

NUCLEAR REGULATORY COMMISSION

For the matter of:

The Cleveland Electric
Illuminating Co., et al

Docket No's: 50-440
50-441

'82 MAY -3 P2:18

emp

(Perry Nuclear Power Plant, Units 1 and 2)

Sunflower Alliance, Inc., et al. Second Set of Interrogatories to Applicants.

These Interrogatories (Second Set) are filed by Sunflower Alliance Inc. et al, pursuant to the previous orders of the Atomic Safety and Licensing Board and pursuant to 10 CFR 2.740 b. These interrogatories are directed to each utility making up the Applicants and pertain to one or more of the seven issues that have been admitted to date in this proceeding.

It is required that each interrogatory be answered separately and fully in writing under oath or affirmation, within 14 days after service. These interrogatories shall be continuing in nature and the answers must be immediately supplemented or amended, as appropriate, should the applicants, or anyone of them, offer any new or differing information responsive to the Interrogatories.

For purposes of these Interrogatories the term "documents" means all records of every type in the possession, control or custody of the Applicants or any one of them, or of the Applicants attorney (s), including, but not limited to, memoranda, correspondence, reports, surveys, tabulations, charts, books, pamphlets, photographs, maps, bulletins, minutes, notes, speeches, articles, transcripts, voice recordings, and all other writings, recordings or video tapes of any kind. "Documents" shall also mean copies of documents even though the originals thereof are not in the possession, custody, or control of the Applicants.

For purposes of those Interrogatories, a document shall be deemed to be within the 'control' of the Applicants or Applicants' attorney (s) if they have ownership, possession or custody of the document or copy thereof, or have the right to secure the document of copy thereof from any person or public or private entity having physical possession thereof.

When identification of a document is requested, briefly describe the document, i.e. letter, memorandum, book, pamphlet, etc., and state the following information as applicable to the particular document: name, title, number, author, date of publication and publisher, addresses, date written or approved, and the name and address of the person (s) having possession of the document.



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Statement of Purpose: The following interrogatories are designed to assess the potential dangers of an unmitigated ATWS, the status of development and implementation of ATWS mitigation systems, and the degree of industry compliance with any regulations or other criteria concerning ATWS.

IN POSSESSION OF APPLICANT

1. Produce every document^A pertaining to BWRs that was used in the preparation of or cited in NUREG-0460, Volumes 1, 2, 3, and 4. (All those listed in Bibliography or References)
2. Produce any and all documents pertaining to ATWS in BWRs.
3. Produce all documents, correspondence, transcripts, or minutes prepared since the publication of NUREG-0460, Volume 4 (March 1980) pertaining to ATWS in BWRs, including any GE documents.
4. One of the modifications included in Alternative 4A for GE BWRs is modification of the scram discharge volume. Describe this modification in detail for the Perry Plant BWR/6 model. Has this been done at Perry?
5. Where does the PNPP design presently stand in regard to the alternatives listed in NUREG-0460, Vol. 4? E.g., does the current plant design implement Alternative 2A, 3A, or 4A?
6. What constitutes scram failure in a BWR/6 such as Perry? E.g., describe the combination of the following failures which will result in the loss of control of reactivity and failure to attain hot shutdown: insufficient rod insertion speed, percent of length withdrawn which results in failure, number and location of failed rods which results in scram failure.
7. Describe in detail, along with their frequency of occurrence for each year of plant operation, any and all transients capable of initiating reactor scram in a BWR/6.
8. Describe all scram system failures, including common-mode failures, capable of producing ATWS in a BWR/6.

