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SUBJECT: Informs that WPSC does not believe modification can be designed & installed prior to scheduled end of 1998 outage, conclusion based on points,listed.

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TITLE: GL 96-06, "Assurance of Equip Oprblty & Contain.Integ. during Design

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Public Service Corporation
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March 6, 1998

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

Ladies/Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Generic Letter 96-06 - Item 1, Water Hammer

References:
1) Generic Letter 96-06: "ASSURANCE OF EQUIPMENT OPERABILITY AND CONTAINMENT INTEGRITY DURING DESIGN-BASIS ACCIDENT CONDITIONS," dated September 30, 1996
2) Letter from M L Marchi (WPSC) to the Document Control Desk (NRC), dated October 30, 1996
3) Letter from C R Steinhardt (WPSC) to the Document Control Desk (NRC), dated January 28, 1997

In reference 1 the NRC requested all licensees evaluate their plants to determine if the piping system supplying water to the containment fan coil units (FCUs) is susceptible to water hammer.

In references 2 and 3, WPSC responded that a loss of all offsite power (LOOP) coincident with a large break loss of coolant accident (LOCA) results in the most severe water hammer loads. We further stated that an operability determination was in progress. Our analysis was completed before the end of the 1996-97 refueling outage. The analysis demonstrated that although the resulting stress levels exceeded USAR allowable, they were less than the operability criteria used in our I.E. Bulletin 79-14 program. These criteria are similar to the criteria described in Appendix F of Section III to the ASME Code.

Since the end of the outage we have been developing long term plans to bring the plant into compliance with its licensing basis. Based on our initial planning, compliance can not be achieved before the end of the next refueling outage scheduled for the Fall of 1998. Our conclusion is based on the following:

1. Since this is an emergent issue, the analysis method, acceptance criteria, and mitigation strategies are not standardized or defined. Therefore, allowing the industry to develop a better understanding of the issue before proceeding with modifications is prudent from a safety and economic standpoint. Both NEI and EPRI are working to develop these standards and we are following their efforts. One outcome of these efforts may be the

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long-term acceptance of the criteria described in Appendix F of Section III to the ASME Code for water hammer loads. If Kewaunee adopted the Appendix F criteria for long term resolution, significantly fewer modifications would be required.

2. WPSC is currently reviewing proposals to develop a thermo-hydraulic model of the service water (SW) system. This model should provide us with a better understanding of the SW system's performance. It is our intent to use the information gained from this model to better understand and evaluate SW water hammer events. We estimate that it will take 6 to 9 months to build and validate the model.

3. If modifications are required, a walk down of the service water piping will be needed. Much of this piping is in containment and is not accessible without building scaffolding. This is not desirable during power operation due to the potential interactions between the scaffolding and other equipment. Furthermore, at power containment integrity requirements make it difficult to move equipment in and out of containment and result in increased wear of the containment door seals.

4. Entries into containment while at power will increase personnel radiation exposure above what they would receive if the project is delayed. The delay will allow work in containment during outages when dose levels are reduced.

5. Tests of the service water system may be required prior to completing the final design. The testing will ensure components are sized correctly and our modeling assumptions are valid. This testing can not be done while the plant is at power.

6. If the field data described above is collected during the outage, insufficient time will exist to complete the required plant modifications during the same outage.

Based on these points, WPSC does not believe a modification can be designed and installed prior to the scheduled end of the 1998 outage. WPSC estimates that full compliance with the licensing basis can be achieved by the end of the Spring 2000 or the Fall 2001 outage. Since analysis has demonstrated the system is operable, the proposed schedule does not represent any risk to the health and safety of the public.

The purpose of this letter is to notify you of our schedule and its basis. If you have any questions or concerns, please contact me or a member of my staff.

Sincerely,

Clark R. Steinhardt
Senior Vice President - Nuclear Power

Subscribed and Sworn to
Before Me This 6th Day
of March 1998

Notary Public, State of Wisconsin

My Commission Expires:
June 13, 1999

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

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