

August 3, 1989

Docket Nos. 315 and 316

LICENSEE: AMERICAN ELECTRIC POWER

FACILITY: D.C. COOK UNIT 2

SUBJECT: SUMMARY OF MEETING WITH AEP AND WESTINGHOUSE TO DISCUSS CYCLE 8 RELOAD ANALYSIS.

On June 12, 1989, the staff met with AEP and Westinghouse to discuss Cook Unit 2 reload analysis for cycle 8 and the associated Technical Specification (TS) changes to be proposed. Meeting attendees are listed in Enclosure 1. Slides used during the presentation (all non-proprietary) are provided as Enclosure 2.

Changes to the Technical Specifications proposed by AEP included differing analysis assumptions (e.g., different values for peaking factors and moderator temperature coefficient), removal of cycle-specific parameters as allowed by Generic Letter 88-16, and revisions related to the Advanced Nuclear Fuel (ANF) analysis for cycle 6. For cycle 8, AEP proposes to analyze only those events in the Original Final Safety Analysis Report (OFSAR). The cycle 6 analysis, performed after AEP switched fuel vendors from Westinghouse to ANF, included four additional events not analyzed in the OFSAR and considered three other events that were bounded by OFSAR analyses. These seven events are listed in the meeting slides.

The staff indicated that AEP would be informed of the acceptability of excluding these additional seven events from the cycle 8 reload analysis.

Sincerely

Original Signed by:

Joseph G. Giitter, Project Manager
Project Directorate III-1
Division of Reactor Project - III,
IV, V, and Special Projects

8908140231 890803
PDR ADDCK 05000316
P PNU

Enclosures:
As stated

cc w/enclosures: See next page

Distribution

Docket file	JGiitter
NRC & Local PDRS	OGC
J. Sniezek	EJordan
PDIII-1 r/f	NRC Participants (3)
LYandell	ACRS (10)
JClifford	

DFOI
1/1

PDIII-1
JGiitter: km
8/3/89

PDIII-1
LYandell
8/3/89

Memo
[Signature]

MEMORANDUM FOR THE DIRECTOR

DATE: 10/10/54

SUBJECT: [Illegible]

[Illegible text block]

[Illegible text block]

[Illegible text block]

Very truly yours,

[Illegible signature]

[Illegible text block]

[Illegible text block]

[Illegible text block]

[Illegible text block]

[Illegible text block]

Mr. Milton Alexich
Indiana Michigan Power Company

Donald C. Cook Nuclear Plant

cc:
Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, Illinois 60137

Mr. S. Brewer
American Electric Power
Service Corporation
1 Riverside Plaza
Columbus, Ohio 43216

Attorney General
Department of Attorney General
525 West Ottawa Street
Lansing, Michigan 48913

Township Supervisor
Lake Township Hall
Post Office Box 818
Bridgeman, Michigan 49106

W. G. Smith, Jr., Plant Manager
Donald C. Cook Nuclear Plant
Post Office Box 458
Bridgman, Michigan 49106

U.S. Nuclear Regulatory Commission
Resident Inspectors Office
7700 Red Arrow Highway
Stevensville, Michigan 49127

Gerald Charnoff, Esquire
Shaw, Pittman, Potts and Trowbridge
2300 N Street, N.W.
Washington, DC 20037

Mayor, City of Bridgeman
Post Office Box 366
Bridgeman, Michigan 49106

Special Assistant to the Governor
Room 1 - State Capitol
Lansing, Michigan 48909

Nuclear Facilities and Environmental
Monitoring Section Office
Division of Radiological Health
Department of Public Health
3500 N. Logan Street
Post Office Box 30035
Lansing, Michigan 48909

LIST OF MEETING ATTENDEES

<u>NAME</u>	<u>AFFILIATION</u>
Tony Gody	NRC
Thomas A. Georgantis	AEPSC/NF&A
Doug Malin	AEPSC/NF&A
Steve Brewer	AEPSC/NS&L
Rick Bennett	AEPSC/NF&A
Don Behnke	W/NATD
Karl Toth	AEPSC/NS&L
Earl Novendstern	W/CNFD
Sandy Rupprecht	W/NATD
Juan Nieto	AEPSC/NS&L
Vance Vanderburg	AEPSC/NF&A
Joseph G. Gitter	NRC/PDIII-1
Y. Gene Hsii	NRC/SRXB
Bob Jones	NRC/SRXB

