



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JAN 2 1981

Docket Nos.: 50-315/316

REGULATORY BOARD FILE COPY

LICENSEE: Indiana & Michigan Electric Company
FACILITY: D. C. Cook Nuclear Plant Units Nos. 1 & 2
SUBJECT: SUMMARY OF MEETING HELD ON DECEMBER 19, 1980 WITH AMERICAN ELECTRIC POWER CO. AND INDIANA AND MICHIGAN ELECTRIC CO. TO DISCUSS THE ULTIMATE STRENGTH OF THE D. C. COOK CONTAINMENTS AND HYDROGEN CONTROL MEASURES FOR THE CONTAINMENT

On November 26, 1980, Mr. Miner called Dr. Castresana and Mr. Milioti and requested that Indiana & Michigan Electric Co. (I&MC) commit to (1) installing an interim hydrogen control system, such as the igniter system; (2) a date that the design and the justification for the selected system will be submitted; and (3) an installation date. On December 5, 1980, Mr. Milioti called to state that prior to making the requested commitments they would like to meet with the staff to discuss the I&MC complete program for hydrogen control measures including the structural analysis of the ultimate strength of the Cook containments. The meeting was held on December 18, 1980. The attendee list is attached.

Discussion

A. Ultimate strength of the Cook Containments

The licensee agrees that the D. C. Cook equipment hatch cover is the pressure limiting component for the D. C. Cook containment. Their calculations however showed that if the actual average material yield values for the materials are used the pressure capability of the hatch cover is 40.8 psi. Our preliminary calculations utilizing minimum specified allowable material yield values indicated that the hatch pressure capability is 23.5 psi. The licensee indicated that the 40.8 psi is comparable to the static pressure capability of the Sequoyah containment. Utilizing actual average material yield values for rebar the licensee calculated that the reinforced concrete containment has a static pressure capability of 69.7 psi. The following comments were provided by the staff:

1. We were concerned that the weakest components in the containment was the equipment hatch because of the greater potential for leakage.

M 4

810 1150368

P

JAN 2 1981

2. To make the D. C. Cook analysis comparable to the Sequoyah minimum actual values for material properties should be used and at least the analysis and information outlined in our December 11, 1980 letter to Indiana and Michigan Electric should be provided in their report.
3. The licensee should provide in its report a proposed method for increasing the strength of the equipment hatch cover so that it will not be the limiting component.
4. The licensee should propose a forcing function for their dynamic analysis of the containment's capability:

Subsequent to the meeting the licensee stated that they will submit their structural report early in May 1981.

B. Hydrogen Control Measures

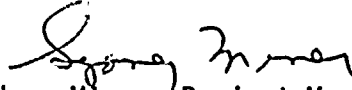
The licensee described their research and study program for hydrogen control measures. In general, it is a program associated with the TVA and Duke Power Programs. They indicated that sufficient information should be available from the program to allow them to select the D. C. Cook hydrogen mitigation system in November 1981. They expect it will take about an additional year to year and half to design, procure and install the system. They are currently engaged in the conceptual design of a distributed ignition system which they expect to complete in March 1981. However, because of the lack of information on some of their concerns with the ignition system they propose to not select their mitigation system until the research and studies have been completed. The licensee also indicated that their first quarterly report on the research program, structural analysis and conceptual design study will be supplied in January 1981.

We made the following comments:

1. Their proposal to make their decision on a hydrogen mitigation system for D. C. Cook in November 1981 and then to install it one to one and half year later is unacceptable.
2. They should undertake a program to have an interim mitigation system ready for installation during the next refueling outage for each plant (April/May 1981).

JAN 2 1981

3. We indicated that but for the unacceptably long time for selection and installation of the mitigation system the research and study program outlined appeared to be comprehensive and well planned.



