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NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

July 13, 1979

Mr. James G. Keppler
Director - Region III
Office of Inspection and Enforcement
United States Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Dockets No. 50-282 and No. 50-306

In response to Item 5 of IE Bulletin 79-13, the following is offered:

- (a) Volumetric examination of feedwater nozzle-to-pipe weld areas on Unit 1 was completed since May, 1979. No cracks were found. The additional inspection and volumetric examination required by IE Bulletin 79-13, Item 2 is now in progress on Unit 1. Unit 2 is scheduled for inspection and volumetric examination during the next extended outage.
- (b) Our Emergency Procedure E5, Loss of Feedwater Supply, was reviewed to verify that it recognizes and contains the elements to respond to a feedwater line break. Recognition includes a section on symptoms identifying potential decreasing steam generator level, feedwater flow less than steam flow, alarm received at a feedwater flow/steam flow mismatch, alarm received at low level in the steam generator, Auxiliary Building steam exclusion actuation annunciator, Turbine Building steam exclusion actuation annunciator.

Response includes a section on automatic immediate actions, manual immediate actions, and manual subsequent actions.

- (c) The methods and sensitivities of detection of feedwater leaks in containment include the following:

- (1) Fan Coil Unit Condensate Collection Pots System

This system collects and routes the condensate from each fan coil unit to a weir tank. The weir design measures the rate of collection by the change in the level of condensate collected in the pot. A remote level indication reads outside containment.

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NORTHERN STATES POWER COMPANY

Mr. James G. Keppler
July 13, 1979
Page 2

A preoperational test was performed to determine the maximum sensitivity (smallest incremental change in flowrate that can be read). The result was that 0.075 gpm change could be measured per 1% of level change.

(2) Sump Alarm and Pumping Rate

Containment Sump A located in the lower level of the containment (bottom of sump 693' 6" and top of sump 697' 6") has a 990 gallon capacity. Two pumps pump water to the Waste Holdup Tank (25,000 gallons) located in the Auxiliary Building, each with a flowrate of 108 gpm. The first pump auto starts at 695' 9", and the second pump auto starts at 696' 9". Both auto stop at 694' 6". The high level alarm is at 697' 0"; it alarms in the control room.

Containment sump pump operation is monitored by elapsed time meters reading in tenths of minutes. Readings are taken daily by the operators and compared to the previous day's reading. It takes about 2.5 minutes per pumpover resulting in a volume of about 270 gallons. During normal power operation, the containment sump pumps over approximately 1 to 2 times per month or about 400 gallons per month. This gase leak rate is about 0.008 gpm.

The level of detection can be extremely sensitive depending on the time involved in the measurement. A leak of about 0.1 gpm can be discovered in about 2 days.

(3) Humidity Measurement

Containment relative humidity is measured with a Honeywell Relative Humidity Sensor and is indicated in the control room. Instrument span is 5-95% RH with +2% specified accuracy. Sensor response stability is specified at 1% per year. It is felt that routine operator checks would detect a change of 4 to 5% RH in a 24 hour period. Although not verified by experience, it is felt that a leak from the feedwater system in containment of the order of 0.1 gpm could be detected with this system.

Other methods of leak detection include monitoring containment pressure and makeup to the condenser hotwell. Neither of these methods is as sensitive as those described above.

Yours very truly,

DE Delbert for LJ Wachter

L. J. Wachter

Vice President - Power Production
and System Operation

cc: Mr. G. Charnoff

561 194