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AUTH. NAME AUTHOR AFFILIATION
[illegible]EXICH, M. P. Indiana & Michigan Electric Co.
[illegible]ECIP. NAME RECIPIENT AFFILIATION
TAYLOR, J. M. Office of the Executive Director for Operations

SUBJECT: Responds to NRC 870312 notice of violation & proposed imposition of civil penalty of $50,000, per Insp Repts 50-315/86-42 & 50-316/86-42. Corrective actions: caution tags placed on safety injection & RHR sys. Civil penalty fee encl.

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INDIANA & MICHIGAN ELECTRIC COMPANY

P.O. BOX 16631
COLUMBUS, OHIO 43216

April 10, 1987
AEP:NRC:1022A

Donald C. Cook Nuclear Plant Unit No. 2
Docket No. 50-316
License No. DPR-74
NRC INSPECTION REPORT NO. 50-315/86042 (DRP);
NO. 50-316/86042 (DRP)
NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF
CIVIL PENALTY

Mr. James M. Taylor
Deputy EDO for Regional Operations
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Taylor:

Pursuant to the provisions of 10 CFR 2.201, this letter responds to the NRC Region III letter dated March 12, 1987 which refers to the subject Inspection Report of the routine inspection conducted by the Region III staff at the Donald C. Cook Nuclear Plant during the period September 15 through November 13, 1986. This inspection reviewed the activities involved in maintenance of the safety injection system. The Notice of Violation and Proposed Imposition of Civil Penalty transmitted by the Region III letter proposed a civil penalty of $50,000 for the violation involving the operability of the safety injection system.

Our response to this violation is presented in the attachment to this letter. In addition, we have enclosed a check in the amount of $50,000 in full payment of the imposed civil penalty.

Very truly yours,

M. P. Alexich
Vice President

cm

Attachment
cc: John E. Dolan
W. G. Smith, Jr. - Bridgman
R. C. Callen
G. Bruchmann
G. Charnoff
NRC Resident Inspector - Bridgman
A. B. Davis - Region III

1/1 IE14

STATE OF OHIO

COUNTY OF FRANKLIN

M. P. Alexich, being duly sworn, deposes and says that he is the Vice President of Licensee Indiana & Michigan Electric Company; that he has read the foregoing response to NRC Inspection Report 50-315/86042; 50-316/86042 and knows the contents thereof; and that said contents are true to the best of his knowledge and belief.

M. P. Alexich, Vice President

Subscribed and sworn to before this 10th day of April, 1987.

Barbara A. Winkler
(Notary Public)

BARBARA ANN WINKLER
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES MARCH 12, 1991

Attachment to AEP:NRC:1022A

Response to Violation in

NRC Inspection Report 50-315/86042; 50-316/86042

NRC Violation

"Technical Specification Limiting Condition for Operation (LCO) 3.5.2 requires that two independent emergency core cooling system (ECCS) subsystems shall be operable while the unit is operated in Modes 1, 2 or 3 with each subsystem to include one operable safety injection pump and an operable flow path.

The safety analysis for a small break loss of coolant accident at D. C. Cook Unit 2 was based on one safety injection pump being capable of delivering flow to all four cold legs, as described in the Final Safety Analysis Report, dated October 1972. The basis of this analysis was not changed in the Updated Final Safety Analysis Report, dated July 1982.

Technical Specification LCO 3.0.3 requires that, when a Limiting Condition for Operation is not met, action shall be initiated within one hour to place the unit in a Mode in which the specification does not apply by placing it in hot standby within the next 6 hours and hot shutdown within the following 6 hours.

Contrary to the above, between 5:36 a.m. on September 4, 1986 and 1:30 a.m. on September 5, 1986, while the unit was in Mode 1, neither of the Emergency Core Cooling System subsystems included an operable safety injection pump with an operable flow path and actions were not initiated to place the unit in a Mode in which Specification 3.5.2 did not apply. The north safety injection pump was isolated and deenergized and the south safety injection pump flow path was restricted to two cold legs."

Response to NRC Violation

(1) Admission or Denial of the Alleged Violation

Indian & Michigan Electric Company admits to the violation.

(2) Reasons for the Violation

Technical Specification (T/S) 3.5.2 states that "two independent ECCS subsystems shall be OPERABLE with each subsystem comprised of:

a. One OPERABLE centrifugal charging pump,
b. One OPERABLE safety injection pump,
c. One OPERABLE residual heat removal heat exchanger,
d. One OPERABLE residual heat removal pump,
e. One OPERABLE flow path capable of taking suction from the refueling water storage tank on a safety injection signal and transferring suction to the containment sump during the recirculation phase of operation."

