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January 31, 1983

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of)	
)	
THE CLEVELAND ELECTRIC)	Docket Nos. 50-440
ILLUMINATING COMPANY, <u>ET AL.</u>)	50-441
)	
(Perry Nuclear Power Plant,)	
Units 1 and 2))	

APPLICANTS' INTERROGATORIES AND REQUEST FOR
PRODUCTION OF DOCUMENTS TO INTERVENOR OHIO
CITIZENS FOR RESPONSIBLE ENERGY (THIRD SET)

These Interrogatories and the Request for Production of Documents are filed by Applicants pursuant to the Licensing Board's Special Prehearing Conference Memorandum and Order, LBP-81-24, 14 N.R.C. 175 (1981), the discovery schedule designated by the Licensing Board during the January 5, 1983 conference call, see Tr. 800-01, and the Nuclear Regulatory Commission's Rules of Practice. The Interrogatories and Document Request are directed toward Intervenor Ohio Citizens for Responsible Energy ("OCRE") and pertain to Issues No. 13 (turbine missiles), No. 14 (in-core thermocouples) and No. 15 (steam erosion).

The Interrogatories submitted herein are filed pursuant to 10 C.F.R. § 2.740b, which requires that the Interrogatories be

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answered separately and fully in writing under oath or affirmation within 14 days after service. The Interrogatories are intended to be continuing in nature; and the answers must be immediately supplemented or amended, as appropriate, should OCRE obtain any new or different information responsive to the Interrogatories.

The Request for Production of Documents is filed pursuant to 10 C.F.R. § 2.741, which requires that OCRE produce and either furnish copies of or permit Applicants to inspect and copy any documents responsive to the request and which are in the possession, custody or control of OCRE. The Request for Production of Documents also is continuing in nature and OCRE must produce immediately any additional documents it obtains which are responsive to the Request.

For purposes of these Interrogatories, the term "document(s)" means all writings and records of every type in the possession, control or custody of OCRE, including, but not limited to, memoranda, correspondence, reports, surveys, tabulations, charts, books, pamphlets, photographs, maps, bulletins, minutes, notes, speeches, articles, transcripts, voice recordings, and all other writings or recordings of any kind. "Document(s)" shall also mean copies of documents even though the originals thereof are not in the possession, custody or control of OCRE.

For purposes of these Interrogatories, a document shall be deemed to be within OCRE's "control" if OCRE has ownership,

possession or custody of the document or copy thereof, or has the right to secure the document or copy thereof from any person or public or private entity having physical possession thereof.

When identification of a document is requested, briefly describe the document, i.e., letter, memorandum, book, pamphlet, etc., and state the following information as applicable to the particular document: name, title, number, author, date of publication and publisher, addressee, date written or approved, and the name and address of the person(s) having possession of the document.

The purpose of these Interrogatories and the Request for Production of Documents is to clarify the scope of Issues No. 13, No. 14 and No. 15 and to ascertain the factual bases which support each element of the Issues, so that Applicants adequately can prepare their response to the Issues.

INTERROGATORIES

Issue No. 13 (Turbine Missiles)

1. State the name, present or last known address, present or last known employer, and educational and professional qualifications of each person known to you to have first-hand knowledge of the facts alleged in Issue No. 13.

2. (a) State the name, title, employer and educational and professional qualifications of each person you intend to call as a witness on Issue No. 13.

(b) State the subject matter on which each such person is expected to testify.

(c) State the substance of the facts and opinions to which each such person is expected to testify.

(d) State a summary of the grounds for such opinions, and identify all documents upon which such person relies to substantiate such opinions.

3. Identify all documents in your possession, custody or control, including all relevant page citations, pertaining to the subject matter of Issue No. 13.

4. Identify all documents which you intend to offer as exhibits during this proceeding to support Issue No. 13 or which you intend to use during your cross-examination of witnesses presented by Applicants and/or the NRC Staff ("Staff") on Issue No. 13.

5. State what you believe to be the following probabilities (per year) with respect to turbine missiles at Perry Nuclear Power Plant ("PNPP"):

(a) the probability of turbine missile generation (P1);

(b) the probability of turbine missile strike of a safety related target (P2);

(c) the probability of unacceptable damage from a turbine missile given a strike of a safety related target (P3);

- (d) the overall probability of unacceptable damage from turbine missiles (P4).

With respect to each of the above probabilities, describe in detail the bases for your conclusion.

