.670

RELATED CORRESPONDENCE

SHAW, PITTMAN, POTTS & TROWBRIDGE
A PARTNERSHIP OF PROFESSIONAL CORPORATIONS
1800 M STREET, N. W.
WASHINGTON, D. C. 20036

DOCKETED USNRC

'85 FEB 21 A10:09

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

TELECOPIER
(202) 822-1099 & 822-1199
TELEX
89-2693 (SHAWLAW WSH)
CABLE "SHAWLAW"
TELEPHONE
(202) 822-1063

JAY E. SILBERG, P.C.

February 19, 1985

James P. Gleason, Chairman
Atomic Safety and Licensing Board
513 Gilmoure Drive
Silver Spring, Maryland 20901

Dr. Jerry R. Kline
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. Glenn O. Bright
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

The Cleveland Electric Illuminating Company
(Perry Nuclear Power Plant, Units 1 and 2)
Docket Nos. 50-440 and 50-441 OL

Gentlemen:

OCRE's February 11, 1985 Response to Applicants' Motion for Summary Disposition of Issue 15 (at page 3) references two of Applicants answers (Nos. 9-44 and 9-46) to OCRE interrogatories. Because OCRE's characterization of these answers is inconsistent with the interrogatory answers themselves, there is enclosed for the Board's convenience a copy of the relevant answers.

Very truly yours,

Jay E. Silberg

JAY E. SILBERG

cc: Service List
JES:lam

DS03

March 8, 1983

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

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

APPLICANTS' ANSWERS TO OHIO CITIZENS FOR RESPONSIBLE ENERGY INTERROGATORIES 9-1 THROUGH 9-25 AND 9-38 THROUGH 9-52 RELATING TO ISSUE NOS. 13 AND 15

Applicants for their answers to Ohio Citizens for Responsible Energy ("OCRE") Interrogatories #9-1 through #9-25 and #9-38 through #9-52 from OCRE's Ninth Set of Interrogatories to Applicants, dated January 31, 1983, state as follows:

All documents supplied to OCRE for inspection will be produced either at Perry Nuclear Power Plant ("PNPP"), for documents in the possession of The Cleveland Electric Illuminating Company ("CEI"), or at the offices of Gilbert

The inservice inspection program for extraction steam piping will be consistent with the following principles. Radiographic or ultrasonic test techniques will be used to determine actual wall thickness of the piping. These numbers will be compared to the minimum wall requirements shown in Attachment 3 to determine if repair or replacement is required. All repairs will be done according to ANSI/ASME B31-1.

9-44. Describe in detail any plans, provisions, designs, criteria, standards, etc. which Applicants may have for preventing steam erosion and the effects thereof.

Response:

Modifications were made in the Extraction Steam System (N36), High Pressure (N25) and Low Pressure (N26) Heater Drains and Vents Systems, and Main, Reheat, Extraction and Miscellaneous Drain System (N22) beginning in 1976. These modifications were made primarily to enhance system operational reliability.

(a) N25/N26 - High Pressure and Low Pressure Heater Drains and Vents. Level will be controlled in the high pressure and low pressure heaters by means of a level control switch which will open a control valve in either a normal or alternate flow path. Downstream of this control valve, severe erosion can occur. This problem has been identified throughout the industry. To minimize the effects of erosion, a criterion

was established that no directional changes in piping would be acceptable between the valve and heater/condenser.

Because of physical limitations, this criterion could not always be followed. Where directional changes occur, 90° elbows were replaced with tee's and target plates with telltales added. See Attachment 2 for details. The stainless steel target plate will act as a wear plate and can be readily removed if necessary. This design has been used very successfully at CEI's fossil fuel plants and has minimized erosion problems in heater drain lines.

(b) N22 - Main, Reheat, Extraction and Miscellaneous Drain System. The erosion problems associated with this system are identical to those discussed in (a) above. That is, erosion may occur downstream of the drain control valve. Because this piping is mostly small bore (two inches or less), Applicants decided not to use the solution described in (a) above. Instead, it was decided to change the material downstream of the control valve to a more erosion-resistant material. The material specified was A335, grade P11 or P12, which contains 1-1 1/4% chromium - 1/2% molybdenum.

