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DOCKETED

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the matter of:

PUBLIC SERVICE COMPANY OF
NEW HAMPSHIRE, et al

Docket Nos.

50-443 OL
50-444 OL

(Seabrook Station, Units 1 and 2)

SAPL'S SUPPLEMENTAL ANSWERS TO APPLICANT'S
INTERROGATORIES AND REQUEST FOR THE PRODUCTION OF DOCUMENTS

Pursuant to 10 C.F.R. §2.740 (e)(2), SAPL hereby supplements its answers to the interrogatories propounded to it by the applicants.

INTERROGATORY XXV-4

At a minimum, SAPL states the consequences of a "Class 9" accident would be as severe as those set forth in "Calculation of Reactor Accident Consequences (CRAC 2) for U.S. Nuclear Power Plants (Health Effects and Costs) Conditional on an Internal 'SST 1' Release", House Committee on Interior and Insular Affairs, Subcommittee on Oversight and Investigations, U.S. House of Representatives, November 1, 1982, specifically with reference to Seabrook Station Units 1 and 2.

SAPL says that the consequences set forth in this document would be "minimal" for the following reasons:

a) In the analysis cited in that document, a "summary evacuation" is assumed for ten miles around each reactor; "summary evacuation" being a weighted summary of three evacuation scenarios involving an average travel speed of ten m.p.h. away from the reactor with delayed times before travel of 1, 3, and 5, hours (weighed at 30%, 40%, and

30% respectively, based on a "best fit" to data and the EPA report on evacuations. It is important to note that in the (CRAC 2) evacuation model, there is no accounting made for actual site conditions such as bottle necks and terrain barriers which can cause major evacuation routes to overlap the area likely to be covered by the plume once a release of radioactivity occurs. These factors can have a significant impact on calculated results. See House Report cited above, pg. 15, note 20.

b) The "peak" results in the report (i.e., the highest calculated value from the CRAC 2 computer printouts for the SANDIA studies) do not mean worst case results because the CRAC 2 model is acknowledged by its authors to have uncertainties in its meteorological modelling capability. (See House Report, note 2.)

c) The "scaled costs" cited in the report do not include the costs of providing health care to the affected population, all on-site costs, litigation costs, direct costs of health effects, and indirect costs. (See House Report, note 3, citing NUREG CR-2723, page 3. These costs may be substantial. Id.

d) Numerous other flaws and uncertainties with respect to the CRAC 2 model and other information cited in the report as noted in the reports notes 1, 2, 3, 4, 5, 9, 10, 20 and all other notes.

e) The CRAC 2 results cited in the report specifically in reference to Seabrook Station (Units 1 and 2) does not appear to have accounted for the large transient population which uses the beach near Seabrook during the summer. This transient population increases the population within ten miles of Seabrook by nearly a factor of 2. If the transient population was not accounted for in

the SANDIA study, the list of consequences may seriously understate the expected values. (See House Report, note 16).

SAPL has not conducted its own analysis of what the consequences of a "Class 9" accident would be. Based on the uncertainties referred to above, SAPL contends that all consequences associated with the occurrence of a "Class 9" accident would be far more severe than indicated in the Final Environmental Statement.

INTERROGATORY XXIX-3-21

SAPL adopts as its own the facts and basis set forth in NECNP's supplemental filing on emergency planning contentions. SAPL has not yet had experts review these issues, and has nothing further to add.

INTERROGATORY XXIX-22.

Yes.

INTERROGATORY XXIX-23

SAPL contends that the applicants violate 10 C.F.R. §50.47(a) and (b).

INTERROGATORY XXIX-24, 25

See response to interrogatory XXIX-3-21.

INTERROGATORY XXIX-26

No.

INTERROGATORY XXIX-28

Yes.

(i) The estimates included in "Dynamic Evaluation Analysis: Independent Assessments of Evacuation Time from the Plume Exposure Pathway Emergency Planning Zones of Twelve Nuclear Power Stations", FEMA-REP-3, February, 1981 with respect to the evacuation

time estimates for Seabrook Station ranging up to 14 hours 40 minutes and possibly longer.

