

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-315/85012(DRS); 50-316/85012(DRS)

Docket Nos. 50-315; 50-316

Licenses No. DPR-58; DPR-74

Licensee: American Electric Power Service Corporation  
Indiana & Michigan Power Company  
1 Riverside Plaza  
Columbus, OH 43216

Facility Name: D. C. Cook Nuclear Plant, Units 1 & 2

Inspection At: D. C. Cook Site, Bridgman, MI

Inspection Conducted: April 23, 1985

Inspector: <sup>J. F. Norton</sup>  
J. F. Norton

5/7/85  
Date

Approved By: <sup>Cordell C. Williams</sup>  
C. C. Williams, Chief  
Plant Systems Section

5/7/85  
Date

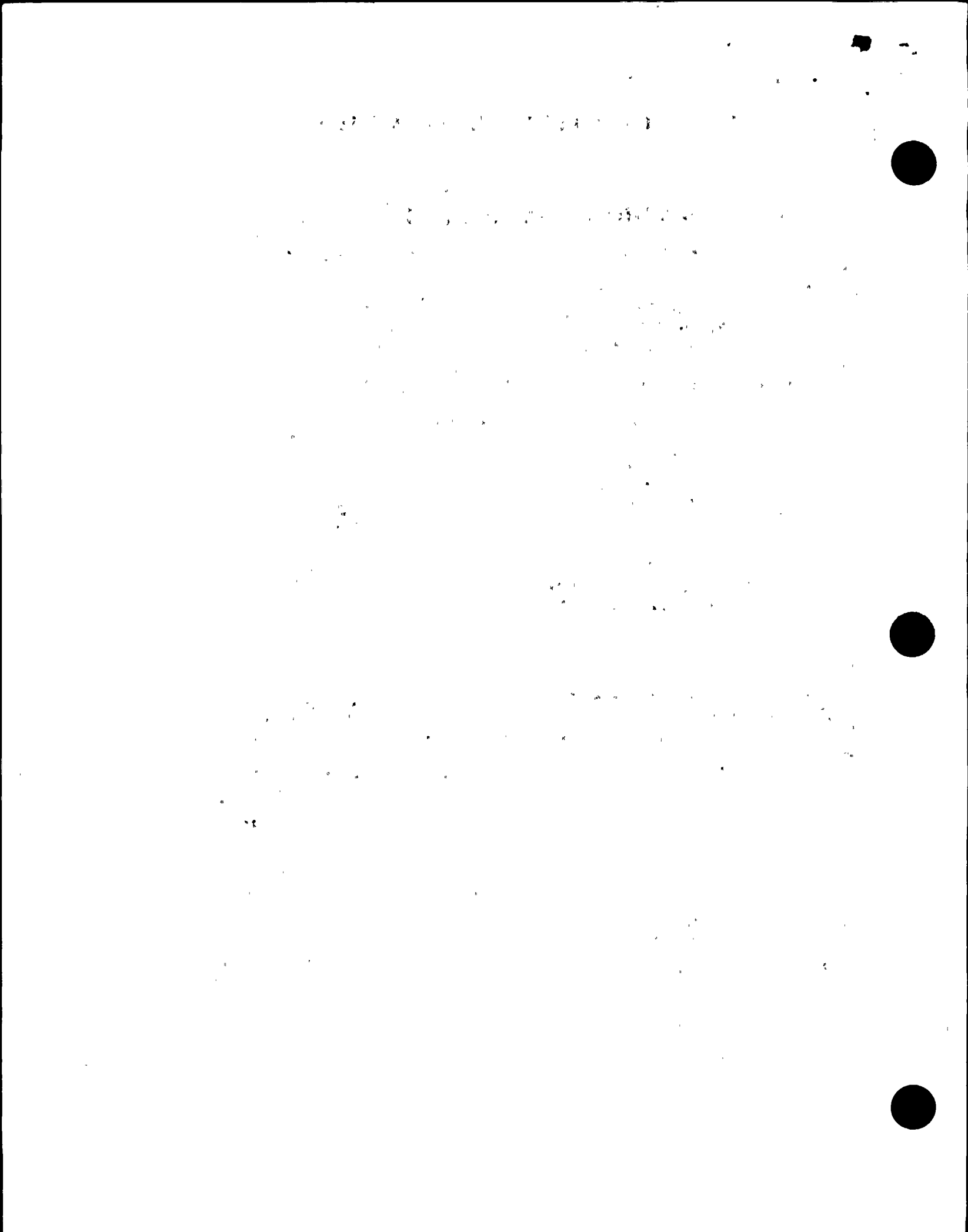
Inspection Summary

Inspection on April 23, 1985 (Report No. 50-315/85012(DRS); 50-316/85012(DRS))

Areas Inspected: Licensee action relative to Bulletin No. 80-11, "Masonry Wall Design." The inspection involved a total of 12 inspector-hours by one NRC inspector.

Results: No items of noncompliance or deviations were identified.

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## DETAILS

### 1. Persons Contacted

#### Indiana and Michigan Power Company (I & M)

A. A. Blind, Assistant Plant Manager  
G. H. Caple, Administrative Compliance Coordinator  
J. F. Steitzel, Quality Assurance Supervisor  
F. M. Hoss, Planning Department

#### American Electric Power Service Corporation (AEPSC)

H. L. Alexander, Staff Engineer - Structural Design  
T. R. Satyan-Sharma, Senior Engineer, Safety and Licensing

#### Nuclear Regulatory Commission

B. L. Jorgensen, Senior Resident Inspector

### 2. Action on Inspection Findings

(Closed) IE Bulletin 80-11: Based on review of all relevant data and the Technical Evaluation Report prepared by Franklin Research Center, Philadelphia, it is concluded that the masonry wall design and construction at D. C. Cook Units 1 and 2 are in compliance with safety requirements.

### 3. Licensee Action on IE Bulletin 80-11

- a. In an inspection held in February 1982 (Report No. 50-315/82-02; 50-316/82-02) the licensee was asked to prepare a report containing supplementary IE Bulletin 80-11 information and consolidating data they had accumulated in several reports and papers. The report was submitted by I&M to Region III NRC May 17, 1982.
