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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF SECRETARY
OF ENERGY

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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

APPLICANTS' SUPPLEMENTAL ANSWERS
TO SUNFLOWER ALLIANCE, INC. ET AL.
SECOND SET OF INTERROGATORIES
TO APPLICANTS

As stated in Applicants' September 30, 1982, Answer to Sunflower Alliance, Inc. Motion To Compel Applicants To Answer Second Set of Interrogatories ("Applicants' Answer"), Applicants have agreed to provide answers to certain interrogatories to which they originally objected. Applicants hereby answer those interrogatories.

RESPONSES

44. Demonstrate and discuss how emergency response facilities meet each and every criteria listed in NUREG-0814; answer all questions therein. (Emergency response facilities include the control room, Technical Support Center, Operational Support Center and Emergency Operations Facility.)

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Response:

Sunflower Alliance, Inc. ("Sunflower"), by its Motion To Compel Applicant To Answer Second Set of Interrogatories, has limited Interrogatories #44, #45, #46 and #47 to Applicants' Emergency Operations Facility ("EOF"), and has further restricted Interrogatory #44 to Sections 5.1 and 5.2 of NUREG-0814. See Applicants' Answer at 3.

The following is a comparison of Applicants' commitments on the EOF with each of the criteria of Sections 5.1 and 5.2 of NUREG-0814.

<u>NUREG-0814 Criteria</u>	<u>Responses to NUREG-0814 Criteria</u>
5.1 Integration with Overall Emergency Planning	
1. The design of the Emergency Operations Facility (EOF) addresses the following goals:	Section 7.1.3 of the Emergency Plan for Perry Nuclear Power Plant, CEI Report No. OM-15A, Rev. 0 (September 22, 1982) ("Emergency Plan") states that the EOF will be staffed to address each of these goals or functions. Further, the EOF has been designed to provide sufficient space to perform each of the functions assigned to EOF personnel. <u>See</u> Figure 7-3. E.g., the radiation dose assessment function will be carried out in the display room; coordination with off-site agencies will take place in the communication room.
a. Management of overall licensee emergency responses;	
b. Coordination of radiological and environmental assessment;	
c. Determination of recommended public protective actions; and	
d. Coordination of emergency response activities with Federal, State, and local agencies.	

2. The EOF shall be staffed by licensee, Federal, State, local and other emergency personnel designated by the emergency plan.

Applicants' primary staffing commitments for the EOF are described in Section 5.2.4 of the Emergency Plan. As shown in Figure 7-3, space will be provided for State and local agency representatives (room labeled "L/S") as well as Nuclear Regulatory Commission representatives (room labeled "NRC") in the event of a radiological emergency. Thus, should these agencies' own plans and/or procedures call for them to send representatives to the EOF, their representatives will be accommodated.

3. Facilities shall be provided in the EOF for the acquisition, display, and evaluation of all radiological meteorological and plant system data pertinent to determining off-site protective measures.

The technical instrumentation and data available in the EOF will include computer terminals from the Emergency Response Information System ("ERIS") and the Radiation Protection Data Information System ("RPDIS"). See Section 7.1.3 of the Emergency Plan. The ERIS and RPDIS systems are described in Sections 7.3.1 and 7.3.2, respectively. The on-site meteorological measurements program will provide data as inputs for these systems. The meteorological program is described in Section 7.3.7.

4. The licensee shall use the EOF to coordinate its emergency response activities with those of the local,

Applicants will use the EOF to coordinate its emergency response activities with those

State, and Federal agencies, including the NRC. Licensee personnel in the EOF will assess potential offsite effects and make appropriate protective action recommendations for the public to State and local emergency response agencies. The EOF may be used as a location for information dissemination to the public via the news media by designated spokespersons in accordance with the licensee's emergency plan. The licensee also may use the EOF as the post-accident recovery management center. Since the specific allocation of functions assigned to emergency facilities will differ from design to design, the proposal should clearly state which functions (Radiological Assessment, Security, Coordination with Offsite Agencies) are assigned to the EOF.

of the local, State and Federal agencies, including the NRC. See Sections 5.2.4 and 7.1.3 of the Emergency Plan. Licensee personnel in the EOF will assess potential offsite effects and make appropriate protective action recommendations for the public to State and local emergency response agencies. See Section 5.2.4. The EOF will not be used as the location for information dissemination to the public via the news media. Applicants will use the EOF as the post-accident recovery management center. Functions assigned to the EOF and EOF staff by Applicants appear in Sections 7.1.3 and 5.2.4., respectively.