(ii) The Federal Emergency Management Agency, Radiological Emergency Preparedness Division, Population Preparedness Office.

(iii) Unknown. Published in draft form, July, 1980, then final in February, 1981.

INTERROGATORY XXIX-29

SAPL has not retained an expert witness to present testimony on this issue. SAPL reserves the right to supplement its response to this interrogatory should an expert be retained.

INTERROGATORY XXXI-1

No. SAPL's affirmative response to this interrogatory previously submitted was in error and should be disregarded.

INTERROGATORY XXXII-2

1A. Appendix C of the Radiological Emergency Plan states that the estimates were calculated with the assumption that "existing traffic patterns would prevail". This assumption is entirely without basis. The applicants offer no evidence in the Radiological Emergency Plan to support this assumption. Other studies performed with respect to evacuation time estimates at the Seabrook site indicate that "the behavior of drivers who are caught in congestion within direct sight of the Seabrook Station can only be guessed at this time. Any breakdown in orderly evacuation traffic flow will result in evacuation times greater than the ones estimated. . ." (See Dynamic Evacuation Analysis: Independent Assessments of Evacuation Times from the Plume Exposure Pathway Emergency Planning Zones of Twelve Nuclear Power Stations, FEMA-REP-3, February, 1981. Failure on the part of the

applicants to even address this important and relevant issue indicates their assumption that variations in behavioral patterns will not occur and will not affect evacuation time estimates in any way. Such an assumption is unwarranted.

1B. There are many factors which may affect human behavior in response to radiological emergency which the applicants have neither identified or analyzed. One of these factors concerns public perceptions of nuclear power and the dangers associated with it.

Studies indicate that there is a significant difference of opinion between lay people and experts with regard to the dangers resulting from a nuclear accident. This contention has been borne out in a recent survey of Suffolk County, New York respondents concerning their reactions to a serious nuclear accident at Shoreham Station. See Attitudes Toward Evacuation: Reactor of Long Island Residents to a Possible Accident at the Shoreham Nuclear Power Plant, June, 1982, Prepared by Social Data Analysts, Inc., 1 Evans Lane, Setauket, N.Y. 11733. See also Johnson, G.H. and Ziegler, D.H., Further Analysis and Interpretation of the Shoreham Evacuation Survey, Nov. 1, 1982, and Saegert, Susan, Psychological Issues in Planning for a Radiological Emergency, Jan. 10, 1983, City University of New York, Center for Human Environments.

1C. The Applicants have also failed to consider the general public perceptions of the competency and ability of utility and other official personnel to relay accurate information and to deal effectively with a radiological emergency. The public's emotional responses to a nuclear accident and its level of confidence in the ability of official personnel to deal with such an accident are

likely to have a number of behavioral consequences. Those consequences may significantly impair the ability of potential evacuees to assess the most effective course of action and respond rationally to an emergency situation. See Saegert, supra, and Lipton, R.J. "Nuclear Energy and the Wisdom of the Body", Bulletin of the Atomic Scientists, 1976, 32, 16-20.

1D. The Applicants have not considered the fact that educational campaigns and safety instructions carried out in accordance with a radiological emergency plan can actually increase fear by drawing attention to the topic and inducing consideration of the many things that could go wrong. (See Saegert, supra, and Slovic, P., Fischhoff, B., and Lichtenstein, S., "Behavioral Decision Theory", Annual Review of Psychology, 1977, 28, 1-39.) This experience has been borne out by the Swedish government. Id.

1E. The Applicants have failed to consider that in the event of a radiological emergency, many persons will panic, the panic may spread, and large bodies of people will be unduly influenced by what others do. This reaction would cause persons to act impulsively and to ignore rational evacuation instructions. (See Saegert, supra.)

1F. The Applicants have also failed to consider that most persons within the 10 mile EPZ would be responding to a radiological emergency in the first instance. Lack of familiarity with such a response has a significant effect upon rational behavior. This is in sharp contrast to the public's more familiar reliance upon past experiences with fire drills, etc. (See Saegert, supra.)

