ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9004230350 DOC.DATE: 90/04/16 NOTARIZED: NO DOCKET #
FACIL:50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315
50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana & 05000316
AUTH.NAME AUTHOR AFFILIATION
ALEXICH,M.P. Indiana Michigan Power Co. (formerly Indiana & Michigan Ele
RECIP.NAME RECIPIENT AFFILIATION
Document Control Branch (Document Control Desk)

SUBJECT: Application for amends to Licenses DPR-58 & DPR-74,revising Unit 1 TS by implementing COLR.per GL 88-16.

DISTRIBUTION CODE: A001D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 12+38
TITLE: OR Submittal: General Distribution

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD3-1 LA	1	1	PD3-1 PD	1	1
	GIITTER,J.	5	5			
INTERNAL:	NRR/DET/ECMB 9H	1	1	NRR/DOEA/OTSB11	1	1
	NRR/DST 8E2	1	1	NRR/DST/SELB 8D	1	1
	NRR/DST/SICB 7E	1	1	NRR/DST/SRXB 8E	1	1
	NUDOCS-ABSTRACT	1	1	OC/LFMB	1	0
	OGC/HDS1	1	0	REG FILE 01	1	1
	RES/DSIR/EIB	1	1			
EXTERNAL:	LPDR	1	1	NRC PDR	1	1
	NSIC	1	1			

R I D S / A D D S

R I D S / A D D S

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 21 ENCL 19

Indiana Michigan
Power Company
P.O. Box 16631
Columbus, OH 43216

INDIANA
MICHIGAN
POWER

AEP:NRC:1077B
GL 88-16

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
IMPLEMENTATION OF CORE OPERATING LIMITS REPORT FOR
DONALD C. COOK NUCLEAR PLANT UNIT NO. 1 IN ACCORDANCE
WITH GENERIC LETTER 88-16 AND A RELATED CHANGE TO UNIT 2
TECHNICAL SPECIFICATIONS

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

Attn: T. E. Murley

April 16, 1990

Dear Dr. Murley:

This letter and its attachments constitute an application for amendment to the Technical Specifications (T/Ss) for Donald C. Cook Nuclear Plant Units 1 and 2. In this request, we propose to revise the Unit 1 T/Ss by implementing a Core Operating Limits Report (COLR) in accordance with Generic Letter 88-16, "Removal of Cycle-Specific Parameter Limits from Technical Specifications."

For Unit 2, we propose to eliminate surveillance 4.1.1.4.1. The surveillance will no longer be relevant if the Unit 2 COLR submission, AEP:NRC:1077A dated February 6, 1990, is approved.

Our reasons for the proposed changes, as well as our analysis concerning significant hazards considerations, are contained in Attachment 1 to this letter. Attachment 2 contains the proposed revised T/S pages, and Attachment 3 is the Unit 1 COLR document.

Our intent is to begin using the COLR document for Unit 1 as soon as this submittal is approved. We propose to operate Unit 1 based upon analyses performed by Westinghouse.

Nature of the Proposed Changes

The proposed T/S changes are purely administrative in that we are removing certain limits from the T/Ss and placing them in a COLR document in accordance with Generic Letter 88-16. The values of

A001
1/1

the COLR parameters may change from cycle to cycle, and will do so in accordance with approved methodologies. The proposed T/S changes include the following parameters:

- moderator temperature coefficient (MTC)
- 300 ppm MTC surveillance acceptance criterion
- all rods out position, and control rod insertion limits
- axial flux difference allowable deviation and target band,
- F_Q, K(Z), and
- $F^N_{\Delta H}$, and $F^N_{\Delta H}$ slope.

The current values for the COLR parameters are included in Attachment 3, the Unit 1 COLR document. Any subsequent changes will be made in accordance with the methodologies listed in Section 6.9.1.11.2 of the proposed T/Ss. Subsequent COLR documents will be submitted to the NRC on the schedule indicated in Section 6.9.1.11.4 of the proposed T/Ss.