AMERICAN ELECTRIC POWER
SERVICE CORPORATION

DONALD C. COOK NUCLEAR PLANT
UNIT 2, CYCLE 8
LICENSING SUBMITTAL PRESENTATION
TO
USNRC STAFF

ROCKVILLE, MARYLAND

JUNE 12, 1989

AEPSC
PERSONNEL

- THOMAS A. GEORGANTIS
ASSOCIATE ENGINEER
NUCLEAR FUEL AND ANALYSES
- DOUGLAS H. MALIN, MANAGER
NUCLEAR FUEL AND ANALYSES
- STEVEN J. BREWER, MANAGER
NUCLEAR SAFETY AND LICENSING
- VANCE VANDERBURG
PRINCIPAL SCIENTIST
NUCLEAR FUEL AND ANALYSES
- JUAN M. NIETO, SENIOR ENGINEER
NUCLEAR SAFETY AND LICENSING
- RICHARD B. BENNETT, SENIOR ENGINEER
NUCLEAR FUEL AND ANALYSES

WESTINGHOUSE
PERSONNEL

- **SADLER D. RUPPRECHT, MANAGER**
OPERATING PLANT LICENSING
NUCLEAR AND ADVANCED TECHNOLOGY DIVISION

- **DONALD H. BEHNKE, ENGINEER**
OPERATING PLANT LICENSING
NUCLEAR AND ADVANCED TECHNOLOGY DIVISION

DONALD C. COOK NUCLEAR PLANT
UNIT 2 FUEL FABRICATION
VENDOR HISTORY

<u>CYCLE</u>	<u>FUEL VENDOR</u>
1	WESTINGHOUSE
2	WESTINGHOUSE
3	WESTINGHOUSE
4	ANF
5	ANF
6	ANF
7	ANF
8	WESTINGHOUSE

TODAY'S
PRESENTATION

"DONALD C. COOK NUCLEAR PLANT
UNIT 2, CYCLE 8 SUBMITTAL
TECHNICAL SPECIFICATIONS"
PRESENTED BY: VANCE VANDERBURG

"SAFETY ANALYSIS CHAPTER EVENTS
TO BE ADDRESSED FOR
COOK NUCLEAR PLANT UNIT 2, CYCLE 8"
PRESENTED BY: JUAN NIETO

CLOSING REMARKS
PRESENTED BY: STEVE BREWER

PROPRIETARY
INFORMATION

- PRESENTATIONS BASED ON
INFORMATION IN PUBLIC DOMAIN

- APPROPRIATE INDIVIDUALS WILL
BE ASKED TO LEAVE DURING
REQUESTED DISCUSSION (IF ANY)
OF PROPRIETARY INFORMATION

DONALD C. COOK NUCLEAR PLANT; UNIT 2

CYCLE 8 SUBMITTAL

TECHNICAL SPECIFICATIONS

TYPES OF TECHNICAL SPECIFICATION
CHANGES TO BE PROPOSED

- **CHANGES ASSOCIATED WITH CYCLE 8
ANALYSIS ASSUMPTIONS OR RESULTS**
- **REMOVAL OF CYCLE-SPECIFIC
PARAMETER LIMITS (GL 88-16)**
- **REVISIONS RELATED TO CYCLE 6
ANALYSES**

EXAMPLES OF CHANGES ASSOCIATED
WITH ANALYSIS ASSUMPTIONS OR RESULTS

- F_Q
- MTC
- CHARGING SAFETY INJECTION
FLOW IMBALANCE
- BIT REMOVAL
- $OT\Delta T/OP\Delta T$ SETPOINTS

**EXAMPLES OF CYCLE-SPECIFIC
PARAMETER LIMITS**

- **ROD INSERTION LIMITS**
- **AXIAL FLUX DIFFERENCE LIMITS**
- **SDM FOR MODES 4 AND 5**
- **ALL RODS OUT DEFINITION**

EXAMPLES OF REVISIONS
RELATED TO THE CYCLE 6 ANALYSIS

- **ACTIONS REQUIRED PRIOR TO
BLOCKING SAFEGUARDS DURING
COOLDOWN**
- **MODE 2 DNB TECHNICAL
SPECIFICATIONS**
- **INCREASED FEEDWATER FLOW
TRANSIENT IN MODES 3 AND 4**

ACTIONS PRIOR TO BLOCKING SAFEGUARDS

- INCREASE OF SDM BY 300 PPM IS AN ACCEPTABLE METHOD FOR PROTECTING FROM RECRITICAL
- USE PROCEDURAL CONTROL

MODE 2 DNB
TECHNICAL SPECIFICATION

- PROCEDURAL CONTROLS AND NON-SAFETY GRADE EQUIPMENT PROVIDE PROTECTION ON APPROACH TO CRITICAL

- LEAVE THE NUMBER OF OPERATING PUMPS AS IS
 - T/S CONSERVATIVE
 - IN PRACTICE, STARTUP WITH FOUR PUMPS

- LEAVE NIS POWER RANGE PROTECTION IN MODE 3

- WHEN CRITICAL AT LOW POWER MODE T/S ADD LITTLE PROTECTION

- PROCEDURAL CONTROL BORON CONCENTRATION FOR CRDM TESTING

INCREASED FEEDWATER FLOW TRANSIENT
IN MODES 3 AND 4

- PROTECTION TO LIMIT AMOUNT OF WATER THAT CAN BE ADDED TO STEAM GENERATORS
- REVIEW NEEDED FOR MODE 4
- USE PROCEDURAL CONTROL

