REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8503270251 DOC.DATE: 85/03/21 NOTARIZED: NO DOCKET #
FACIL:50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315
AUTH.NAME AUTHOR AFFILIATION
OWSLEY,G.F. Exxon Nuclear Co., Inc. (subs. of Exxon Corp.)
RECIP.NAME RECIPIENT AFFILIATION
DENTON,H. Office of Nuclear Reactor Regulation, Director

SUBJECT: Discusses 850315 telcon re incorrect expression for multiplier on heat transfer coefficient used in TOODEE2, which affected LOCA-ECCS analyses for several PWRs.Analyses redone.

DISTRIBUTION CODE: A001D COPIES RECEIVED:LTR 1 ENCL 0 SIZE: 1
TITLE: OR Submittal: General Distribution

NOTES: 05000315
OL:10/25/74

	RECIPIENT ID CODE/NAME		COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME		COPIES LTTR	COPIES ENCL
	NRR ORB1 BC	01	7	7				
INTERNAL:	ACRS	09	6	6	ADM/LFMB		1	0
	ELD/HDS3		1	0	NRR/DE/MTEB		1	1
	NRR/DL DIR		1	1	NRR/DL/ORAB		1	0
	NRR/DL/TSRG		1	1	NRR/DSI/METB		1	1
	NRR/DSI/RAB		1	1	REG FILE	04	1	1
	RGN3		1	1				
EXTERNAL:	LPDR	03	1	1	NRC PDR	02	1	1
	NSIC	05	1	1				

Add: D. Moran.

TOTAL NUMBER OF COPIES REQUIRED: LTTR ~~26~~ 27 ENCL ~~23~~ 0

EXXON NUCLEAR COMPANY, INC.

600 108TH AVENUE NE, PO BOX 90777, BELLEVUE, WA 98009
(206) 453-4300

March 21, 1985
GFO:85:008

50-315

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

SUBJECT: Error in the 48,000 MWD/MTU LOCA-ECCS Analysis for D.C. Cook Unit 1

Ref.: XN-NF-83-61, "D.C. Cook Unit 1 LOCA-ECCS Analysis for Extended Exposure," August 1983

Dear Mr. Denton:

As discussed in a telephone conversation on March 15, 1985 with Mr. David Moran, Mr. Norm Lauben and Mr. Robert Jones of your staff, an error was discovered which affected the LOCA-ECCS analyses for several PWRs. The error was in an expression for a multiplier on the heat transfer coefficient used in TOODEE2, which was incorrectly programmed into the code.

TOODEE2 calculates the thermal response (heatup) of the hot fuel rod following the end of the blowdown transient until the core temperature transient is terminated. The incorrect coding caused the heat transfer coefficient multiplier in TOODEE2 to be 1.045, when it was intended to be 1.0 based on input to the code.

One such analysis affected by this error was the analysis to support increased burnup from 42.2 MWD/kg to 48.0 MWD/kg in D.C. Cook Unit 1. The analyses to support burnup points up to 42.2 MWD/kg were previously reported in XN-NF-81-07 and were done with a version of TOODEE2 which did not contain the error. ENC has redone the analyses reported in XN-NF-83-61 to support the increased burnup to 48.0 MWD/kg.

The peak clad temperature is calculated with the corrected version of TOODEE2 at 48 MWD/kg to be 1785°F versus the previous value of 1736°F. The reanalysis verifies that the plant satisfies the 2200°F limit of 10 CFR 50.46.

If there are questions, or if I can be of further help, please contact me.

Sincerely,

G. F. Owsley, Manager
Reload Licensing Liaison

gf

CC: Mr. J. G. Feinstein (AEP)
Mr. D. L. Wigginton (USNRC)

A001 1/0 Add: Dave Moran