1G. The Applicants have not assessed the effects of failed public compliance with evacuation instructions. Such effects would

have a devastating impact upon the health consequences associated with a radiological emergency.

1H. The Applicants have not accounted for "defensive avoidance". (For a general description of this phenomenon see Saegert, supra, and Houts, D.S., Health Related Behavioral Impact of the Three Mile Island Nuclear Incident, Part II. (Reports submitted to the TMI Advisory Panel on Health Related Studies of the Pennsylvania Department of Health, November 21, 1980.)

1I. The Applicants have not analyzed the impact of "time pressure" on behavioral response to a radiological emergency. (See Saegert, supra, pg. 8, and Houts, supra.) See also Flynn, C.G., "Three Mile Island Telephone Survey: Preliminary Report on Procedures and Findings", Prepared for the Nuclear Regulatory Commission, Washington, D.C. October, 1979.

1J. The Applicants have not discussed the effects of "hyper vigilance" in association with the "time pressure" phenomenon noted in 1I above. (See Saegert, supra, pg. 8, and Janis, I.L. and Mann, L. Decision Making: A Psychological Analysis of Conflict Choice, and Commitment. New York: The Free Press, 1977-8.

1K. The Applicants have not considered behavioral responses to a situation in which initial public notifications were changed and modified. These changes in instructions would result from changes in emergency classifications, or changes in the situation generally. The reporting of new or more severe radiological hazards by the media will affect levels of public confidence in emergency personnel. A reduction in public confidence may drastically alter behavioral patterns in response to new instructions.

1L. The Applicants do not assess the impact of crowded highways and high density population movements upon the rational decision making abilities of evacuees. (See Saegert, supra, pg. 10)

1M. The Applicants have not analyzed the potential impacts of violent aggression resulting from panic among evacuees. (See Saegert, supra, pg. 11.)

Regarding the general interrogatories propounded in association with these responses to XXXII-2, SAPL hereby incorporates the footnotes and references cited in Saegert, supra.

2. Appendix C does not include an analysis of notification and its impact on evacuation time estimates. The time it will take to notify all persons to be evacuated will have an extremely significant impact upon the time estimates. An analysis concerning these impacts is essential for an accurate ETE determination. It is the position of the applicant that notification requirements have not been discussed in Appendix C because state and local emergency plans have not been established. SAPL asserts that any attempt to analyze evacuation time estimates without looking at the impact of notification will necessarily result in inaccurate estimates. (See cover letter to Appendix C by Arthur M. Shepard, August 4, 1980)

3. Appendix C does not take into account institutional evacuation times. (See Appendix C, page 13) The applicant again states that planning arrangements for evacuation of the various institutions within the Seabrook Station EPZ is premature because state and local emergency planning considerations have not yet been developed. SAPL contends that until institutional evacuation times are considered, the applicants' current evacuation time estimates

are faulty and grossly inaccurate. Furthermore, SAPL contends that the "indication(s) about institutional evacuation" which are set forth at page 13 of Appendix C are not indicative of institutional evacuation times with respect to the ten mile EPZ. The example given by the applicants with respect to the Seacoast Health Center assumes first, that the Center would have the same access to busses and ambulances in a time of full-scale evacuation as it did when it engaged in its prior "actual evacuation". Secondly, the comments by the hospital's administrator that estimated time to evacuate the facility in a situation where the area is evacuating is six to eight hours is entirely without basis. There is no indication that the hospital administrator knows anything at all about the radiological emergency response plan, state and local emergency preparedness plans, or the effects which a full-scale evacuation would have upon support and transportation services. (See Seabrook Station Evacuation Analysis, Draft Report Estimate of Evacuation Times, Prepared for Federal Emergency Management Agency by Alan M. Voorhees and Associates, July, 1980.)

4) The applicant's summary of evacuation time estimates found on page 12 of Appendix C states that

"the estimates for the off-season, fair weather cases are shorter or equal to the corresponding off-season, adverse weather cases. For most cases, the difference between adverse and fair weather conditions is within twenty minutes. This happens in evacuation sectors which have low vehicle demand and good evacuation road networks, where, in fair weather, the road network is not used to capacity. Therefore, during adverse weather, the reduced capacity of the roadway does not affect clear times significantly."