Sydney Miner, Project Manager
Operating Reactors Branch #1
Division of Licensing

Attachment:
Attendance List

cc w/attachment:
See next page

ATTENDEES

ULTIMATE STRENGTH OF D.C. COOK CONTAINMENT

NRC

Sydney Miner
Owen Rothberg
Frank Rinaldi
Franz Schauer
John Austin
David Pyatt
Gunter Arndt
Herman Graves
Raj Auluck

AEP

Thomas E. Philips
K. J. Vehstedt
Stephen J. Milioti
H. L. Alexander
Michael H. Schwartz (consultant)
John D. Stevenson (consultant)

Hydrogen Mitigation

NRC

Sydney Miner
C. G. Tinkler
W. R. Butler
L. S. Rubenstein
John Austin

AEP

Herbert L. Alexander
Thomas E. Philips
Stephen J. Milioti
K. J. Vehstedt
Michael H. Schwartz (consultant)

Westinghouse

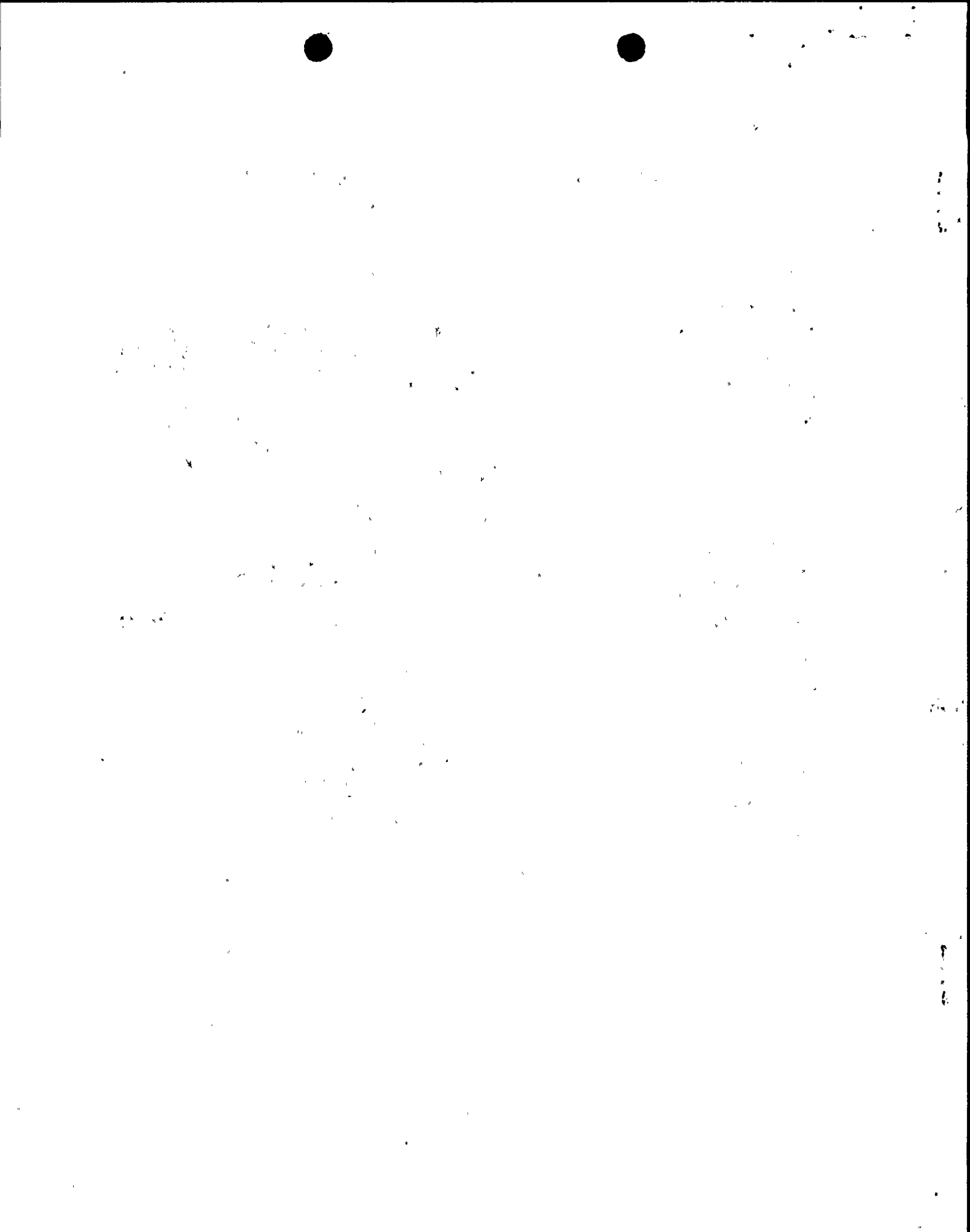
R. S. Howard

TVA

Don L. Williams
David Renfro
Bob Bryen

Duke Power

F. G. Hudson



LICENSEE: Indiana & Michigan Electric Company
FACILITY: D. C. Cook Nuclear Plant Units Nos. 1 & 2
SUBJECT: SUMMARY OF MEETING HELD ON DECEMBER 19, 1980 WITH AMERICAN ELECTRIC POWER CO. AND INDIANA AND MICHIGAN ELECTRIC CO. TO DISCUSS THE ULTIMATE STRENGTH OF THE D. C. COOK CONTAINMENTS AND HYDROGEN CONTROL MEASURES FOR THE CONTAINMENT

On November 26, 1980, Mr. Miner called Dr. Castresana and Mr. Milioti and requested that Indiana & Michigan Electric Co. (I&MC) commit to (1) installing an interim hydrogen control system, such as the igniter system; (2) a date that the design and the justification for the selected system will be submitted; and (3) an installation date. On December 5, 1980, Mr. Milioti called to state that prior to making the requested commitments they would like to meet with the staff to discuss the I&MC complete program for hydrogen control measures including the structural analysis of the ultimate strength of the Cook containments. The meeting was held on December 18, 1980. The attendee list is attached.

Discussion

A. Ultimate strength of the Cook Containments

