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ALEXICH, M. P. Indiana & Michigan Electric Co.
RECIP. NAME RECIPIENT AFFILIATION
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SUBJECT: Responds to NRC 870304 ltr re audit of facility DCRDR & suppls util 861230 DCRDR summary rept. Implementation schedules for correction of human engineering deficiencies (HED) & completion dates & listing of new equipment encl.

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INDIANA & MICHIGAN ELECTRIC COMPANY

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March 13, 1987
AEP:NRC:0773X

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
DETAILED CONTROL ROOM DESIGN REVIEW AUDIT RESPONSE

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

Dear Sirs:

The purpose of this letter is to transmit our response to your letter of March 4, 1987 and to the comments of NRC audit of the D. C. Cook Nuclear Plant Units 1 and 2 Detailed Control Room Design Review (DCRDR). This information also supplements the data provided in our DCRDR Summary Report submitted with our letter AEP:NRC:0773V, dated December 30, 1986.

1. Attachment 1 to this letter provides an implementation schedule for correction of safety-significant human engineering deficiencies (HEDs) in Categories I and II. Please note that 70 percent of the corrective actions are scheduled for implementation by the end of 1987 and 80 percent by the end of the next Unit 2 refueling outage. We believe the schedules proposed in the Summary Report also show that we are implementing the bulk of the higher priority corrections as early as practical.

   It should also be noted that several completion dates are shown in Attachment 1 as April 1987 and June 1987. These involve component labels for Unit 1 and annunciator window engraving and color coding tasks on both units. We estimated in the Summary Report that these tasks would be complete by March 1987. This schedule slippage is due to the reiterative design review process and the use of specialized installation personnel for the enhancement projects. Thorough engineering and operations review of designs and careful, methodical construction and installation of thousands of labels and windows are taking more time than estimated. We believe we are carrying out these projects in the most expeditious manner practical.

A003
1/1

2. The following response addresses the audit team's comments on HEDs identified during the mini-control room survey.

   a) The glare shields for RVLIS indicators NLI-110, 111, 120, 121, 130 and 131 were found to cast shadows on the indicator scales during the control room audit. These indicators were not installed on the panels during the human factor surveys by ESSEX in 1984. There are over one hundred curved glass vertical indicators in the top row of panel space throughout the control room, none which have glare shields, except the six RVLIS indicators. Because of the shadows, it is obviously better not to have glare shields. We currently plan to remove the shields during the next refueling outages.

   b) The NRC audit team found a hand-drawn scale for a potentiometer on the Unit 1 Delta Temperature Unit (DTU) Panel. This scale was reviewed by engineering and found to be unnecessary, and the scale has been removed.

   c) The NRC audit team found some holes in the Unit 1 Flux (FLX) Panel where the wind speed and direction indicators were mounted. These indicators were removed for maintenance and will be reinstalled.

3. The following are three HEDs which we had identified but had not yet resolved.

   a) HED V1-21 concerning containment ambient temperature determination relative to the pressurizer PORVs discharge line temperature in Emergency Operating Procedure E-3, Step 19, will be resolved by implementing more specific instructions in the procedure. This will be done during the next scheduled biennial review.

   b) HED 1.3-8 concerns lack of written or posted instructions for emergency equipment. This will be resolved by June 30, 1987 by implementing posted instructions for emergency equipment where no posted or hardware instructions now exist.

   c) HED 6.1-49 concerns several unlabeled panel components. This has been resolved by labeling the few panel mounted devices that had no component label whatsoever. This was completed in February 1987.

The audit team expressed a desire for a schedule for completion of a list of specific HEDs identified in the pre-audit letter Appendix B4. Attachment 2 to this letter provides an implementation schedule and planned completion dates for those HEDs. Attachment 3 to this letter provides a complete listing of new equipment planned for installation as a result of the System Function Task Analysis (SFTA). These items are identified in the Summary Report but not specifically identified with the SFTA.

The audit team also expressed a concern with the steam generator panel rearrangement schedule in that there may be a period of time when the Unit 1, Unit 2 and the Simulator control room panels will be different. The D. C. Cook Training Department is planning to develop a training and operator working schedule to minimize the impact of this difference in configuration.