SAPL contends that a common twenty minute differential is grossly inaccurate because severe storms of any variety occurring

in the off-season would, in most cases, cause a delay in total evacuation time far greater than twenty minutes. In some cases, the delay could be several days. This was the case during the "Blizzard of '78" when many seacoast residents were stranded in their homes for several days while road crews worked to clear egress routes from snow and ice.

5. In Table 4 of Appendix C, the applicant states that the evacuation clear time for the 90° Northeast, 0 to 5 mile sector is four hours and twenty minutes. The applicant further states that the evacuation clear time for the 90° Northeast, 0 to 10 mile sector is four hours and thirty minutes. The applicant's evacuation clear times are grossly inaccurate because it would not be possible for persons living close to the plant to travel the additional five miles to the 10 mile EPZ limit in a matter of ten minutes.

6. In Table 4 of Appendix C, the applicant states that the evacuation clear time estimate for the 90° Southeast 0-5 mile sector is three hours and fifty minutes. The applicants also indicate that the evacuation clear time estimate for the 90° Southeast, 0-10 mile sector is three hours and fifty minutes. These estimates are inaccurate because it is impossible for both to be identical with respect to varying distances.

7. In Table 4, the Applicants state that the evacuation clear time estimate for the 90° Southwest 0-5 mile section is three hours and forty minutes. The Applicants also state in that Table that the evacuation clear time estimate for the 90° Southwest 0-10 mile sector is three hours and forty-five minutes. The time differential between these two time estimates of five minutes is grossly inaccurate. It

would not be possible for persons living close to the plant to cover an additional five miles within a brief five minute period.

8. In Table 4 of Appendix C, the Applicants state that the evacuation clear time estimate for the 90° Northwest, 0-5 mile sector is three hours and twenty minutes. In Table 4 the Applicants also state that the evacuation clear time estimate for the 90° Northwest, 0-10 mile sector is three hours and forty minutes. These estimates are grossly inadequate because it would not be possible for persons living close to the plant to travel the additional five miles in a matter of twenty minutes.

(Note: The above responses (5) through (8) refer to the Table 4 evacuation clear time estimates for the "Summer Weekend" scenario.)

9. In Table 4 of Appendix C, the Applicant states that the evacuation clear time estimates for the off-season weekday fair weather scenario would be one hour and fifty minutes for the 90° Northeast, 0-5 mile sector. The Applicant also states that for this same sector, the 0-10 mile estimate would be two hours. These estimates are grossly inaccurate for the same reasons referred to above with respect to the summer weekend estimates. It would not be possible for persons living near the plant to complete the extra five mile journey in the ten minute period.

10. In Table 4 of Appendix C, the Applicants' off-season weekday fair weather scenario evacuation clear time estimate for the 90° Southeast, 0-5 mile sector is three hours. The Applicants' evacuation clear time estimate for the same sector in the 0-10 mile range is also three hours. These estimates are inaccurate because the time estimates could not be equal with respect to varying distances.

11. The same problem exists with respect to the Applicants' off-season weekday fair weather estimates for the 90° Southwest sectors. For both the 0-5 mile and 0-10 mile estimates, the Applicant states the figure to be three hours and ten minutes. These estimates are inaccurate for the same reasons as those stated above.

12. The same problem exists with respect to the Applicants' off-season fair weather estimates for the 90° Northwest sectors. The Applicant indicates identical three hour evacuation clear times for both the 0-5 and 0-10 mile distances. These figures are inaccurate for the same reasons as those stated above.

13. Table 4 of the Applicants' evacuation clear time indicates that its estimate for the off-season weekday adverse weather scenario for the 90° Southwest, 0-5 mile sector is three hours and ten minutes. With respect to the same sector, the Applicant indicates that its 0-10 mile estimate is three hours and twenty minutes. These estimates are inaccurate because it would not be possible for persons living close to the plant to evacuate the additional five mile distance in only ten minutes.