The licensee agrees that the D. C. Cook equipment hatch cover is the pressure limiting component for the D. C. Cook containment. Their calculations however showed that if the actual average material yield values for the materials are used the pressure capability of the hatch cover is 40.8 psi. Our preliminary calculations utilizing minimum specified allowable material yield values indicated that the hatch pressure capability is 23.8 psi. The licensee indicated that the 40.8 psi is comparable to the static pressure capability of the Sequoyah containment. Utilizing actual average material yield values for rebar the licensee calculated that the reinforced concrete containment has a static pressure capability of 69.7 psi. The following comments were provided by the staff:

1. We were concerned that the weakest components in the containment was the equipment hatch because of the greater potential for leakage.

OFFICE ▶	.....	.....	.....	.....	.....	.....	.....
SURNAME ▶	.....	.....	.....	.....	.....	.....	.....
DATE ▶	.....	.....	.....	.....	.....	.....	.....



[The text in this section is extremely faint and illegible due to low contrast and noise. It appears to be several paragraphs of text arranged in a standard layout.]

- 2. To make the D. C. Cook analysis comparable to the Sequoyah minimum actual values for material properties should be used and at least the analysis and information outlined in our December 11, 1980 letter to Indiana and Michigan Electric should be provided in their report.
- 3. The licensee should provide in its report a proposed method for increasing the strength of the equipment hatch cover so that it will not be the limiting component.
- 4. The licensee should propose a forcing function for their dynamic analysis of the containment's capability.

Subsequent to the meeting the licensee stated that they will submit their structural report early in May 1981.

