September 14, 1982

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

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

APPLICANTS' ANSWER TO OHIO CITIZENS FOR RESPONSIBLE ENERGY THIRD SET OF INTERROGATORIES TO APPLICANTS

Applicants for their answers to Ohio Citizens for Responsible Energy ("OCRE") Third Set of Interrogatories, dated August 30, 1982, state as follows:

All documents supplied to OCRE for inspection will be produced at Perry Nuclear Power Plant ("PNPP"). Arrangements to examine the documents can be made by contacting Mr. Ronald Wiley of The Cleveland Electric Illuminating Company at (216) 259-3737. Applicants will provide copies of any of the produced documents, or portions thereof, which OCRE requests, at Applicants' cost of duplication. Arrangements for obtaining copies can be made with Mr. Wiley.

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RESPONSES

3-1. Are the drawings referred to in "Applicants' Answer to Ohio Citizens for Responsible Energy Second Set of Interrogatories to Applicants" as-built drawings or as-designed drawings? If Applicants anticipate any substantial differences between design and actual construction, please describe these differences.

Response:

The referenced drawings are "as designed." It is not anticipated that there will be any substantial differences between the design and actual construction.

3-2. How accessible are the manual SDV isolation valves, HCU valves 102 and 112? Describe in detail the exact location of these valves in the HCU or its piping and any panels, covers, or other obstructions which must be removed to gain access to the valves. Are any special tools required to gain access to or to close the valves? Would the environment expected in the vicinity of an SDV pipe break (heat, steam, radiation) prevent personnel from closing the valves?

Response:

The manual SDV isolation valves are located on top of each HCU, less than eight and one-half feet above the grating level. HCU valve 102 is sixteen and seven-eighth inches from the HCU front face and two and one-half inches inboard of the right side. HCU valve 112 is sixteen and three-quarters inches from

the HCU front face and ten and three-quarters inches from the HCU right side. Access to these valves is not restricted, and the valves are operated by a standard type handwheel. No special tools are required to gain access to or to close the valves. The environment in the area of a SDV pipe break would prevent personnel from operating the valve while the reactor coolant is at an elevated temperature. Operation of the valves, however, is not required under these conditions because the SDV pipe break would not threaten the shutdown and cooldown of the reactor. When reactor cooldown has been accomplished, the valves can be operated.

3-3. Does the SDV vent line have any interconnections with any other systems? If so, specify these connections. Has the SDV vent line been designed to ensure that there can be no loop seals in the line that could prevent or slow the draining of the SDV?

Response:

The SDV vent line does not interconnect with any other systems. The SDV vent line is installed with a continuous slope towards the SDV to promote drainage and eliminate loop seals.

3-4. List every polymeric material located in a radiation environment at PNPP, Units 1 and 2; for every such material listed, specify the following:

(a) trade or common name of the polymer;

(b) chemical formula and structure of the polymer;

(c) function of the polymer, e.g., coating, electrical insulation, or mechanical/structural component;

(d) name of the equipment or component in which the polymer is used;

(e) function of the equipment or component listed in (d) above, including the general system in the plant, and whether it is safety-related or non-safety-related;

(f) for electrical equipment, is the system Class 1E or non-Class 1E; if Class 1E, is it Division 1, 2, or 3?

(g) for electrical insulation, give the AWG of the wire, rated maximum voltage, current, and ambient temperature, expected voltage, current, and ambient temperature, and thickness of the insulation;

(h) exact location within the plant of the polymeric material;

(i) radiation exposure rate expected during normal plant operation, in Rad/hr; also give type (alpha, beta, gamma, or neutron) of radiation and its energy, in MeV;

(j) dose and dose rate expected from the most severe design basis event during or following which the equipment is required to remain functional;

(k) temperature and humidity expected during normal operation, and during or following the most severe design basis event;

(l) type and duration of the design basis event referred to above;

(m) whether the equipment is located in an oxidizing or an inert atmosphere (normally and under accident conditions);

(n) method by which the polymer or component was qualified for use in a radiation environment, including any analyses of synergistic effects;

(o) the results of any qualification tests for the polymer or component; e.g., was any degradation observed?

(p) expected lifetime of the component in which the polymer is used; e.g., is it to be routinely replaced at any time in the operating lifetime of PNPP? If so, at what intervals?

Response:

Applicants have identified the major polymers located in the radiation environments at PNPP, Units 1 and 2. The identified polymers are listed in part (a) below, and the remainder of the Interrogatory is answered as to those polymers. Should additional relevant polymers be identified, Applicants will supplement their Response accordingly.

(a) The following polymers have been identified as having safety-related functions and as being located in a radiation environment at PNPP, Units 1 and 2: cross-linked polyolefin, cross-linked polyethylene and ethylene-propylene rubber.

