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 RECIP. NAME: MURLEY, T.E. RECIPIENT AFFILIATION: Document Control Branch (Document Control Desk)

SUBJECT: Forwards peaking factor limit rept for Unit 1 Cycle 11.

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AEP:NRC:1087

Donald C. Cook Nuclear Plant Unit 1
Docket No. 50-315
License No. DPR-58
CYCLE 11 PEAKING FACTOR LIMIT REPORT

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

Attn: T. E. Murley

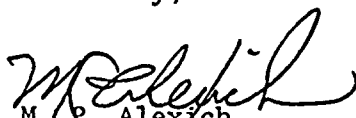
March 30, 1989

Dear Dr. Murley:

This letter transmits the Peaking Factor Limit Report for Unit 1 Cycle 11 (attached). The report provides the burnup-dependent V(Z) function for Cycle 11, calculated for a delta-I band of $\pm 5\%$ at a core power level of 3250 MWt. The V(Z) function is referenced in Specification (T/S) 3.2.6, and is used in determining the allowable power level at which the reactor may operate. Per the NRC's Safety Evaluation Report for Unit 1 T/S Amendment 74 (reference page 18), the Peaking Factor Limit Report must be submitted at least 60 days prior to initial cycle criticality. The anticipated, initial Cycle 11 criticality date is June 5, 1989.

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. R. Alexich
Vice President

MPA/eh

8904130089 890330
PDR ADOCK 05000315
P PDC

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Dr. T. E. Murley

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AEP:NRC:1087

Attachment

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

ATTACHMENT TO AEP:NRC:1087

UNIT 1 CYCLE 11 PEAKING FACTOR LIMIT REPORT

Westinghouse
Electric Corporation

Nuclear Fuel
Business Unit

Commercial Nuclear
Fuel Division

Box 3912
Pittsburgh Pennsylvania 15230-3912

February 28, 1989

89AE*-G-0019

W-AEP/0608

Indiana Michigan Electric Company
c/o Eric G. Lewis
Engineer, Nuclear Materials and Fuel Management
American Electric Power Service Corporation
One Riverside Plaza, 20th Floor
Columbus, OH 43215

Dear Eric:

AMERICAN ELECTRIC POWER SERVICE CORPORATION
D. C. COOK UNIT 1
CYCLE 11 PEAKING FACTOR LIMIT REPORT

Attached please find the peaking factor limit report for D. C. Cook Unit 1, Cycle 11. The burnup dependent V(Z) function has been calculated for a ΔI band of $\pm 5\%$ at a core power level of 3250 MWt. beginning-of-life to end-of-life of Cycle 11.

The calculation has been documented and independently verified.

A copy of the report is being provided on one (1) diskette for your convenience.

If you have any questions or comments, please call me.