We believe that the proposed changes will not result in (1) significant change in the types of effluents or a significant increase in the amounts of any effluents 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 by the Nuclear Safety and Design Review Committee.

In compliance with the requirements of 10 CFR 50.91(b)(10), copies of this letter and its attachments have been sent to Mr. R. C. Callen of the Michigan Public Service Commission and to 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.
A. A. Blind - Bridgman
R. C. Callen
G. Charnoff
A. B. Davis - Region III
NRC Resident Inspector
NFEM Section Chief

ATTACHMENT 1 TO AEP:NRC:1077B

DESCRIPTION AND 10 CFR 50.92 ANALYSES FOR CHANGES
TO THE DONALD C. COOK NUCLEAR PLANT UNIT 1
TECHNICAL SPECIFICATIONS

A. DESCRIPTION OF AMENDMENT REQUEST

In this application we propose to amend the Donald C. Cook Nuclear Plant Units 1 and 2 T/Ss. The Unit 1 T/Ss will be changed by implementing a Core Operating Limits Report (COLR) in accordance with Generic Letter 88-16, "Removal of Cycle-Specific Parameter Limits From Technical Specifications." For Unit 2, we propose to eliminate surveillance 4.1.1.4.1. This proposed change is discussed below under "Changes to Unit 1 and 2 T/Ss."

Changes to Unit 1 T/Ss

1. INDEX page II, is being revised to include proposed Definition 1.39, "CORE OPERATING LIMITS REPORT." In addition, the existing references to Design Thermal Power and Safety Analysis Basis - Power Levels (Table 1.3) are being removed. These items were removed from the T/Ss by Amendment 126. However, INDEX page II was not amended to reflect those changes.

2. Definition 1.39, "CORE OPERATING LIMITS REPORT," is being added in accordance with Generic Letter 88-16.

3. T/S 3/4.1.1.4, "MODERATOR TEMPERATURE COEFFICIENT," is being revised by removing the cycle-specific moderator temperature coefficient limit for end of life and placing it in the COLR in accordance with Generic Letter 88-16. In addition, this specification is being revised to be identical to the Unit 2 T/S. The ACTION statement is being substantially elaborated and the surveillance is being revised for consistency with Unit 2 and the use of a 300 ppm surveillance acceptance criteria. Our proposal deletes surveillance 4.1.1.4.1 for Unit 1. The proposed changes to the surveillance are also discussed below under "Changes to Unit 1 and 2 T/Ss." Although the Unit 2 T/S is based on an earlier standard T/S (STS), it is essentially consistent with the STS, Rev. 4.

4. T/S 3.1.3.1, "MOVABLE CONTROL ASSEMBLIES GROUP HEIGHT," is being revised by removing the reference to Figure 3.1-1, "ROD BANK STEP POSITION AS A FUNCTION OF POWER," and referencing the COLR.

5. T/S 3.1.3.3, "ROD DROP TIME," is being revised by removing the value for the fully withdrawn position and placing it in the COLR in accordance with Generic Letter 88-16.

6. T/S 3.1.3.4, "SHUTDOWN ROD INSERTION LIMIT," is being revised by removing the value for the insertion limit and placing it in the COLR in accordance with Generic Letter 88-16. The T/S is also being revised by changing the phrase "fully withdrawn" to a phrase that references the insertion limit.

7. T/S 3.1.3.5 is being revised by removing the reference to Figure 3.1-1, "ROD BANK STEP POSITION AS A FUNCTION OF POWER," and referencing the COLR, and by moving Figure 3.1-1, page 3/4 1-24, from the T/Ss to the COLR in accordance with Generic Letter 88-16.

8. T/S 3.2.1, "AXIAL FLUX DIFFERENCE," is being revised by removing the cycle-specific target band limits from the T/S and referencing the COLR, and by removing Figure 3.2-1, "ALLOWABLE DEVIATION FROM TARGET FLUX DIFFERENCE," page 3/4 2-4, and placing it in the COLR in accordance with Generic Letter 88-16. Surveillance requirement 4.2.1.4 is also being revised by removing the values for the axial flux difference target band and referencing the COLR.