PRESENTATION TO THE USNRC ON

"SAFETY ANALYSIS CHAPTER
EVENTS TO BE ADDRESSED FOR
COOK NUCLEAR PLANT UNIT 2 CYCLE 8"

BY

DR. J. M. NIETO/AEPSC

ROCKVILLE, MD

JUNE 12, 1989

DETAILED COMPARISON OF EVENTS ADDRESSED IN THE SAFETY ANALYSIS CHAPTERS OF THE ORIGINAL FSAR (OFSAR) AND THE CYCLE 6 UPDATED FSAR (UFSAR).

OFSAR VS. UFSAR

EVENTS BOUNDED :	3
EVENTS ANALYZED:	4
TOTAL EVENTS ADDED:	7

C6 ADDED EVENTS
(SRP/UFSAR SECTION)

1. (15.3.4/14.4.4) RCP SHAFT BREAK (ANALYZED)
2. (15.4.3/14.5.3) SINGLE RCCA WITHDRAWAL (ANALYZED)
3. (15.4.7/14.5.7) INADVERTENT LOADING AND OPERATION OF A FUEL ASSEMBLY IN AN IMPROPER POSITION (ANALYZED)
4. (15.5.1/14.6.1) INADVERTENT OPERATION OF THE ECCS THAT INCREASES REACTOR COOLANT INVENTORY (BOUNDED)
5. (15.5.2/14.6.2) INADVERTENT OPERATION OF CVCS THAT INCREASES REACTOR COOLANT INVENTORY (BOUNDED)
6. (15.6.1/14.7.1) INADVERTENT OPENING OF A PZR PORV (ANALYZED)
7. (15.6.2/14.7.2) RADIOLOGICAL CONSEQUENCES OF FAILURE OF SMALL LINES CARRYING PRIMARY COOLANT OUTSIDE CONTAINMENT (BOUNDED)

THE ANALYSIS USED FOR CYCLE 6 WAS DESIGNED TO
ADDRESS NRC STAFF CONCERNS WITH ANF METHODOLOGY.

CYCLE 8 WILL RELY ON WESTINGHOUSE METHODOLOGY.

IN DISCUSSIONS RELATING TO THE CYCLE 6 EFFORT, THE NRC
STAFF INDICATED THAT THERE WAS NO DESIRE TO BACKFIT.

SEVERAL DONALD C. COOK VINTAGE PLANTS ANALYZED BY
WESTINGHOUSE HAVE A COMPARABLE LICENSING BASIS TO COOK
NUCLEAR PLANT UNIT 2

THERE IS REASONABLE ASSURANCE THAT THE PUBLIC
HEALTH AND SAFETY WILL BE PROTECTED IF THE
LICENSING BASIS IN THE OFSAR IS USED FOR FUTURE
CYCLES OF UNIT 2

CONCLUSION

DURING OUR UNIT 2 CYCLE 6 LICENSING CAMPAIGN, WE HAD OUR FUEL VENDOR, ANF, ANALYZE THE FOUR ADDITIONAL EVENTS THAT HAVE BEEN IDENTIFIED. THIS SERVED TO INCREASE THE STAFF'S CONFIDENCE IN ANF'S METHODOLOGY AND CAPABILITY TO ANALYZE OUR UNIT. THIS WAS DONE WITH AN UNDERSTANDING WITH THE STAFF THAT OUR LICENSING BASIS WAS NOT BEING EXPANDED. WE COMPLIED WITH THAT REQUEST AT THAT TIME, BUT WE ARE NOW CONCERNED THAT THAT EFFORT COULD BE MISTAKENLY CONSTRUED AS A PRECEDENT FOR WHAT CONSTITUTES OUR LICENSING BASIS. IN SUPPORT OF OUR NEW VENDOR'S FUEL, WE BELIEVE THAT ANALYSIS OVER THE RANGE OF EVENTS IN THE ORIGINAL FSAR SHOULD PROVIDE AMPLE CONFIDENCE THAT OPERATION OF UNIT 2 WILL NOT ADVERSELY AFFECT THE PUBLIC HEALTH AND SAFETY.