Very truly yours,

L. A. Livingston

L. A. Livingston
Project Engineer
Fuel Projects

LAL:mld

Attachment

cc: D. H. Malin
V. D. Vanderburg
M. Whitley - D. C. Cook
R. Hennen - D. C. Cook

D. C. COOK UNIT 1 CYCLE 11
V(2) FUNCTION

MESH NO.	AXIAL HEIGHT	BURNUP RANGES (MWD/MTU)								
		0 150	150 1000	1000 2000	2000 4000	4000 6000	6000 8000	8000 10000	10000 12000	12000 EOL
1.	0.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2.	0.20	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3.	0.40	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
4.	0.60	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
5.	0.80	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
6.	1.00	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
7.	1.20	1.0798	1.0798	1.0798	1.0813	1.0845	1.0892	1.0957	1.1039	1.1137
8.	1.40	1.0774	1.0776	1.0780	1.0800	1.0833	1.0880	1.0942	1.1018	1.1107
9.	1.60	1.0750	1.0754	1.0762	1.0785	1.0819	1.0865	1.0922	1.0991	1.1070
10.	1.80	1.0724	1.0730	1.0741	1.0767	1.0802	1.0845	1.0897	1.0958	1.1028
11.	2.00	1.0711	1.0718	1.0728	1.0752	1.0784	1.0822	1.0867	1.0920	1.0979
12.	2.20	1.0707	1.0712	1.0720	1.0739	1.0764	1.0795	1.0833	1.0876	1.0925
13.	2.40	1.0700	1.0703	1.0708	1.0723	1.0741	1.0765	1.0794	1.0827	1.0866
14.	2.60	1.0691	1.0693	1.0695	1.0704	1.0716	1.0731	1.0751	1.0775	1.0803
15.	2.80	1.0681	1.0681	1.0680	1.0682	1.0687	1.0695	1.0706	1.0720	1.0737
16.	3.00	1.0667	1.0667	1.0665	1.0665	1.0659	1.0656	1.0655	1.0657	1.0661
17.	3.20	1.0655	1.0655	1.0650	1.0648	1.0634	1.0626	1.0620	1.0617	1.0617
18.	3.40	1.0651	1.0651	1.0639	1.0630	1.0611	1.0602	1.0610	1.0626	1.0652
19.	3.60	1.0653	1.0653	1.0635	1.0620	1.0602	1.0604	1.0632	1.0677	1.0739
20.	3.80	1.0652	1.0652	1.0634	1.0618	1.0614	1.0628	1.0674	1.0740	1.0827
21.	4.00	1.0649	1.0649	1.0633	1.0619	1.0635	1.0657	1.0717	1.0802	1.0910
22.	4.20	1.0645	1.0645	1.0629	1.0617	1.0656	1.0681	1.0757	1.0861	1.0990
23.	4.40	1.0640	1.0640	1.0625	1.0617	1.0675	1.0705	1.0795	1.0916	1.1065
24.	4.60	1.0633	1.0633	1.0621	1.0620	1.0693	1.0726	1.0830	1.0966	1.1133
25.	4.80	1.0623	1.0623	1.0622	1.0622	1.0708	1.0745	1.0860	1.1010	1.1194
26.	5.00	1.0612	1.0621	1.0621	1.0622	1.0720	1.0760	1.0886	1.1048	1.1246
27.	5.20	1.0603	1.0618	1.0618	1.0618	1.0729	1.0771	1.0906	1.1079	1.1289
28.	5.40	1.0597	1.0612	1.0612	1.0613	1.0733	1.0777	1.0920	1.1101	1.1320
29.	5.60	1.0588	1.0604	1.0604	1.0617	1.0733	1.0779	1.0926	1.1114	1.1341
30.	5.80	1.0576	1.0593	1.0593	1.0619	1.0729	1.0775	1.0926	1.1117	1.1349
31.	6.00	1.0561	1.0581	1.0581	1.0616	1.0719	1.0765	1.0918	1.1111	1.1344
32.	6.20	1.0543	1.0565	1.0565	1.0608	1.0703	1.0749	1.0902	1.1094	1.1327
33.	6.40	1.0521	1.0544	1.0544	1.0596	1.0681	1.0727	1.0877	1.1066	1.1295
34.	6.60	1.0495	1.0519	1.0519	1.0579	1.0653	1.0697	1.0843	1.1027	1.1248
35.	6.80	1.0465	1.0491	1.0491	1.0552	1.0614	1.0657	1.0800	1.0982	1.1202
36.	7.00	1.0430	1.0450	1.0460	1.0537	1.0590	1.0626	1.0768	1.0947	1.1164
37.	7.20	1.0395	1.0425	1.0462	1.0535	1.0578	1.0605	1.0743	1.0915	1.1121
38.	7.40	1.0377	1.0441	1.0468	1.0526	1.0555	1.0575	1.0706	1.0869	1.1064
39.	7.60	1.0392	1.0460	1.0469	1.0511	1.0525	1.0537	1.0656	1.0809	1.0994
40.	7.80	1.0402	1.0475	1.0475	1.0491	1.0491	1.0508	1.0612	1.0746	1.0911
41.	8.00	1.0421	1.0487	1.0487	1.0463	1.0463	1.0512	1.0592	1.0695	1.0821
42.	8.20	1.0460	1.0493	1.0493	1.0474	1.0497	1.0532	1.0579	1.0638	1.0708
43.	8.40	1.0509	1.0512	1.0515	1.0525	1.0536	1.0549	1.0564	1.0581	1.0600
44.	8.60	1.0556	1.0563	1.0570	1.0583	1.0593	1.0600	1.0604	1.0606	1.0606
45.	8.80	1.0602	1.0610	1.0619	1.0634	1.0646	1.0654	1.0658	1.0659	1.0659
46.	9.00	1.0648	1.0656	1.0665	1.0680	1.0693	1.0702	1.0709	1.0712	1.0712
47.	9.20	1.0692	1.0701	1.0710	1.0726	1.0739	1.0750	1.0757	1.0761	1.0763
48.	9.40	1.0735	1.0744	1.0753	1.0770	1.0784	1.0795	1.0804	1.0810	1.0813
49.	9.60	1.0777	1.0784	1.0793	1.0809	1.0824	1.0838	1.0851	1.0862	1.0873
50.	9.80	1.0816	1.0822	1.0829	1.0844	1.0859	1.0876	1.0893	1.0911	1.0929
51.	10.0	1.0853	1.0858	1.0864	1.0879	1.0895	1.0914	1.0934	1.0956	1.0979
52.	10.2	1.0886	1.0892	1.0899	1.0915	1.0933	1.0953	1.0975	1.0999	1.1025
53.	10.4	1.0917	1.0923	1.0931	1.0948	1.0967	1.0988	1.1012	1.1037	1.1064
54.	10.6	1.0943	1.0950	1.0959	1.0977	1.0997	1.1019	1.1043	1.1068	1.1096
55.	10.8	1.0965	1.0972	1.0981	1.1000	1.1021	1.1044	1.1069	1.1096	1.1125
56.	11.0	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
57.	11.2	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
58.	11.4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
59.	11.6	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
60.	11.8	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
61.	12.0	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Top and bottom 10% of core are excluded as per Technical Specifications.