(b) Applicants do not know the precise chemical formula and structure of the identified polymers. These polymers are supplied by several vendors, and the exact compounding of each is considered proprietary information and not disclosed to Applicants.

(c) The identified polymers are used for electrical cable and wire insulation.

(d) The identified polymers are used on safety-related electrical cable and wire.

(e) The components of which the identified polymers are part of are used to transmit power, instrumentation and control signals in many safety-related systems.

(f) The systems are Class 1E, and include all Divisions.

(g) The AWG of the wire, rated maximum voltage, current and ambient temperature, and the thickness of the insulation can be obtained from the safety-related specifications for the relevant components. The expected voltage and current can be obtained from the cable pull slips, electrical load lists and related documents for the relevant components. These documents will be supplied for examination at PNPP. The expected ambient temperature data is addressed in the amendment to § 3.11 of the PNPP FSAR. See parts (i)-(l) below.

(h) While Class 1E cable and wire is located throughout most plant areas, the routing of the principal cables is shown in Figures 8.3-14 through 8.3-18 of the PNPP FSAR.

(i)-(l) Applicants presently are preparing an amendment to § 3.11 of the PNPP FSAR, which will provide the requested information. The amendment will be submitted shortly, and will be supplied for examination at PNPP when it is in final form.

(m) All relevant equipment is located in an oxidizing atmosphere. Atmospheric inerting is not used at PNPP.

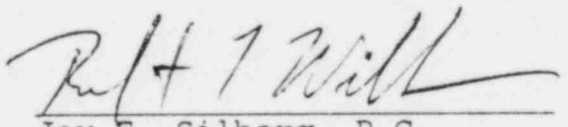
(n) The environmental qualification program for safety-related equipment is designed to meet the intent of NUREG-0588, IEEE 323, IEEE 383, and Regulatory Guide 1.131. The Program is described in detail in the amendment to § 3.11 of the PNPP FSAR to be submitted shortly.

(o) The relevant components have not yet been qualified for a radiation environment using post TMI-2 source terms.

(p) The precise lifetimes of the relevant components cannot be determined until they have been qualified for a radiation environment using post TMI-2 source terms. As noted, that qualification has not yet been made.

Respectfully submitted,

SHAW, PITTMAN, POTTS & TROWBRIDGE

By: 

Jay E. Silberg, P.C.
Robert L. Willmore

Counsel for Applicants
1800 M Street, N.W.
Washington, D.C. 20036
(202) 822-1000

Dated: September 14, 1982

CLEVELAND ELECTRIC ILLUMINATING COMPANY

CLEVELAND, OHIO

Dave R. Green, being duly sworn according to law, deposes that he is Senior Project Engineer, Nuclear Engineering Department of Cleveland Electric Illuminating Company and that the facts set forth in the foregoing Applicants' Answers to Ohio Citizens for Responsible Energy Interrogatories 3-1, 3-2, 3-3, and 3-4 dated August 30, 1982, are true and correct to the best of his knowledge, information and belief.

D. R. Green

Sworn to and subscribed
before me this 14th day
of September, 1982

Caroline M. Wilde

CAROLINE M. WILDE
Notary Public, State of Ohio
My Commission Expires April 17, 1985
(Recorded in Lake County)

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CERTIFICATE OF SERVICE

This is to certify that copies of the foregoing "Applicants' Answer to Ohio Citizens For Responsible Energy Third Set of Interrogatories to Applicants," were served by deposit in the U.S. Mail, First Class, postage prepaid, this 14th day of September 1982, to all those on the attached Service List.

Robert L. Willmore

Dated: September 14, 1982

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SERVICE LIST

Peter B. Bloch, Chairman
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. Jerry R. Kline
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. Frederick J. Shon
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Wahsington, D.C. 20555

Christine N. Kohl, Chairman
Atomic Safety and Licensing
Appeal Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. John H. Buck
Atomic Safety and Licensing
Appeal Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gary J. Edles, Esquire
Atomic Safety and Licensing
Appeal Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Atomic Safety and Licensing
Appeal Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Docketing and Service Section
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Stephen H. Lewis, Esquire
Office of the Executive
Legal Director
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Ms. Sue Hiatt
OCRE Interim Representative
8275 Munson Avenue
Mentor, Ohio 44060

Daniel D. Wilt, Esquire
P. O. Box 08159
Cleveland, Ohio 44108

Donald T. Ezzone, Esquire
Assistant Prosecuting Attorney
Lake County Administration Center
105 Center Street
Painesville, Ohio 44077

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

Terry Lodge, Esquire
915 Spitzer Building
Toledo, Ohio 43604