9. Describe in detail the Reactor Protection System for the Perry Plant, including but not limited to the following: the means of initiating and implementing control rod scram, types of sensors and trip signals generated, which parameters are monitored, and how the scram system is both redundant and diverse, both in equipment and function: name all components of the scram system (both electrical and mechanical) and give the vendors for all components, for all systems and back-ups.
10. For each of the transients listed in #~~2~~⁷ above (and for any transient not listed in the response to #~~2~~⁷ but included in Table A.2, Vol. 4 of NUREG-0460), perform a time-domain analysis, specific to the Perry Plant, assuming that control rod scram does not occur, but that the recirculation pump trip does function and the SLCS, as presently designed, is manually operated. Assume all plant systems to be as currently described in the FSAR. Include in the analysis any and all plant systems and functions affected by ATWS and any consequences thereof, including but not limited to core integrity, containment integrity, suppression pool effects, reactor internals, ECCS functions, dilution of SLCS boron by ECCS, power oscillations, and offsite radiation doses to the public. Present the analysis in this manner: the transient begins at $t=0$; list time of occurrence for each major action or consequence during the ATWS (e.g., RPT, SLCS activation, containment isolation, and maximum and minimum values of the following parameters to be presented graphically) until such time as either the reactor is brought into cold shutdown or core melting occurs. List all assumptions made for operator actions. Present the following ~~parameters~~^{PARAMETERS} graphically as a function of time (use appropriate units and scales): neutron flux, power levels, RPV pressure, steamline pressure, water level in RPV, heat flux, and fuel cladding temperature and radiation doses to public at site boundary, 5 mile radius, 10 mile, 20 mile and 50 mile radii.

Also perform the analysis as described above the the following conditions:

- (1) As above, only with automatic SLCS.
- (2) Full implementation of Alternate 4A.

11. According to Section 15.8.1 of FSAR, "the probability of an ATWS has been assumed to be significantly less than the probability of a design basis event. Because it is so extremely remote, the NRC will require some specific changes to plant hardware rather than treat ATWS as a design basis event..."
- (a) Give the specific numerical probabilities and of a design basis event. How were these probabilities determined?
 - (b) What is the basis of the assumption that ;(ATWS) "is significantly less than" $p(\text{DBE})$? Provide all calculations and supporting documents substantiating this basis.
 - (c) Define quantitatively the terms "significantly less than" and "extremely remote".
 - (d) Describe in detail the "specific changes to plant hardware" that the NRC will require. When will these changes be required?
12. Answer #9, above, for the Alternate Rod Insertion (ARI) System.
13. Describe all operator actions required in the event of an ATWS. Upon what information will the operator rely as a basis for these actions? At what time into the ATWS will these actions be taken?
14. How many transients occurred in each of the years 1978, 1979, and 1980?
15. Does PNPP have the recirculation pump trip initiated by high pressure? What other conditions can initiate the RPT? Explain how this feature mitigates the consequences of ATWS: about what % negative reactivity does the RPT contribute? When was (or will be) the RPT feature installed?
16. Show that the RPT hardware conforms with the appropriate standard, below:
- (1) If installed before July 1, 1981, the approved Hatch or Monticello designs (supply the appropriate design)
 - (2) If installed after July 1, 1981, Appendix C of Vol. 3, NUREG-0460.

17. Demonstrate that the ARI system meets the criteria of IEEE Standard 279, and that the RPT and SLCS logic meet the criteria of Appendix C of Vol. 3, NUREG-0460.
18. Have the code verification tests for BWRs described on p. B-3 of Vol. 4, NUREG-0460 been performed? If not, why not, and when will they be performed? If so, what were the results of these tests?
19. What parts of the scram system, back-up scram systems, and ATWS mitigation systems depend on electrical power? What is the back-up source of power for these systems in the event of the loss of all off-site power? How quickly is this back-up source available?
20. Describe in detail the manual scram capabilities at PNPP. What is the sequence of operation? What is the speed of rod insertion? How much time elapses from the initiation of the manual scram until its completion? When is manual scram used?
21. Describe the effects of power oscillations, such as are described on p. A-67, Vol. 4, NUREG-0460, on fuel and containment integrity and any other affected system at PNPP.
22. Give a cost estimate for the installation of an automated standby liquid control system at PNPP, Units 1 and 2; provide documentation to support this estimate. Include in the estimate any necessary modifications to other systems, e.g., addition of sufficient diesel generator capacity. Also give a cost estimate for the complete implementation of Alternative 4A as described in Vol. 4 of NUREG-0460.
23. Give an estimate of the cost and downtime associated with the cleanup of an inadvertant activation of the SLCS. Give the waste storage tank capacity and evaporator capacity; compare these with other BWRs, and indicate how these systems are involved in the boron cleanup.