5.2 Location, Structure and Habitability

1. The siting of the EOF should include the following criteria:

- a. Whether the location facilitates carrying out the functions specified for the EOF (i.e., determination of public protective actions to be recommended by the licensee to offsite officials, and coordination of the licensee with Federal, State, and local organizations). Describe the transportation network in the

The following are among the ways in which the EOF location facilitates carrying out the functions specified in Sections 5.2.4 and 7.1.3 of the Emergency Plan: the facility is located sufficiently close to PNPP to permit secure, direct data link connections for ERIS and RPDIS displays between the plant computers and the computer terminals at

vicinity of the EOF adequate to assure rapid coverage of the EPZ by monitoring teams.

the EOF; the location of the EOF adjacent to the PNPP training facility facilitates emergency preparedness training; the location of the EOF close to PNPP allows use of the plant site emergency communications systems at the EOF. The transportation network around PNPP is described in the evacuation time estimate study prepared for Applicants by PRC Voorhees and presented as Appendix D of the Emergency Plan.

Is the EOF placed in a location that is readily accessible by road to Federal, State, local government officials as well as the licensee's corporate and site operations personnel?

The EOF is located about one-half mile from Route 20, a major east-west route crossing the plume exposure pathway EPZ. Thus, it is easily accessible by road.

Has the selection of the EOF location been coordinated with State/local officials?

No, the selection of the EOF location has not been coordinated with State or local officials. State and local officials are aware, however, of the EOF location.

b. What radiation doses would be expected when the EOF is accessed during DBA or other specified accident (less than or equal to 5 rem)?

A Loss of Coolant Accident ("LOCA") which results from a spectrum of postulated piping breaks within the reactor coolant pressure boundary is one example of a DBA. The calculated radiological exposures for this event are presented in Table 15.6-18 of the PNPP FSAR. As shown there, the exposures at the exclusion area

boundary constitute only a small fraction of the limits set by 10 C.F.R., Part 100. The EOF is located near enough to the exclusion area boundary (about 600 meters from the center of the Control Complex compared to 863 meters for the exclusion area boundary) that exposures at these distances can be considered roughly equivalent. Further, the exposures presented in Table 15.6-18 are calculated for the duration of the postulated accident. Thus, exposures during accessing of the EOF would constitute only a fraction of those doses.

Is the EOF accessible during periods of radiation releases?

Since the releases resulting from a LOCA at PNPP will not exceed the 10 C.F.R., Part 100 limits for the exclusion area boundary, and since the EOF is located near the exclusion area boundary, the EOF will be accessible during predicted radiological releases for this DBA. If for any reason the EOF were not accessible, there is an alternate EOF.

Is there an alternate EOF?

The alternate EOF is located at CEI's Concord Service Center.

2. The EOF must be able to withstand reasonable expected adverse conditions (e.g., 100 year floods and

The EOF is located in an area which would not be inundated with water in a 100 year flood.

high winds).

How would the 100-year water levels and winds affect the operation of the EOF?

Further, the EOF is designed to withstand 35 PSF (positive) and -31 PSF (negative) on the walls, and -62 PSF (negative) at the corners. These specifications are roughly equivalent to a wind speed of 100 mph. Thus, the EOF will be able to withstand reasonable, expected, adverse conditions.

3. The EOF shall have a protection factor greater than or equal to five if located within 10 miles of TSC; no protection level is necessary if located beyond 10 miles of the TSC. Protection factor is defined in terms of the attenuation of 0.7 MeV gamma radiation.

