

July 30, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board DISCOVERED

In the Matter of
CLEVELAND ELECTRIC ILLUMINATING
COMPANY, Et Al.
(Perry Nuclear Power Plant,
Units 1 and 2)

Docket Nos. 50-440
50-441
(Operating License)

84-150-4 7:15
/oc

MOTION TO REOPEN DISCOVERY ON ISSUE #8

Intervenor Ohio Citizens for Responsible Energy ("OCRE") respectfully requests the Licensing Board to reopen discovery on Issue #8, on hydrogen control, for the good cause shown herein. OCRE moves that:

1. discovery be opened for the purpose of submitting OCRE's Thirteenth Set of Interrogatories to Applicants, attached;
 2. discovery be opened for the remainder of this year, subject to reopening upon a showing of good cause, since considerable filings and submittals from Applicants will be forthcoming in this period of time on Issue #8;
 3. Applicants be required to serve directly upon OCRE their submittals on this issue so as to avoid unnecessary delay in propounding interrogatories based thereupon.
- I. There is good cause for the submission of OCRE's Thirteenth Set of Interrogatories to Applicants

OCRE's Thirteenth Set of Interrogatories to Applicants, attached hereto, is based on newly acquired information and documents:

(a.) Two documents identified by Applicants in their Supplemental Answers to Interrogatories on Issue Nos. 6, 8, and 15, dated February 29, 1984 and not supplied to OCRE until May 2, 1984:

- (1) "Ultimate Structural Capacity of Mark III Containments" (undated)
- (2) "Westinghouse-Offshore Power Systems Containment Pressure and

8408090245 840730
PDR ADOCK 05000440
PDR

DS03

Temperature Response to Hydrogen Combustion for Cleveland Electric Illuminating Co. Perry Nuclear Power Plant" OPS-38A92, October 7, 1982.

(b.) New information submitted by Applicants to the NRC at a June 19, 1984 meeting. This information indicated Applicants' substantial reliance on the work of other entities and is the basis of the more general interrogatories in OCRE's Thirteenth Set.

It is important to note that the documents received by OCRE on May 2 could have been made available by Applicants much earlier. One of the documents is dated October 7, 1982. It thus could have been identified in Applicants' original responses to OCRE's first interrogatories on Issue #8 propounded in the fall of 1982. It is quite probable that, had the Licensing Board not suggested that Applicants update its discovery responses (see footnote 3, p. 2 of the Board's December 20, 1983 Memorandum and Order (OCRE Motion to Reopen Discovery)), the documents would never have been identified and produced. Therefore the delay from October 1982 until May 2, 1984 is wholly attributable to Applicants, as they failed to disclose and produce information that is completely within their possession and control. It is certainly not OCRE's fault that Applicants failed to meet their discovery obligations.

The delay from May 2 to the present was necessary for OCRE to evaluate the documents (and other materials providing the necessary factual background for the evaluation) and to propound the attached interrogatories, as is required by the Board's Memorandum and Order (Motion to Reopen Discovery) of February 28, 1984: "(i)n general, we will not rule on general requests to reopen discovery unless they are accompanied by the interrogatories or questions to which answers are sought" (p. 3).

The need which OCRE has for the requested information is another contribution to the good cause requirement. Without the information sought, OCRE will not be able to present its case on Issue #8 or to rebut Applicants' case.

Thus, good cause clearly exists for this motion.

II. Good Cause Exists for Reopening Discovery on Issue #8 for the Remainder of 1984

On June 19, 1984 the NRC Staff met with Applicants to discuss Perry-specific actions concerning hydrogen control. See Exhibits 1 and 2, attached ^{1/}. At this meeting Applicants presented their proposed schedule for work on the issue of hydrogen control. As can be seen from the last page of Exhibit 2, a chart entitled "PNPP H₂ Control Licensing Schedule," much activity is scheduled on this issue for the near future.

