

December 14, 1982

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSIONDOCKETED
USNRCBefore the Atomic Safety and Licensing Board

In the Matter of)
)
CLEVELAND ELECTRIC ILLUMINATING)
COMPANY, Et Al.)
)
(Perry Nuclear Power Plant,)
Units 1 and 2))

'82 DEC 17 AIO:44

Docket Nos. 50-440
50-441
(Operating License)

OCRE RESPONSE TO NRC STAFF'S MOTION FOR
SUMMARY DISPOSITION OF ISSUE #4

On November 5, 1982, the NRC Staff filed its motion for summary disposition of Issue #4 in this proceeding. As grounds for its motion, the Staff submitted the affidavit of S.B. Sun. Ohio Citizens for Responsible Energy ("OCRE"), lead intervenor for Issue #4, hereby files its response in opposition to the Staff's motion.^{1/} In this response OCRE will demonstrate that there are genuine issues of material fact to be heard with respect to Issue #4 and that the Staff's motion must be denied.

In addition to the requirements of 10 CFR 2.749, various Licensing Board and Appeal Board decisions set the standards for summary disposition. The Appeal Board has stated that

^{1/} 10 CFR 2.749(a) states that any "party may serve an answer supporting or opposing the motion, with or without affidavits, within twenty (20) days after service of the motion." OCRE requested, and was granted, an extension of time within which to respond, until December 15, 1982, during the conference call of November 23, 1982.

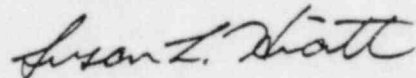
"summary disposition is a harsh remedy. It deprives the opposing litigant of the right to cross-examine the witness, which is perhaps at the very essence of a adjudicatory hearing."

Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Units 1 and 2), ALAB-443, 6 NRC 741,755 (1977). Summary disposition is only authorized where the moving party is entitled to a judgement as a matter of law, where it is quite clear what the facts are, and, where no genuine issue remains for trial. In determining such a motion, the record will be reviewed in the light most favorable to a party opposing the motion. The opposing party need not show that it would prevail on the factual issues, but only that there are such issues to be tried. Pacific Gas and Electric Co. (Stanislaus Nuclear Project, Unit 1), LBP-77-45, 6 NRC 159, 163 (1977). Before granting a motion for summary disposition, the Licensing Board must demonstrate that there clearly is no possibility that there exists a litigable issue of fact. Power Authority of the State of New York (Greene County Nuclear Power Plant), LBP-79-8, 9 NRC 339, 340 (1979). In addition, in an operating license proceeding, where significant health and safety or environmental issues are involved, the Licensing Board should only grant summary disposition if it is convinced that the public health and safety and environment will be satisfactorily protected. Cincinnati Gas and Electric Co. (Wm. H. Zimmer Nuclear Station), LBP-81-2, 13 NRC 36, 40-41 (1981). Even if no party opposes a motion for summary disposition, the movant's filings must still establish the absence of a genuine issue of material fact. Perry, supra, at 753-754.

Thus, it must be concluded that the burden of proof in a motion for summary disposition is clearly upon the movant.

OCRE contends that the Staff has not met its burden of proof with respect to Issue #4. OCRE submits the attached Statement of Material Facts Pertaining to Issue #4 as evidence that there are genuine issues of fact to be heard. The Staff's motion for summary disposition on this issue must therefore be denied.

Respectfully submitted,



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STATEMENT OF MATERIAL FACTS PERTAINING TO ISSUE #4

1. Issue #4 in this proceeding states:

The safety of Applicant's emergency core cooling system has not been demonstrated with appropriate experimental data because a full scale 30 degree sector steam test has not been performed. (Special Prehearing Conference Memorandum and Order, LBP-81-24, slip op. at 68.)

2. The purpose of the full scale 30° sector steam test is to confirm General Electric's methodology for predicting ECCS spray distribution from a multi-nozzle core spray system operating in a steam environment. NEDO-24712, "Core Spray Design Methodology Confirmation Tests," pp. 1-1/1-2. The adequacy of BWR core spray distribution in steam has been questioned as a result of tests conducted in Europe. NRC Staff Answer to Sunflower Alliance Second Set of Interrogatories, #28, dated August 2, 1982.
3. The 30° sector steam test has been performed, and the results are considered acceptable by GE and the NRC. (NEDO-24712 and letter, dated January 30, 1981, from R. Tedesco, NRC, to G. Sherwood, GE.) However, the test methodology has the following deficiencies and unresolved discrepancies:
- (a) BWR ECCS core spray distribution is influenced by a variety of factors, including system pressure, temperature, and steam flow rate, and may involve core-wide phenomena such as vortex, swirling, redistribution, and 2-phase froth buildup. (Sunflower Alliance Request for Admission #4, admitted by Staff (response dated August 16, 1982) and partially admitted by Applicants (response dated August 10, 1982).)

