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January 8, 1981

Mr. James G. Keppler, Reg Dir
Office of Inspection & Enforcement
Region III
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
IE Bulletin 80-24: Prevention of Damage Due to Water Leakage Inside
Containment October 17, 1980, Indian Point 2 Event

Note: The numbered items below correspond to numbered "Actions to be Taken
by Licensees" in Bulletin 80-24.

1. The only open cooling water system present inside containment is the service water system. For a summary description of this system refer to the Wisconsin Public Service Corporation's Kewaunee Plant Final Safety Analysis Report (FSAR), Section 9.6.2.
 - a. The service water system provides redundant cooling water supply for the engineered safety equipment required post-accident and single supply to other systems, including balance-of-plant equipment. The design includes provisions for isolation of non-essential components following an accident. The service water system flow diagram is shown on Figure 9.6-2 of the Kewaunee Plant FSAR.
 - b. Service water is taken from Lake Michigan through the submerged circulating and service water multiple inlet and conduit and brought to the forebay of the enclosed screenhouse structure. Typical lake water has a hardness of approximately 170 mg/l as Ca CO₃ with a pH of 8.1 and a chloride content of approximately 8.5 ppm.
 - c. The service water system piping is typically carbon steel. The fan coil units are made up of carbon steel headers with copper tubing and fins.

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- d. & e. Recurrent system leakage has been limited to the fan coil unit return manifolds. This leakage has been attributed to erosion of the end caps of the manifolds by grit in the service water. The corrective action for this has been to weld a backing plate to the heads to serve as a wear plate.
- f. Figure 9.6-2 of the Kewaunee Plant FSAR illustrates valving for the portion of the service water system inside containment.
- g. The isolation valves associated with the service water system are tested as specified in the Kewaunee Plant in-service inspection (ISI) program.
- h. A design change is in progress to install differential pressure instrumentation on the fan coil units, providing an aid in leakage detection on each fan coil unit.

Relative humidity instrumentation is in place, and operable, inside containment. Radiation detection instrumentation is in place, and operable, inside containment for detecting radioactive system leakage.

- i. Radiation detection instrumentation is in place, and operable, in the service water piping discharge to the circulating water discharge.
2. a. Three sumps exist within the Kewaunee Plant containment building: the containment sump (Sump "A"), the residual heat removal system sump (Sump "B"), and the reactor cavity sump (Sump "C").

Sump "A" has, in place and operable, one annunciated level detector, and one level detector controlling, sequentially, two pumps.

Sump "B" has redundant water level indication installed which indicates the level of water on the basement floor. The range of this indication is about 3 foot level and above. Sump "C" has one annunciated level detector, and one level detector controlling the reactor cavity sump pump in place and operable. If water leaks into the Reactor Cavity, these systems would provide indication of the leak to the operator. In addition to these systems, a redundant safety grade water level indication will be installed in Sump "B" during the 1981 refueling outage in compliance with the requirements of Item II.F.1.5 of NUREG 0737.

In Sump "A", each pump has a separate power supply.

- b. & d. Kewaunee Plant Surveillance Procedure SP36-082 has been reviewed and verified to:
 - 1. Provide a positive means of determining flow from Sump "A" which is used to collect and remove water from containment.
 - 2. Provide the ability to promptly detect water leakage in containment.

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- c. Kewaunee Plant Surveillance Procedure SP33-072 is being revised to provide for a monthly containment entry to visually inspect the lower level of containment, in the general area of Sump "B". The frequency of this inspection will be increased to weekly in the event that either the detection or removal systems become inoperable.

This revised SP33-072 is expected to be fully implemented by March 2, 1981.

- e. On receipt of IE Bulletin 80-24, interim surveillance measures were initiated to provide for a containment entry for visual inspection. This interim measure will continue, on a monthly basis, until the revised SP33-072 is implemented.
- f. The Kewaunee Plant ACD pertaining to Incident Reports provides for the initiation of an incident report in the event of unsatisfactory performance of the service water system, as would be indicated by the appropriate surveillance procedure. Existing surveillance procedures will result in identification of leakage in the containment in excess of one gallon per minute. Appropriate corrective action is then taken.

The Kewaunee Technical Specifications would require a licensee event report to be generated in the event that leakage in the service water system results in the inoperability of any necessary valves, piping, and instrumentation required for the functioning of the Service Water System during accident conditions.

We feel that existing ACD's and the technical specifications are sufficient to assure that appropriate corrective action is taken in the event of a service water leak in containment. To provide further assurance that appropriate action is taken, the Plant Operations Review Committee will be advised of the safety concerns of a service water leak in the containment as noted in Bulletin 80-24.

- 3. The only closed cooling water system inside containment is the component cooling system. There is no history of abnormal or recurrent leakage from this system.

Preparation of this response required approximately 60 manhours of effort.

Very truly yours,



E. R. Mathews, Vice President
Power Supply & Engineering

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cc - Dir, Office of Inspection & Enforcement
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