Much discovery is likely to be necessary as a result of new information in these submittals. Also, it is likely that Applicants' responses to OCRE's Thirteenth Set of Interrogatories will require follow-up discovery. In view of these numerous submittals and resultant discovery requests, conservation of the Licensing Board's time could best be accomplished by ruling once on a motion to reopen discovery rather than having each discovery request subject to individual rulings.

OCRE further proposes, to avoid the delay which has been encountered in obtaining documents from Applicants, that Applicants serve upon OCRE each submittal concerning hydrogen control at the time it is filed with the NRC. Such a requirement will greatly reduce any delay which might be produced by reopening discovery on this issue.

OCRE prays that the Board is so moved.

Respectfully submitted,



Susan L. Hiatt
OCRE Representative
8275 Munson Rd.
Mentor, OH 44060
(216) 255-3158

^{1/} Exhibit 1 is the meeting notice. Exhibit 2 is material presented by CEI at the meeting.

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

Docket Nos.: 50-440
and 50-441

JUN 11 1984

Rec 6-13-84

EXHIBIT 1

MEMORANDUM FOR: B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

FROM: J. J. Stefano, Project Manager
Licensing Branch No. 1
Division of Licensing

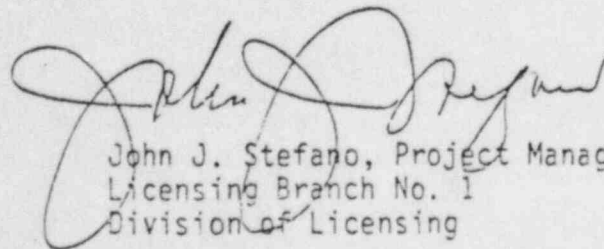
SUBJECT: FORTHCOMING MEETING WITH THE CLEVELAND ELECTRIC
ILLUMINATING (CEI) COMPANY RE PLANT-SPECIFIC RESPONSES
FOR HYDROGEN CONTROL AT THE PERRY NUCLEAR POWER
PLANT (UNITS 1 AND 2)

DATE & TIME: Tuesday, June 19, 1984
9:00 a.m. - 2:00 p.m.

LOCATION: Maryland National Bank Building
7735 Old Georgetown Road
Rm. 1713
Bethesda, MD

PURPOSE: Per the attached Agenda, CEI to provide NRC staff with
its plan of action and schedule for Perry plant-specific
responses to hydrogen control issue being addressed
generically by the Hydrogen Control Owners Group - and -
seek staff guidance, accordingly, Perry SER License
Condition (5)

PARTICIPANTS: NRC
J. Kudrick, A. Notafraancia, C. Tinkler, J. Stefano
CEI
E. Buzzelli, et. al.


John J. Stefano, Project Manager
Licensing Branch No. 1
Division of Licensing

Enclosure:
As stated

(301) 492 - 7037

cc: See next page

PERRY

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John G. Cardinal, Esq.
Prosecuting Attorney
Ashtabula County Courthouse
Jefferson, Ohio 44047

PNPP H₂ CONTROL
NRC MEETING AGENDA

- ° INTRODUCTION
- ° PNPP H₂ CONTROL PROGRAM OVERVIEW
- ° NRC FSAR QUESTIONS
 - PROPOSED RESPONSE/APPROACH
 - SCHEDULE
- ° HCOG ACTIVITIES SUPPORTING PNPP H₂ CONTROL PROGRAM
 - CEI PARTICIPATION AND APPLICABILITY OF ACTIVITIES
 - NRC REQUESTS FOR ADDITIONAL INFORMATION
- ° PREVIOUS NRC H₂ CONTROL ISSUES APPLICABLE TO PNPP
 - GGNS SER CONCLUSIONS/ISSUES
- ° PERRY H₂ CONTROL PROGRAM SCHEDULE
- ° NRC COMMENTS/GUIDANCE RE THE ABOVE
- ° SUMMARY