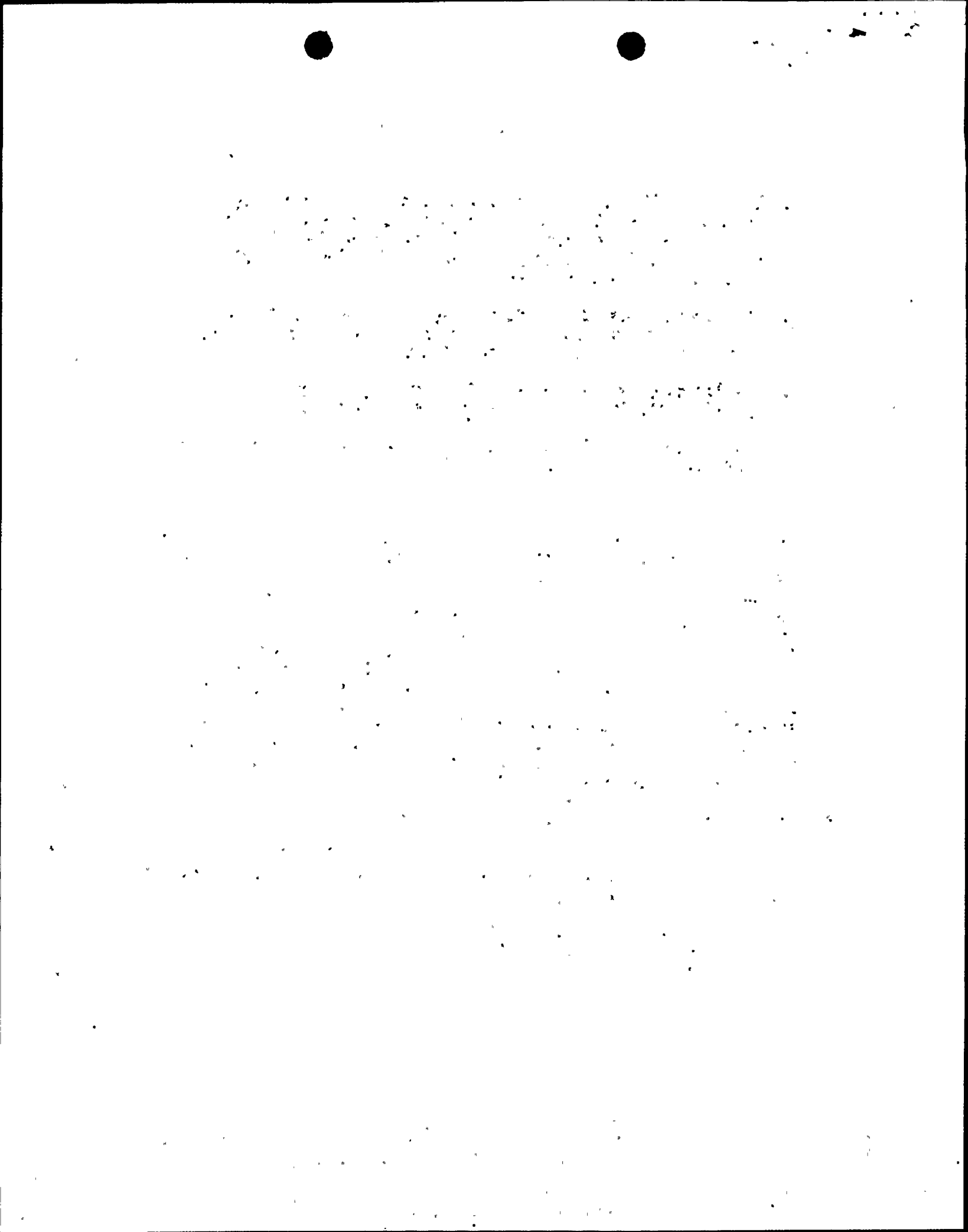
B. Hydrogen Control Measures

The licensee described their research and study program for hydrogen control measures. In general, it is a program associated with the TVA and Duke Power Programs. They indicated that sufficient information should be available from the program to allow them to select the D. C. Cook hydrogen mitigation system in November 1981. They expect it will take about an additional year to year and half to design, procure and install the system. They are currently engaged in the conceptual design of a distributed ignition system which they expect to complete in March 1981. However, because of the lack of information on some of their concerns with the ignition system they propose to not select their mitigation system until the research and studies have been completed. The licensee also indicated that their first quarterly report on the research program, structural analysis and conceptual design study will be supplied in January 1981.

We made the following comments:

- 1. Their proposal to make their decision on a hydrogen mitigation system for D. C. Cook in November 1981 and then to install it one to one and half year later is unacceptable.
- 2. They should undertake a program to have an interim mitigation system ready for installation during the next refueling outage for each plant (April/May 1981).

OFFICE ▶	.....	.....	.....	.....	.....	.....	.....
SURNAME ▶	.....	.....	.....	.....	.....	.....	.....
DATE ▶	.....	.....	.....	.....	.....	.....	.....



JAN 2 1981

- 3. We indicated that but for the unacceptably long time for selection and installation of the mitigation system the research and study program outlined appeared to be comprehensive and well planned.