6. Describe in detail the bases for your claim that

[t]he estimated damage to [safety related structures within the low trajectory missile strike zone] resulting from turbine missile impact includes rendering the control room inoperable, the collapse of buildings on safety-related electrical cables and equipment, and penetration of the containment.

Ohio Citizens for Responsible Energy Motion for Leave to File its Contentions 21 through 26, dated August 18, 1982 ("OCRE's Motion"), at 2.

7. State the maximum overall probability of unacceptable damage from turbine missiles (P4) which you believe is acceptable for PNPP. Describe in detail the bases for your conclusion.

8. (a) State whether you believe Applicants are in compliance with Regulatory Guide 1.115 (Rev. 1), "Protection Against Low-Trajectory Turbine Missiles" (July 1977) ("Reg. Guide 1.115").

(b) If the answer to (a) above is negative, identify all specific criteria of Reg. Guide 1.115 with which you believe Applicants are not in compliance. As to each such criterion, describe in detail the bases for your conclusion, including your reasons for identifying the criterion.

(c) As to each criterion identified in response to (b) above, state what change(s) you believe Applicants must make in order to comply with Reg. Guide 1.115. Describe in detail the bases for your conclusions.

9. With regard to your responses to Interrogatories #5 through #8, supra:

(a) identify all documents you have relied upon in answering the Interrogatories;

(b) state the name, present or last known address, present or last known employer, and educational and professional qualifications of each person known to you to have first-hand knowledge of the factual bases of your answers.

Issue No. 14 (In-Core Thermocouples)

10. State the name, present or last known address, present or last known employer, and educational and professional qualifications of each person known to you to have first-hand knowledge of the facts alleged in Issue No. 14.

11. (a) State the name, title, employer and educational and professional qualifications of each person you intend to call as a witness on Issue No. 14.

(b) State the subject matter on which each such person is expected to testify.

(c) State the substance of the facts and opinions to which each such person is expected to testify.

(d) State a summary of the grounds for such opinions, and identify all documents upon which such person relies to substantiate such opinions.

12. Identify all documents in your possession, custody or control, including all relevant page citations, pertaining to the subject matter of Issue No. 14.

13. Identify all documents which you intend to offer as exhibits during this proceeding to support Issue No. 14 or which you intend to use during your cross-examination of witnesses presented by Applicants and/or the Staff on Issue No. 14.

14. State which specific portions of TMI Action Plan item II.F.2 require the use of in-core thermocouples at PNPP.

15. State the number, type, and exact location(s) of in-core thermocouples that you believe should be used at PNPP. State the bases for your answers. Identify all documents, including relevant page citations, supporting your answers.

16. State each and every reason you believe in-core thermocouples are necessary to provide an indication of inadequate core cooling at PNPP. Identify all documents, including relevant page citations, supporting your answer.

17. (a) State your best estimate of the maximum time delay that would occur before in-core thermocouples at PNPP would identify inadequate core cooling.

(b) State any agreements or disagreements you have with the analysis and conclusions concerning in-core thermocouple response delay contained in the S. Levy Inc.1/ and Battelle2/ studies cited at page 4 of OCRE's Motion.

(c) If in your answer to (b) you did not discuss § VI of the Levy Report, state whether you agree or disagree with the analysis and conclusions of §VI and give the basis for any areas of disagreement.

18. (a) Do you believe there are any conditions in which a time delay in thermocouple response at a BWR might adversely affect the ability of an operator to detect inadequate core cooling? State the basis for your answer, including citations to documents, and page references therein, which support your answer.

(b) If your answer to (a) is other than negative, state why in-core thermocouples should be used at PNPP despite the possibility of an adverse impact on the ability to detect inadequate core cooling.

19. State whether you believe in-core thermocouples at PNPP would provide unambiguous and easy-to-interpret indications of inadequate core cooling under the following conditions:

1/ Gillis, Hench, Adams, Eddleman & Beckett, "Thermal Analysis of In-Core Thermocouples in Boiling Water Reactors" (S. Levy, Inc., December 1981) ("Levy Report").

2/ Letter, C.L. Wheeler, Battelle, to W.V. Johnston, NRC, dated April 6, 1981.

(a) during operation of the PNPP pressure relief valves after any reactor isolation event including small LOCAs; and

(b) during operation of the PNPP emergency core cooling system ("ECCS").

