

December 28, 1982

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of

CLEVELAND ELECTRIC ILLUMINATING
COMPANY, et al.

(Perry Nuclear Power Plant,
Units 1 and 2)

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)
) Docket Nos. 50-440
) 50-441
) (OL)
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OCRE SUPPLEMENTAL RESPONSE TO APPLICANTS' SECOND
SET OF INTERROGATORIES AND REQUEST FOR PRODUCTION
OF DOCUMENTS TO INTERVENOR OHIO CITIZENS FOR RE-
SPONSIBLE ENERGY

ISSUE #9

14. OCRE hereby identifies the following additional documents
pertaining to Issue #9:

NUREG-0588, Rev. 1, "Interim Staff Position on Environmental
Qualification of Safety-Related Electrical Equipment,"
July 1981.

NUREG/CR-2553, "Ethylene Propylene Cable Degradation During
LOCA Research Tests: Tensile Properties at the
Completion of Accelerated Aging," Larry D. Bustard,
Sandia National Laboratories, May 1982.

NUREG/CR-2877, "Investigation of Cable Deterioration in the
Containment Building of the Savannah River Nuclear
Reactor," Kenneth T. Gillen, Roger L. Clough, and
Lowell H. Jones, Sandia National Laboratories,
August 1982.

Regulatory Guide 1.131, "Qualification Tests of Electric

DSOJ

Cables, Field Splices, and Connections for Light-Water-Cooled Nuclear Power Plants," August 1977.
Regulatory Guide 1.89, "Qualification of Class 1E Equipment for Nuclear Power Plants," November 1974.

17. In OCRE's previous response, dated November 15, 1982, to this interrogatory, it was stated that particular circuits which may be subject to degradation would be identified later. Upon examination of Applicants' documentation of electrical circuits, OCRE has determined that the identification of every specific circuit located in a radiation environment would be a monumental task with little practical significance. Instead, OCRE identifies below the general systems and types of safety-related Class 1E circuits and cable types which may become dangerous as a result of polymer degradation:

Nuclear Boiler System (B21)

120 VAC supply circuits, Division 2 associated, using EKA-75 cable.

480 VAC power circuits, Division 1, using EKB-6, EKA-64, and EKA-63 cable; Division 2, using EKB-16 and EKA-73 cable.

Control, interlock, and indication circuits, Division 1, using EKB-2, EKB-4, EKB-5, EKB-6, EKB-7, and EKB-9 cable.

Instrumentation circuits, Division 1, using EKC-1 cable; Division 2, using EKC-11 cable; Division 3, using EKC-21 cable; Division 4, using EKC-31 cable.

CRD Hydraulic System (C11)

Instrumentation circuits, Division 1, using EKC-78 and EKC-1 cable; Division 2, using EKC-89 and EKC-11 cable; Division 3, using EKC-21 cable; Division 4, using EKC-31 cable.

480 VAC power circuits, Division 1, using EKB-6 cable.

Standby Liquid Control System (C41)

120 VAC supply circuits, Division 1 associated, using EKA-65 cable; Division 2 associated, using EKA-75 cable.

480 VAC power circuits, Division 1, using EKA-17 and EKB-6 cable; Division 2, using EKA-27 and EKB-16 cable.

Control, interlock, and indication circuits, Division 1, using EKB-2, EKB-9, and VFC-13 cables; Division 2, using EKB-12 and VFC-13 cables.

Neutron Monitoring System (C51)

Instrumentation circuits, Division 1, using EKC-72, EKC-73, and EKC-74 cable; Division 2, using EKC-82, EKC-83, and EKC-84 cable; Division 3, using EKC-92, EKC-93, and EKC-94 cable; Division 4, using EKC-102, EKC-103, and EKC-104 cable.

Control, interlock, and indication circuits, Division 1, using EKB-6 cable; Division 2, using EKB-16 cable; Division 3, using EKB-26 cable; Division 4, using EKB-39 cable.

Reactor Protection System (C71)

Control, indication, and interlock circuits, Division 1, using EKB-2 cable; Division 2, using EKB-12 cable; Division 3, using EKB-22 cable; Division 4, using EKB-39 cable.

Instrumentation circuits, Division 1, using EKC-1 cable; Division 2, using EKC-11 cable; Division 3, using EKC-21 cable; Division 4, using EKC-31 cable.

Plant Radiation Monitor System (D17)

480 VAC power circuits, Division 1, using EKB-6 cable; Division 2, using EKB-16 cable.

Control, interlock, and indication circuits, Division 1, using EKB-5 cable; Division 2, using EKB-15 cable.

Containment Atmosphere Monitor System (D23)

Control, interlock, and indication circuits, Division 1, using EKB-5 cable; Division 2, using EKB-15 cable; Division 3, EKB-25 cable.

Instrumentation circuits, Division 1, using EKC-1 and EKC-2 cable; Division 2, using EKC-11 and EKC-12 cable.

Remote Shutdown System (C61)

Instrumentation circuits, Division 1 associated, using EKC-1 cable.

Alarm/annunciator circuits, Division 3, using EKB-6 cable.

Residual Heat Removal System (E12)

Instrumentation circuits, Division 1, using EKC-1 cable; Division 2, using EKC-11 cable.

Control, interlock, and indication circuits, Division 1, using EKB-2, EKB-3, EKB-4, EKB-5 cable; Division 2, using EKB-12, EKB-13, EKB-14, and EKB-15 cable.

120 VAC supply circuits, Division 1 associated, using EKA-65 cable.

480 VAC power circuits, Division 1, using EKA-65 and EKB-6 cable; Division 2, using EKA-74, EKA-75, and EKB-16 cable.

4 kV power circuits, Division 1, using EKA-14 cable; Division 2, using EKA-24 cable.

