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DENTON, H. R. Office of Nuclear Reactor Regulation, Director (post 851125

SUBJECT: Application for amends to Licenses DPR-58 & DPR-74, changing Tech Specs re sys in fire-unaffected unit required for support of alternate safe shutdown or emergency remote shutdown of fire-affected unit. Fee paid.

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INDIANA & MICHIGAN ELECTRIC COMPANY

P.O. BOX 16631
COLUMBUS, OHIO 43216

May 30, 1986
AEP:NRC:0692AJ

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
TECHNICAL SPECIFICATIONS FOR APPENDIX R
TO 10 CFR 50 ALTERNATE SAFE SHUTDOWN

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

Dear Mr. Denton:

This letter and its attachments constitute an application for amendment to the Technical Specifications (T/Ss) for the Donald C. Cook Nuclear Plant Unit Nos. 1 and 2. This is submitted pursuant to instructions given in the November 22, 1983 NRC Safety Evaluation Report (SER) pertaining to Sections III.G.3 and III.L of Appendix R to 10 CFR 50. These T/S changes address those systems in the fire-unaffected unit required for support of the alternate safe shutdown or emergency remote shutdown of the opposite fire-affected unit. The above-mentioned SER also required us to submit the final procedures for your staff's review and approval. These are the subject of a separate submittal (designated as AEP:NRC:0692AK). Attachment 1 to this letter contains our significant hazards evaluation and delineates the specific T/Ss to be changed. Attachment 2 contains an explanation of administrative controls which will be used in implementing the proposed changes. These controls will be in place effective June 9, 1986 and are not dependent upon the issuance of these T/Ss. Attachment 3 contains the proposed revised T/S pages. Please note that the changes in this letter affect pages on which changes were requested in our letters AEP:NRC:0972, dated January 17, 1986, and AEP:NRC:0856I, dated October 11, 1985. These changes are in addition to those changes and are not intended to supersede them.

We believe that the proposed changes will not result in (1) a significant change in the type of effluents or a significant increase in the amounts of any effluent that may be released offsite, or (2) a significant increase in individual or cumulative occupational radiation exposure.

These proposed changes have been reviewed by the Plant Nuclear Safety Review Committee (PNSRC) and will be reviewed by the Nuclear Safety and Design Review Committee (NSDRC) at their next regularly scheduled meeting.

In compliance with the requirements of 10 CFR 50.91(b)(1), copies of this letter and its attachments have been transmitted to Mr. R. C. Callen of the Michigan Public Service Commission and Mr. G. Bruchmann of the Michigan Department of Public Health.

A006
1/1

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

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

rn

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

Attachment 1 to AEP:NRC:0692AJ

This letter presents changes to Technical Specifications 3/4.1.2.3, Table 3.3-9, Table 4.3-6, 3/4.7.1.2, 3/4.7.3, and 3/4.7.4. Changes are presented for both Units 1 and 2. In addition, Bases pages 3/4 1-3, 1-4, 7-2, 7-4 for Unit 1, and 3/4 1-3, 7-2, and 7-4 for Unit 2 are presented as well.

The reason for the proposed changes to the Donald C. Cook Nuclear Plant Technical Specifications is to accommodate the alternate safe-shutdown requirements of 10 CFR 50, Appendix R-III.G.3. These changes provide for opposite (fire-unaffected) unit support for safe-shutdown systems of the fire-affected unit in the "complete alternative shutdown" method as described in our submittal AEP:NRC:0692E, dated March 31, 1983.

Specifically, opposite unit support is provided via unit cross-ties for the Essential Service Water, Component Cooling Water, Auxiliary Feedwater, and Chemical and Volume Control Systems. The Technical Specification modifications proposed require portions of these systems to be operable regardless of that unit's operating status, as long as the opposite unit is in Mode 1, 2, 3, or 4 (except Auxiliary Feedwater, which is required in Modes 1, 2, or 3). The other T/S change request enclosed pertains to maintaining available an excore neutron instrument channel. This is a new instrument, on each unit, and will indicate neutron level over all power ranges. This instrument is powered from the opposite unit and has read-out capability remote to the control room.

As was discussed in Section 4.4.7 of the report submitted under cover of AEP:NRC:0692E (hereinafter called the "Safe Shutdown Analysis"), the Essential Service Water (ESW) system is necessary to support the cooling needs of the Component Cooling Water system (CCW) and Emergency Power Supply (diesel generator) systems. In certain fire scenarios, both trains of the ESW system will be lost. For hot shutdown and cold shutdown, operation of the fire-affected unit's Residual Heat Removal (RHR) system will require manual realignment of certain ESW flow paths. This realignment will divert a portion of the unaffected unit's ESW flow to a CCW heat exchanger in the fire-affected unit. This diversion, made through normally open ESW unit cross-tie motor operated valves, in combination with a similar realignment of CCW, will provide cooling water to one RHR pump and heat exchanger in the fire-affected unit.

As stated in the Safe Shutdown analysis, two operable ESW pumps are sufficient to carry the heat removal duties of two units at hot shutdown or cold shutdown simultaneously. Assurance that this can be achieved during postulated fire conditions is provided by proposed changes to the Technical Specification 3/4.7.4, which requires at least one ESW flowpath from the opposite unit. Technical Specification changes to support both units while either is in Modes 1, 2, 3, and 4 are included in Attachment 3.