- b. On June 29, 1982, Franklin Research Center (FRC) issued an Interim Technical Evaluation Report (ITER). FRC requested additional information from AEPSC in the report. After FRC obtained and evaluated the additional information, structural adequacy of 5 walls was questioned (Wall No. 12-4031-W1; 1-4033-W2; 1-4033-W3; 2-4036-W2; and 2-4036-W3). The question was whether credit should have been taken for added structural strength due to joint reinforcement, which was incorporated into the wall construction. Structural adequacy was contingent on crediting the reinforcing.

FRC consulted with the Drexel University Civil Engineering Department regarding the problem. A technical report covering the subject was issued to FRC in March 1983, by Dr. Ahmad A. Hamid and Dr. Harry G. Harris of the Department of Civil Engineering, Drexel University. The report was thorough, and is an excellent paper on joint reinforcement in block masonry walls. The conclusion was that the state-of-

the-art does not give adequate insight to understand the performance of joint reinforcement under static loads, and that no credit should be given to joint reinforcement to resist tensile stresses due to earthquake loads.

- c. In the light of this conclusion, I&M elected to provide structural strengthening to all of the five walls in lieu of performing a confirmatory test program to determine if the walls could withstand required loadings.

4. Conclusion

The Region III inspector reviewed the I&M report of May 17, 1982, the Drexel University report, and the ITER and TER prepared by FRC. Also, all five structurally strengthened walls were inspected in the company of Mr. Caple of I&M and the two structural engineers from AEPSC. Based on the aforementioned reviews and wall inspections, it is concluded that the masonry wall design and construction at D. C. Cook Nuclear Plant Units 1 and 2 are in compliance with safety requirements.

5. Exit Meeting

The inspector met with licensee representatives (denoted under Persons Contacted) at the conclusion of the inspection on April 23, 1985. The inspector summarized the purpose and findings of the inspection. The licensee acknowledged the findings reported herein. The inspector also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspector during the inspection. The licensee did not identify any such documents/processes as proprietary.