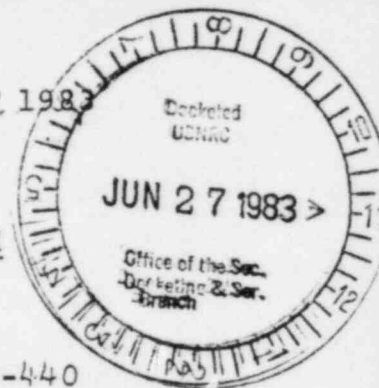


June 23, 1983

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

In the Matter of)

CLEVELAND ELECTRIC ILLUMINATING)
COMPANY, Et Al.)(Perry Nuclear Power Plant,)
Units 1 and 2))Docket Nos. 50-440
50-441
(Operating License)OCRE RESPONSE TO NRC STAFF'S MOTION FOR SUMMARY
DISPOSITION OF ISSUE #13

On May 31, 1983, the NRC Staff filed its motion for summary disposition of Issue #13 in this proceeding, which concerns turbine missile hazards. Intervenor Ohio Citizens for Responsible Energy ("OCRE") hereby opposes this motion.

OCRE, by filing the attached affidavit pursuant to 10 CFR 2.749(c), requests that the Licensing Board refuse the Staff's application for summary disposition on the grounds stated.

OCRE also contends that the Staff's motion has been filed prematurely and to grant the motion would exclude valuable evidence concerning the turbine missile issue. According to SSER 3, p. 3-9, General Electric intends to submit its analysis of turbine missile probabilities to the NRC by June 1983. It would seem prudent to await this submittal and the Staff's evaluation of same before deciding the fate of Issue #13. OCRE believes that the delay, if any, in this proceeding resulting therefrom will be far outweighed by the benefit of having a full record on this issue.

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OCRE also questions whether more time is needed generally, by the NRC and the industry, to obtain and analyze data on turbine disk cracking. SSER 3 at p. 3-9 states that such problems with GE turbines have only been known since 1982. OCRE believes that it is improper to consider the turbine missile issue solved for PNPP when new data and research on a newly emerging problem may disclose information invalidating the Staff's assumptions and conclusions.

OCRE would further challenge the validity of the Staff's allowing Applicants three years to develop a turbine system maintenance program (SSER 3 at 3-10) on the basis that the Staff is not aware of any turbine failure within 3 years of startup and since no cracks of greater than one-half the critical depth have been observed in GE turbines within 3 years of startup. Documents obtained by OCRE from Applicants through discovery suggest that the Staff's reasoning may not be valid.

Attachment 1, an excerpt from material presented at a GE turbine seminar, outlines the history of turbine inspection and states that the test procedures for such inspections were not available until 1978. Apparently there was little interest in these procedures shown by utilities until problems became apparent with Westinghouse turbines. Inspections were not conducted with any frequency until 1980; only in late 1981 was there any conclusive evidence that the indications discovered were stress corrosion cracks. OCRE notes that among the conclusions reached in the attachment are: (1) (crack) growth

rates are faster than previously assumed; (2) the exact mechanism is not understood,

GE's 1978 inspection recommendations suggested that inspections be conducted on turbines after 6 years of service. Data presented in a subsequent GE seminar (Attachment 2) indicates that most turbines which have been inspected have been in service longer than 6 years. Only 47% of the turbines having less than 6 years service have been inspected; no breakdown is available for those having less than 3 years service. (The results of these inspections are not comforting, as 74% of the turbines inspected have shown indications.) It thus appears that there is an inadequate data base from which to draw conclusions such as the Staff's.

OCRE's view is corroborated by a paper presented at the EPRI Seminar on Turbine Missile Effects in Nuclear Power Plants, held in October 1982. "Missile Generation Rates from Historical Data" by Patrick G. Heasler, Pacific Northwest Laboratory, contains a statement at p. 10-1 concerning a tabulation of burn-in failures of turbines (most of which generated missiles): "(t)hese probabilities indicate that there is approximately one in a thousand chance of a new turbine in a plant failing soon after it goes into operation." Compare this 10^{-3} probability with the Staff's criterion, Table 3.1 of SSER 3, that such probability should be kept below 10^{-5} for plants with unfavorable turbine orientation, such as Perry.

