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 ALEXICH, M.P. Indiana & Michigan Electric Co.
 RECIP. NAME RECIPIENT AFFILIATION
 DENTON, H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Responds to NRC 830516 ltr re synopsis of issues associated w/NUREG-0612. Extension to 840331 requested due to necessary mods, per Franklin Research Ctr draft technical evaluation rept.

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INDIANA & MICHIGAN ELECTRIC COMPANY

P. O. BOX 18
BOWLING GREEN STATION
NEW YORK, N. Y. 10004

August 4, 1983
AEP:NRC:0514I

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
NUREG-0612:CONTROL OF HEAVY LOADS

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

Dear Mr. Denton:

This letter and its Attachment respond to Mr. S. A. Varga's letter of May 16, 1983, which included two enclosures. Enclosure 1, entitled "Synopsis of Issues Associated with NUREG-0612", contained additional guidance on acceptable solutions to open items. Enclosure 2, entitled "The Draft Technical Evaluation Report by Franklin Research Center", identified the open issues in our previous responses submitted to the NRC via our letters No. AEP:NRC:0514C (Phase 1a), dated June 18, 1982, and No. AEP:NRC:0514E (Phase 1b), dated September 29, 1982.

In the Draft Technical Evaluation Report (TER), Section 2.1.5.b, Franklin Research Center recommended three options for upgrading the Radiation Protection Shield (RPS) and the Missile Shield (MS) lift beams, so that they would conform to the requirements of Guideline No.4. We have elected to implement the first option, i.e. modification to the existing beams and/or redesigning new beams. The engineering/design of the lift beams was started after the receipt of the TER. As such we will require an extension to the implementation date required by NUREG-0612 from September 22, 1983 to March 31, 1984. In the interim period the present lift beams can be safely operated since they have been designed as per the AISC Guidelines using a factor of safety of 1.5 and 2.0 for yield stress and have been load tested at 110% of the load.

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

Very truly yours,


M. P. Alexich
Vice President

MPA/dam
Attachment

cc: John E. Dolan
R. S. Hunter - New York
R. W. Jurgensen
W. G. Smith, Jr. - Bridgman
R. C. Callen
G. Charnoff
Cook Plant Resident Inspector - E. Swanson

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ATTACHMENT TO
AEP:NRC:0514I
DRAFT TECHNICAL EVALUATION REPORT (TER)
INDIANA & MICHIGAN ELECTRIC COMPANY RESPONSES

The following are the Indiana & Michigan Electric Company responses to the conclusions and recommendations contained in Section No. 2, "Evaluations," of the Draft Technical Evaluation Report dated February 24, 1983.

TER SECTION 2.1.1.b EVALUATION AND CONCLUSION

"The Licensee's conclusions concerning the load handling systems at the D. C. Cook Plant that are subject to the general guidelines are consistent with NUREG-0612".

RESPONSE TO SECTION 2.1.1.b

No response is required.