Section 4.4.6 of the Safe Shutdown Analysis describes the safe shutdown equipment to be serviced by CCW in each unit, and further descriptive material on the alignment of the systems, including the inter-unit cross-ties. Two CCW pumps in the unaffected unit are sufficient to support all required CCW cooling demands for both units when alternative

shutdown is required. The present unaffected unit LCO encompasses the shutdown cooling needs of both units when the unaffected unit is in Mode 1, 2, 3, or 4. The proposed changes to T/S 3/4.7.3 for both units require that at least one CCW flow path be available when the opposite unit is in Mode 1, 2, 3, or 4.

For those fire zones where the operability of all three trains of auxiliary feedwater (AFW) can be threatened due to hypothesized fires, the shutdown functions of the AFW system will be achieved by opening the manual inter-unit cross-tie valves and initiating and aligning the associated equipment in one or both of the unaffected unit's motor-driven auxiliary feedwater trains. The proposed changes to T/S 3/4.7.1.2 are for the purpose of maintaining one motor driven AFW pump available for opposite unit support whenever the opposite unit is in Mode 1, 2, or 3.

For those fire zones where hypothesized fires will create a loss of the fire-affected unit's Chemical and Volume Control System (CVCS), the functions of the system will be achieved by the operation of an inter-unit four-inch centrifugal charging discharge header cross-tie line. Operation of the line's manual isolation valves will achieve Reactor Coolant System make-up via the Reactor Coolant Pump seal injection path or Boron Injection Tank path. In this way, it is assured that a pathway will exist to provide sufficient water of adequate boron content to make up for any primary system loss in the event of a hypothesized fire.

The proposed change to T/S 3/4.1.2.3 involves maintaining one centrifugal charging pump operable in Modes 5 and 6 to support the opposite unit in the case of the hypothesized fire. Additionally, an 18-month surveillance requirement has been added for cycling the manual cross-tie valve in the CVCS, AFW, and CCW systems. Section 5.5 of the Safe Shutdown Analysis requires addition of certain changes to Local Shutdown Indication (LSI) panels. Section 5.6 of the Safe Shutdown Analysis summarizes procedures used for Alternative Shutdown. In order to reflect these modifications in our Technical Specifications, the tables associated with remote shutdown monitoring instrumentation have been modified to include the various signals to the LSI panels and the requirement for charging cross-flow indication between units. These modifications are reflected by addition of Items 6 through 17 in Tables 3.3-9 and 4.3-6 for both Units 1 and 2.

Per 10 CFR 50.92, a proposed amendment will not involve a significant hazards consideration if the proposed amendment does not:

(1) involve a significant increase in the probability or consequences of an accident previously evaluated,

(2) create the possibility of a new or different kind of accident from any accident previously analyzed or evaluated, or

(3) involve a significant reduction in a margin of safety.

Criterion 1

All of the proposed changes add requirements that ensure remote safe shutdown capability to systems currently existing at the plant. Changes to procedures which guide the use of equipment already in existence at the plant

are required in order to implement the ESW, AFW and CCW systems T/S. As discussed in the Safe Shutdown Analysis report, in the case of the CVCS, additional equipment has been added to cross-tie the units. An explanation of the administrative controls which will be used to implement the CVCS T/S is contained as Attachment 2 to this letter. In addition, procedures to be used in the event of the hypothesized fire are to be sent under the separate cover of AEP:NRC:0692AK. These procedures restrict use of the AFW and CCW cross-ties to the condition in which the hypothesized fire has degraded the design basis of the affected unit and it is ascertained that both units will be maintained within the limits of the safety analysis given the constraints of 10 CFR 50, Appendix R. These constraints do not include the consideration of a design basis accident in one unit, concurrent with a fire of the type that will require use of the procedures transmitted by AEP:NRC:0692AK in the other unit.

Based on these equipment additions, administrative controls, and procedures previously discussed, we believe that the probability or consequences of an accident previously evaluated will not be significantly increased. Our conclusion is based on the fact that when these changes are in effect, the plant will not be in a configuration which is different than that assumed in the accident analysis.

Criterion 2

The proposed T/S changes assure that safe shutdown systems are available without placing the plant in a configuration inconsistent with the design basis. In addition, the proposed changes add requirements that certain safety systems be available that are not currently required. For this reason, we believe that the proposed T/S changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

Criterion 3

The proposed T/S changes introduce new CVCS cross-tie valves into the plant, and thus introduce additional risk of error or failure. However, as explained in Criterion 1, the operation and surveillance procedures associated with these valves are similar to those for other safety related systems. Further, the cross-tie will be used only in accordance with the procedures transmitted by AEP:NRC:0692AK. At all other times, the plant will be operated within each unit's respective safety analysis. For this reason, we believe the proposed changes do not constitute a significant reduction in the margin of safety.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve significant hazards considerations. The second of these examples refers to changes that impose additional limitations, restrictions, or controls not presently included in the T/Ss. The changes proposed in this letter are of the type cited in this example. Therefore, we believe these changes do not involve a significant hazards consideration as defined by 10 CFR 50.92.

The following administrative controls associated with alternate safe shutdown support will be used:

- The inter-unit cross-tie valves for the CVCS, AFW, and CCW systems will be verified to be in their normal closed positions once per 31 days, in addition to their 18-month surveillance requirement for valve cycling. The ESW cross-tie valve will be verified to be in its normally open position once per 31 days.

- Appropriate operation, maintenance, and surveillance procedures will continue to implement CVCS, AFW, ESW, and CCW system realignment for their normally required surveillances and maintenance. In case of an emergency rendering the corresponding system in the opposite unit inoperable, the CVCS, AFW, ESW and CCW systems will be realigned by appropriate procedures.

- Inter-unit communication will be instituted for the purpose of timely identification of a mode change of the opposite unit so that actions needed to make required support equipment available can be performed.