9. T/S 3.2.2, "HEAT FLUX HOT CHANNEL FACTOR $F_Q(Z)$," is being revised by moving the cycle-specific F_Q limit from the T/S to the COLR, and moving the associated figure (Figure 3.2-3, page 3/4 2-8), into the COLR in accordance with Generic Letter 88-16.

10. T/S 3.2.3, "NUCLEAR ENTHALPY HOT CHANNEL FACTOR - $F^N_{\Delta H}$," is being revised by moving the cycle-specific $F^N_{\Delta H}$ and its power factor multiplier from the T/S to the COLR in accordance with Generic Letter 88-16.

11. T/S 3.2.6, "ALLOWABLE POWER LEVEL - APL," is being revised by referencing the cycle-specific F_Q limit and V(Z) penalty in the COLR in accordance with Generic Letter 88-16. The V(Z) will be submitted as a part of COLR in lieu of the current practice of submitting a peaking factor limit report.

12. T/S 6.9.1.11, "CORE OPERATING LIMITS REPORT," is being added to the T/Ss in accordance with Generic Letter 88-16.

13. T/S 6.9.2, "SPECIAL REPORTS," is being revised to delete the existing notation in 6.9.2g that states, "Deleted," and replace it with "Moderator Temperature Coefficient, Specification 3.1.1.4." By doing so we are proposing to submit a special report titled Moderator Temperature Coefficient. We are also making an editorial change by deleting 6.9.2h which currently states, "Deleted."

14. Corresponding changes have been made to the appropriate Bases sections. Some minor changes have also been made in the Unit 1 Bases wording to make them more like Unit 2.

<u>Changes to Units 1 and 2 T/Ss - Deletion of Surveillance 4.1.1.4.1</u>

We propose to eliminate surveillance 4.1.1.4.1 for both units. This surveillance directs that surveillance data be extrapolated and/or compensated to permit direct comparison with the T/S limits. This requirement will not be appropriate if our COLR submissions are

approved. The COLR document includes specific acceptance criteria for the 300 ppm surveillance. The BOL surveillance is performed under conditions in which the test results can be compared directly to the MTC limits. This change was omitted from our Unit 2 COLR submission, AEP:NRC:1077A dated February 6, 1990. It has been included in this submittal to maintain consistency between the T/Ss for both units.

Text shift changes are not barred if the content of the affected T/S has not been changed.

B. BACKGROUND

Generic Letter 88-16, "Removal of Cycle-Specific Parameter Limits from Technical Specifications," provides guidance for relocating cycle-specific parameters from the T/Ss so that future reload designs can be implemented in accordance with 10 CFR 50.59. The generic letter requires that the cycle-specific parameters be maintained in a COLR and the NRC be informed of changes to the COLR. Any changes to the operating limits will be made using approved NRC methodologies for Cook Nuclear Plant. This change will not affect the operation or safety of Cook Nuclear Plant Unit 1 since the actions required to be completed should a limit be exceeded will not be removed from the T/Ss.

The proposed T/S changes include the removal of the moderator temperature coefficient, the shutdown rod insertion limit, the control rod insertion limits (Figure 3.1-1), the axial flux difference operational limits (Figure 3.2-1), the heat flux hot channel factor limit and associated factors (Figures 3.2-3), the nuclear enthalpy hot channel factor limit and associated factors, and the allowable power level factors F_Q and K(Z) from the T/Ss. As previously noted, the V(Z) factor used in the APL calculation will be submitted as part of COLR in lieu of the current practice of submitting a peaking factor limit report. The proposed T/Ss retain the Limiting Condition for Operation (LCO) wording and surveillance requirements by referring to the specific limits which are provided to the NRC in a COLR in accordance with the proposed T/S 6.9.1.11. Relocation of these cycle-specific limits is consistent with the guidance provided by the NRC in Generic Letter 88-16. Removal of the limits from the T/Ss will allow cycle-specific limits to be implemented in accordance with approved methodology in a timely and cost effective manner.