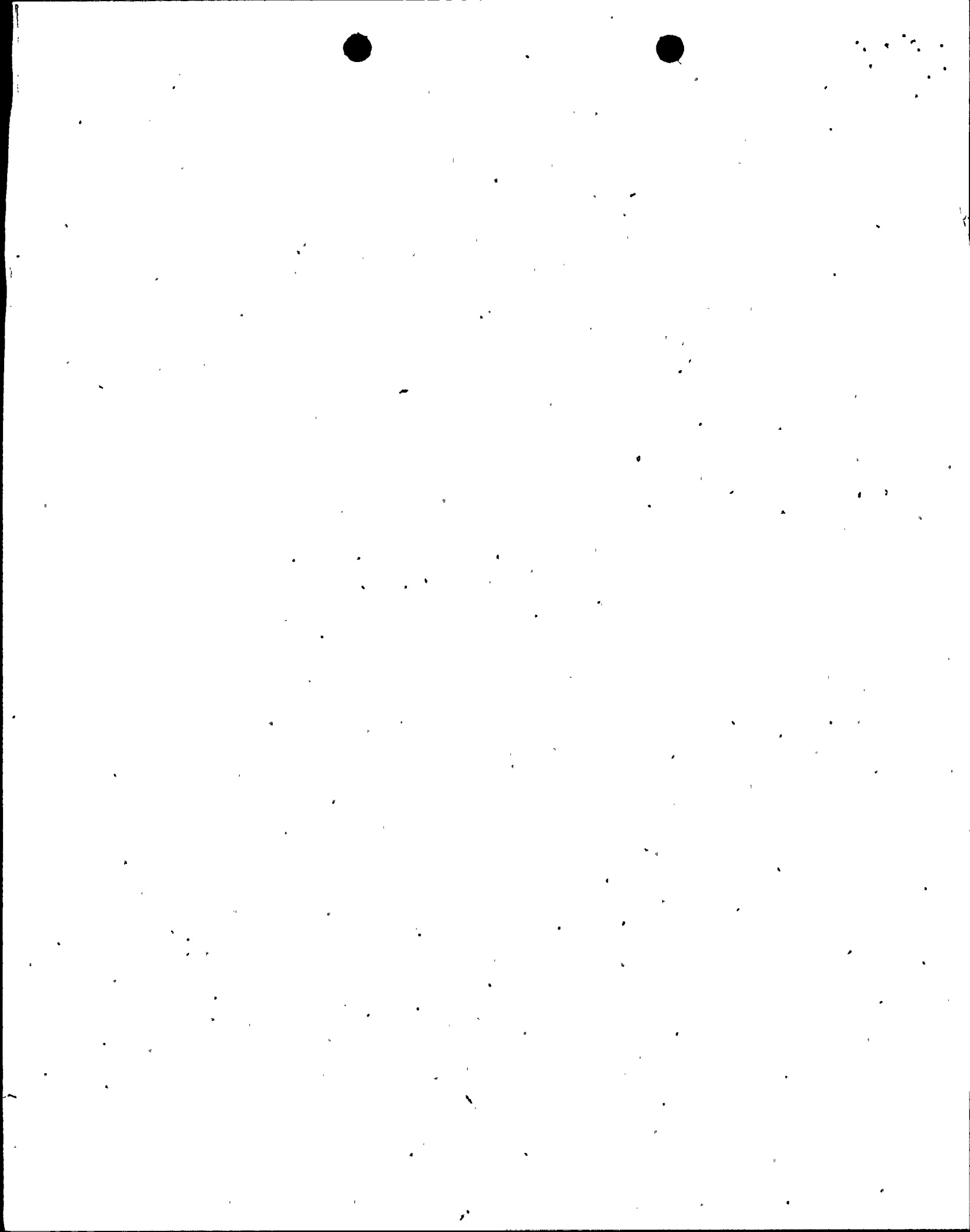
TER SECTION 2.1.2.c CONCLUSIONS AND RECOMMENDATIONS

"Cook Units 1 and 2 partially comply with Guideline 1 of NUREG-0612. In order to comply fully, the Licensee should perform the following:

1. Verify that deviations from safe load paths require formal review and approval by the Plant Safety Review Committee.
2. Verify that supervisor/leadman responsibilities are clearly defined in load handling procedures.
3. Implement formal administrative procedures that prevent movement of heavy loads over the essential service water pump rooms and that prohibit storage of any heavy loads on the roof over any such pump which is in service".

RESPONSE TO SECTION 2.1.2.c

- Item 1: A step will be incorporated into the appropriate load handling or maintenance repair procedures to ensure that PNSRC review and approval is secured prior to deviating from established safe load paths.
- Item 2: As the load handling and maintenance repair procedures are revised, they will be reviewed to ensure supervisor/leadman responsibilities are clearly defined.



Item 3: A Maintenance Head Instruction (MHI) will be developed to address storage of heavy loads on the enclosure of the ESW pumps. The ESW pump maintenance procedure will be revised to prevent movement of any heavy load over an ESW pump that is in service.

TER SECTION 2.1.3.c CONCLUSION AND RECOMMENDATIONS

"D. C. Cook Units 1 and 2 comply with Guideline 2 of NUREG-0612 in the auxiliary and reactor buildings on the basis of the Licensee's commitment to revise load handling procedures as indicated. However, the Licensee should implement appropriate administrative controls for handling heavy loads in the vicinity of the essential service water pumps".

RESPONSE TO SECTION 2.1.3.c

Response to this item is incorporated in response to Item No. 3 of Section 2.1.2.c.

TER SECTION 2.1.4.c CONCLUSION

"D. C. Cook Units 1 and 2 will comply with Guideline 3 when the MHI has been prepared and implemented".