(c) If the answer to (a) is affirmative, state any areas of disagreement you have with the analysis and conclusions of the Levy Report (see, e.g., §VII) which indicate that the operation of pressure relief valves during a small break LOCA has the potential to render the thermocouples useless. Give the bases for your answer, including citations to relevant documents.

(d) If the answer to (b) is affirmative, state any areas of disagreement you have with the analysis and conclusions of the General Electric Report^{3/} (see, e.g., §2.1) cited at page 4 of OCRE's Motion, which indicate that in-core thermocouples would not provide useful indications of inadequate core cooling during ECCS operation.

(e) If the answer to (a) or (b) is negative or other than affirmative, state why you believe in-core thermocouples should nonetheless be used at PNPP.

20. State each and every reason you believe in-core thermocouples are necessary to provide a redundant and diverse means by which to detect reactor coolant level. Identify all

^{3/} "General Electric Evaluation of the Need for BWR Core Thermocouples," November 16, 1981 ("GE Report").

documents, including relevant page citations, supporting your answer.

21. (a) Do you believe that current water level measurement instrumentation in a BWR-6 reactor is sufficient to detect inadequate core cooling?

(b) If the answer to (a) is negative or other than affirmative, state the basis for your answer. Identify all documents, including relevant page citations, supporting your answer.

22. (a) At page 4 of OCRE's Motion, in discussing the fuel bundle blockage accident, you make reference to "key assumptions" in Appendix B of the GE Report, and to "vital information" that could be provided by in-core thermocouples. Identify with particularity these "key assumptions" and this "vital information;" and cite any documents, including page citations, on which you rely for your answers.

(b) State the basis for the assertion at page 5 of OCRE's Motion that the "key assumptions," discussed in (a), are demonstrated to be arbitrary and unproven in The Accident Hazards of Nuclear Power Plants, by Dr. Richard E. Webb, at pp. 59-61. Identify in your answer the specific statements at pp. 59-61 of Dr. Webb's book that address either in-core thermocouples, or other issues relevant to the "key assumptions" discussed in (a).

(c) State and explain each and every disagreement you have with the "key assumptions" discussed in (a), with

citations to all documents, including page citations, on which you rely for your answer.

23. State the basis for the assertion at page 10 of OCRE Reply to Staff and Applicant's Responses to OCRE's Motion For Leave to File Its Contentions 21 through 26, dated October 12, 1982, that the AEOD study referenced therein shows that the GE Report "may lack credibility," and that "BWR vessel level measuring systems may not be as impressive as GE claims." Identify the specific portions of the AEOD study which support your answer.

24. With regard to your responses to Interrogatories #14 through #23, supra:

(a) identify all documents you have relied upon in answering the Interrogatories;

(b) state the name, present or last known address, present or last known employer, and educational and professional qualifications of each person known to you to have first-hand knowledge of the factual bases of your answers.

Issue No. 15 (Steam Erosion)

25. State the name, present or last known address, present or last known employer, and educational and professional qualifications of each person known to you to have first-hand knowledge of the facts alleged in Issue No. 15.

26. (a) State the name, title, employer and educational and professional qualifications of each person you intend to call as a witness on Issue No. 15.

(b) State the subject matter on which each such person is expected to testify.

(c) State the substance of the facts and opinions to which each such person is expected to testify.

(d) State a summary of the grounds for such opinions, and identify all documents upon which such person relies to substantiate such opinions.

27. Identify all documents in your possession, custody or control, including all relevant page citations, pertaining to the subject matter of Issue No. 15.

28. Identify all documents which you intend to offer as exhibits during this proceeding to support Issue No. 15 or which you intend to use during your cross-examination of witnesses presented by Applicants and/or the Staff on Issue No. 15.

29. State why you believe that "Applicants are not prepared to prevent, discover, assess, and mitigate the effects of steam erosion on components of PNPP which will be subjected to steam flow." OCRE's Motion at 5. Describe in detail the bases for your conclusions.

30. State whether you believe that a component failure caused by steam erosion would be beyond the scope of analysis for a design basis accident. If so, describe in detail the bases for your conclusion.

31. (a) Identify all components of PNPP which you believe will be subject to steam erosion. As to each such

component, describe in detail the bases for your conclusion, including the reasons for identifying the component.

(b) Identify all pumps at PNPP which you believe will be subject to steam erosion. As to each such pump, describe in detail the bases for your conclusion, including the reasons for identifying the pump.