24. Describe in detail the boron cleanup procedure used after the activation of the SLCS.
25. Define the term "SLC system" as used in Sec. 9.3.5.3 of FSAR. Exactly which components are part of this system? Does the SLCS include the piping and spargers, or only the pumps, storage tank, valves, and logic?
26. Provide diagrams and isometric drawings of the SLCS piping into the reactor pressure vessel.
27. According to Sec. 9.3.5.1.1 of FSAR, "A fast scram of the reactor or operational control of fast reactivity transients is not specified to be accomplished by this system (SLCS)" Also, Sec. 9.3.5.3 states that "the system is never expected to be needed for safety reasons..." According to these statements, the SLCS is not expected to function as an ATWS mitigation system. Yet it was listed as such in Sec. 15.8.1. Explain this apparent discrepancy. Exactly why is the SLCS incorporated in the plant design?
28. What provisions will be made to ensure that, after SLCS activation, the boron will not be diluted by the ECCS to such an extent that recriticality may occur (see NUREG-0460, Vol. 4, p. A-69)?
29. The FSAR describes the neutron poison used in the SLCS as sodium pentaborate, produced by dissolving stoichiometric quantities of borax and boric acid in demineralized water. These boron compounds are described as consisting of natural boron. Does this mean that the boron is a mixture of the 2 predominant isotopes in the ratio that they occur naturally, i.e., $5B^{10}$ at 19.78% and $5B^{11}$ at 80.22%? Boron-10 is the only isotope that is effective at neutron capture; thus, if the sodium penaborate is 80% boron-11, is not the poison then only 20% effective? Has this effect been considered in the assessment of the SLCS capabilities?
30. What boron isotope or mixture of isotopes is used in the control rods?

31. Has the use of different chemicals as neutron poisons, e.g., gadolinium, been investigated? If not, why not? If so, with what results?
32. Demonstrate that the initial test procedure for the SLCS described in Sec. 14.2.12.1.5 of FSAR will verify proper mixing of the boron solution, in accordance with Regulatory Guide 1.68, Appendix A.1.b.(3).
33. What is the concentration, in moles/liter, of the sodium pentaborate solution?
34. What is the SLCS injection rate, in gallons/minute? Include the effects of piping resistance in this answer.
35. Perform a value/impact analysis, like that in NUREG-0460, specific to PNPP for:
(1) the automation of the SLCS (2) complete implementation of Alternative 4A.
Both modifications are assumed to be made during construction on both Units 1 and 2.
36. Demonstrate that Fig. 9.3-19 (GAI Dwg. D-302-641) is that of the SLCS (in FSAR).
If not, provide the correct diagram of the SLCS.

Statement of Purpose

The following interrogatories deal with the ECCS issue that has been admitted as a contention. The purpose of the interrogatories is to discover information that will support the contention on the hearing on this matter.

INTERROGATORIES ON ECCS ISSUE

37. Section 6.3.1.1.2 of the PNPP FSAR states that, as a minimum, the following equipment shall make up the ECCS:

- 1 High Pressure Core Spray
- 1 Low Pressure Core Spray
- 3 Low Pressure Coolant Injection Loops
- 1 Automatic Depressurization System

Does the Emergency Core Cooling System at Perry have any other systems above and beyond these minimum requirements?

38. The Applicant's FSAR states (Sections 1.5.1.1, 3.9.2.4) that Perry is the prototype 238 size BWR/6 plant. Describe in detail any special, more stringent testing requirements for prototype plants, especially those pertaining to the ECCS.

