

RELATED CORRESPONDENCE February 7, 1983
DOCKETED
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION '83 FEB -9 P12:59

Before the Atomic Safety and Licensing Board

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

OCRE RESPONSE TO NRC STAFF MOTION FOR
SUMMARY DISPOSITION OF ISSUE #9

On January 14, 1983, the NRC Staff filed its motion for summary disposition of Issue #9 in this proceeding, which states:

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.

As basis for its motion, the Staff submitted the affidavit of James E. Kennedy and a final rule on environmental qualification of electrical equipment, which the Staff claims precludes the consideration of Issue #9 in this proceeding. For the reasons set forth below, Intervenor Ohio Citizens for Responsible Energy ("OCRE") finds that the Staff's motion must be denied.

OCRE has in previous filings delineated the legal standards for summary disposition and thus will not repeat them herein. It will suffice to say, however, that the burden of proof in a motion for summary disposition is upon the movant. The

facts ^{1/} in this case clearly show that the Staff has not met its burden.

The Staff's first complaint is that OCRE has failed to provide the "greater specificity as to the basis for believing that particular wires or other locations are potentially dangerous" required by the Licensing Board in its July 12, 1982 Memorandum and Order (LBP-82-53, 16 NRC ____). This is manifestly untrue. OCRE has, in its responses to Applicants' Second Set of Interrogatories to OCRE (which appeared to be specifically designed to elicit such information), identified particular locations (and the basis for their identification) which have radiation levels exceeding those inducing polymer degradation at the Savannah River Plant (the instance studied intensively by Sandia National Laboratories) and particular components (including electrical cables by type, function, and plant system) using the polymers implicated by the Sandia research. OCRE has not identified every particular wire in the Perry plant which may be subject to degradation for two reasons: (1) particularization to that level would be an extraordinarily expensive and time-consuming task probably requiring the use of computerized systems; (2) such particularization is neither a necessary nor an efficient means of litigating Issue #9, since the use of the

^{1/} Staff in footnote 1 at p. 2 of its motion notes that such facts must be in evidentiary form. All of the facts cited by OCRE are in evidentiary form, in that they are based upon answers to interrogatories, documents obtained through discovery and referenced in answers to interrogatories, or NRC documents, of which it is appropriate for the Licensing Board to take official notice. See Duke Power Co. (Catawba Nuclear Station, Units 1 and 2) LBP-74-22, 7 AEC 659, 667 (1974).

suspect polymers in radiation environments at PNPP is so widespread that logic dictates that the issue be pursued on a more generic basis, e.g., by component or polymer type.

The Staff has not explained why OCRE's discovery responses were not sufficient. The basis for Issue #9 is the work conducted on polymer degradation by Sandia National Laboratories. OCRE has identified all documents of which it is aware pertaining to these studies. These documents thoroughly describe and explain the research conducted and the conclusions and implications drawn therefrom. The Staff has not even addressed any faults or deficiencies it has found in this research, perhaps because it has found none. It is the Staff, not OCRE, which has taken a broad and vague approach to Issue #9.

The Staff's second argument is that the Commission has approved a final rule on environmental qualification of electrical equipment which supposedly precludes the consideration of Issue #9. This argument fails on several grounds. First, Issue #9 is not limited to electrical equipment, but includes mechanical equipment utilizing polymers as well, as Applicants apparently recognize. Applicants have, in an updated response to OCRE's Interrogatory 3-4, supplied an extensive list of polymers (and equipment utilizing them) used in PNPP. A portion of this list is included in OCRE's supplemental responses to Applicants' Second Set of Interrogatories, filed simultaneously with this brief. The Board should note that among the items Applicants have identified are seals, gaskets, O-rings, seats, and tubing used in purely mechanical components such as valves. Therefore, the issuance of a rule concerning electrical equipment does not

mandate the dismissal of Issue #9, which includes but is not limited to electrical equipment.

The Staff's reliance on the new rule 10 CFR 50.49 (see 48 Fed. Reg. 2729, January 21, 1983) for precluding the litigation of Issue #9 is primarily based on the premise that since Applicants need not complete qualification of electrical equipment until March 31, 1985 (and provisions for extending this deadline indefinitely are contained in 10 CFR 50.49(g)), any issue concerning environmental qualification of electrical equipment will be beyond the Licensing Board's jurisdiction. This is not totally true. The Staff has conveniently ignored 10 CFR 50.49(i), which requires applicants for operating licenses to be granted on or after February 22, 1983 but before November 30, 1985 to perform an analysis to ensure that the plant can be operated safely pending completion of equipment qualification. The analysis must be submitted prior to the granting of the license. Since Perry Unit 1 falls into this time frame for the granting of an operating licensing, Applicants must submit this analysis before a license is granted. Hence, the issue of environmental qualification of electrical equipment is indeed within the Board's jurisdiction.

The Staff also claims that Issue #9 is an impermissible challenge to 10 CFR 50.49(e)(5) because this new rule permits accelerated aging of equipment. However, 10 CFR 50.49(e)(4) requires radiation dose-rate effects to be included in the equipment qualification program. 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. If Applicants choose accelerated aging in qualifying equipment by test, they will have to demonstrate that these effects have been incorporated. If Applicants choose to qualify equipment by analysis, this analysis must also meet the requirements of 10 CFR 50.49(e). The true issue at stake here is whether Applicants will comply with the NRC's regulations in their design of an equipment qualification program. The degree of compliance with regulations is always litigable in licensing proceedings. Issue #9 thus in no way challenges 10 CFR 50.49.

