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Wisconsin Electric POWER COMPANY
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July 24, 1985

Mr. James R. Keppler,
Regional Administrator
U. S. NUCLEAR REGULATORY COMMISSION
Region III
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

DOCKET NOS. 50-266 AND 50-301
SINGLE FAILURE POTENTIAL IN SAFETY INJECTION
RECIRCULATION PATH
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

The purpose of this letter is to notify the Nuclear Regulatory Commission, pursuant to the provisions of 10 CFR Part 21 "Reporting of Defects and Noncompliance", of a potential defect at the Point Beach Nuclear Plant which could result in a system failure leading to a safety hazard. This defect apparently involves a design deficiency.

We have determined that the failure of a single component in the control circuitry for the safety injection recirculation path isolation valves could, under specific circumstances, result in the failure of both safety injection pumps. This deficiency affects both units at the Point Beach Nuclear Plant. Details of this deficiency and our proposed corrective actions are provided in the following.

During a post implementation review of the Emergency Operating Procedures for the Point Beach Nuclear Plant, it was discovered that a failure of the power supply breaker in the remote control circuitry for air operated valves SI-897A or SI-897B (reference FSAR Figure 6.2-1, Sheet 2) would result in those valves closing (valves fail closed on loss of air or solenoid power). This failure would simultaneously result in loss of valve position indication and would defeat the annunciation for SI-897A&B valve closure on the main control board.

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The SI-897A&B valves are provided in the recirculation and test line for the safety injection system to prevent pumping contaminated containment sump water into the refueling water storage tank during the safety injection recirculation phase following a design basis accident. The SI-897A&B valves are interlocked with the SI-851A and SI-851B motor operated containment sump isolation valves (reference FSAR Figure 6.2-1, Sheet 1) such that when the SI-851A or B valves leave the closed position, the SI-897A&B valves will shut.

The safety injection pumps at the Point Beach Nuclear Plant are horizontal, centrifugal, multi-stage units with a shutoff head of approximately 1470 psi. The initiation of a safety injection signal starts the safety injection pumps; however, injection into the reactor coolant system by these pumps cannot occur until the reactor coolant system pressure falls below the shutoff head of the pumps. In a large break LOCA situation this occurs within seconds. For a small break LOCA, however, the primary system pressure may not decay to the SI pump injection point for some time. Therefore to prevent overheating of the pump a recirculation path to the RWST is provided. This recirculation piping also permits a flow path for periodic testing of the safety injection system. A failure in the SI-897A or B valve control circuitry would shut the valves and isolate the recirculation path. This could result in overheating of the SI pumps, if they continued to run at shutoff head, and create the potential for failure of both pumps. Although plant procedures are in place to compensate for loss of both safety injection pump flow paths, failure of this system nevertheless would constitute, in our opinion, a reduction in the protection afforded and therefore a potential safety hazard.

The design deficiency discussed above was identified and evaluated by the Point Beach Manager's Supervisory Staff and the Nuclear Engineering Safety Review Committee on July 23, 1985. This evaluation included discussion and development of the following short term corrective actions. The manual handwheel operators on the SI-897A&B valves will be manipulated to override the remote operators and maintain the valves in the open position. The valve control switches in the control room and the manual valve operators for the SI-851A&B valves, which are normally closed valves, will be locked shut. The emergency operating procedures which control safety injection switchover from the injection phase to the recirculation phase require the SI-897A&B valves to be closed before the SI-851A&B valves may be opened. An Operations Special Order will be issued to explain the locks on the SI-851A&B valves and the conditions under which the locks may be removed. We expect these actions to be completed on or before July 26, 1985. The Westinghouse Electric Corporation, the NSSS supplier for the Point Beach Nuclear Plant, has been contacted and informed of this apparent design deficiency.

Long term corrective actions, including hardware modifications, are presently being evaluated. We anticipate we can complete these evaluations and present a schedule for permanent resolution of this situation within 60 days. We shall provide this information to you in a supplement to this report.

Please contact us if you have any questions concerning this notification.

Very truly yours,

Vice Chairman of the Board

Sol Burstein

Copy to NRC Resident Inspector
Director, Office of Inspection and Enforcement (3)