Since the EOF is located within 10 miles of the TSC, the EOF portion of the Training Facility is designed to provide a protection factor of greater than or equal to 5 for .7 MeV gamma radiation. See Section 7.1.3 of the Emergency Plan.

4. The EOF ventilation system shall be functionally comparable to the control room system and TSC (i.e., high efficiency particulate air filter; no charcoal) if located within 10 miles of TSC. If located beyond 10 miles from the TSC, the EOF needs no ventilation protection.

The EOF will have an isolable, high-efficiency particulate air filtered ("HEPA") ventilation system which will function in a manner comparable to the Control Room ventilation system.

To what level will the HEPA filters reduce particulate levels?

The HEPA filters will be 99.97 per cent efficient on particles of .03 microns in size. (ANSI standards N509/510 were used as guidance.)

Is the HVAC system controlled to permit isolation of the intake?

The HVAC system will be controlled to permit isolation of the intake.

At what level of airborne activity is isolation performed?

Isolation of the system will occur at about the 1 mpc level of Cesium 137, Strontium 90, Iodine 131 or Xenon 133.

How is the level determined?

This threshold will be set based on the air flow and the sensitivity of the equipment in counts per microcurie. A particulate, iodine and noble gas radiation monitor with sensors in the supply duct will distinguish radioiodines at quantities as low as 10^{-7} microcuries/cc.

Where are the sensors located?

Sensors for the airborne monitor will tap off the common air supply discharge.

Where is this level monitored?

Local indication will be available in the vicinity of the mechanical equipment room. The area monitor indication will be in the display room.

5. Protective clothing, respiratory equipment and potassium iodide shall be readily available to all EOF personnel.

Protective clothing, respiratory equipment and potassium iodide will be available for EOF personnel and Radiation Monitoring Team members operating out of the EOF. It is not yet determined whether all personnel will be supplied with such clothing and equipment. All personnel will be supplied with potassium iodide.

If not, how many people would be supplied?

The exact number of people to be supplied with protective clothing and respiratory equipment has not yet been determined.

Are reserves of supplies available?

Reserves of supplies will be available.

Where are they located?

Reserves will be located in various storage areas inside the plant.

How is the need for these supplies determined? (i.e., when will respiratory equipment be used?)

Health Physics Instructions, still in the draft stages, will describe when and how to use these supplies.

Is the protection factor for respiratory equipment equivalent to full face mask?

The protection factor for respiratory equipment will be equivalent to a full face mask.

Are instructions for KI use provided in the EOF?

Instructions for KI use will be provided in the EOF.

45. Where will the Emergency Operations Facility be located (on-site or off-site)? If on-site, explain why, since NUREG-0696 at p. 16 clearly states that the EOF is to be an off-site support center.

Response:

The EOF is located about one-half mile from the Control Complex along the PNPP site access road. The EOF is located outside of the site-protected area. Applicants understand NUREG-0696 at p. 16 to state that the EOF is to be a support center for off-site activities, not that the EOF itself must be located off-site.

46. Describe and give the exact location of the alternate (backup) EOF, the Concord Service Center (FSAR, Appendix 13A, Sec. 7.1.3).

Response:

The CEI Concord Service Center is located at 7755 Auburn Road in Concord Township. This facility is about 10.8 miles SSW of PNPP.

47. For both the main and backup EOFs, describe any normal, non-emergency activities occurring there. Do these activities enhance or detract from emergency preparedness? Are unauthorized persons excluded from the EOF during normal conditions? Define the term "unauthorized person."

Response:

The EOF is part of a larger CEI facility called the Training Facility. During working hours, the Training Facility will be in constant use by Applicants' personnel. The EOF itself will normally be used by Applicants' personnel for emergency preparedness training as well as for drills and exercises.

The EOF will have doors separating it from the rest of the Training Facility. Those doors will not normally be locked during working hours. However, since the Training Facility will be owned and controlled by Applicants, persons not wearing CEI or approved visitor badges would be subject to question if they entered the facility. After working hours, the Training Facility will be locked. Further security precautions cannot be revealed without jeopardizing their effectiveness.