14. The Applicants' clear time estimates for the off-season weekday adverse weather scenario involving the 90° Northwest, 0-5 mile sector is three hours. The Applicants' estimate for the 90° Northwest, 0-10 mile sector is three hours and ten minutes. These estimates are inaccurate for the same reasons as those stated above.

15. The evacuation estimates provided in Appendix C are inaccurate because there is no assessment or discussion of the cumulative impact of increases in population density within the 10 mile EPZ over the thirty to forty year operating life of the plant.

There is no indication as to whether the models used for the calculations in Appendix C are static or dynamic. If the Applicants' evacuation time estimates are to approach accuracy, it is essential that in depth future growth projections be brought into the scope of the analysis.

16. The evacuation time estimates of Appendix C are inaccurate because of numerous false assumptions within the EVAC model. At page A-2 of Appendix C, the Applicant states that:

"The most direct route out of the evacuation area is generally given a higher preference factor; alternative routes are given a higher preference factor. When congestion develops and traffic speeds for preferred routes decline, traffic is routed to alternative routes with higher travel speeds."

In its summary of evacuation time estimates, however, the Applicants state that one of the primary assumptions of the analysis was that: "These preliminary analysis, therefore, assumed existing traffic patterns (i.e., one-way, two-way operation) prevail; emergency planning personnel/traffic controllers are not available; and no specified evacuation routings are enforced. Given this assumption, it would not be possible for evacuating motorists to act in a manner consistent with the EVAC model since they would have no way of knowing which "alternative routes with higher travel speeds" to take.

17. The Applicants' description of the EVAC model contained in Appendix C does not indicate any allowance of time for persons entering backed up and similar flow patterns from driveways, side streets, and parking lots. If these time delays are not figured into the model, then the estimates will be inaccurate as a result.

18. The evacuation times indicated in Appendix C are grossly inaccurate because there is no assumption made for either vehicle

breakdowns or abandonment. This relates directly to the Applicants' failure to consider variations in behavioral patterns among persons responding to emergency conditions. It appears that all calculations are based on an assumption of orderly traffic flow. This assumption is faulty because even if a handful of motorists decide to abandon their cars in the middle of traffic jams, their behavior will have a serious effect on the ability of motorists behind them to continue evacuation in an orderly manner. Should breakdowns or abandonments occur, there is no indication of whether or not tow trucks or other emergency vehicles could respond to correct the impediments in traffic flow.

19. Similarly, the Applicants' evacuation time estimates assume that all vehicles involved in the evacuation will have sufficient fuel with which to leave the EPZ. Should any of the vehicles run out of gas, they will have to be abandoned and will impair the ability of other motorists to continue their orderly evacuation.

20. The Applicants' evacuation time estimates are grossly inaccurate because it is assumed that all persons notified of the evacuation will begin their evacuation immediately. Such an assumption is contrary to human nature. SAPL contends that in most instances, persons would delay for significant periods of time to collect personal possessions, search for family members, lock up and secure personal property and residences, and obtain gasoline or other motor fuels for their means of transportation. In many instances, motorists may wait in lines at gas stations to make sure that they have sufficient fuel to complete their evacuation trip.

21. The evacuation time estimates included in Appendix C do not indicate whether or not the scenarios utilized occur during the day or at night. SAPL contends that a night-time evacuation might lengthen the Applicants' evacuation times considerably.

22. The Applicants' evacuation time estimates are inaccurate because there are no significant provisions made for persons without vehicles. It is entirely probable that persons without available means of transportation would seek to walk in the direction of the evacuation egress routes, thereby impeding the orderly evacuation of motor vehicles. Again, this would serve to significantly lengthen the time required for a ten-mile EPZ evacuation.

23. The Applicants indicate on page 8 of Appendix C that seasonal vehicle demand was estimated from the number of seasonal residences in the area. The data used by the Applicants in making these determinations consisted of: a) 1961 general highway maps of Rockingham County, New Hampshire, b) 1970 U.S. census of housing, and c) 1978-79 electric meter use data and a 1978 weekday/weekend occupancy survey. SAPL contends that if the Applicant is not going to incorporate projected growth into its calculations, the least it can do is to use up-to-date meter use data, highway maps, and census statistics. Use of old, invalid data indicates that the evacuation time estimates are prima facie inaccurate.

