



Wisconsin Public Service Corporation
(a subsidiary of WPS Resources Corporation)
Kewaunee Nuclear Power Plant
North 490, Highway 42
Kewaunee, WI 54216-9511
920-388-2560

April 19, 2000

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Ladies/Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Generic Letter 98-02 Revision 1

- References: 1) Generic Letter 98-02; "Loss of Reactor Coolant Inventory and Associated Potential for Loss of Emergency Mitigation Functions while in a Shutdown Condition," dated May 28, 1998
- 2) Letter to Document Control Desk from M. L. Marchi, dated November 24, 1998

In reference 1, WPSC was requested to review their residual heat removal (RHR) and emergency core cooling system (ECCS) configurations for susceptibility to common cause failures similar to those described in the Generic Letter (GL). According to the GL, the staff was specifically concerned about controls over the conduct of activities during hot shutdown conditions that may affect the safety-related functions of the RHR system and ECCS. The staff requested assurance that the safety related functions of the RHR and ECCS will not be adversely affected by activities conducted at hot shutdown.

In reference 2, Wisconsin Public Service Corporation (WPSC) provided our response in which we believed that a number of flow paths could make Kewaunee Nuclear Power Plant (KNPP) susceptible to a common cause failure like the one described in the GL. As required by the GL for each of these identified flow paths, WPSC evaluated both the physical and administrative barriers that were in place that precluded flow diversion through these paths. The original evaluation concluded that the valves in the susceptible flow paths were already being procedurally checked and independently verified closed prior to placing RHR in service. The author of the GL response reached this conclusion based on his understanding of when the valve position verification was performed. The KNPP management reviewers had a different understanding of the response that was nonetheless consistent with their understanding of the system and when the valve position verification was performed. However, the language used in the response, specifically the phrase "in service" was never defined and thus the exact understanding of when the valve position verification

was being performed was left up to the individual reviewer's interpretation. The response author was of the understanding that prior to operating the RHR system in cooldown alignment, the verification of valve position was being performed. The individuals who reviewed the response were of the understanding that the valve position verification was being performed prior to declaring the RHR system operable. The system is required by KNPP Technical Specifications to be operable prior to the reactor being made critical. This has resulted in the need to clarify the response and to resolve any discrepancies as to what the response means.

Definition of the Phrase In Service

During our subsequent review of reference 2, and during discussions with the KNPP Resident Inspector, we became aware that using the phrase "in service" made it difficult to understand exactly when the valve position verification checklist, referred to in this response, was being performed.

The phrase "in service" can be interpreted to mean two completely different RHR system conditions. In the first case, with the plant at power, the RHR System would be considered "in service" or operable when it is capable of performing its ECCS function. The term operable is defined as;

a component is operable or has operability when it is capable of performing its intended function within the required range.

The meaning of "in service" for this case corresponds to the KNPP Technical Specification definition of operable even though the safety function of the RHR System has the pumps in standby, not operating/running.

The second case is with the plant in a cooldown condition with the RHR system operating (i.e. pumps running) removing decay heat. With the plant in this condition, the RHR System would be considered "in service" when the pumps are actually operating/running. Operating is defined as;

a system or component is considered to be operating when it is performing the intended function in the intended manner.

The meaning of "in service" for this case corresponds to the KNPP Technical Specification definition of operating.

WPSC has concluded that the use of the phrase "in service" in describing a specific condition of plant equipment was ambiguous without further clarification. Since the phrase has different meanings depending on plant conditions, use of the phrase only added confusion and therefore, should not have been used.

The remainder of this letter discusses our original submittal, and discusses why there were no significant implications for public health and safety.

Discussion of Previous Submittal

The initial response to the GL, reference 2, was accurate in the case where "in service" is interpreted as operable for its intended ECCS alignment prior to normal power operations. In accordance with the KNPP Technical Specification, the RHR system must be operable prior to the reactor being made critical. In order for the RHR system to be considered operable for plant operation, valves RHR-400A(B) must be closed. The procedures which verify the closed position of valves RHR-400A(B) are either RHR system Pre-Startup Appendix A, N-RHR-34, or the ICS System Procedure N-ICS-23-CL. These procedures are performed prior to the reactor being made critical. Once the RHR system is verified operable, the plant's "normal configuration control" along with special test and maintenance procedure requirements assures the valves are maintained closed when the RHR System is operable.

Post Maintenance Verification

With the plant at power, whenever the RHR-400A(B) valves are tagged out of service or when any work has been performed on the valves or associated motor operators, the associated RHR train would be declared out of service (inoperable). A post maintenance verification and independent verification of the valve position would be performed prior to placing the RHR system back in an operable condition. However, if the valves have not been tagged out of service or no work has been performed on the valves or associated motor operators, then "normal configuration control" would always assume these valves remain closed.

Significant Implications for Public Health and Safety

In the case where the response to the GL, reference 2, is interpreted to mean RHR-400A(B) valve alignment was verified immediately prior to plant cooldown operations (which was not the actual situation), WPSC has completed an evaluation that determined there was minimal safety significance to the public's health and safety. The following discussion presents the reasons of this conclusion.

- 1) The valves RHR-400A(B) are initially aligned in the closed position and would require a specific action to open them.
- 2) A flow path through these valves is not normally used during normal plant power or during normal plant cooldown operations. Therefore, there is no reason to change the position of these valves to the open position during a plant cooldown.
- 3) The positions of these valves are re-verified closed in the ESF Periodic Checklist N-ESF-55-CLA. This checklist is performed monthly during plant operation.

- 4) The valves RHR-400A(B) are included in the KNPP in service testing (IST) program. The IST program performs a quarterly test on these valves after which verification and independent verification is performed of the valve positions.
- 5) The control room operators review the control room boards each shift to verify valve positions including the RHR 400-A(B).
- 6) Prior to a refueling shutdown, planning and scheduling activities would prohibit scheduling work on RHR-400A(B) that would affect the opening of these valves during a plant cooldown period. Once the schedule is finalized, qualified Shift Technical Advisors conduct an independent safety review of the schedule.
- 7) An independent safety system assessment is performed each shift during the refueling outage and the status of the RHR system is included in that review.

In addition, there were two other situations identified in reference 2. These other situations are presented for completeness and to restate our commitment concerning their valve position verification discussed in the original response. Valves RHR-299A(B) are currently verified closed by procedure prior to operating the RHR system for a normal plant cooldown. Valve RHR-110 is a manual valve that is normally closed. This valve will be verified closed prior to operating the RHR system for a normal plant cooldown. The following change is also being made: The valves RHR-400A(B) will be verified closed prior to operating the RHR system for a normal plant cooldown. On April 17, 2000, an updated procedure appendix to N-RHR-34 was approved to include requiring that the position of valves RHR-110 and RHR-400A(B) be verified closed prior to operating the RHR system for a normal plant cooldown.

Finally, WPSC apologizes for requiring the staff to expend additional resources in their review of the original response. The original response did not meet the standards that we have set for our responses and we regret any inconvenience that may have resulted.

Should you have any additional questions or concerns please feel free to call.

Sincerely,

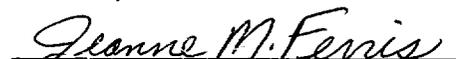


Mark L. Marchi
Vice President-Nuclear

DJM

cc - US NRC - Region III
US NRC Senior Resident Inspector

Subscribed and Sworn to
Before Me This 19th Day
of April, 2000


Notary Public, State of Wisconsin

My Commission Expires:
June 8, 2003