The backup EOF, the CEI Concord Service Center, will normally be used for office and conference space. When either the EOF or backup EOF is activated during an emergency, routine activities will be immediately discontinued; non-emergency personnel will be asked to leave; and a security guard will be posted. Hence, normal activities will not interfere with emergency preparedness at PNPP.

75. Will emergencies of various classifications be declared whenever the Emergency Action Levels indicate that such declarations are in order? Or does the Shift Supervisor/Emergency Duty Officer have the discretion not to declare an emergency even though it is indicated by the applicable EAL? What other criteria will be used by the Shift Supervisor/EDO to classify or declare an emergency?

Response:

The Emergency Planning Instruction on Emergency Classification is the guidance which the Shift Supervisor will use to classify plant emergencies. The instruction will direct the Shift Supervisor to declare an emergency of the appropriate level when he has valid indication that an EAL has been exceeded. The Shift Supervisor's discretion also will be outlined in the instruction. If the Shift Supervisor determines that plant conditions are degrading rapidly, he may declare an emergency level earlier than would be indicated by the instruction. However, unless he can verify that the instrumentation is faulty, the Shift Supervisor may not declare an emergency level later than would be indicated. The Emergency Planning Instruction still is in the draft stages.

85. Would local police officers/departments ever be called on-site to aid PNPP security during any security threat at the plant? If so, have any letters of agreement been signed with local police departments? Describe any security threat scenarios that would result in radiation exposure to off-site police personnel called on-site. Have local police departments received any training or equipment for situations involving radiation exposure?

Response:

As stated in Applicants' Answer at 17, Applicants will not answer any portion of the Interrogatory directed at Applicants' security plans.

Arrangements with local police are set forth in Sheriff Edwin Cunningham's letter to PNPP Plant Manager John Waldron, which appears in Appendix B of the Emergency Plan. All other information on police response appears in the PNPP security plan.

The State of Ohio Disaster Service Agency ("ODSA") is required under the State of Ohio Nuclear Power Plant Emergency Response Plan to provide radiological emergency response training to offsite emergency workers. See Section II, Part N of the State Plan. The ODSA training for the PNPP offsite emergency workers began on October 4, 1982 with the City of Eastlake. The ODSA will provide radiological monitoring equipment to emergency response agencies through the respective County DSAs.

86. Has the Applicant (or anyone on behalf of or to the knowledge of the Applicant) conducted any studies on protective actions other than evacuation for the general public? Specifically, are there any estimates or analyses of the time required to effectuate sheltering or thyroid prophylaxis? (Also for Counties?)

Response:

The following are studies on the subject of protective actions for the general public other than evacuation of which Applicants have knowledge:

1. D. Aldrich and R. Blond, "Examination of the Use of Potassium Iodide (KI) as an Emergency Protective Measure for Nuclear Reactor Accidents," Nuclear Regulatory Commission, Office of Nuclear Regulatory Research, Rept. No. SAND-80-0981 (October, 1980).

2. D. Aldrich and R. Blond, "Radiation Protection: An Analysis of Thyroid Blocking," Nuclear Regulatory Commission, Div. of Systems and Reliability Research, Rept. No. CONF-801056-3; IAEA-CN-39/102 (October, 1980).

3. G. Anno and M. Dora, "Protective Action Evaluation, Part I: The Effectiveness of Sheltering as a Protective Action Against Nuclear Accidents Involving Gaseous Releases," Rept. No. EPA-520/1-78-001A (April, 1978).

4. G. Anno and M. Dora, "Protective Action Evaluation, Part II: Evacuation and Sheltering as Protective Actions Against Nuclear Accidents Involving Gaseous Releases," Rept. No. EPA-520/1-78-001B (April, 1978).

5. R. Finck, et al., "Implications and Procedures at Large Release of Radioactive Matter From the Swedish Nuclear Power Stations During State of Emergency and War," in Swedish (February, 1980).