PNPP H₂ CONTROL
NRC MEETING
JUNE 19, 1984

EXHIBIT 2

- o INTRODUCTION
- o PNPP H₂ CONTROL PROGRAM OVERVIEW
- o PNPP H₂ CONTROL LICENSING APPROACH
- o NRC FSAR QUESTIONS
 - PROPOSED RESPONSE/APPROACH
- o HCOG ACTIVITIES SUPPORTING PNPP H₂ CONTROL PROGRAM
 - CEI PARTICIPATION AND APPLICABILITY OF ACTIVITIES
 - NRC REQUESTS FOR ADDITIONAL INFORMATION
- o PREVIOUS NRC H₂ CONTROL ISSUES APPLICABLE TO PNPP
 - GGNS SER CONCLUSIONS/ISSUES
- o PERRY H₂ CONTROL PROGRAM SCHEDULE
- o NRC COMMENTS
- o SUMMARY

PNPP H₂ CONTROL PROGRAM
HCOG ACTIVITIES

- o CEI ACTIVE MEMBER OF HCOG
- o HCOG ACTIVITIES AND GENERIC RESOLUTION OF ISSUES REQUIRE CEI ENDORSEMENT FOR PNPP APPLICABILITY
- o HCOG RESPONSE TO NRC RAIS
 - GENERALLY APPLICABLE TO PNPP AND CEI WILL ENDORSE WITH SOME MINOR CLARIFICATIONS
 - FIRST SET OF HCOG RAIS (HGN-011):
 - DEALT PRIMARILY WITH CONTAINMENT RESPONSE ANALYSIS (CLASIX-3 SENSITIVITY STUDIES) AND EMERGENCY PROCEDURES
 - CEI WILL ENDORSE HCOG RESPONSES EXCEPT QUESTION 10 DEALING WITH EMERGENCY PROCEDURE GUIDELINES
 - CEI WILL PROVIDE PNPP SPECIFIC RESPONSE FOR QUESTIONS 8, 9, and 10
 - SECOND SET OF HCOG RAIS (HGN-016):
 - DEALT PRIMARILY WITH 1/4 SCALE TEST OBJECTIVES AND TESTING METHODS
 - CEI WILL ENDORSE ALL HCOG RESPONSES INCLUDING PORTION OF CSB-11 WHICH IS APPLICABLE TO PNPP
 - HCOG RAIS APPLICABLE TO MP&L ONLY (AECM-84/0014) ARE EITHER NOT APPLICABLE TO PNPP OR WILL BE RESOLVED AS PART OF THE CEI PROGRAM PLAN BY SUBMITTAL OF THE PNPP EQUIPMENT SURVIVABILITY REPORT.
- o HCOG 1/4 SCALE TESTING
 - H₂ RELEASE HISTORIES
 - TEMPERATURE PROFILES FOR EQUIPMENT SURVIVABILITY ANALYSIS

PNPP H₂ CONTROL
PROGRAM PLAN

- o SELECTION OF HYDROGEN CONTROL SYSTEM
 - REVIEW OF STUDIES ON CANDIDATE SYSTEM
 - SELECTION OF HYDROGEN IGNITION SYSTEM (HIS)
- o DESIGN OF HIS
 - ESTABLISH DESIGN CRITERIA
 - DESIGN HIS AND QUALIFY IGNITER
 - DEVELOP TECHNICAL SPECIFICATIONS
 - PERFORM PREOPERATIONAL TESTS
- o CONTAINMENT ULTIMATE CAPACITY ANALYSIS
 - PERFORM CONTAINMENT ULTIMATE CAPACITY ANALYSIS
 - EVALUATE POTENTIAL FOR NEGATIVE PRESSURE, AND LOCAL DETONATIONS
- o CONTAINMENT RESPONSE ANALYSIS
 - SELECT CONTAINMENT RESPONSE CODE TO ANALYZE HYDROGEN DEFLAGRATION
 - PERFORM CONTAINMENT RESPONSE ANALYSIS
- o DEVELOP MECHANISTIC SCENARIOS AND HYDROGEN RELEASE RATES
 - SELECT A DEGRADED CORE MODEL
 - DEFINE INPUT PARAMETERS, CRITERIA AND LIMITS, AND ACCIDENT SEQUENCES
 - GENERATE H₂ RELEASE HISTORIES

PNPP H₂ CONTROL
PROGRAM PLAN (CONT.)