LPCS System (E21)

- 4 kV power circuits, Division 1, using EKA-11 cable.
- 480 VAC power circuits, Division 1, using EKA-64, EKA-65, and EKB-6 cable.
- Control, interlock, and indication circuits, Division 1, using EKB-2 and EKB-5 cable.

HPCS System (E22)

- 4 kV power circuits, Division 3, using EKA-131 cable.
- 480 VAC power circuits, Division 3, using EKA-85, EKB-23, EKB-26, and EKA-83 cable.
- 125 VDC power circuits, Division 3, using EKA-95 cable.
- Alarm/annunciator circuits, Division 3, using EKB-22 cable.
- Control, interlock, and indication circuits, Division 3, using EKB-22, EKB-23, EKB-24, and EKB-25 cable.
- Instrumentation circuits, Division 3, using EKB-21 cable.

RCIC System (E51)

- 480 VAC power circuits, Division 1, using EKA-64 and EKA-65 cable; Division 2, using EKA-75 and EKB-16 cable.
- Control, interlock, and indication circuits, Division 1, using EKB-2, EKB-3, EKB-4, EKB-5, and EKB-9 cable; Division 2, using EKB-12 and EKB-15 cable.
- 120 VAC supply circuits, Division 2 associated, using EKA-75 cable.
- Instrumentation circuits, Division 1, using EKB-1 cable.
- 125 VDC power circuits, Division 1, using EKA-66, EKA-67, and EKB-7 cable.

Fuel Pool Cooling and Cleaning System (G41)

- 480 VAC power circuits, Division 1, using EKB-6 and EKB-46 cable; Division 2, using EKB-16 cable.
- 120 VAC supply circuits, Division 2, using EKA-75 cable.

Liquid Radwaste System (G50)

- 120 VAC supply circuits, Division 2 associated, using EKA-75 cable.
- 480 VAC power circuits, Division 1, using EKB-6 cable; Division 2, using EKB-16 cable.

Liquid Radwaste Sump System (G61)

- 480 VAC power circuits, Division 1, using EKB-6 cable; Division 2, using EKB-16 cable.
- 120 VAC supply circuits, Division 1 associated, using EKA-65 cable; Division 2 associated, using EKA-75 cable.

Containment Vessel and Drywell Purge System (M14)

- Control, interlock, and indication circuits, Division 1, using

EKB-2 cable; Division 2, using EKB-12 cable.

Annulus Exhaust Gas Treatment System (M15)

480 VAC power circuits, Division 1, using EKA-63 cable; Division 2, using EKA-73 cablw

Alarm/annunciator circuits, Division 1, using EKB-2 cable; Division 2, using EKB-12 cablw.

Control, interlock, and indication circuits, Division 1, using EKB-2, EKB-3, and EKB-6 cable; Division 2, using EKB-12, EKB-13, and EKB-16 cable.

Instrumentation circuits, Division 1, using EKC-1 and VFC-57 cable; Division 2, using EKC-11 and VFC-57 cable.

Pump Room Cooling System (M39)

480 VAC power circuits, Division 1, using EKA-62 cable; Division 2, using EKA-72 cable; Division 3, using EKA-82 cable.

Combustible Gas Control System (M51)

480 VAC power circuits, Division 1, using EKB-6, EKB-7, EKA-15, and EKA-16 cable; Division 2, using EKB-17, EKA-25, and EKA-26 cable.

Control, interlock, and indication circuits, Division 1, using EKB-3 and EKB-5 cable; Division 2, using EKB-13, EKB-15, and EKB-19 cable.

120 VAC supply circuits, Division 1 associated, using EKA-65 cable; Division 2 associated, using EKA-75 cable.

Instrumentation circuits, Division 1, using EKC-1 and EKC-2 cable; Division 2, using EKC-11 and EKC-12 cable.

Safety Related Instrument Air System (P57)

480 VAC power circuits, Division 1, using EKB-6 cable; Division 2, using EKB-16 cable.

120 VAC supply circuits, Division 1 associated, using EKA-65 cable; Division 2 associated, using EKA-75 cable.

(In OCRE's previous response to this interrogatory, it was stated that OCRE was unsure whether hypalon is the same as CSPE. Applicants, in their answer to OCRE Interrogatory 8-2, stated that hypalon is CSPE.)

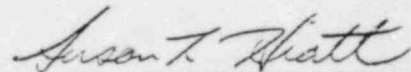
Respectfully submitted,

Susan L. Hiatt

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AFFIDAVIT

I, Susan L. Hiatt, duly sworn depose and say that I am responsible for the responses given in the foregoing "OCRE Supplemental Responses to Applicants' Second Set of Interrogatories and Request for Production of Documents to Intervenor Ohio Citizens for Responsible Energy" and that these responses are true and correct to the best of my knowledge and belief.



Susan L. Hiatt

Sworn to and subscribed before me this 28th day of December, 1982.


Notary Public

MARLEY FORD EIGER, Attorney At Law

Notary Public - State of Ohio

My commission has no expiration date,

Section 147.03 P. C.

CERTIFICATE OF SERVICE

This is to certify that copies of the foregoing OCRE SUPPLEMENTAL RESPONSE TO APPLICANTS' SECOND SET OF INTERROGATORIES AND REQUEST FOR PRODUCTION OF DOCUMENTS TO INTERVENOR OHIO CITIZENS FOR RESPONSIBLE ENERGY were served by deposit in the U.S. Mail, first class, postage prepaid, this 28th day of December 1982 to those on the service list below.

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