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 FACIL: 50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana & 05000316  
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 RECIP. NAME RECIPIENT AFFILIATION  
 MURLEY, T.E. Office of Nuclear Reactor Regulation, Director (Post 870411)

SUBJECT: Application to amend DPR-74, to modify T/S Table 3.2-1 (DNB Parameters).

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AEP:NRC:1070A  
10 CFR 50.90

Donald C. Cook Nuclear Plant Unit 2  
Docket No. 50-316  
License No. DPR-74  
TECHNICAL SPECIFICATION CHANGE: MINIMUM REACTOR  
COOLANT FLOW REQUIREMENT

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

Attn: T. E. Murley

February 3, 1989

Dear Dr. Murley:

This letter and its attachments constitute an application for amendment to the Technical Specifications (T/Ss) for the Donald C. Cook Nuclear Plant Unit 2. Specifically, we propose to modify T/S Table 3.2-1 (DNB Parameters) such that the reactor coolant system flow rate is expressed on a volumetric rather than a mass basis.

The proposed change is intended to ensure the requirements of the safety analyses are appropriately reflected in the T/Ss. The change is similar to a change proposed for Unit 1 of the Cook Nuclear Plant in letter No. AEP:NRC:1067, dated October 14, 1988.

Attachment 1 to this letter summarizes the basis for the proposed change and includes our significant hazards evaluation. Attachment 2 contains the proposed revised T/S page. Attachment 3 contains a letter from ANF (the Cook Nuclear Plant Unit 2 fuel vendor) documenting their concurrence with the change.

We believe that the proposed changes will not result in (1) a significant change in the types 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 and will be reviewed by the Nuclear Safety and Design Review Committee at their next regularly scheduled meeting.

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Dr. T. E. Murley

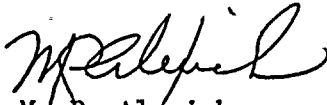
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AEP:NRC:1070A

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. George Bruchmann of the Michigan Department of Public Health.

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

Sincerely,



M. P. Alexich  
Vice President

ldp

Attachments

cc: D. H. Williams, Jr.  
W. G. Smith, Jr. - Bridgman  
G. Bruchmann  
R. C. Callen  
G. Charnoff  
A. B. Davis - Region III  
NRC Resident Inspector - Bridgman

ATTACHMENT 1 TO AEP:NRG:1070A

DESCRIPTION AND 10 CFR 50.92 SIGNIFICANT HAZARDS EVALUATION

FOR CHANGES TO THE TECHNICAL SPECIFICATIONS

FOR THE DONALD C. COOK NUCLEAR PLANT UNIT 2

We are proposing to change the minimum required reactor coolant system flow rate specified in Table 3.2-1 (DNB Parameters) from  $138.6 \times 10^6$  lbs/hr to the corresponding flow rate of 364,960 gpm. This change is administrative in nature, intended to ensure consistency between the safety analysis assumptions and the T/S.

The change from mass flow to volumetric flow in T/S Table 3.2-1 results from our review of the relationship between the analysis assumption and the surveillance test that ensures the safety analysis assumption is satisfied. The safety analyses performed by Advanced Nuclear Fuels (ANF), the Unit 2 fuel vendor, make an assumption regarding the primary volumetric flow at the core entrance. The surveillance test, which is a calorimetric test, obtains the mass flow required to remove the heat generated in the core at the measured temperature difference between the hot and cold legs. The volumetric flow is approximately independent of coolant temperature. However, the mass flow depends directly on coolant density, which does vary with temperature.

In order to ensure a correct comparison between the safety analysis assumed flow and the measured flow, we propose to specify the volumetric flow in the T/Ss. The surveillance procedure will then convert the measured mass flow to volumetric flow using temperatures from the test data.

The proposed minimum flow value of 364,960 gpm is the volumetric flow corresponding to a mass flow of  $138.6 \times 10^6$  lbs/hr and an inlet temperature of  $542.3^\circ\text{F}$ . The 364,960 gpm value is exactly four times the single loop design flow value of 91,240 gpm specified in T/S Table 2.2-1. The inlet temperature of  $542.3^\circ\text{F}$  is consistent with the Unit 2 full power  $T_{\text{avg}}$  value of  $574.1^\circ\text{F}$ . ANF's concurrence with the change is provided in Attachment 3 to this letter.

A similar change was proposed for Unit 1 of the Cook Nuclear Plant in our letter AEP:NRC:1067, dated October 14, 1988. That letter provided the analyses and T/S changes which support our reduced temperature and pressure program for Unit 1.

#### 10 CFR 50.92 Evaluation

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

- (1) involve a significant increase in the probability or consequences of a previously evaluated accident,
- (2) create the possibility of a new or different kind of accident from any previously evaluated, or
- (3) involve a significant reduction in a margin of safety.



Criterion 1

The change is administrative in nature, consisting only of changing a mass flow rate to a volumetric flow rate at the appropriate temperature. The change does not lessen any previous requirements. Thus, the change is not expected to increase the probability or consequences of a previously evaluated accident, nor should it reduce the margin of safety.

Criterion 2

The change is administrative in nature, intended to ensure consistency between the T/Ss and the safety analysis assumptions. Therefore, the change is not expected to create the possibility of a new or different kind of accident from any previously evaluated.

Criterion 3

See Criterion 1 above.

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 consideration. The first of these examples refers to changes that are purely administrative in nature: for example, changes to achieve consistency throughout the T/Ss, correction of an error, or a change in nomenclature. The proposed changes are intended only to ensure that currently existing analyses are reflected in the T/Ss. We believe that the changes are administrative in nature since they do not reflect new analyses or permit any relaxation in requirements but rather clarify the relationship between analyses and T/Ss. We therefore believe that the Federal Register example cited is applicable and that the changes involve no significant hazards consideration.

Additionally, we have made an editorial change to Table 3.2-1. Mathematical symbols have been written out in words. Since these changes are purely editorial in nature, they will not increase the probability or consequences of a previously evaluated accident, will not create the possibility of a new or different kind of accident from any previously evaluated, and do not involve significant hazards consideration.



ATTACHMENT 2 TO AEP:NRC:1070A  
PROPOSED TECHNICAL SPECIFICATION PAGE