(p) S. Miner

Sydney Miner, Project Manager
 Operating Reactors Branch #1
 Division of Licensing

Attachment:
 Attendance List

cc w/attachment:
 See next page

OFFICE	DL:ORB#1	DL:ORB#1					
SURNAME	SMiner:ms	SAVarga					
DATE	12/31/80	12/3/80					

JAN 12 1981

rental A. 101

REGULATORY BOOKLET FILE COPY

Distribution for Meeting Summary

JAN 2 1981

✓ Docket File 50-315

NRC PDR
Local PDR
ORB Reading
H. R. Denton
E. G. Case
D. Eisenhut
R. Purple
J. Olshinski
T. Novak
R. Tedesco
G. Lainas
G. Zech
D. Ross
J. Knight
L. Rubenstein
R. Vollmer
W. Butler
F. Schauer
F. Rinaldi
C. Tinkler
S. Miner
C. Stahl
S. Varga
J. Heltemes, AEQD
T. Ippolito
R. A. Clark
R. W. Reid
B. J. Youngblood
A. Schwencer
F. Miraglia
D. Crutchfield
W. Russell
OELD
OI&E (3)
C. Parrish
ACRS (16)
NSIC
TERA

US NRC
DISTRIBUTION SERVICES
BRANCH

1981 JAN 12 AM 9 05

RECEIVED DISTRIBUTION
SERVICES UNIT

cc: Licensee w/short cc list

1950

1951

1952

1953

1954



Meeting Notice for
D. C. Cook.1 & 2

- 2 -

December 11, 1980

Docket Files
NRC PDR 50-315
Local PDR
NSIC
TERA
ORBI Reading
H. Denton
E. Case
D. Eisenhut
R. Purple
T. Novak
R. Tedesco
GG. Lainas
G. Zech
S. Varga
T. Ippolito
R. Clark
R. Reid
D. Crutchfield
W. Russell
J. Olshinski
B. J. Youngblood
A. Schwencer
F. Miraglia
J. Miller
J. Wetmore
B. Grimes
H. Collins
F. Pagano
S. Ramos
PProject Manager
OELD
OSD (3)
S. Showe, I&E
C. Parrish
R. Fraley, ACRS (16)
Receptionist, Bethesda
Program Support Branch
Requested Staff Participants

US IIRC
DISTRIBUTION SERVICES
BRANCH

1980 DEC 16 PM 12 27

RECEIVED DISTRIBUTION
SERVICES DIVISION



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

December 11, 1980

Docket Nos. 50-315
and 50-316

MEMORANDUM FOR: Steven A. Varga, Chief
Operating Reactors Branch #1, DL

FROM: Sydney Miner, Project Manager
Operating Reactors Branch #1, DL

SUBJECT: FORTHCOMING MEETING WITH INDIANA AND MICHIGAN ELECTRIC
COMPANY AND AMERICAN ELECTRIC POWER COMPANY TO DISCUSS
THE ULTIMATE STRENGTH OF THE D. C. COOK CONTAINMENTS AND
HYDROGEN CONTROL MEASURES

Time and Date: 10:00 am
Thursday, December 18, 1980

Location: Georgian Room
Holiday Inn
Bethesda, Maryland

Attendees:

Requested NRC Participants

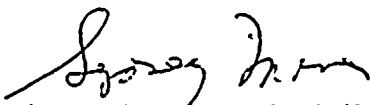
T. Novak
L. Rubenstein
J. Knight
S. Varga
F. Schauer
W. Butler
S. Miner
F. Rinaldi
C. Tinkler
G. A. Horstead
(Consultant)

AEP

R. Jurgensen
S. Milioti
J. Castresana
K. Vehatedt
J. Stevenson
(Consultant)

I&MEC

B. A. Swensson


Sydney Miner, Project Manager
Operating Reactors Branch #1, DL

Attachment:
Agenda

cc: w/attachment
See next page

8012310259

P

M 4

AGENDA

- A. 10:00 am - 12:00 noon Containment Ultimate Strength
 - 1. Introduction
 - 2. Capacity of Equipment Hatch Cover
 - 3. Comments on the Harstead Report
 - 4. AEP Structural Analysis of the Containment Ultimate Strength
 - 5. Schedule for the structural Analysis Report

- B. 1:30 pm - 4:30 pm Hydrogen Control Measures
 - 1. Introduction
 - 2. Research and Development Program on Hydrogen Control Measures
 - 3. Conceptual Design of the Distributed Ignition System
 - 4. Schedule for Submitting Designs and Installation of the Hydrogen Control Systems (Interim and Final)