- o EQUIPMENT SURVIVABILITY ANALYSIS
 - IDENTIFY SAFETY EQUIPMENT REQUIRED FOR HGE
 - DEFINE BASE CASE TEMPERATURE AND PRESSURES (CLASIX-3 AND 1/4 SCALE)
 - SELECT A HEAT TRANSFER CODE AND DEMONSTRATE EQUIPMENT RESPONSE WITHIN ACCEPTABLE LIMITS

- o HYDROGEN COMBUSTION TESTING
 - DEFINE 1/4 SCALE TEST OBJECTIVES AND DEVELOP TEST MATRIX
 - CONDUCT 1/4 SCALE TEST
 - DEVELOP FULL SCALE THERMAL PROFILES

- o RESOLVE NRC LICENSING ISSUES
 - REVIEW PREVIOUS ISSUES FOR PNPP APPLICABILITY
 - IDENTIFY GGNS SER OPEN ISSUES OR CONCLUSIONS APPLICABLE TO PNPP
 - PARTICIPATE IN HCOG RESOLUTION OF GENERIC ISSUES
 - SUBMIT NECESSARY DOCUMENTATION FOR NRC APPROVAL

- o DEVELOP EMERGENCY PROCEDURES FOR COMBUSTIBLE GAS
 - HCOG SUPPORT OF BWROG-EPC TO FINALIZE A GUIDELINE
 - DEVELOP PNPP SPECIFIC PROCEDURES
 - CONDUCT OPERATOR TRAINING

PNPP H₂ CONTROL PROGRAM
LICENSING APPROACH

- o RESPONSE TO NRC FSAR QUESTIONS
 - DESIGN DESCRIPTION
 - CONTAINMENT ULTIMATE CAPACITY ANALYSIS
 - CONTAINMENT RESPONSE ANALYSIS
 - EMERGENCY PROCEDURE GUIDELINES

- o REVIEW PREVIOUS GGNS RAIS/ISSUES FOR APPLICABILITY TO PNPP
 - IDENTIFY ANY OUTSTANDING ISSUES APPLICABLE TO PNPP AND INCORPORATE INTO PNPP H₂ CONTROL PROGRAM

- o REVIEW GGNS SER AND SUPPLEMENTS FOR APPLICABILITY OF CONCLUSIONS/ISSUES TO PNPP
 - INCORPORATE OPEN ISSUES INTO PNPP H₂ CONTROL PROGRAM
 - SUBMIT A REPORT WITH APPROPRIATE JUSTIFICATION ON THE APPLICABILITY TO PNPP OF THE TECHNICAL BASIS AND CONCLUSIONS FOR GGNS INTERIM HIS APPROVAL

- o REVIEW PREVIOUS HCOG RAIS/ISSUES FOR APPLICABILITY TO PNPP
 - ENDORSE APPLICABLE RESPONSES WITH APPROPRIATE JUSTIFICATION
 - SUBMIT PNPP SPECIFIC RESPONSES AS NECESSARY

- o FINAL EQUIPMENT SURVIVABILITY ANALYSIS BASED UPON 1/4 SCALE TEST RESULTS

PNPP H₂ CONTROL PROGRAM
GGNS SER APPLICABILITY TO PNPP

- o HIS SYSTEM DESCRIPTION
 - PNPP DESIGN CRITERIA CONSISTENT WITH GGNS
 - SAME IGNITER ASSEMBLY
 - PNPP PRE-OP AND SURVEILLANCE TESTING BASES CONSISTENT WITH GGNS
 - PEI BASED UPON BWROG EPG WILL RESOLVE ISSUES ON OPERATOR ACTION FOR COMBUSTIBLE GAS CONTROL