6. International Atomic Energy Agency, "Planning for Off-Site Response to Radiation Accidents in Nuclear Facilities," (Vienna, Austria) (1979).

7. D. Moeller, Second semi-annual report on the project, "Planning for Nuclear Emergencies," being conducted under contract to Office of Nuclear Regulatory Research, Nuclear Regulatory Commission, directed to Dr. J. Foulke, ONRR (June 1, 1982).

88. Describe in detail any independent monitoring for radiation around the PNPP site. (Independent monitoring here means monitoring by a governmental or private entity that is not an agent of the Applicant.) Include the type of monitors to be used, both mobile and stationary and detection/manufacture type, manner and frequency of reading/analysis, availability of instantaneous data, type of data link with the responsible agency, name and affiliation of responsible agency, type of meteorological monitors/data input, of [sic] any, means of calculating projected doses, and the source of funding of the responsible agency.

Response:

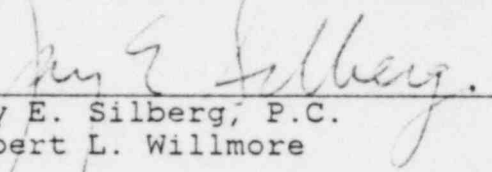
ODSA will organize and direct independent radiation monitoring teams as described in the State of Ohio Nuclear Power Plant Emergency Response Plan, Parts II-G, II-H and II-I.

The equipment which the State of Ohio Emergency Response Teams will bring to the plant site is described in Part II-G of the State Plan. Part II-I outlines the State's communications links, including the radio frequency used by survey teams. Meteorological data for the State of Ohio accident assessment function will be transmitted by PNPP to the State of Ohio DSA/EOC in Worthington, Ohio at 15 minute intervals. ODSA, the Ohio Department of Health and the Ohio EPA are all funded by the State of Ohio. The dose assessment method of the State of Ohio is set forth on p. II-H-4 of the State Plan.

Respectfully submitted,

SHAW, PITTMAN, POTTS & TROWBRIDGE

By:


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Dated: October 20, 1982.

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
CLEVELAND, OHIO

AFFIDAVIT

Rebecca B. Coffey, being duly sworn according to law, deposes and says that she is Associate Environmentalist, Licensing and Permits Section, The Cleveland Electric Illuminating Company, and that the facts set forth in the foregoing Applicants' Answer to Sunflower Alliance Inc., et al. Second Set of Interrogatories #44 through 47, 75, 85, 86, & 88, dated April 30, 1982, are true and correct to the best of her knowledge, information and belief.

Rebecca Barber Coffey

Subscribed and sworn before me this 15th day of October, 1982.

Joseph C. Szwejkowski
Notary Public

JOSEPH C. SZWEJKOWSKI
Notary Public, State of Ohio - Cuya. Cty
My Commission Expires July 14, 1985

October 20, 1982

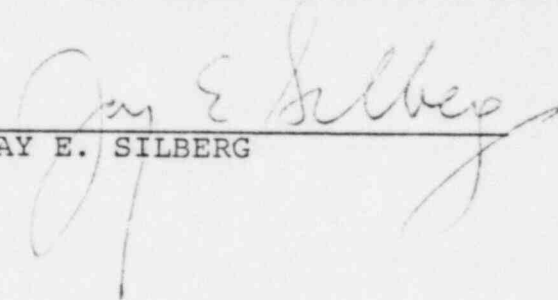
UNITED STATES OF AMERICA
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Before the Atomic Safety and Licensing Board

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CERTIFICATE OF SERVICE

This is to certify that copies of the foregoing "Applicants' Supplemental Answers to Sunflower Alliance, Inc. et al. Second Set of Interrogatories to Applicants" were served by deposit in the United States Mail, First Class, postage prepaid, this 20th day of October, 1982, to all those on the attached Service List.



JAY E. SILBERG

DATED: October 20, 1982

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of : :)
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