C. JUSTIFICATION

These T/S changes comply with the NRC guidance given in Generic Letter 88-16. Implementation of a COLR for each unit will allow for cycle-specific parameter limit changes in accordance with the referenced approved methodology of proposed T/S Section 6.9.1.11. The relocation of the cycle-specific parameter limits to the COLR will allow for greater flexibility in optimizing designs to enhance the economics for each cycle.

D. SAFETY EVALUATION

The relocation of the cycle-specific parameters does not affect the operation of Cook Nuclear Plant Unit 1. The revised T/Ss will require the same actions to be taken when a limit is exceeded as are required by the present T/Ss. Revisions to the COLR will be made in accordance with 10 CFR 50.59 and the NRC will be notified of all revisions in accordance with T/S 6.9.1.11. All revisions to the COLR will be based on NRC-approved methodologies.

The proposed revisions to the T/Ss simply modify the method by which changes to the cycle-specific parameter limits can be requested and implemented. The parameters and methodologies associated with calculating them are presented below:

1) Revisions to the moderator temperature coefficient, rod drop time rod insertion, shutdown rod insertion, and control rod insertion limits will be based on the Westinghouse methodology previously reviewed and approved by the NRC and described in WCAP-9272-P-A, "Westinghouse Reload Safety Evaluation Methodology."

2) The axial flux difference limits will be determined in accordance with Westinghouse methodology previously reviewed and approved by the NRC and described in WCAP-10216-P-A, Part B, "Relaxation of Constant Axial Offset Control/F_Q Surveillance Technical Specification;" WCAP-9272-P-A, "Westinghouse Reload Safety Evaluation Methodology;" WCAP-8385, "Power Distribution Control and Load Following Procedures."

3) The heat flux hot channel factor $F_Q(Z)$ will be determined in accordance with Westinghouse methodology previously reviewed and approved by the NRC and described in WCAP-10266-P-A Rev. 2, "The 1981 Version of Westinghouse Evaluation Model Using BASH Code;" WCAP-9272-P-A, "Westinghouse Reload Safety Evaluation Methodology;" and WCAP-10216-P-A, Part B, "Relaxation of Constant Axial Offset Control/F_Q Surveillance Technical Specification."

4) The nuclear enthalpy rise hot channel factor $F^N_{\Delta H}$ will be determined in accordance with Westinghouse methodology previously reviewed and approved by the NRC and described in WCAP-10266-P-A Rev. 2, "The 1981 Version of Westinghouse Evaluation Model Using BASH Code;" and WCAP-9272-P-A, "Westinghouse Reload Safety Evaluation Methodology."

Calculating the cycle-specific parameter limits in accordance with an NRC-approved methodology ensures the limits are consistent with the applicable safety analysis addressed in the Cook Nuclear Plant Updated FSAR. In addition, the proposed T/S 6.9.1.11 is written to require that the limits be maintained in accordance with the approved methodologies.

As discussed in this submittal, there is reasonable assurance that the T/S changes associated with relocating cycle-specific parameters out of the T/S will not adversely affect the health and safety of the public.

In conjunction with this COLR submittal, we are also proposing to make the Unit 1 MTC T/Ss identical to the Unit 2 MTC T/Ss and to delete surveillance 4.1.1.4.1 from the T/Ss for both units. These proposals will not adversely affect the health and safety of the public. The first of these proposals elaborates on the Unit 1 ACTION statement for addressing the situation in which an MTC more positive than the limit is measured. The proposed ACTION requires control rod withdrawal limits be instituted to ensure the plant is operated within its prescribed limits. For the current Unit 1 T/Ss this action would have to be taken to ensure the plant was operated within the MTC limits and prevent shutdown. The proposed action also requires a special NRC report. The proposed T/Ss, although based on an earlier STS revision, are essentially consistent with STS, Rev. 4.

The second of the proposals made in conjunction with the COLR submittal is the deletion of surveillance 4.1.1.4.1 for both units. Surveillance 4.1.1.4.1 requires that surveillance data be extrapolated and/or compensated to permit direct comparison with T/S limits. Deletion of this requirement has no impact on the surveillance result because the proposed surveillance uses an acceptance criteria directly applicable at test time. The extrapolation and/or compensation is performed in the preparation of the acceptance criterion for the 300 ppm surveillance. The BOL surveillance is performed under conditions in which test results are directly comparable to MTC limits.