The T/S action statement allows one ECCS subsystem to be inoperable for up to 72 hours. This implies that there are two independent ECCS subsystems or trains with independent flow paths. It was assumed that the T/Ss were written to bound the safety analyses; however since the safety analysis assumes four injection points are available, our assumption was not valid.

Plant maintenance and testing procedures were written with the understanding that the ECCS consists of two independent subsystems. We believe this to be a legitimate misunderstanding of the requirements of the T/S. Further, from discussions with other nuclear plants, we believe this type of misunderstanding to be common within the PWR portion of the nuclear industry.

While the violation resulted from an imperfect understanding of the system design basis, the immediate activity was subjected to procedural reviews. The violation occurred during routine maintenance which had gone through the prescribed review process for plant maintenance. The maintenance was reviewed, coordinated, and scheduled at the morning management meeting, where it was determined that the maintenance was in the scope of a 72-hour action statement. The valve line-up was determined to be the same as the monthly pump test. The Operations Department coordinator, an SRO, reviewed the procedure for T/S compliance. The afternoon Shift Supervisor prepared the clearance for the maintenance. The night Shift Supervisor coordinated the clearance work. The day Shift Supervisor reviewed the clearance. The maintenance was thoroughly reviewed.

(3) Corrective Steps Taken and Results Achieved

The following corrective actions have been taken:

(1) Administrative controls, in the form of caution tags, were placed on the SI and RHR systems in both units to prevent isolation of injection points.

(2) An Operations Department memo, dated October 3, 1986, was issued to identify the affected valves.

(3) Guidance on entry into T/S 3.0.3 was issued to us on September 26, 1986, when the NRC (both Region III and NRR) verbally stated it was permissible to voluntarily enter T/S 3.0.3 in order to perform planned activities. Train-related valve-stroking procedures were revised by December 24, 1986 to preclude isolation of injection points in the 72-hour action statement, but they do allow entry into T/S 3.0.3 for up to one hour.

(4) Corrective Steps Which Will Be Taken to Avoid Further Violation

We are presently in the process of submitting a series of safety evaluations which reanalyze the small and large break loss-of-coolant accident (LOCA) scenarios for Units 1 and 2. The new small-break LOCA analyses assume that one safety injection pump injects water into only two reactor coolant loops, one of which is the break leg. The new large-break LOCA analyses assume that one residual heat removal pump injects water into only two reactor coolant loops (one of which spills), while one safety injection pump injects into all four reactor coolant loops. If these analyses are accepted and the requested interpretation of Technical Specifications 3.5.2 and 3.5.3 is allowed, we will be able to isolate two

injection points on the RHR or SI flow paths (not both simultaneously). The requested interpretation would allow for the needed flexibility to perform maintenance and surveillance procedures while in Modes 1-4. The initial letter to request this interpretation was submitted on March 23, 1987 in a letter from M. P. Alexich to H. R. Denton (AEP:NRC:1024).

If the above-mentioned T/S interpretation is accepted, we believe certain IST testing concerns will also be resolved. Several valves in the SI and RHR system, which are part of the IST Program, isolate two injection points. Thus, we are unable to test them. Permanent IST code relief for valves IMO-330, IMO-331, IMO-340 and IMO-350 in the Emergency Core Cooling System was requested in our letter AEP:NRC:0969B, dated October 31, 1986. Permanent relief was denied, but a one-time exemption was given until another solution could be worked out. The relief was given in a letter dated December 19, 1986 from B. J. Youngblood to John E. Dolan.

The issue of RHR and SI cross-ties was discussed extensively with the NRC staff at the enforcement conference preceding this notice of civil penalty. As discussed at that conference, after receiving Inspection Report No. 50-315/86042 and 50-316/86042, we researched past surveillance and maintenance practices to determine if any other safety-related systems are designed without two completely independent trains. It was determined that the RHR system has a similar configuration. The large-break LOCA analyses assume that flow from RHR is injected into all four RCS loops. Corrective steps mentioned above have been applied to the RHR system.

(5) Date When Full Compliance Will Be Achieved

Full compliance with Technical Specifications was achieved on September 5, 1986, when the cross-tie and North Safety Injection pump were declared operable.