

April 12, 1991

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Mr. Ken H. Evers
Manager - Nuclear Power
Wisconsin Public Service Corporation
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Dear Mr. Evers:

SUBJECT: INSERVICE TESTING RELIEF REQUEST (TAC NO. 79804)

On September 13, 1990, the NRC issued the Safety Evaluation of the Inservice Testing (IST) Program For Pumps and Valves for the Kewaunee Nuclear Power Plant. In this SE relief was granted (relief request RR-10) to partial flow test the accumulator check valves, SI-21A and B and SI-22A and B. The staff determined that the proposed partial flow test did not verify full operability, but did provide evidence to establish reasonable assurance of operability. To supplement the partial flow test, the staff imposed additional requirements to disassemble and inspect the valves each defueling outage.

By letter dated February 13, 1991, Wisconsin Public Service Corporation requested relief from the requirement to disassemble and inspect these valves during the 1991 refueling outage. You stated in your submittal that the valves had been disassembled and inspected during the 1990 refueling outage and were found to be in good condition and operable. You further stated that work planned for the 1991 refueling outage would require core offloading again; and that disassembly and inspection of these valves again after only one cycle of operation would provide limited useful information and be inconsistent with ALARA policies and practices.

Based upon our review, we find the proposed relief request to be acceptable pursuant to 10 CFR 50.55a(a)(3)(ii). The requirement to disassemble and inspect these valves during the 1991 refueling outage would result in a hardship without a compensating increase in safety. This relief is authorized by law and will not endanger life or property or the common defense and security, and is otherwise in the public interest. The details of our review are contained in the enclosed Safety Evaluation.

Sincerely,

original signed by

John N. Hannon, Director
Project Directorate III-3
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosure:
Safety Evaluation

See next page
cc w/encl.

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

April 12, 1991

Docket No. 50-305

Mr. Ken H. Evers
Manager - Nuclear Power
Wisconsin Public Service Corporation
Post Office Box 19002
Green Bay, Wisconsin 54307-9002

Dear Mr. Evers:

SUBJECT: INSERVICE TESTING RELIEF REQUEST (TAC NO. 79804)

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Sincerely,

A handwritten signature in black ink, appearing to read "John N. Hannon", written over a printed name and title.

John N. Hannon, Director
Project Directorate III-3
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosure:
Safety Evaluation

cc w/enclosure: See next page

Mr. Ken H. Evers
Wisconsin Public Service Corporation

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

WISCONSIN PUBLIC SERVICE CORPORATION

KEWAUNEE NUCLEAR POWER PLANT

DOCKET NO. 50-305

1.0 INTRODUCTION

By letter dated February 13, 1991, Wisconsin Public Service Corporation requested relief from the requirement to disassemble and inspect the accumulator check valves SI-21A and B and SI-22A and B during the 1991 refueling outage. The requirement was imposed by the staff in their September 13, 1990 Safety Evaluation of the Inservice Testing (IST) Program for Pumps and Valves for the Kewaunee Nuclear Power Plant. In this SE (relief request RR-10), the staff determined that the proposed partial flow test did not verify full operability, but did provide evidence to establish reasonable assurance of operability. To supplement the partial flow test, the staff imposed the requirement to disassemble and inspect the valves each defueling outage.

2.0 DISCUSSION

WPSC provided the following basis for requesting relief:

WPSC defueled during the 1990 outage and disassembled/inspected each of the valves. They were found to be in good condition and operable. As a result of work planned for the 1991 refueling outage, the core will need to be unloaded again. The disassembly and inspection of these valves again after only one cycle of operation since the last inspection would provide limited useful information and is inconsistent with ALARA policies and practices. The average radiation dose received per valve from the 1990 inspections was approximately 790 mRem. In addition, the frequent disassembly of the valves may have detrimental effects on valve components. Since defueling is not a frequent activity in the industry, the staff clearly could not have envisioned an annual disassembly of these high exposure valves. Therefore, WPSC requests relief from performing disassembly and inspection of these valves during the 1991 refueling outage. The next defueling outage is scheduled to take place in 1995 but may occur earlier if unforeseen work that requires core unload becomes necessary. Therefore, these valves could be disassembled and inspected within the next four years...

WPSC proposed for an alternate method of testing that the valves would be partial flow tested during the 1991 outage to demonstrate that the disc moves freely off its seat by comparison of pressure differential and flow rate.

3.0 EVALUATION

Accumulator discharge check valves SI-21A and B and SI-22A and B cannot be exercised during power operation because the reactor coolant system (RCS) pressure is greater than the accumulator pressure. In the relief request evaluated in the staff's September 13, 1990, safety evaluation (relief request RR-10), the licensee stated that it was not feasible to exercise the valves at the design basis loss-of-coolant accident (LOCA) flowrate (approximately 14,000 gpm). In the safety evaluation the staff granted relief from the quarterly exercising requirements of the ASME Code, Section XI, Paragraph IWV-3522, to partial stroke exercise these valves each cold shutdown and disassemble and inspect these valves each defueling outage. The physical location of these valves requires that the core be offloaded before these valves can be disassembled.

The Kewaunee reactor was defueled during the 1990 outage and each of the accumulator discharge check valves was disassembled and inspected. The maintenance records for these valves were reviewed and it was determined that there is no indication of service problems being experienced by these valves. The licensee has indicated that the core will again be offloaded during the 1991 refueling outage, and has requested relief from performing another disassembly and inspection during the 1991 outage. The licensee has also stated that the next defueling outage after 1991 is scheduled for 1995.

Disassembly and inspection of these valves exposes the maintenance personnel to a high dose which is considered to be a hardship. These valves see very light service since the only flow passed through them is during partial stroke exercise testing. Since all valves were disassembled and inspected only one year ago, performing another disassembly and inspection this outage would be of limited benefit in view of the service seen by these valves.

4.0 CONCLUSION

Based upon our review of the licensee's relief request and the determination that requiring the disassembly and inspection of these valves during the 1991 outage would result in a hardship without a compensating increase in the level of quality and safety, and considering the adequacy of the 1990 valve inspection and the ongoing partial flow exercising at cold shutdowns, relief is granted pursuant to 10 CFR 50.55a(a)(3)(ii).

Pursuant to 10 CFR 50.55a(a)(3)(ii), we have determined that granting this relief is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest.

Principal Contributor: E.J. Sullivan

Dated: April 12, 1991