in its submitted request: (1) The modifications to Appendix II contained in the rule have been satisfied; and (2) All portions of the 1995 Edition with the 1996 Addenda of the OM Code that apply to check valves are implemented for the remaining check valves not included in the Appendix II program."

Two significant changes were introduced in the OMa-1996 Code that (1) requires bi-directional IST of the check valve disc movement, and (2) provides the Check Valve Condition Monitoring Program as an alternative to IST exercise testing for certain check valves. This integral two-part improvement to the Code provides interrelated requirements. Bi-directional testing improves the IST capability of detecting valve degradation prior to valve failure. The Condition Monitoring Program alternative allows the licensee certain IST flexibility in establishing the types of test, examination, and preventive maintenance activities and their associated intervals, when justified based on the valve's performance and operating condition. These Code changes were developed and published such that licensees who elect not to implement condition monitoring in their IST programs would be required to bi-directionally test check valves as a default set of testing and examination requirements.

The NRC staff considers the Condition Monitoring Program approach of OMa-1996 Code, Appendix II, for check valve IST with the modifications in 10 CFR 50.55a(b)(3)(iv), to be an improvement over present Code requirements, and encourages licensees to implement the condition monitoring alternative. The use of the alternative IST program provides the licensee with knowledge of the valve's operating condition, informed and verified expectations of the valve's performance over extended intervals, and a process to reduce the burden of unnecessary IST.

NMC stated that it would implement its Condition Monitoring Program on an extended schedule (approximately 2 years). As previously noted, the NRC's amendment to 10 CFR 50.50a stated that the licensee should justify that all portions of the 1995 edition with the 1996 addenda of the OM Code that apply to check valves are implemented for the remaining check valves not included in the Appendix II program. For those check valves not currently bi-directionally tested, this extended period would allow the licensee to establish the process, procedures, and valve groupings to implement Appendix II requirements. Thus, there will be a period when certain check valves not currently tested in a bi-directional manner might not meet all testing requirements in the 1995 edition with the 1996 addenda. For these check valves, NMC will meet testing requirements of its Code of record (i.e., 1989 ASME Code, Section XI) until the Appendix II program is fully implemented. At that time, all ASME Code Class 1, 2, and 3 check valves in the IST program will be included in the Appendix II program or will meet the check valve requirements in the 1995 edition with the 1996 addenda for those check valves not included in the Appendix II program. On the basis that during the phased-in implementation period, those check valves that are not bi-directionally tested will meet the IST requirements of the current Code of record, the NRC staff finds that the alternative provides an acceptable level of quality and safety.

Therefore, the NRC staff finds that NMC's request to use the check valve portion of the OMa-1996 Code and to apply Appendix II in advance of incorporating the 1995 edition with 1996 addenda of the ASME OM Code as its Code of record at the Palisades Nuclear Plant, as described in its letter dated October 17, 2001, is acceptable and, therefore, it is approved pursuant to 10 CFR 50.55a(f)(4)(iv). The NRC staff further finds that NMC's proposed implementation sequence to phase-in its Condition Monitoring Program over a 2-year period, in order to establish the process, prepare procedures and valve groupings, and obtain performance data, is acceptable and is authorized pursuant to 10 CFR 50.55a(a)(3)(i), on the basis that the proposed alternative provides an acceptable level of quality and safety.

4.0 CONCLUSION

The NRC staff concludes that NMC's request to use the check valve portion of the OMa-1996 Code, including Appendix II, and the related regulatory requirements is approved pursuant to 10 CFR 50.55a(f)(4)(iv). In addition, the NRC staff finds that NMC's proposed phased-in implementation of OMa-1996 Code, including Appendix II requirements, at Palisades is authorized pursuant to 10 CFR 50.55a(a)(3)(i) on the basis that the proposed alternative provides an acceptable level of quality and safety.

Principal Contributor: F. Grubelich

Date: March 1, 2002