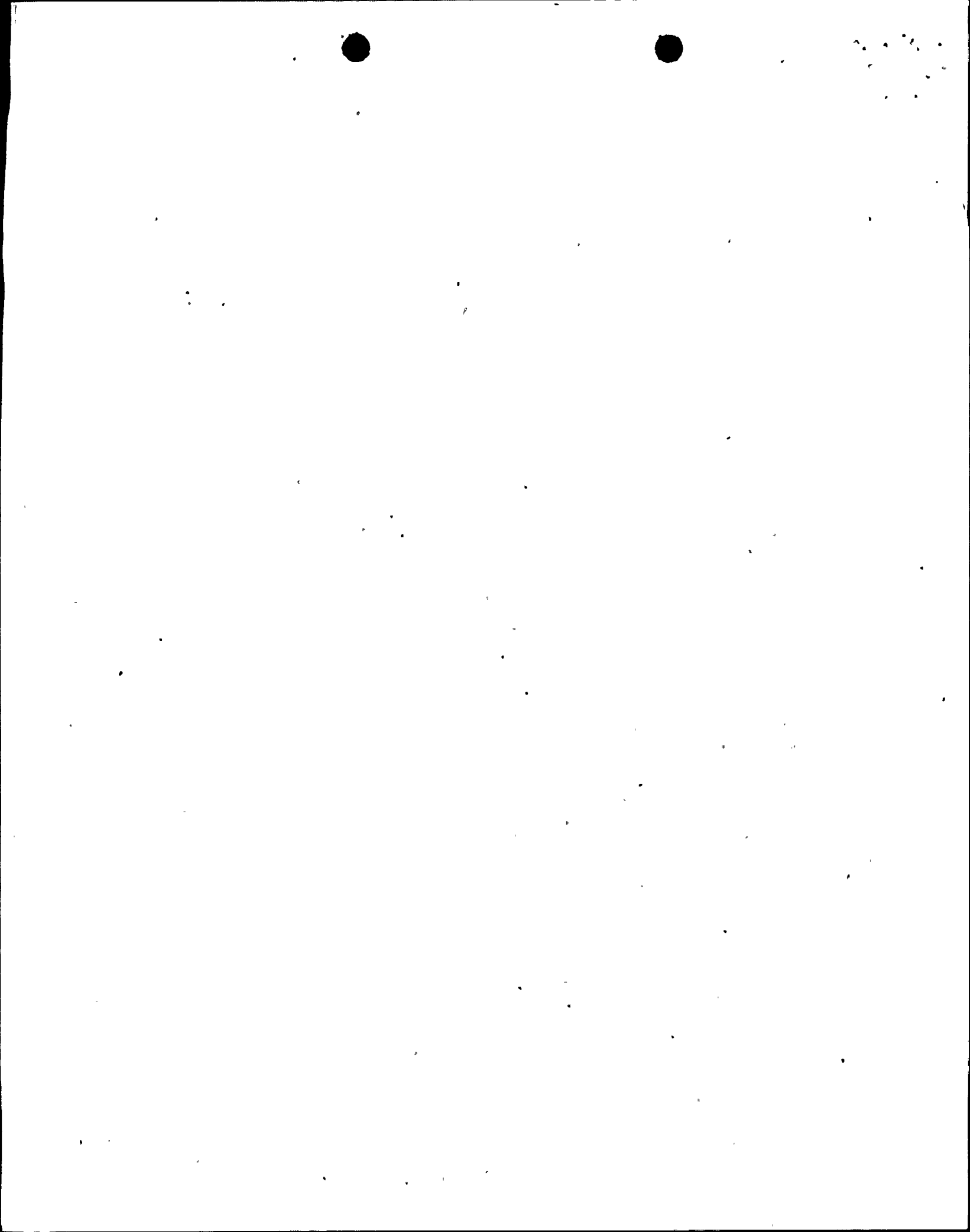
RESPONSE TO SECTION 2.1.4.c

Maintenance Head Instruction MHI 2071, "Crane Operator Training" was approved and issued in September 1982. The MHI will be revised to comply with the requirements of Guideline 3.

TER SECTION 2.1.5.c CONCLUSION AND RECOMMENDATIONS

"Special lifting devices at D. C. Cook Units 1 and 2 do not comply with Guideline 4. To demonstrate compliance, the Licensee should perform the following:

- For the reactor vessel head and internals lift rig, complete the overall assessment which should include verification of design adequacy of the devices as well as the implementation of a program to ensure continuing compliance in accordance with ANSI N14.6-1978, Section 5.
- For the RPS and MS lifting devices, implement one of the above listed options or propose a suitable alternative".