- o TESTING OF THE HIS
 - PNPP OPERABILITY TESTING PROGRAM CONSISTENT WITH GGNS
 - PNPP EQUIPMENT QUALIFICATION ENVELOPES COMPARED AGAINST HIS QUALIFICATION
 - HYDROGEN COMBUSTION TESTING PERFORMED BY HCOG

- o CONTAINMENT STRUCTURAL CAPACITY
 - CONTAINMENT ULTIMATE CAPACITY ANALYSIS PERFORMED WITH COMPARABLE MARGINS AS GGNS
 - DRYWELL DESIGN VERY SIMILAR TO GGNS AND THEREFORE SAME LEVEL OF MARGIN ABOVE DESIGN

- o DEGRADED CORE ACCIDENTS AND HYDROGEN GENERATION
 - LIKE GGNS, PNPP EVALUATED TWO BASE CASE SCENARIOS (SBLOCA AND SORV)
 - CONSERVATIVE GGNS RELEASE HISTORIES USED FOR INITIAL PNPP ANALYSIS

PNPP H₂ CONTROL PROGRAM
GGNS SER APPLICABILITY TO PNPP (CONT.)

o CONTAINMENT ANALYSIS

- PNPP USED CLASIX-3 FOR BASE CASE ANALYSIS
- INPUT AND MODELING ASSUMPTIONS CONSISTENT WITH GGNS
- CLASIX-3 SENSITIVITY STUDIES SUBMITTED BY HCOG
- DYNAMIC POOL LOADS FOR BASE CASE HYDROGEN COMBUSTION BOUNDED BY DESIGN BASIS
- DISTRIBUTED IGNITION SYSTEM PRECLUDES LOCAL DETONATION

o EQUIPMENT SURVIVABILITY

- HEAT TRANSFER CODES AND METHODOLOGY CONSISTENT WITH GGNS
- REQUIRED EQUIPMENT SIMILAR TO GGNS
- DEFINITION OF BASE CASE TEMPERATURES AND PRESSURES CONSISTENT WITH GGNS (CLASIX-3 AND 1/4 SCALE TEST RESULTS)

PNPP H₂ CONTROL LICENSING SCHEDULE

	1984												1985					
TASK	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	
<u>CEI's</u>																		
1) PRELIMINARY NRC MEETING	-----																	
2) CONTAINMENT ULTIMATE CAPACITY REPORT	-----																	
3) CONTAINMENT RESPONSE ANALYSIS REPORT (CLASIX-3)	-----																	
4) FSAR QUESTION RESPONSES	-----																	
5) HCOG RAI ENDORSEMENT/RESPONSES	-----																	
6) GGS SER CONCLUSION/ISSUES	-----																	
7) SUBMIT H ₂ CONTROL PEI's	-----																	
8) 1/4 SCALE TESTING																		
8.1 MATRIX																		
8.2 TESTING																		
8.3 TEST DATA EVALUATION/ANALYSIS																		
9) EQUIPMENT SURVIVABILITY REPORT																		
9.1 DEFLAGRATION																		
9.2 DIFFUSION																		
10) NRC QUESTION RESPONSES																		
<u>NRC's</u>																		
1) 1/4 SCALE TEST MATRIX APPROVAL																		
2) NRC QUESTIONS																		
3) NRC SSER																		

TASK 9.1

TASK 2-8.1

CERTIFICATE OF SERVICE

This is to certify that copies of the foregoing were served by deposit in the U.S. Mail, first class, postage prepaid, this 20th day of July, 1984 to those on the service list below.

Susan L. Hiatt
Susan L. Hiatt

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