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SUBJECT: Requests one-time interpretation of Unit 1 Tech Spec 3.5.2.e
 to allow ECCS subsystem flow path to be considered operable
 w/flow from RHR pump aligned to deliver flow to only two of
 four reactor coolant sys loops. Fee paid.

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INDIANA & MICHIGAN ELECTRIC COMPANY

P.O. BOX 16631
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September 11, 1987
AEP:NRC:1024B

Donald C. Cook Nuclear Plant Unit 1
Docket No. 50-315
License No. DPR-58
RHR CROSS-TIE SURVEILLANCE:
REQUEST FOR ONE-TIME TECHNICAL SPECIFICATION INTERPRETATION

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Attn: T. E. Murley

Dear Dr. Murley:

Pursuant to discussions with your staff on September 11, 1987, the purpose of this letter is to request a one-time interpretation of Unit 1 Technical Specification (T/S) 3.5.2.e. The interpretation would allow an ECCS subsystem flow path to be considered operable with flow from a residual heat removal (RHR) pump aligned to deliver flow to only two of the four reactor coolant system loops, provided the safety injection (SI) system is aligned such that each SI pump can deliver flow to all four reactor coolant system loops.

Background

T/S 3.5.2 states that two emergency core cooling system (ECCS) subsystems must be operable; it defines an operable ECCS subsystem as including one operable SI pump, one operable RHR pump, and associated flow paths. This T/S allows the operator to remove one ECCS subsystem for up to 72 hours while in Modes 1, 2, or 3 while maintaining an operable flow path for the opposing subsystem. The RHR and safety injection (SI) pump configuration at the D. C. Cook Plant is such that any one pump can deliver flow to all four reactor coolant loops. This is accomplished by means of cross-tie valves. With the cross-tie valves closed, each pump can only supply flow to two reactor coolant loops. The current small-break and large-break LOCA analyses for D. C. Cook Unit 1 assume that the cross-tie valves in the SI and RHR lines are open. This requires that the cross-tie valves be open to satisfy the operable flow path requirement of T/S 3.5.2.e for Modes 1, 2, and 3.

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1. The first part of the report is a general
description of the project and its objectives.
2. The second part is a detailed description of the
methodology used in the study.

3. The third part is a description of the results of the study.

4. The fourth part is a discussion of the results and their implications.
5. The fifth part is a conclusion and a list of references.

6. The sixth part is a list of appendices.

In the past, there were instances where D. C. Cook Unit 1 was operated in Modes 1, 2, or 3 with the cross-tie valves closed. The valves were closed to allow maintenance work to be performed on various system components. Because this operation was not in agreement with the existing safety analyses, it was the subject of an Enforcement Conference held at Region III headquarters on January 21, 1987.

Since some maintenance work can only be performed on the RHR or SI systems in Modes 1, 2, or 3 with the cross-tie valves closed, we decided to pursue new analyses which would support two-loop injection. The new analyses were submitted in our letters AEP:NRC:1024, dated March 23, 1987, and AEP:NRC:1024A, dated May 13, 1987. The analyses presented in these letters supported closing of either the SI system cross-tie valves or the RHR system cross-tie valves, but not both. The new analyses involved large-break LOCA evaluations for the RHR cross-tie valves, and small-break LOCA evaluations for the SI cross-tie valves.

In discussions with your staff on July 29, 1987 we were informed that the staff had no problems with the RHR (large-break) analyses but had remaining questions on the SI (small-break) analyses. A draft response to the staff's questions on the SI evaluation has been received from Westinghouse Electric Corporation, and is currently under our review. The draft indicates that the small break LOCA analyses we submitted in our letters AEP:NRC:1024 and AEP:NRC:1024A remain valid, and that the SI cross-tie valves should be allowed to be closed.


Reason For Request

On September 11, 1987, it was determined that a valve in the Unit 1 RHR system would need to be repaired. D. C. Cook Unit 1 is currently returning to operation following refueling. Repairing the valve in Mode 3 (rather than Mode 4) will save approximately 36 hours of critical path time but will require the RHR cross-tie valves to be closed. We believe the analyses we have previously submitted support this operation (provided the SI cross-tie valves remain open). Additionally we note that since D. C. Cook Unit 1 is returning from a refueling outage, decay heat in the core is minimal which further supports our conclusion that the RHR cross-tie valves can safely be closed. Although we have been informally told that the staff has no problems with the RHR analysis, the new analysis has never been formally approved by the NRC. For this reason, we are requesting a one-time interpretation of T/S 3.5.2.e such that we may operate with the RHR cross-tie valves closed while in Mode 3 incident to the required valve maintenance.

Pursuant to the requirements of 10 CFR 170.12(c), we have enclosed an application fee of \$150.00 for the proposed interpretation.

This document has been prepared following Corporate procedures which incorporate a reasonable set of controls to insure its accuracy and completeness prior to signature by the undersigned.

Very truly yours,


M. P. Alexich
Vice President

cm

cc: John E. Dolan
W. G. Smith, Jr. - Bridgman
R. C. Callen
G. Bruchmann
G. Charnoff
NRC Resident Inspector - Bridgman
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