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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

SECRETARY  
OF ENERGY  
& SERVICE  
BRANCH

Before the Atomic Safety and Licensing Board

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

APPLICANTS' MOTION TO STRIKE  
REFERENCES TO "SYNERGISTIC EFFECTS" IN  
OCRE RESPONSE TO NRC STAFF MOTION  
FOR SUMMARY DISPOSITION OF ISSUE #9

On February 7, 1983, Ohio Citizens for Responsible Energy ("OCRE") filed its Response to NRC Staff Motion for Summary Disposition of Issue #9 ("OCRE's Response"). Issue No. 9 concerns radiation induced degradation of polymers at Perry Nuclear Power Plant ("PNPP").

OCRE in its response improperly attempts to broaden the scope of Issue No. 9 beyond radiation effects on polymers. In discussing the requirements of the Nuclear Regulatory Commission's recently promulgated final rule on environmental qualification of electrical equipment, 48 Fed. Reg. 2729 (January 21, 1983), OCRE observes that the rule requires radiation dose-rate effects to be considered in an equipment qualification program. OCRE

goes on to say, however, that:

10 CFR 50.49(e)(7) also requires such programs to consider synergistic effects. The Sandia studies, on which Issue #9 is based, identified strong dose-rate and synergistic effects relating to radiation-induced polymer degradation. Therefore, Applicants must design an equipment qualification program which will consider these effects.

OCRE's Response at 4-5 (emphases added). Contrary to OCRE's assertions, Issue No. 9 does not include synergistic effects on polymers.

As originally submitted, OCRE's polymer degradation contention (Contention 19) and its basis read as follows:

OCRE has learned of recent experiments conducted by Sandia National Laboratories which indicate that polymers degrade more rapidly when exposed to lower levels of radiation for long periods of time than when exposed to high levels for shorter periods. Since the latter conditions are used for age testing materials used in nuclear power plants, it is possible that the useful life of such materials in a radiation environment has been greatly overestimated. Science News, March 27, 1982 at 215 (Attachment 3).

OCRE has not found in the FSAR a comprehensive listing of all polymers used at PNPP which will be exposed to radiation and the methods used for age testing same, so this Intervenor cannot now determine the degree to which this concern is applicable to the Perry facility. However, such matters are clearly appropriate subjects for discovery.

OCRE is concerned that the radiation-induced embrittlement of polymers, especially those used as electrical insulation, may compromise plant safety. OCRE therefore contends that all polymer materials used in a radiation environment at PNPP should be tested under realistic conditions and inspected for degradation at increased intervals throughout the plant's lifetime.

Ohio Citizens for Responsible Energy Motion for Leave To File its Contentions 17, 18 and 19, dated April 22, 1982, at 5-6. The Licensing Board reworded and admitted the contention to state:

Issue #9. Applicant has not demonstrated that the exposure of polymers to radiation during the prolonged operating history of Perry would not cause unsafe conditions to occur.

Memorandum and Order (Concerning Motions to Admit Late Contentions), dated July 12, 1982, at 6.

Neither OCRE in submitting its original Contention 19, nor the Licensing Board in admitting Issue No. 9, discussed or even alluded to the existence of "synergistic effects" on polymers.<sup>1/</sup> The thrust of Issue No. 9 from the beginning has been that polymeric materials in safety related equipment degrade more rapidly when exposed to the relatively low radiation dose rates normally experienced in commercial nuclear power plants than when exposed to the high dose rates used in equipment qualification testing. The question of synergistic effects on polymers is a separate one.<sup>2/</sup>

If OCRE wishes to introduce this separate issue of synergistic effects on polymers, it must demonstrate good cause for late

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<sup>1/</sup> Neither were synergistic effects discussed in the Science News article cited by OCRE when it submitted Contention 19.

<sup>2/</sup> Although OCRE in its discovery requests to Applicants (see Ohio Citizens for Responsible Energy Third Set of Interrogatories to Applicants, dated August 30, 1982, Interrogatory #3-4(n)) and Staff (see Ohio Citizens for Responsible Energy Fourth Set of Interrogatories to NRC Staff, dated August 30, 1982, Interrogatories #4-8, #4-15, #4-16 and #4-17) included interrogatories mentioning synergistic effects on polymers, and although Applicants (see Applicants' Answer to Ohio Citizens for Responsible Energy Third Set of Interrogatories to Applicants, dated September 14, 1982) and Staff (see NRC Staff Answers to OCRE Fourth Set of Interrogatories to NRC Staff, dated October 22, 1982) generally responded to these questions, the scope of Issue No. 9 is not thereby broadened. A failure to object to interrogatories on relevancy grounds does not expand the contention.

filing under the criteria of 10 C.F.R. § 2.714. OCRE does not even attempt to address these criteria.

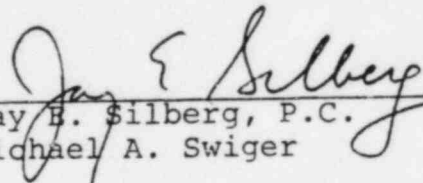
It should be emphasized that the issue of synergistic effects cannot be characterized as a factual issue uncovered by OCRE during the course of discovery. Cf. Memorandum and Order (Reconsideration: Quality Assurance), dated January 28, 1983, at 7-8. Synergistic effects have been discussed in the published literature for many years and, as OCRE acknowledges, were a subject of the very studies OCRE cited as the basis for Issue No. 9. OCRE's Response at 4-5. OCRE may not expand Issue No. 9 at this stage of the proceeding to include synergistic effects simply because OCRE now wants to litigate another issue.

For all of the above reasons, Applicants request the Licensing Board to strike all references to "synergistic effects" in OCRE's Response.

Respectfully submitted,

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Dated: February 18, 1983

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CERTIFICATE OF SERVICE

This is to certify that copies of the foregoing "Applicants' Motion to Strike References to 'Synergistic Effects' in OCRE Response to NRC Staff Motion for Summary Disposition of Issue #9" were served by deposit in the United States Mail, First Class, postage prepaid, this 18th day of February 1983, to all those on the attached Service List.

Michael A. Swiger  
Michael A. Swiger

DATED: February 18, 1983

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