39. Which of the four ECCS component systems listed in #1 would be under test in a full scale 30° sector steam test?

40. Would the full scale 30° sector steam test involve other, auxiliary systems not directly related to the phenomena at question, but nonetheless necessary for ECCS operation under real conditions (e.g., diesel generators)?

41. Describe in detail the ECCS tests in Europe that demonstrated unpredicted effects and which led, in part, to the formulation of TAP A-16. Explain how these tests relate to PNPP.

42. Name any BWRs in this country which have been required to perform a full scale 30 degree sector steam test before being authorized for operation by the NRC.

Statement of Purpose

These interrogatories relate to the emergency planning contention and are designed to discover information that will support the contention at the hearing.

43. Produce any and all documents, correspondence, or memoranda between CEI and the NRC, FEMA, local or state governments or any other entity relating to the use of thyroid blocking agents by CEI employees, emergency workers, or the general public.
44. Demonstrate and discuss how emergency response facilities meet each and every criterion 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.)
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.
46. Describe and give the exact location of the alternate (backup) EOF, the Concord Service Center (FSAR, Appendix 13A, Sec. 7.1.3).
47. For both the main and backup EOFs, describe any normal, non-emerg 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."
48. Answer the following questions for the High efficiency particulate air filters which have been or will be installed in the Radiation Emergency Area of Lake County Memorial Hospital, East:
 - To what level will the HEPA filters reduce particulate levels?
 - Is the HVAC system controlled to permit isolation of the intake?
 - At what level of airborne activity is isolation performed?
 - How is the level determined?
 - Where are the sensors located?
 - Where is this level monitored?

49. According to Sec. 5.5.6.1 of Appendix 13A of FSAR, "the decontamination room drains (at the hospital) are collected in a holding tank for subsequent disposal at PNPP." Describe how the material in the holding tank will be transported to PNPP. What safeguards will be taken to ensure the safe transport of this material?
50. Will any special provisions or consideration be made for those evacuees who have pets, e.g., special mass care centers, kennel facilities, pet food supplies, etc.? Will people be allowed to take pets with them? If not, what are people to do with the animals?
51. What provisions will be made for the notification of deaf people within the 10-mile EPZ in the event of a radiation emergency? Has any study been made as to how many deaf people are in the area?
52. What provisions will be made for the notification of people who do not speak English within the 10-mile EPZ in the event of a radiation emergency? Has any study been made on the number of non-English speaking people in the area (e.g., Hispanics in the Geneva area, Finnish and Hungarian people in the Fairport area)?
53. How will people on boats within the 10-mile EPZ, on Lake Erie, be notified to evacuate.
54. What provisions will be made for the evacuation of non-institutionalized handicapped people or people dependent upon life-support systems?
55. Is there any priority system for evacuation? E.g., who will be evacuated first, school children, pre-school children, pregnant women, or the elderly/infirm?
56. NCRP Report No. 55 at pp. 16-17 indicates that engineered safeguards at reactors may reduce the release of radioiodine during a nuclear accident. For each safeguard listed therein (and below), describe the system, if any, that will be in place at PNPP, explain how the system works to reduce iodine release, and indicate how efficient said system is at reducing radioiodine levels.

- (1) various methods for condensing the radioiodine-bearing steam that would be released to the reactor building.
 - (2) enclosing the reactor in a sealed containment structure.
 - (3) recirculating the contained atmosphere through absorbents and filters that remove radioiodines.
 - (4) operation of sprays containing chemicals capable of absorbing the radioiodines and reducing their concentration in the atmosphere of the containment building.
57. Explain how the plume exposure pathway EPZ depicted in Figure 11-2 of Appendix D of Appendix 13A of FSAR was derived. Explain precisely how each and every one of the following factors was considered in the determination of the extent of the plume exposure EPZ: demography, including permanent and seasonal residents and transients; meteorology; topography; land use characteristics; access routes; local jurisdictional boundaries; release time and energy characteristics; release height; radionuclide content of release, including release fractions; plume dispersion, including plume rise; deposition velocity; dose effects; sheltering and shielding; radiation treatment; breathing rates; time of year of release.
58. Describe in detail the methods and standards by which the evacuation time estimates contained in Tables V-4 and V-5 in Appendix D of Appendix 13A of FSAR were determined.
59. What consequences (including early fatalities, delayed fatalities, early injuries, delayed injuries, developmental and genetic birth defects, and land and water contamination) would be associated with each of the evacuation time estimates listed in the FSAR?