RESPONSE TO SECTION 2.1.5.c

The reactor vessel head and internals lift rig response was submitted in our letter No.AEP:NRC:0514G, dated July 5, 1983. Attachment No.1 to the above letter is the Westinghouse WCAP No. 10230 and contains a comparison of ANSI N 14.6-1978 requirements and Westinghouse requirements. Attachment No.2 to the above letter contains the Indiana & Michigan Electric Company's responses to the Westinghouse recommendations.

The Radiation Protection Shield (RPS) and the Missile Shield (MS) lift beams have factors of safety of 1.5 and 2.0, respectively, as reported previously. These are limiting safety factors determined for the existing lifting beam assemblies.

In order to establish design margins consistent with the ANSI N14.6-1978 values of 3 for minimum yield and 5 for ultimate strength, new lift beam assemblies have been designed for both RPS and MS lift beams which meet these requirements. The MS lift beam assembly has been sent to purchasing for the selection of and the release to a fabricator.

A design has also been made to allow reinforcing the existing RPS lift beam assembly. The reinforced assembly would meet the ANSI safety factor requirements. The RPS lift beam assembly is undergoing an evaluation to determine whether a new lift beam assembly should be acquired or whether the existing lift beam assembly should be reinforced. It is anticipated that the new and/or modified RPS and MS lift beams will be ready for use by March 1984.

TER SECTION 2.1.6.c CONCLUSION

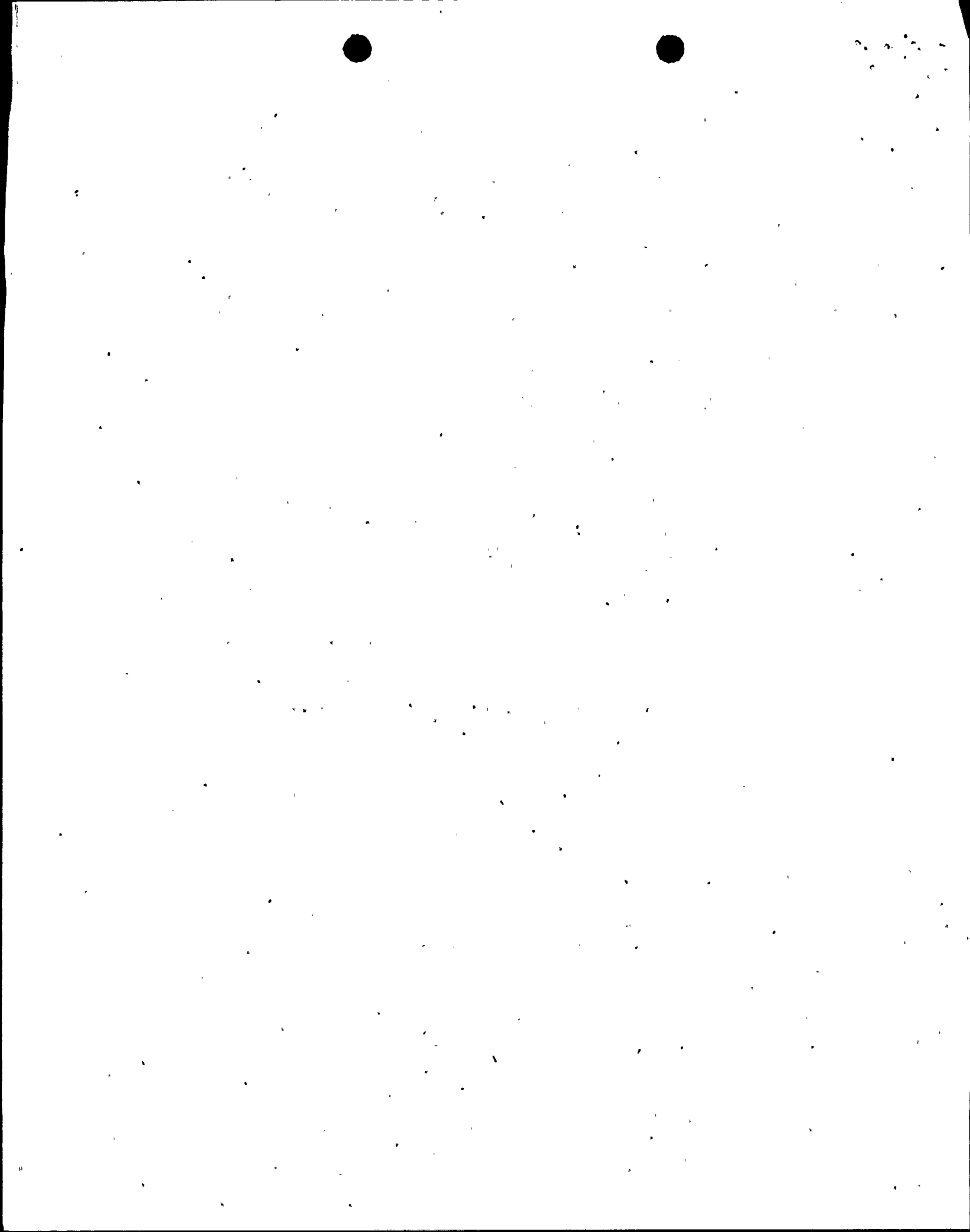
"The D. C. Cook Plant complies with Guideline 5 of NUREG-0612".