- (b) Core-wide phenomena such as vortex, swirling, redistribution, and 2-phase froth buildup would not be discovered without actual full-scale, multi-nozzle experiments in steam at pressures typical of those present in the BWR upper plenum following a LOCA. (Sunflower Alliance Request for Admission #5, denied by Applicants but neither admitted nor denied by Staff.)
- (c) The 30° sector steam test methodology as described in NEDO-24712 cannot duplicate actual conditions present in the core following a LOCA and thus cannot provide experimental data on core-wide phenomena such as vortex, swirling, redistribution, and 2-phase froth buildup. (Sunflower Alliance Request for Admission #6, neither admitted nor denied by both Applicants and Staff.)
- (d) The 30° sector steam test methodology as described in NEDO-24712 cannot represent realistic core conditions because spray distribution in the center 2 feet of the core is affected by both sector size and the influence of the sector walls. (Sunflower Alliance Request for Admission #7, neither admitted nor denied by both Applicants and Staff.)
- (e) Since the center core region is farthest from the spray nozzles, this region would be the most adversely affected by steam pressure effects on core spray distribution. (Sunflower Alliance Request for Admission #8, neither admitted nor denied by both Applicants and Staff.)
- (f) Points of concern identified at p. 5 of the NRC's

Topical Report Evaluation for NEDO-24712, pertaining to large uncertainty bands on the SSTF data and variation with steam flow and pressure, have not been resolved. (Sunflower Alliance Request for Admission #17, admitted by Staff but denied by Applicants.)

4. (a) The Commission's regulations (10 CFR 50.46 and GDC 35, 36, and 37 of Appendix A to 10 CFR Part 50) require that the Perry facility incorporate an ECCS, the performance of which is calculated in accordance with the requirements of Appendix K to 10 CFR Part 50.
- (b) The Perry plant must comply with the Commission's regulations. The Appeal Board has stated that "it cannot be argued that, even though the reactor does not comply with the criteria, it should receive an unrestricted, full-power, full-term license on the ground that there is reasonable assurance that it can operate without adversely affecting the public health and safety. Such an argument might be factually supportable, but would constitute an indirect attack on the applicable commission regulations. Again, the point to be made is a simple one: reactors may not be licensed unless they comply with all applicable standards." Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station), ALAB-138, 6 AEC 520, 528-529 (1973).
- (c) Therefore, Applicants and Staff cannot claim that, even if the Perry ECCS core spray flow and distribution are inadequate, sufficient core cooling can be accomplished

full-scale electrically heated 7x7 fuel bundle at a pressure of 1 atmosphere in air (p. 1).

- (d) APED-5529 at pp. 16-17 states that for all these tests described therein a top break was simulated; "no special provisions for investigating the effects on heat transfer of cladding material (stainless steel used for all components) or distortions of that cladding or the rods due to internal gas pressure or other forces were made in these tests. However, considerable rod distortion did occur and its effect is mentioned in the discussion. All of the aforementioned variables are considered important to the results, and so the extrapolation of the results to values of these variables other than those tested must be done with caution."
- (e) Perry will use P8x8R (prepressurized) fuel (SER, NUREG-0887, p. 4-14) with zircaloy cladding (SER, p. 4-10).
- (f) APED-5529 at p. 52 describes a test performed on a partially heated fuel bundle, the result being that the partially heated bundle was cooled less effectively by the core spray than was a fully heated bundle. This was thought to be caused by the migration of water to the unheated corner of the bundle, resulting in some starvation of the hot zone. This phenomenon was not investigated by the 30° sector steam test, since this test did not use heated rods or simulate core power levels.

6. Recent tests in Japan have shown that central bundles receive

low core spray flow due to maldistribution. These results were similar to those obtained from the 30° sector steam tests. These sector test results are believed to be atypical of a 360° configuration. However, some of the tests performed by the Japanese involved 360° tests with only every sixth nozzle operating; this produced results similar to those of the sector tests. See December 11, 1981 memorandum from R.L. Tedesco to the Shoreham ASLB. The memorandum states that these results could be interpreted to infer that previous conclusions concerning the atypicality of low central bundle flow are incorrect and that there is some possibility that the new data contradict conclusions from 360° air-water tests in the U.S. for the BWR/6 configuration.

CERTIFICATE OF SERVICE

This is to certify that copies of the foregoing OCRE RESPONSE TO NRC STAFF'S MOTION FOR SUMMARY DISPOSITION OF ISSUE #4 were served by deposit in the U.S. Mail, first class, postage prepaid, this 14th day of December, 1982 to those on the service list below.

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