OCRE also suspects that the NRC's handling of this issue has violated its own policy. According to Attachment 3,

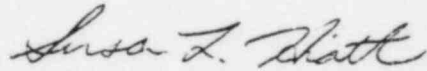
a technical report to the ACRS on the PNPP turbine missile issue, the Staff is proposing changes to Regulatory Guide 1.115 and § 3.5.1.3 of the Standard Review Plan. The Staff concedes, though, that the current versions of these documents are still in force (p. 3 of the report). However, the Staff has evaluated Perry on the basis of the proposed guidelines. It is OCRE's understanding that it is the NRC's policy to circulate draft versions of regulatory guidelines for internal and public comment (including that of the ACRS) before implementing them.^{1/} Thus, the Staff appears to be violating its own policy, apparently for the purposes of reducing "the analytical burden placed on licensees/applicants." Report at 5.

Even this logic is not applicable to Perry, as Applicants have performed calculations of probabilities of turbine missile strike, both at the CP stage (GAI Report No. 1848, October 1976) and now, at the OL stage (GAI Report No. 1848, Revision 1, September 1982). OCRE would speculate that the real reason for the Staff's decisions is to relieve the financial burden on OL applicants, whose facilities are largely constructed, of having to relocate already-installed turbine-generators or to provide extra shielding from turbine missiles for safety-related targets, as might be required by the existing guidelines. The Staff has let applicants take the route of least expense,

^{1/} See Attachment 4, p. 1 of a draft regulatory guide, the bottom portion of which outlines the NRC's policy on draft guidelines.

that of inspecting and maintaining turbines according to procedures which have not been developed, based on inadequate and incomplete data, and in accordance with regulatory policies yet to be approved. OCRE concludes that these circumstances alone demand the litigation of Issue #13 in this proceeding. The Staff's motion for summary disposition must be denied.

Respectfully submitted,



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STATEMENT OF MATERIAL FACTS
PERTAINING TO ISSUE #13

1. Issue #13 in this proceeding states:

Applicant has not demonstrated that the placement and orientation of the Perry Nuclear Power Plant turbine-generators is in compliance with regulatory requirements that limit the risk that low-trajectory turbine missiles will strike safety-related targets, thereby endangering the safe operation of the facility.

2. The NRC Staff considers the placement and orientation of the PNPP turbine-generators to be unfavorable. SSER 3 at p. 3-1.
3. General Electric is preparing a report for NRC review and approval describing methods for determining turbine missile generation probabilities in relation to disk design parameters, material properties, and inservice inspection intervals. SSER 3 at p. 3-4. This report is to be submitted by June 1983. SSER 3 at p. 3-9.
4. The Staff has been aware of stress corrosion cracking in low pressure rotor disks of GE turbines since 1982. SSER 3 at p. 3-9.
5. The Staff has given Applicants 3 years from the issuance of an operating license to submit a turbine system maintenance program based on GE's calculation of missile generation probability. The reason for allowing Applicants 3 years is that the Staff is not aware of any turbine failures resulting from crack propagation within 3 years of startup, or of any cracks exceeding one-half the critical crack depth within 3 years of startup. SSER 3 at p. 3-10.

6. GE's analyses have found that crack growth rates are faster than previously assumed, and that the mechanism is not understood. See Attachment 1.
7. Most GE turbines which have been inspected have been in service longer than 6 years; only 47% of the turbines in service less than 6 years have been inspected. See Attachment 2.
8. According to "Missile Generation Rates from Historical Data" by Patrick G. Heasler, Pacific Northwest Laboratory, the probability of a new turbine failing soon after going into operation is one in a thousand.
9. The Staff requires that the probability of missile generation be less than 10^{-5} for plants with unfavorable turbine orientation. SSER 3 at p. 3-6, Table 3.1.