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

cm

Attachments

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

SAFETY SIGNIFICANT HEDs

Cook DCRDR - Category I & II Corrective Action Implementation - Planned Completion Dates

CLO/HED	CAT.	UNIT 1	UNIT 2
1.1-5	II	9-86	9-86
1.1-9	"	9-86	9-86
1.1-10	"	12-86	12-86
1.2-1	"	***	**
1.2-2	"	***	**
1.3-1	"	12-86	12-86
2	"	12-86	12-86
1.3-3	"	12-88	12-88
4	"	12-87	12-87
5	"	12-86	12-86
6	I	12-89	12-89
7	II	12-86	12-86
1.3-8	"	6-87	6-87
1.5-2	"	**	**
3	"	**	**
4	"	**	**
7	"	4-87	2-87
1.7-2	"	9-86	9-86
2.1-1	"	12-89	12-89
-2	"	12-89	12-89
-3	"	12-89	12-89
-4	"	12-89	12-89
2.1-5	"	12-86	12-86
-6	"	12-89	12-89
-7	I	12-89	12-89
-13	II	9-86	9-86
3.1-2	"	6-87	6-87
-3	"	12-86	12-86
-4	"	6-87	6-87
-5	"	**	**
-7	"	9-86	9-86
-8	"	6-87	6-87
-11	"	**	*
-13	"	12-87	12-87
-17	"	9-86	9-86

See page 6 of this attachment for codes and abbreviations.

SAFETY SIGNIFICANT HEDs

Planned Completion Dates Cont'd

CLO/HED	CAT.	UNIT 1	UNIT 2
-20	II	6-87	6-87
-21	"	NA	NA
-22	"	6-87	6-87
-23	"	6-87	6-87
-24	"	NA	NA
-27	"	6-87	6-87
-30	I	9-86	9-86
-32	II	**	*
4.1-1	II	*	*
-3	"	NA	NA
-5	"	*	*
-9	"	12-86	12-86
-10	"	*	*
-20	"	9-86	9-86
-22	"	9-86	9-86
5.1-4	"	*	*
-6	"	*	*
-8	"	NA	NA
-11	"	12-87	12-87
-17	"	12-87	12-87
-46	"	*	*
6.1-1	"	4-87	2-87
-3	"	4-87	2-87
-5	"	*	*
-6	"	4-87	2-87
-7	"	NA	NA
-16	"	4-87	2-87
-20	"	12-87	12-87
-21	"	4-87	2-87
-23	"	*	*
-24	"	*	*
-31	"	9-86	9-86
-35	"	9-86	9-86
-37	"	9-86	9-86
-40	"	9-86	9-86

SAFETY SIGNIFICANT HEDs

Planned Completion Dates Cont's

CLO/HED	CAT.	UNIT 1	UNIT 2
6.1-43	"	4-87	2-87
-44	"	12-87	12-87
-46	"	4-87	2-87
-47	"	4-87	2-87
-49	I	2-87	2-87
-57	II	*	*
-60	"	12-87	12-87
-61	"	9-86	9-86
-63	"	12-87	12-87
-64	"	*	*
7.1-1	"	12-91	12-91
-3	"	12-87	12-87
8.1-1	"	*	*
-13	"	4-87	2-87
9.1-1	"	9-86	9-86
-2	I	See V1s & V2s	
-4	II	" "	"
-6	"	**	**
-7	"	*	*
V1-4	"	6-87	6-87
-16	"	***	**
-25	I	*	*
-26	"	*	*
-42	II	*	*
-47	"	12-86	**
-57	"	*	*
V2-1	"	6-86	6-86
-5	"	***	**
-6	"	***	**
-9	"	*	*
-17	"	***	**
-18	"	8-86	8-86

SAFETY SIGNIFICANT HEDS

Cook DCRDR - Cat. III-S Corrective Action Implementation - Planned Completion Dates

CLO/HED	UNIT 1	UNIT 2
1.1-1	12-86	12-86
1.4-1	12-87	12-87
1.7-4	9-86	9-86
1.7-7	9-86	9-86
2.1-9	12-87	12-87
3.1-6	9-86	9-86
-9	**	*
-10	***	**
-15	**	**
-19	**	**
-26	----	12-86
-31	6-87	6-87
4.1-4	*	*
-8	*	*
-13	*	*
-14	NA	NA
5.1-3	**	*
-18	6-87	6-87
-19	6-87	6-87
-44	*	*
-48	6-87	6-87
-50	*	*
6.1-2	12-86	12-86
-4	4-87	2-87
-8	*	*
-11	12-86	12-86
-12	12-86	12-86
-13	4-87	2-87
-14	4-87	2-87
-22	4-87	2-87
-27	4-87	2-87
-32	9-86	9-86
-39	9-86	9-86
-42	12-87	12-87
-51	*	*

