American Electric Power System
INDIANA & MICHIGAN POWER COMPANY
DONALD C. COOK NUCLEAR PLANT
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April 29, 1982

Mr. J.G. Keppler, Regional Administrator
United States Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

Operating License DPR-74
Docket No. 50-316
Special Report No. SI-06

Dear Mr. Keppler:

The purpose of this letter is to forward to you the attached Special Report in compliance with Appendix A Technical Specifications, Section 3.5.2, Emergency Core Cooling Systems.

Sincerely,

W.G. Smith, Jr.
Plant Manager

/bab

cc: J.E. Dolan
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SAFETY INJECTION ACTUATION - MARCH 29, 1982

CONDITIONS PRIOR TO OCCURRENCE

The reactor was in Mode 4 with the Reactor Coolant System being maintained at approximately 700 psig and 344°F. The Unit was in the process of heating up to go to Mode 3 and the RCS was still borated to cold shutdown concentration. All control and shutdown rods were fully inserted.

DESCRIPTION OF OCCURRENCE

C&I Technicians were performing Surveillance Test Procedure THP.4030.STP.145 on the Solid State Protection System, Train A". The Safety Injection occurred when the C&I Technician requested the Control Room Equipment Operator to block Safety Injection. The Equipment Operator blocked both Trains on the "Pressurizer Low Pressure Safety Injection" but did not understand that he was also to block the Steam Generator Steam Line Break Safety Injection". When the C&I Technician returned the "Input Error Inhibit" switch to the normal" position, the S.S.P.S. "saw" a low steam line pressure and initiated a Safety Injection on Train "A".

DESIGNATION OF CAUSE OF OCCURRENCE

As stated in the "Description of Occurrence", a surveillance test on Train "A" of the S.S.P.S. was being performed. The steam line Isolation Safety Injection Block was not reinstated prior to returning the "Input Error Inhibit" switch to the normal" position, a Safety Injection Actuation occurred due to system parameters during the start up conditions exceeding their actuation values.

ANALYSIS OF OCCURRENCE

The following is a list of major items that were reviewed for their safety implication:

(a) Reactor Coolant System Cooldown Rate

The Reactor Coolant System Temperature was 344°F at the time of the injection and remained at this temperature during the injection.

(b) Thermal Effects of Safety Injection

During this occurrence the East Centrifugal Charging Pump injected to the Reactor through the Safety Injection path (1½" nozzles) for a period of 2 minutes. The primary system pressure was approximately 700 psig with a corresponding flowrate from the Centrifugal Charging Pump of approx. 530 gpm with a resultant injection of approx. 1060 gallons. The injection of approx. 1060 gallons corresponds to approx. 3.5 minutes injection of the design base used in the FIRL report F-C4542 which calls for 2 charging pumps each having an injection flowrate of 150 gpm. This is the sixth inadvertant Safety Injection into the Reactor Coolant System and conservatively constitute less than 2.6/10,000 of allowable cycles. This is conservative from the fact that the design temperature of the primary coolant is 540°F while the primary coolant temperature at the time of this injection was 344°F which would result in lower temperature gradients than design. The total accumulated cycles to date are 15.05/10,000.

(c) Effects on the Emergency Core Cooling System Piping (ECCS)

The piping and supports in the ECCS were given a thorough visual inspection to determine if any mechanical damage was experienced during the Safety Injection. There was no evidence of any mechanical damage or abnormal movements of the piping.

CORRECTIVE ACTIONS

All applicable C&I Surveillance Procedures have been revised to include step signoffs for both Control Room Operators and C&I Technicians for those steps in the procedures that require blocking Safety Injection.