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APPLICANT
60. What range of estimates would be acceptable to the ~~Staff~~? State specifically the highest evacuation time estimate which would be acceptable to the Staff for each evacuation sub-area drawn in the FSAR, and describe the consequences (as categorized above) which would be associated with each such evacuation time.
61. Has the ~~Applicant~~ applicant (or anyone on their behalf or to their knowledge) conducted any generic or site-specific consequence analysis for (or having relevance to) releases from PNPP equivalent to the BWR-1 to BWR-4 releases defined in WASH-1400? If so, set forth in detail the methodology, assumptions, and results of any such study, including calculations of early fatalities, delayed fatalities, early injuries, delayed injuries, developmental or genetic birth defects, and land and water contamination. If not, by whom was the decision made that such a study was unnecessary and what were the reasons for that decision? What process was followed in reaching that decision?
62. Has the ~~Applicant~~ Applicant (or anyone on their behalf or to their knowledge) conducted any generic or site-specific accident consequence analysis for accidents with containment failure modes such that the radioactive releases exceed those set forth in the design basis accident assessment described in Chapter 15 of the PNPP FSAR? If so, answer Interrogatory #⁶¹~~61~~, specific to any such study.
63. In the Applicant's opinion, is it possible to evacuate safely the total permanent, seasonal, and transient populations within each of the following areas at any time of the day or any time of year? Describe in detail any assumptions made and indicate how your response would differ if that assumption were changed. Disclose any assumptions made with respect to an acceptable level of risk to the evacuating population.
- (a) The area designated at the plume exposure pathway EPZ for PNPP in the FSAR.
 - (b) The area which the Applicant believes should constitute the plume exposure EPZ for PNPP.

- (c) The circular zone surrounding PNPP having a 20-mile radius.
- (d) The Mentor Headlands area.
- (e) The entire City of Mentor.

64. In the Applicant's opinion, would there ever be a need to order protective actions in any area outside of the plume exposure pathway EPZ proposed by the Applicant in the FSAR? If so, describe the circumstances therein, the areas so affected, and the nature of any such protective actions.
65. Has any consideration been made of the possibility of the voluntary and spontaneous evacuation of persons within the plume exposure pathway EPZ in the event of an accident at PNPP and how this might affect the ordered evacuation? If so, describe in detail any such study.
66. Has any consideration been made of the possibility of the voluntary and spontaneous evacuation of persons outside of the plume exposure pathway EPZ in the event of an accident at PNPP and how this might affect the ordered evacuation, especially the support organizations and facilities outside the EPZ? If so, describe in detail any such study.
67. In the Applicant's opinion, are there adequate facilities available to shelter simultaneously the total permanent and peak seasonal and transient populations in each of the following areas?
- (a) The area designated by the Applicant in the FSAR as the plume exposure pathway EPZ.
 - (b) The area which the Applicant believes should comprise the plume exposure pathway EPZ.
 - (c) The circular zone surrounding PNPP having a 20-mile radius.

With respect to each of these areas, describe the types of shelter available, indicate the numbers of each type of shelter available and the shielding factors associated with each type, describe the nature and location of the shelter to be used by transient populations, and disclose any assumptions made as to an

acceptable level of risk to the public.