24. With respect to its Summer Vehicle Demand Estimate, the Applicants state that "Distribution of population for the area within a five-mile radius of Seabrook Station was based on the number of year-round electric meters in 1979. Equal area allocation and review of USG maps provided the basis for distributing the population between

the five and ten-mile radius". (Appendix C, page 8). This assumption is faulty because there is no accounting for problems and delays in evacuation associated with increased densities of motor vehicles within particular areas. Assumed uniform distribution of vehicles is not a realistic assumption. Consequently, such an assumption will contribute to the inaccuracy of the Applicants' evacuation time estimates.

25. The Applicants' evacuation time estimates are overly optimistic because there has been no analysis or discussion of whether emergency response personnel will consciously disregard any inclination to personally see to the evacuation of their families in order to fulfill professional responsibilities as delegated under the Emergency Response Plans. For example, the results of a recent study performed for Suffolk County, New York indicate that school bus drivers would personally see to the evacuation of their families before engaging in their official duties with respect to school evacuations. (See Johnson and Ziegler, supra.) Given that rapid evacuation of school children would be critical in the event of a radiological emergency, this predisposition on the part of school bus drivers would significantly delay and impair the evacuation of school children within the EPZ. Although such a study has yet to be conducted within the Seabrook EPZ, there is no reason to believe that this phenomenon does not exist among drivers responsible for the Seabrook area evacuation. This phenomenon must be discussed by the Applicants and its delaying effect upon the Seabrook evacuation must be analyzed to insure that evacuation time estimates will be made more realistic. (See "Responses of Emergency Personnel to a

Possible Accident at the Shoreham Nuclear Power Plant", prepared for Suffolk County, New York, by Social Data Analysts, Incorporated., November, 1982.")

26. The Applicants' evacuation time estimates are inaccurate because there has been no analysis or discussion of the phenomenon noted in #25, above, as it applies to all other emergency personnel responsible for carrying out duties associated with a full scale evacuation of the Seabrook EPZ. This group includes both full and part-time police officers, fire fighting personnel, ambulance drivers, communications personnel, support personnel, medical personnel, on-site and off-site employees of the Applicants', as well as all public officials. SAPL contends that in many cases, individuals functioning in the above-named capacities would be predisposed to see to the personal safety of their own families before reporting to their officially delegated functions as dictated by the Applicants' emergency response plans. A full analysis of this phenomenon as it applies to these groups is critically important if the Applicants' evacuation time estimates are to be made accurate. SAPL's observations with respect to the behavior of emergency personnel are based on its analysis of the reports prepared by Social Data Analysts, Incorporated, for Suffolk County, New York, in conjunction with the development of emergency plans for Shoreham Station. These various reports are entitled "Responses of Emergency Personnel to a Possible Accident at the Shoreham Nuclear Power Plant", November, 1982, and "Attitudes Towards Evacuation: Reactions of Long Island Residents to a Possible Accident at the Shoreham Nuclear Power Plant", June, 1982. See also, Johnson, James H., and Zeigler,

Donald J., "Further Analysis and Interpretation of the Shoreham Evacuation Survey", a report prepared for Suffolk County, New York, November 1, 1982. Due to the size of these documents and the burdensome costs associated with their reproduction, SAPL has not attached copies of them to these supplemental answers. SAPL is certainly willing to make copies available for reproduction at the Applicants' Manchester, New Hampshire address.

SAPL reserves the right to supplement these interrogatory responses as required under applicable NRC regulations.

INTERROGATORY XXXII-3

See responses to Interrogatory XXXII-2.

INTERROGATORY XXXII-4

A "reasonable" degree of optimism consists of a reasoned, calculated determination that evacuation time estimates reflect how long an evacuation of the ten-mile EPZ would actually take in the event that an evacuation is required.