(c) N36 - Extraction Steam Piping. As explained in response to Interrogatory #9-48(c), infra, erosion can occur in steam piping whenever high steam velocity or low steam quality exists. A review of the extraction steam piping system was undertaken by Applicants in 1977. Potential erosion problems were identified in some of the extraction piping.

The piping for which potential problems were identified was replaced in Unit 2 with a more erosion-resistant material (A335, grade P11 or P12). Since it was not practical at that time to replace the Unit 1 extraction piping, it was decided to design an inservice inspection program to monitor piping elbow wall thickness in Unit 1 in order to enhance system reliability. See response to Interrogatory #9-43, supra.

In addition to the above changes, the seating surfaces of the MSIVs have been covered with more erosion-resistant materials.

9-45. Describe in detail any plans, provisions, programs, etc. which Applicants may have for detecting and assessing steam erosion or the effects thereof.

Response:

Plans for detecting and assessing steam erosion in Unit 1 extraction steam piping are described in response to Interrogatory #9-43, supra. Plans for "Type C" leak testing of the MSIVs are described in response to Interrogatory #9-46, infra. In addition, Applicants will have an inservice testing program for all valves as required by ASME Section XI. This program is still being developed.

9-46. Describe in detail any plans, provisions, procedures, etc. which Applicants may have for mitigating steam erosion or the effects thereof. Include any procedures for the repair or replacement of any affected components.

Response:

As stated in response to Interrogatory #9-43, supra, repair or replacement of Unit 1 extraction steam piping will be carried out as necessary to comply with the minimum wall thicknesses set forth in Attachment 3. Note also that the erosion allowances shown in Attachment 3 exceed the corresponding minimum wall thicknesses from 50% to 400%. The inspection program together with the conservatism in the erosion allowances will minimize steam erosion problems in the extraction steam piping.

The PNPP main steam isolation valve ("MSIV") leakage control system also will mitigate the effects of steam erosion. See FSAR § 6.7. This system is used to reduce the amount of radioactive material released to the environment. To accomplish this, MSIV leakage is directed into the shield building annulus, which is serviced by the annulus exhaust gas treatment system. The MSIV leakage control system is designed to process 100 scfh total leakage per main steam line.

Main steam line leakage results from leakage past the MSIVs. Each line consists of an inboard isolation valve (B21F022), an outboard isolation valve (B21F028), and a long term leakage control valve (N11F020).

To control valve leakage and to insure that the total main steam line leakage does not exceed the capacity of the MSIV leakage control system, the inboard MSIV and outboard MSIV will

be "Type C" leak tested according to the requirements of Appendix J to 10 C.F.R., Part 50. Leakage will not exceed 25 scfh per valve. See FSAR Table 6.2-40, n.4. In addition, PNPP's Tech Specs will require that the leakage rate per valve be restored to less than 25 scfh prior to increasing reactor coolant system temperature above 200° F. In the event these valves become a maintenance problem with regard to leakage, appropriate action (repair or replacement) will be taken.

To insure that the system capacity (100 scfh per line) is not exceeded, conservatism has been built into the MSIV leakage rate (25 scfh). Additional reliability is built into design due to the fact that leakage must pass through these isolation valves in series. Further, no credit has been taken in this analysis for the long term leakage control valve.

9-47. What is the vendor/manufacturer of the MSIV's to be used at PNPP?

Response:

Valve	Manufacturer
B21F022A,B,C,D	Atwood and Morill Co.
B21F028A,B,C,D	Atwood and Morill Co.
N11F020A,B,C,D	Borg-Warner

9-48. It is stated in IE Information Notice 82-22 that the Oconee licensee (Duke Power Co.) theorized that reduced power operation and resultant lower quality steam contributed to accelerated steam erosion.