(c) For each component, including pumps, which you believe will be subject to steam erosion, identify its exact location within PNPP.

32. Identify all specific piping in operating nuclear power plants which has failed or degraded as a result of steam erosion, including:

- (a) the location of the piping;
- (b) the type of material in the piping.

As to each such piece of piping, describe in detail the bases for your conclusions, including the reasons for identifying the piping.

33. Identify all specific pumps and valves in operating nuclear power plants which have failed or degraded as a result of steam erosion, including:

- (a) the location of the pump or valve;
- (b) the type of material in the pump or valve.

As to each such pump or valve, describe in detail the bases for your conclusions, including the reasons for identifying the pump or valve.

34. (a) State whether you believe Applicants' MSIV leakage control system described in Final Safety Analysis Report ("FSAR") § 6.7 is inadequate. If so, describe in detail the bases for your conclusion.

(b) State whether you believe that the Staff's review of Applicants' MSIV leakage control system in §6.3 of the Operating License Safety Evaluation Report is inadequate. If so, describe in detail the bases for your conclusion.

(c) State whether you believe that the rating of 100 scfh per MSIV per steam line given in FSAR § 6.7.1.3 is inadequate for the purpose of controlling smaller leakages not eliminated by Applicants' maintenance and surveillance program. If so, describe in detail the bases for your conclusion.

(d) If you believe Applicants' MSIV leakage control system is inadequate, describe in detail what change(s) Applicants must make in order for the MSIV leakage control system adequately to perform its function. Describe in detail the bases for your conclusions.

35. With regard to your responses to Interrogatories #29 through #34, supra:

(a) identify all documents you have relied upon in answering the Interrogatories.

(b) state the name, present or last known address, present or last known employer, and educational and professional qualifications of each person known to you to have first-hand knowledge of the factual bases of your answers.

General Interrogatories Pertaining to
Issues No. 13, No. 14 and No. 15

36. State the name, title or position, address, employer, and educational and professional qualifications of each person who provided information used in preparing responses to any of the foregoing Interrogatories.

37. For each person identified in response to Interrogatory #36, supra, state the number(s) of the Interrogatories for which information was supplied.

38. State the name, title or position, address, employer and educational and professional qualifications of each person who searched for documents in order to respond to any of the foregoing requests for identification of documents.

39. For each person identified in response to Interrogatory #38, supra, state the number(s) of the Interrogatories for which the search was conducted and the location where the search was conducted.

40. Identify any written or recorded statement of any individual pertaining to the subject matter of Issue No. 13, No. 14 or No. 15, not previously identified in response to the foregoing Interrogatories.

REQUEST FOR PRODUCTION OF DOCUMENTS

Applicants request that OCRE respond in writing to the following request for production of documents, and produce the original or best copy of each of the documents requested below at the office of Lawrence O. Beck at The Cleveland Electric

Illuminating Company, or at a place mutually convenient to the parties.

The term "document(s)" means all writings and records of every type in the possession, control or custody of OCRE including, but not limited to, memoranda, correspondence, reports, surveys, tabulations, charts, books, pamphlets, photographs, maps, bulletins, minutes, notes, speeches, articles, transcripts, voice recordings, and all other writings or recordings of any kind. "Document(s)" shall also mean copies of documents even though the originals thereof are not in the possession, custody or control of OCRE.

A document shall be deemed to be within the "control" of OCRE if it has ownership, possession or custody of the document or copy thereof, or has the right to secure the document or copy thereof from any person or public or private entity having physical possession thereof.

Applicants request that OCRE produce each and every document identified or described in the answers to Interrogatories #1 through #40, supra.

Respectfully submitted,

SHAW, PITTMAN, POTTS & TROWBRIDGE

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Dated: January 31, 1983

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NUCLEAR REGULATORY COMMISSION

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THE CLEVELAND ELECTRIC) Docket Nos. 50-440
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)
(Perry Nuclear Power Plant,)
Units 1 and 2))

CERTIFICATE OF SERVICE

This is to certify that copies of the foregoing
"Applicants' Interrogatories And Request For Production Of
Documents To Intervenor Ohio Citizens For Responsible Energy
(Third Set)" were served by deposit in the United States Mail,
first class, postage prepaid, this 31st day of January, 1983,
to all those on the attached Service List.

Michael A. Swiger

MICHAEL A. SWIGER

DATED: January 31, 1983

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NUCLEAR REGULATORY COMMISSION

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