INTERROGATORY XXXII-5

SAPL does not know.

INTERROGATORY IIIXX-6

SAPL does not know.

INTERROGATORY XXXII-7

SAPL has not conducted an independent analysis of what the maximum population evacuation time is. SAPL therefore does not know the answers to (i)-(v) except to state that because the Applicants' evacuation estimates fail to consider numerous factors and incorporates numerous faulty assumptions, each of which would

substantially increase the evacuation time estimates, estimates are inaccurate.

INTERROGATORY XXXII-8

A. "Seabrook Station Evacuation Analysis: Draft Report Es of Evacuation Times", prepared for FEMA, prepared by: Alan Voorhees and Associates, a division of PRC Planning and Economics, 7798 Old Spring House Road, McLean, Virginia 22102, July, 1980.

B. Dynamic Evacuation Analysis: Independent Assessments of Evacuation Times from the Plume Exposure Pathway Emergency Planning Zones of Twelve Nuclear Power Stations, Radiological Emergency Preparedness Division, Population Preparedness Office, Federal Emergency Management Agency, FEMA-REP-3, February, 1981.

With respect to (A), above, SAPL understands the report's maximum evacuation time to be 14 hours, 40 minutes for the ten mile EPZ. With respect to (B), above, SAPL understands the report's maximum evacuation time to be 15 hours for the ten-mile EPZ.

(i). See response to Interrogatory XXXII-7.

(iii). See response to Interrogatory XXXII-7.

(iv.) See response to Interrogatory XXXII-7.

(v) With respect to A above, SAPL is unable to determine the error bounds associated with the study. The same is true with respect to B, above.

INTERROGATORY XXXII-9

See response to the interrogatories in XXXII-2.

INTERROGATORY XXXII-10

(i) No "persons" provided SAPL with this knowledge other than the authors of the reports.

(ii) See responses to Interrogatory XXXII-2.

(iii) No interviews of such persons have yet been conducted.

INTERROGATORY XXXII-11

SAPL did not have a conversation with the Hampton Police Department.

INTERROGATORY XXXII-12

See response to Interrogatory XXXII-11.

INTERROGATORY XXXII-13

SAPL has not yet retained an expert witness to testify with respect to this contention. Should SAPL retain an expert witness, SAPL will supplement this response in accordance with Commission regulations.

INTERROGATORY XXXIII-2

Each faulty assumption and error identified by SAPL in response to Interrogatory XXXII-2 should be either eliminated or corrected by the Applicant. In particular, the Applicant should take into careful consideration the behavioral responses of the evacuees.

INTERROGATORY XXXIII-3

SAPL does not know the extent to which each change would alter the resulting evacuation time estimates. It does state that any individual change or combination of changes would alter the resulting evacuation time estimates significantly.

INTERROGATORY XXXIII-4

SAPL does not know the frequency per year with which all the "worst case" assumptions adopted by SAPL in response to the foregoing interrogatories would occur between the hours of 9:00 a.m. and 7:00 p.m.

INTERROGATORY XXXIII-5

SAPL does not know what the worst case evacuation time is for each sector of the compass.

INTERROGATORY XXXIII-6.

SAPL adopts as its own NECNP's response to Applicants' interrogatories, XXXIII-6, dated January 24, 1983.

INTERROGATORY XXXIII-7

SAPL has not conducted its own evacuation time estimates.

INTERROGATORY XXXIII-8

Not available.

INTERROGATORY XXXIII-9

At this point, SAPL does not know how emergency personnel, both onsite and offsite, could mitigate or eliminate the effects of "evacuee directional bias". SAPL reserves the right to supplement this response under applicable NRC regulations.

INTERROGATORY XXXIII-10

SAPL adopts NECNP's response to Interrogatory, XXXIII-10, dated January 24, 1983.

INTERROGATORY XXXIII-11

Not available.

INTERROGATORY XXXIII-12

Not available.

INTERROGATORY XXXIII-13

At this time, SAPL does not know what measures might be taken by emergency personnel, both onsite and offsite, to mitigate or eliminate the effects of "evacuation shadow".