E. NO SIGNIFICANT HAZARDS EVALUATION

<u>Changes to Unit 1 T/Ss - COLR Changes Per Generic Letter 88-16</u>

The changes presented in this amendment request which are related to the COLR are purely editorial in nature. Per 10 CFR 50.92, a proposed amendment will involve a no significant hazards consideration if the proposed amendment does not:

(1) Involve a significant increase in the probability or consequence of an accident previously evaluated; or

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or

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

Criterion 1

Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

The moderator temperature coefficient limit, rod drop time rod insertion limit, shutdown rod insertion limit, control rod insertion limit, axial flux difference operational limits, heat flux hot channel factor limit, and nuclear enthalpy rise hot channel factor limit are cycle-specific parameters. The removal of the cycle-specific parameters from the T/Ss has no influence or impact on the probability or consequences of a previously evaluated accident. The cycle-specific parameter limits, although not in the T/Ss, will be maintained in the COLR and referenced in the Cook Nuclear Plant T/Ss. The proposed amendment still requires the same action to be taken if limits are exceeded as is required by current T/Ss. Future reloads will be evaluated using NRC-approved methodologies and will be examined per the requirements of 10 CFR 50.59. Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

Criterion 2

Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

There is no physical alteration to any plant system, nor is there a change in the method by which any safety-related system performs its function. As stated above, the proposed change is administrative in nature. Therefore, the proposed changes do not create the possibility of a new or different kind of accident from any previously evaluated.

Criterion 3

Does the change involve a significant reduction in a margin of safety?

The margin of safety is not affected by the removal of cycle-specific parameter limits from the T/Ss. The proposed amendment still requires operation from within the core limits as determined from the NRC-approved reload design methodologies. Appropriate actions will continue to be taken if limits are violated. The development of the limits for future reloads will continue to conform to those methods described in NRC-approved documentation. In addition, each future reload will involve a 10 CFR 50.59 review. Therefore, the proposed changes do not involve 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 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. As these changes are purely editorial and do not impact safety in any way, we believe the Federal Register example cited is applicable and that the changes involve no significant hazards consideration.

Non-COLR Changes

Criterion 1

Does the change involve a significant increase in the probability or consequences of an accident previously evaluated?

The proposed change to the Unit 1 MTC action directs the preparation of rod withdrawal limits, an action that would be required to avoid shutdown under the current Unit 1 T/Ss. Since operations are not affected, the probability or consequences of an accident previously evaluated are unaffected. The same is true of the deletion of surveillance 4.1.1.4.1. The extrapolation and/or compensation is removed from data reduction and addressed in the preparation of 300 ppm acceptance criterion. The extrapolation and/or compensation is not applicable to BOL measurements which are taken under conditions that are directly comparable to limits.

Criterion 2

Does the change create the possibility of a new or different kind of accident from any accident previously evaluated?

Since specifying withdrawal limits and changing the manner in which test data are extrapolated results in no change in operations, a new or different kind of accident is not possible.

Criterion 3

Does the change involve a significant reduction in a margin of safety?

Since specifying withdrawal limits and changing the manner in which test data are extrapolated does not result in a change in operations, there is no reduction in the margin of safety.

Because these proposed changes call out implied actions explicitly, i.e., the preparation of insertion limits, and merely move the extrapolations and/or compensation from the data reduction activity to the acceptance criterion preparation, we believe these changes can be classified as administrative. We have referred to the example in the Federal Register for administrative changes previously. We believe this example is applicable to these proposed changes and they involve no significant hazards consideration.

F. ENVIRONMENTAL EVALUATION

I&M has evaluated the proposed changes and determined that the changes do not involve (1) a significant hazards consideration, (ii) a significant change in the types or significant increases in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed changes meet the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), an environmental assessment of the proposed changes is not required.