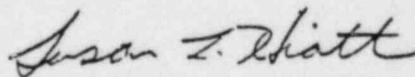
Finally, the Staff, relying on the submitted affidavit, concludes that there is reasonable assurance that exposure of polymers to radiation at PNPP will not cause unsafe conditions to occur. The only possible basis for this conclusion is that Applicants have committed to follow Regulatory Guide 1.33, Revision 2 in developing maintenance/surveillance programs to detect polymer degradation at PNPP. Applicants have not yet submitted any such programs. To dismiss Issue #9 on the hope that Applicants' yet-to-be-submitted maintenance/surveillance programs will be a cure-all for any deficiencies in their equipment qualification program is not only illogical and contrary to NRC regulations but also is tantamount to delegating an important issue to the Staff for resolution. This is prohibited by Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Units 1 and 2), ALAB-298, 2 NRC 730, 737 (1975).

Moreover, the Staff's unsupported assertion that polymer degradation will not cause unsafe conditions at Perry is reminiscent of the Staff's use of unsupported assertions in its attempt to seek summary disposition of Issue #3. The Licensing Board rejected the Staff's attempt, stating that:

(S)taff's conclusion is not buttressed by supporting facts and reasons and does not negate the existence of a genuine issue of fact. Even at trial, were we to accept such unsupported staff statements we would be abrogating our responsibility as judges and substituting the staff's judgement for our own. On ultimate issues of fact, we must see the evidence from which to reach our own independent conclusions. (December 22, 1982 Memorandum and Order on Summary Disposition at 9.)

The Licensing Board, not the Staff, is the Commission's primary fact-finding tribunal (Northern Indiana Public Service Co. (Bailly Generating Station, Nuclear-1), ALAB-303, 2 NRC 858, 867 (1975)). The Staff again ignores this fact and seeks to supplant the Board's judgement with its own. By requesting summary disposition of this important issue, the Staff is attempting to deprive the Board of the right, through the adjudicatory process, to independently determine the truth. For this and all of the above reasons, the Staff's motion for summary disposition of Issue #9 must be denied.

Respectfully submitted,



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STATEMENT OF MATERIAL FACTS PERTAINING TO ISSUE #9

1. Issue #9 in this proceeding states:

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. (LBP-82-53, 16 NRC ___)

2. Issue #9 is based on research conducted by Sandia National Laboratories (documented in NUREG/CR-2156, NUREG/CR-2157, NUREG/CR-2553, and NUREG/CR-2877), which was prompted by the discovery of severely embrittled electrical cable insulation at the Savannah River Plant at radiation levels far below those generally thought to cause that degree of degradation (NUREG/CR-2877 at 13 and NUREG/CR-2156 at 8-9).
3. Researchers at Sandia have found strong dose-rate effects influencing the degradation of the following polymers: polyethylene, polyvinyl chloride, crosslinked polyolefin, ethylene propylene rubber, chloroprene rubber, and chlorosulfonated polyethylene. Specifically, the amount of degradation of these polymers is more severe under the low dose-rate exposures characteristic of natural aging conditions than under the high dose-rate exposures utilized for aging simulations (NUREG/CR-2157 at 19).
4. Researchers at Sandia have found strong synergistic effects influencing the degradation of polyethylene and polyvinyl chloride. Specifically, exposure of these polymers to radiation and elevated temperature (either simultaneously or sequentially, in the order: radiation followed by elevated temperature) caused more deterioration than either condition alone. Similar synergistic effects have been found in some ethylene propylene polymers. (NUREG/CR-2156 at 9; NUREG/CR-

2553 at iii)

5. Applicants are utilizing in PNPP safety-related equipment and components using polyethylene, polyvinyl chloride, crosslinked polyolefin, ethylene propylene rubber, chloroprene rubber, and chlorosulfonated polyethylene as seals, gaskets, O-rings, tubing, and insulation or jacketing on electrical cable. (Applicants' Answers to OCRE Interrogatory 3-4 and OCRE's Responses to Applicants' Second Set of Interrogatories to OCRE)
6. 10 CFR 50.49(e)(4) and (7) requires Applicants to design a program for the qualification of electrical equipment considering dose-rate and synergistic effects.
7. 10 CFR 50.49(i) requires Applicants to submit, before they receive an operating license for PNPP, an analysis showing that the plant can operate safely pending completion of equipment qualification. 10 CFR 50.49(g) includes the provision for indefinite extensions of the deadline for the completion of environmental qualification of equipment. Thus, PNPP could operate for some time without completing equipment qualification. Since this time period could be lengthy enough to result in equipment degradation, it is likely that the analysis required by 10 CFR 50.49(i) will have to address long-term equipment qualification.
8. Applicants' maintenance/surveillance program for detecting deterioration of equipment is in the developmental stages (Applicants' Answer to OCRE Interrogatory 8-5). The adequacy of this program therefore cannot be determined at this time.

CERTIFICATE OF SERVICE

This is to certify that copies of the foregoing ~~OCRED RE~~
SPONCE TO NRC STAFF MOTION FOR SUMMARY DISPOSITION OF ISSUE #9
were served by deposit in the U.S. Mail, first class, postage
prepaid, this 7th day of February 1983 to those on the service
list below.

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