It is SAPL's position that the effects of "evacuation shadow" can be most effectively mitigated by incorporating a realistic analysis of the phenomenon into the Applicants' radiological emergency plans. One prudent initiative to mitigate "shadow effects" would be to at least double the present EPZ from 10 to 20 miles from the Seabrook site. Second, egress route capacity from the expanded EPZ should be greatly increased to accomodate backups resulting from the "evacuation shadow".

INTERROGATORY XXXIII-14

At this time, SAPL has not yet made a determination as to what constitutes a "reasonably expected" vehicle mix.

INTERROGATORY XXXIII-15

Not available.

INTERROGATORY XXXIII-16

Not available.

INTERROGATORY XXXIII-17

Not available.

INTERROGATORY XXXIII-18

SAPL does not know the maximum probability of each of the stated events occurring in the vicinity of the Seabrook beaches.

INTERROGATORY XXXIII-19

The Applicants' question is vague. If by "evacuating the beaches within its jurisdiction", the Applicants are asking whether or not SAPL believes that the police department could evacuate all the persons within its jurisdiction to the 10 mile EPZ limit within 6 hours, the answer is no.

INTERROGATORY XXXIII-20

This question is also vague. If by "evacuating the beaches within its jurisdiction" the Applicant is asking whether SAPL believes that the police department of Seabrook, New Hampshire is capable of evacuating all persons within its jurisdiction to the 10 mile EPZ limit within 6 hours, the answer is no.

INTERROGATORY XXXIII-21

At this time, SAPL does not intend to offer the testimony of an expert witness with respect to this contention. Should SAPL retain an expert witness for this purpose, it will supplement these responses according to NRC regulations.

Respectfully submitted,
Seacoast Anti-Pollution League
By its attorneys,
BACKUS, SHEA & MEYER

By: 

Robert A. Backus
116 Lowell St., Box 516
Manchester, N.H. 03105
Tel: (603) 668-7272

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Helen Hoyt, Chm.
Admin. Judge
Atomic Safety & Lic. Ap.
Board - U.S. NRC
Washington, DC 20555

Thomas G. Dignan, Esq.
Ropes and Gray
225 Franklin Street
Boston, MA 02110

Dr. Jerry Harbour
Admin. Judge.
Atomic Safety & Lic. Ap.
Board - U.S. NRC
Washington, DC 20555

Docketing and Service Sec.
Office of the Secretary
U. S. NRC
Washington, DC 20555

Roy P. Lessy, Jr., Esq.
Office of Executive
Legal Director
U.S. NRC
Washington, DC 20555

Robert L. Chiesa, Esq.
95 Market Street
Manchester, NH 03101

Phillip Ahrens, Esq.
Asst. Atty. General
State House, Station #6
Augusta, ME 04333

Jane Doughty
Field Director
SAPL
5 Market Street
Portsmouth, NH 03801

Wilfred L. Sanders, Esq.
Sanders & McDermott
408 Lafayette Road
Hampton, NH 03842

Tupper Kinder, Esq.
Attorney General's Office
State of New Hampshire
Concord, NH 03301

Dr. Emmeth A. Luebke
Admin. Judge
Atomic Safety & Lic. Ap.
Board - U.S. NRC
Washington, DC 20555

David R. Lewis
Atomic Safety & Lic. Brd.
U. S. NRC - Rm. E/W-439
Washington, DC 20555

Jo Ann Shotwell, Asst. AG
One Ashburton Place, 19th
Floor
Boston, MA 02108

Calvin A. Cannery, Cty.Mgr.
City Hall
126 Daniel Street
Portsmouth, NH 03801

William S. Jordan, II, Esq.
Ellyn R. Weiss, Esq.
1725 I Street, N.W.
Suite 506
Washington, DC 20006

Ruthanne G. Miller, Esq.
Law Clerk to the Board
Atomic Safety and Lic. Brd.
U.S.NRC
Washington, DC 20555

Edward J. McDermott, Esq.
Sanders and McDermott
408 Lafayette Road
Hampton, NH 03842