SAFETY SIGNIFICANT HEDS

Planned Completion Dates Cont'd. III-S

CLO/HED	UNIT 1	UNIT 2
6.1-53	4-87	2-87
-55	4-87	2-87
-59	12-86	12-86
-62	12-87	12-87
-66	12-87	12-87
6.1-67	4-87	2-87
-69	*	*
-70	9-86	9-86
-71	9-86	9-86
7.1-14	12-87	12-87
-20	12-87	12-87
8.1-6	*	*
-10	*	*
-12	12-87	12-87

SAFETY SIGNIFICANT HEDs

Codes for approximated Outage Schedules:

*	Unit One =	Spring 1987 Refueling Outage
*	Unit Two =	Early 1988 " "
**	Unit One =	Early 1989 " "
**	Unit Two =	1989 Steam Generator Replacement Outage
***	Unit One =	Late 1990 Refueling Outage

NA = No Action -----=Not Applicable

Total = 151; 6 No Action; 88 in 86/87;
28 in First Outages or
80% Fixes Planned By
First Outages

Abbreviations

CLO = Checklist Observation
HED = Human Engineering Deficiency

Cook DCRDR - Item B4. NRC Audit

Implementation Schedules - Planned Completion Dates

CLO/HED	CAT.	UNIT 1	UNIT 2
1.1-8	III	12-86	12-86
1.1-10	II	12-86	12-86
1.4-1	III-S	12-87	12-87
1.4-2	IV	12-87	12-87
1.7-5	III	9-86	9-86
2.1-10	III	12-86	12-86
2.1-11	III	6-87	6-87
2.1-12	III	12-87	12-87
3.1-3	II	12-86	12-86
-4	II	6-87	6-87
3.1-9	III-S	**	*
-15	III-S	**	**
-30	I	9-86	9-86
4.1-8	III-S	*	*
4.1-16	III	*	*
5.1-4	II	*	*
5.1-50	III-S	*	*
6.1-1	II	4-87	2-87
7.1-20	III-S	12-87	12-87
8.1-6	III-S	*	*
9.1-7	II	*	*
V1-65	III	***	**

Cook DCRDR - New Panel Equipment to be added to satisfy SFTA - ICCR Review

New Equipment	HED Ref.
SG Pressure Recorders	V1-16
SG Stm. Relief Valves Position Indication	V2-6
PRZ Spray Valves Position Indication	V2-17
Containment Isolation Status Indication	V1-12, V2-12
FW Isolation Alarm	V1-24
SI Pump Disc Flow Square Root Extractors	V1-25
BIT Flow to Loops Square Root Extractors	V1-26

RFS:le(GEN9-v)

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March 11, 1987

DOCKET NO(S). 50-315/316
Mr. John Dolan, Vice President Indiana
Indiana and Michigan Electric Company
c/o American Electric Power Service Corporation
1 Riverside Plaza
Columbus, Ohio 43216

SUBJECT: D. C. Cook Nuclear Plant, Units 1 and 2

The following documents concerning our review of the subject facility are transmitted for your information.

- [ ] Notice of Receipt of Application, dated _____.
- [ ] Draft/Final Environmental Statement, dated _____.
- [ ] Notice of Availability of Draft/Final Environmental Statement, dated _____.
- [ ] Safety Evaluation Report, or Supplement No._____ dated _____.
- [ ] Environmental Assessment and Finding of No Significant Impact, dated _____.
- [ ] Notice of Consideration of Issuance of Facility Operating License or Amendment to Facility Operating License, dated _____.
- [x] Bi-Weekly Notice; Applications and Amendments to Operating Licenses Involving No Significant Hazards Considerations, dated 02/26/87 [*see page(s)*] 5857.
- [ ] Exemption, dated _____.
- [ ] Construction Permit No. CPPR-_____, Amendment No. _____ dated _____.
- [ ] Facility Operating License No. _____, Amendment No. _____ dated _____.
- [ ] Order Extending Construction Completion Date, dated _____.
- [ ] Monthly Operating Report for _____ transmitted by letter dated _____.
- [ ] Annual/Semi-Annual Report- _____ _____ transmitted by letter dated _____.

Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc: See next page

OFFICE	PWR#4/DPWR-A		PWR#4/DPWR-A				
SURNAME	MDuncan/mac		DWigginton				
DATE	03/11/87		03/11/87				

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