RESPONSE TO SECTION 2.1.6.c

No response is required.

TER SECTION 2.1.7.c CONCLUSION AND RECOMMENDATIONS

"D. C. Cook Units 1 and 2 partially comply with Guideline 6 of NUREG-0612. In order to comply fully, the crane maintenance program and procedures should be revised to include criteria of ANSI B30.2-1976 related to component repair and replacement and wire rope maintenance".



RESPONSE TO SECTION 2.1.7.c

The area of crane repair and maintenance is a rather broad area and it is difficult to predict all items that may eventually require repair and maintenance. Therefore, we believe it is prudent to restrict the subject of repair to those items described in Paragraph 2-2.3.3-C of ANSI B30.2-1976. Similarly, the subject of maintenance will concern the items identified by Whiting Corporation in their operation and maintenance manuals as those which require periodic maintenance. Maintenance procedures will be upgraded to include the above requirements.

The maintenance outlined in Paragraphs 2-2.3.1 and 2-2.3.2 of ANSI B30.2-1976 will be incorporated into the maintenance procedures.

The Rope Inspection, Replacement, and Maintenance outlined in ANSI B30.2-1976, Section 2-2.4, will be incorporated into the maintenance procedures.

TER SECTION 2.1.8.c CONCLUSION AND RECOMMENDATIONS

"The polar cranes at D. C. Cook Units 1 and 2 comply with Guideline 7 of NUREG-0612. Contingent upon completion of modifications proposed for both the auxiliary building crane and the CW pump and screen house crane, these cranes will comply with this guideline. However, the auxiliary building crane should be restricted to a capacity of 75 tons until resolution of the drum pinion strength and gear durability questions and subsequent review by the NRC".

RESPONSE TO SECTION 2.1.8.c

The modifications to the auxiliary building crane consisting of (1) installation of additional longitudinal stiffeners to the crane girders, and (2) welding of bars to the end truck plates across the runway rail head near each bridge wheel have been completed. In addition, the capacity of the auxiliary building crane is restricted to 75 tons until the drum pinion and drum gear are replaced. Upon replacement of these components, a load test will be performed and after satisfactory completion of this test, the capacity of the auxiliary building crane will be restored to 150 tons. The replacement of the pinion and gear will not take place until 1984 because of long lead times for these components.

TER SECTION 2.2.1.b CONCLUSION

"D. C. Cook Units 1 and 2 comply with Interim Protection Measure 1".

RESPONSE TO SECTION 2.2.1.b

No response is required.



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TER SECTION 2.2.2.b EVALUATIONS, CONCLUSIONS, AND RECOMMENDATIONS

"Evaluations, conclusions, and recommendations are contained in discussions of the respective general guidelines in Sections 2.1.2, 2.1.3, 2.1.4, and 2.1.7".

RESPONSE TO SECTION 2.2.2.b

No response is required.

TER SECTION 2.2.3.b CONCLUSION AND RECOMMENDATION

"The D. C. Cook Plant substantially complies with Interim Protection Measure 6. In order to fully comply, the Licensee should perform a visual inspection of load bearing components of special lifting devices used to handle heavy loads over the core, pending completion of the full design and continuing compliance review being performed in accordance with Guideline 4".

RESPONSE TO SECTION 2.2.3.b

This item was included in our letter No. AEP:NRC:0514G dated July 5, 1983.

