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SCHROCK, C.A. Wisconsin Public Service Corp.
RECIP. NAME RECIPIENT AFFILIATION
 Document Control Branch (Document Control Desk)

SUBJECT: Notices of completion of commitments contained in relief request RR3-1, allowing performance of temporary non-code repair on piping at manual ball valve SW-800B.

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WISCONSIN PUBLIC SERVICE CORPORATION

600 North Adams • P.O. Box 19002 • Green Bay, WI 54307-9002

June 14, 1993

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

Ladies/Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Completion of Commitments Contained in the Relief Request 3-1

- References
- 1) Letter from C.A. Schrock (WPSC) to Document Control Desk (NRC), dated September 1, 1992.
 - 2) Letter from C.A. Schrock (WPSC) to Document Control Desk (NRC), dated September 17, 1992.
 - 3) Letter from John N. Hannon (NRC) to C.A. Schrock (WPSC), dated January 21, 1993.
 - 4) Inspection Report 92-23 conducted by I.T. Yin (NRC) at KNPP, dated December 4, 1992.
 - 5) Letter from C.A. Schrock (WPSC) to Document Control Desk (NRC), dated January 22, 1993, response to Inspection Report 92-23.

By letter dated September 1, 1992 (Reference 1), Wisconsin Public Service Corporation (WPSC) submitted relief request No. RR3-1 to allow performing a temporary non-code repair on the piping at the manual ball valve SW-800B. This valve is in an ASME Code Class 3 portion of the Service Water System at the Kewaunee Nuclear Power Plant (KNPP). Specifically, SW-800B is the first isolation valve on the service water line that provides cooling for the auxiliary building basement fancoil unit 1B from the main service water header. The commitments in relief request RR3-1 were to be completed prior to the end of the 1993 scheduled refueling outage and included the following:

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- 1) If a plant shutdown or trip occurred prior to the next scheduled refueling outage (March 1993), a code-qualified repair would be performed.
- 2) The downstream solenoid valve would be maintained open until a code-qualified repair was performed to prevent any additional fatigue.
- 3) An augmented leakage inspection program was to be implemented; if leakage in excess of 1 gpm was observed, operability of the 1B auxiliary building basement fancoil unit and the SW header would be assessed and appropriate actions taken.
- 4) The root cause of the failure, generic implications of the failure and appropriate corrective actions were to be implemented prior to the end of the 1993 scheduled refueling outage.

Reference 2 notified the NRC of the completion of corrective actions 1, 2 and 3. As requested in reference 3, this letter provides notification of the completion of corrective action 4.


The cause of the failed piping at valve SW-800B was determined to be cycle-fatigue due to water hammer. The root cause of the water hammer was determined to be the fast-acting solenoid valve that provides service water flow control to the fancoil unit inlet. Consequently, during the 1993 scheduled refueling outage, similar fast-acting solenoid valves that were part of the service water supply lines to all safety-related fancoil units were examined. The KNPP work request system was reviewed along with a review of preliminary walkdown information associated with IE Bulletin 79-14. These reviews were used to identify previous pipe hanger problems that could be attributed to water hammer. Also, a walkdown of selected pipe hangers and penetrations was performed to identify any current indications of water hammer.

As a result of this review, six (6) lines that may be vulnerable to water hammer conditions were identified. WPSC initiated a Temporary Change Request to remove the power circuit fuses to each of the solenoid valves identified during these reviews. These solenoid valves supplied SW to various safety-related fancoil units. The removal of these fuses resulted in the solenoid valves being in their post-accident position (open). This allows the flow control valves to remain open, which provides continuous SW flow to the associated fancoil units. The SW system has been evaluated to ensure an adequate flow margin exists while these fancoil units receive continuous SW flow. These corrective actions were completed prior to the end of the 1993 refueling outage.

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This letter satisfies all of the commitments identified in references 1, 2 and 3. Further corrective actions are continuing to be appropriately addressed as specified in reference 5. If you have any further questions or if you require additional information, please contact me or a member of my staff.

Sincerely,



C.A. Schrock
Manager - Nuclear Engineering

RTS/cjt

cc: US NRC Region III
US NRC Senior Resident Inspector

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