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 ALEXICH, M.P. Indiana & Michigan Electric Co.
 RECIP. NAME RECIPIENT AFFILIATION
 DENTON, H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Application to amend License DPR-74, revising Tech Specs re
 flowrate for flow balance test of safety injection pumps.

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INDIANA & MICHIGAN ELECTRIC COMPANY

P.O. BOX 16631
COLUMBUS, OHIO 43216

March 15, 1984
AEP:NRC:0860A

Donald C. Cook Nuclear Plant Unit No. 2
Docket No. 50-316
License No. DPR-74
AMENDMENT TO THE APPLICATION FOR UNIT 2
TECHNICAL SPECIFICATION CHANGES FOR
CYCLE 5 RELOAD

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Denton:

By this letter and its attachments, we request an amendment to the application for Technical Specification (T/S) changes, which was addressed in our letter AEP:NRC:0860 dated March 1, 1984. This letter includes additional information related to the seventh proposed change addressed in AEP:NRC:0860; and requests one additional T/S change. The wording of the seventh change has been slightly modified in this submittal to make the change easier to understand.

Attachment 1 to this letter addresses the Significant Hazards Consideration, as required to be submitted by 10 CFR 50.91(a)(1), for the modified version of the seventh proposed change of letter AEP:NRC:0860. The seventh proposed change concerned the flowrate for the flow balance test for the Safety Injection (SI) pumps. The SI pump flowrate would be affected by planned modifications to increase the miniflow of the SI pumps. The increased miniflow would provide added assurance of adequate pump cooling while the pump is operating but not injecting to the core. In order to make the physical modifications for this change on a reasonable time table, we are requesting an early indication by March 23, 1984 of the acceptability of this T/S change request.

Attachment 2 to this letter addresses the additional T/S change that is being requested as part of the Unit 2 Cycle 5 reload application and our Significant Hazards Consideration analysis pursuant to 10 CFR 50.92 for this change.

Attachment 3 to this letter contains the revised pages for the additional T/S changes (including the modified version of the seventh change proposed in AEP:NRC:0860). The changes to the revised pages are

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indicated by vertical lines on the right hand margin of the page. The T/S change contained in this Attachment has been reviewed and approved by the Plant Nuclear Safety Review Committee and will be reviewed by the AEPSC Nuclear Safety and Design Review Committee (NSDRC) at their next scheduled meeting.

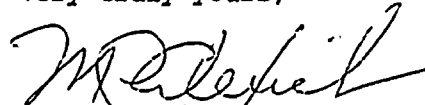
Attachment 4 to this letter is the summary of the safety evaluation performed by Westinghouse to support an increase from 30 gpm to 60 gpm in the safety injection pump miniflow.

As required by 10 CFR 50.91(b)(1), a copy of this amended application is being transmitted to the appropriate official of the State of Michigan.

Our letter AEP:NRC:0860 transmitted the Class IV fee levied for the review of the Cycle 5 reload of Unit 2. We consider the Technical Specification change requests contained in this letter to be part of that review. Therefore, we believe that no fee, as defined in 10 CFR 170.22, is required for the requests addressed in this letter.

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,



7/27/74
6-15-74
M. P. Alexich
Vice President

MPA/pb
Attachments

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

ATTACHMENT 1 TO AEP:NRC:0860A

SIGNIFICANT HAZARDS CONSIDERATION
FOR CHANGE IN FLOWRATE FOR THE
SAFETY INJECTION PUMPS FLOW BALANCE TEST

The seventh proposed change addressed in letter AEP:NRC:0860 requested the footnote (**) on page 3/4 5-6 for T/S 4.5.2.h be changed to read:

**Total SIS (single pump) flow, including miniflow, shall not exceed 700 gpm with no more than 640 gpm being delivered to the core.

We request that this proposed change be modified for clarity to read:

**Combined Loop 1, 2, 3, and 4 Cold Leg Flow (single pump) ≤640 gpm. Total SIS (single pump) flow, including miniflow, shall not exceed 700 gpm.

The above change will allow for increased (miniflow) cooling of the Safety Injection pumps which provides increased assurance of adequate pump cooling while using miniflow cooling. The increase in miniflow may result in a small decrease in flow from the pumps to the core. . . . Westinghouse has performed a safety evaluation of the increased SI pump miniflow and decreased injection flow to the core. The summary of their evaluation is enclosed as Attachment 4. The results of their evaluation concluded that the impact is negligible for large break LOCA and an increase of 86.1° F in peak clad temperature (PCT) for the most limiting small break LOCA, based on a sensitivity analysis performed on Unit 1. The addition of this increase in small break LOCA PCT to the current D. C. Cook Unit 2 small break LOCA PCT of 1668° F results in a value well below the 10 CFR 50.46 limit of 2200° F. Based on discussions with your staff, we understand further information regarding the Westinghouse evaluation is needed. Therefore, we will submit additional clarification of the evaluation in the near future.