68. Describe in detail any design modifications which could be made to PNPP, Units 1 and 2 to reduce the early and/or delayed fatalities and/or health effects associated with accidents. Specify the type of accident(s), the consequences of which each such modification would reduce, and estimate, for each modification, the extent of reduction for each of the following effects: early fatalities, delayed fatalities, early injuries, delayed injuries, and developmental or genetic birth defects.
69. In the Applicant's opinion, what constitutes an acceptable level of risk to the public surrounding PNPP in the event of an accident? Specifically, what is the uppermost number of each of the following health effects which is acceptable: early fatalities, delayed fatalities, early injuries, delayed injuries, and developmental or genetic birth defects? If your answer varies depending on the type of accident which occurs, provide answers with respect to releases at PNPP equivalent to the BWR-1 to BWR-4 releases defined in WASH_1400.
70. In the Applicant's opinion what constitutes an appropriate and safe distance from PNPP for the location of reception/mass care centers for evacuees? Describe any other criteria for the location of reception/mass care centers.
71. In the Applicant's opinion, if an accident occurs on a weekday during working hours what percentage of the permanent population within the plume exposure pathway EPZ proposed by the Applicant will be working at locations outside the EPZ, leaving other family members at home without automobiles? Also, what percentage of the automobiles said to be available in the Applicant's Evacuation Study are operable?
72. Why has the Applicant not submitted separate evacuation time estimates for evacuating special facilities, as required by NUREG-0654, Appendix 4?

73. NUREG-0654, Appendix 4 provides that (at p. 4-2), in preparing evacuation time estimates, "The number of permanent residents shall be estimated using the U.S. Census data or other reliable data, adjusted as necessary, for growth." (Emphasis added) In the Applicant's opinion, what is the appropriate target date for adjusting population figures for growth: the expected date of initial criticality, or the expected date for the termination of plant operations? Why have unadjusted population data been used to prepare evacuation time estimates? Provide evacuation time estimates using properly adjusted populations.
74. The Applicant's FSAR, Appendix 13A, Section 4.2 states that the Ohio DSA has adopted the EPA manual of protective action guidelines, EPA-520/1-75-001, and that recommendations to the State and local government will be based on these PAGs.
- (a) Is the Applicant aware that this includes the administration of radioprotective drugs, such as potassium iodide?
- (b) If so, describe in detail any and all provisions for the purchase, storage, stockpiling, distribution (including public education on proper use of the drug), and effectiveness/side effects monitoring of such drugs.
- (c) In the Applicant's opinion, would the administration of radioprotective drugs to individuals off-site ever be necessary or desirable in the event of an accident at PNPP? If not, why not? If so, to what radial distance from the site could dissemination of the drugs be necessary? What is the maximum quantity of potassium iodide or other radioprotective drug that could be needed? What repositories in the vicinity of the PNPP site currently stock such drugs and what quantities are maintained?
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?

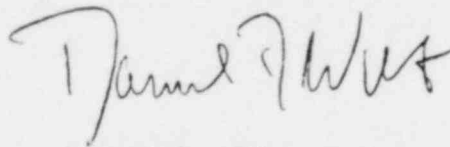
76. Explain precisely how each of the following possibilities was accounted for in the preparation of evacuation time estimates for PNPP:
- (a) Vehicles breaking down or running out of fuel during the evacuation.
 - (b) Abandoned vehicles.
 - (c) Vehicles having insufficient fuel at the commencement of the evacuation, to the knowledge of their owners.
 - (d) Disregard of traffic Control devices.
 - (e) Evacuees using inbound traffic lanes for outbound travel.
 - (f) Blocking of cross-streets at intersections.
77. Estimate the number of each of the following types of vehicles which will be needed to implement evacuations in each of the evacuation sub-areas outlined in Appendix D of Appendix 13A of the PNPP FSAR and the number of trips to and from those sub-areas which will be taken by each such vehicle: buses; ambulances; tow trucks; traffic control vehicles; and vehicles for use in notifying the public and/or confirming evacuation. Explain the bases for your estimates in detail, disclosing any assumptions made.
78. Do the evacuation time estimates contained in Appendix D of Appendix 13A of the PNPP FSAR include any of the following times? Indicate, for each estimate listed in the FSAR, how much of that time can be attributed to each of the following:
- (a) notification time.
 - (b) preparation time.
 - (c) confirmation time.
- i.e., are the evacuation time estimates only travel times?