We have also performed a review of the proposed flowrate on the integrity of the SI pumps. Our review included a calculation to determine the Net Positive Suction Head (NPSH) available to the Safety Injection (SI) pumps. In the calculation we assumed that SI was in the injection phase and aligned with the Refueling Water Storage Tank (RWST); the RWST was at its low level; the water temperature was 100° F; all safety pumps were running (i.e., Residual Heat Removal, Containment Spray, Centrifugal Charging, and SI pumps); and all pumps were producing maximum flow. We believe the assumed conditions constitute the worst case conditions for the SI pumps. The results of the calculation indicated that with the above conditions, there would be a NPSH margin of over sixteen (16) feet for both of the SI pumps. Therefore, the increased flowrate is within the safety bounds of the pump runout and has no significant adverse effect on the integrity of the pumps.

Based on the above, the proposed T/S change may result in some increase to the consequences of a previously analyzed accident or may reduce in some way a safety margin, but it is our belief that the results of the change are clearly within all acceptable criteria with respect to the system and components as they may affect the Safety Analysis of the plant. Thus the proposed change does not involve a significant hazards consideration as defined in 10 CFR 50.92.

ATTACHMENT 2 TO AEP:NRC:0860A

ADDITIONAL TECHNICAL SPECIFICATION CHANGE

REQUEST FOR DONALD C. COOK NUCLEAR PLANT

UNIT NO. 2 CYCLE 5

The eighth proposed change concerns T/S 3/4.10.5 which addresses the Rod Position Indication (RPI) Channels during shutdown (MODES 3, 4, and 5). Specifically, we are requesting that T/S 3/4.10.5 be changed to address the demand position indicators instead of the individual RPIs. The reasons and justification for this change are as follows:

T/S 4.1.3.4 requires rod drop time measurements of full length rods be demonstrated ...following each removal of the reactor vessel head, etc.

T/S 4.10.5 states rod position indication channels shall be determined to be OPERABLE by verifying the demand position indication system and the rod position indication channel agree within 12 steps within 24 hours prior to the start of rod drop time measurement...

In order to verify the 12 step agreement between the individual RPIs and the demand position indication system, the individual RPIs have to be calibrated. The RPI for each individual rod is calibrated at the beginning of a fuel cycle when the reactor coolant system is at operating temperature. Calibration is performed at operating temperature because the RPIs are extremely temperature sensitive and therefore become increasingly inaccurate over the large temperature change between MODES 5 through 3.

Coil operating temperature is not established until the Reactor Coolant System (RCS) reaches equilibrium after ascending through MODES 5, 4, and 3. The coil takes approximately six (6) hours to reach equilibrium temperature, thus delaying startup of the reactor.

Utility experience indicates that the (group) demand position indication systems have proven to be extremely reliable in Westinghouse reactors. Demand position indication systems are the most accurate means of determining rod position and are in fact used to calibrate the RPIs. Furthermore, the T/Ss require that the reactor be maintained in a subcritical condition ($k_{eff} \leq 0.99$) to prevent inadvertent criticality in MODES 3, 4, and 5. Subcriticality can be adequately maintained with sufficient boron concentration and all but one shutdown or control bank being fully inserted. Criticality is normally not reached until the shutdown banks and three of the four control banks are fully withdrawn. T/S 3.10.5 will continue to require only one shutdown or control bank be withdrawn from the fully inserted position at a time, during rod drop time measurements.

Therefore, we believe there is adequate justification for the proposed change, which would eliminate the delay in startup.

This change may result in some increase to the probability or consequences of a previously analyzed accident or may reduce in some way a safety margin, but it is our belief that the results of the change are clearly within all acceptable criteria with respect to the system or components as they may affect the Safety Analysis of the plant. Thus, the proposed change does not involve a significant hazards consideration as defined in 10 CFR 50.92.

ATTACHMENT 3 TO AEP:NRC:0860A

REVISED TECHNICAL SPECIFICATION PAGES
FOR THE SEVENTH AND EIGHTH PROPOSED CHANGES