79. Upon what factual basis is the assumption that notification and preparation times are staggered dependent? What would be the effect on the evacuation time estimates of not staggering either the notification or preparation times?
80. Have any emergency planning measures been designed to mitigate the consequences of hypothetical releases to the liquid pathway as a result of a core melt accident at PNPP? Are such measures necessary? Describe any and all results of a release to the liquid pathway, and describe any design features incorporated in PNPP which would mitigate the consequences of or prevent such a release.
81. ~~In the opinion of the Staff, does the Applicant's FSAR comply with each and every item applicable to BWRs in Regulatory Guide 1.97, Revision 2? If your answer is anything other than unconditionally affirmative, describe in detail every item of noncompliance, the alternative approach proposed by the Applicant, and the safety justification for that alternative approach.~~
82. List every visit made by or for Alan M. Voorhees and Assoc. to the PNPP site or the surrounding area. Specify for each visit the individuals who participated and their titles and affiliations, the exact locations visited (including the names of all roadways traversed for purposes of evaluating the transportation network in the Perry vicinity), the length of the visit, the itinerary or agenda, and all findings and conclusions which resulted therefrom (including any inventories which were developed as to available roadways, road capacities, shelter facilities, or the like). Indicate how this information was incorporated into the Evacuation Study, Appendix D of Appendix 13A of the FSAR.
83. According to SEC. 6.5.2 of Appendix 13A of the FSAR, a supply of a suitable thyroid blocking agent will be available for use by CEI employees. However, no such agent is listed in Appendix C, "List of Emergency Equipment and Supplies." Explain this apparent discrepancy.

84. What provisions have been made to ensure the cooperation of the public during a radiation emergency? Specifically, what authority do state and local governments have to force people to evacuate from their homes, to prevent spontaneous evacuation outside the EPZ (and possible in the area of the reception/mass care centers), to compel the assistance of volunteers in the evacuation, and to control panic and subsequent uncooperative behavior in evacuees?
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?
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?)
87. Concerning the evacuation of schools:
- (a) What provisions will be made for the evacuation of nursery schools, pre-schools, day care centers, and other such facilities, both public and private?
 - (b) What provisions will be made for the evacuation of private schools within the plume exposure pathway EPZ? Include in your answer the notification procedures for these schools and the availability of transportation, especially for those schools which do not have buses or other transportation programs.
 - (c) For both private and public schools, what provisions will be made for the evacuation (possible selective evacuation) of those schools outside the plume exposure pathway EPZ but whose students may reside within the EPZ?

- (d) How will bus drivers be notified in the event of an emergency? Many of these people work part-time and therefore may not be available by phone during non-working hours.
 - (e) Discuss the suitability of schools for sheltering students for long periods of time. Include sheltering factors for the buildings and the availability of sufficient food, medical supplies, blankets, etc.
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 types 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 any, means of calculating projected doses, and the source of funding of the responsible agency.

Respectfully submitted,



Daniel D. Wilt

Attorney for Sunflower Alliance, Inc., et. al.

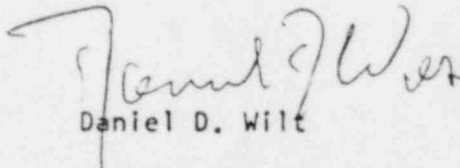
7301 Chippewa Road

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(216) 526-2350

Proof of Service

A copy of these second set of interrogatories to Applicant has been sent to everyone on the attached service list on this 30 day of April 1982.



Daniel D. Wilt

Attorney for Sunflower Alliance, Inc., et. al.