

exceptions are those instances where there are uncontested findings of fact made as to what admitted contentions state. (See e.g. App. PF 8.1.2.) SAPL findings that have small case letters after the numbers (e.g. 5.1.67.c.) should be considered findings standing alone in their own right. This system of finding denotation was necessitated by the Board's instruction to intervenors to track the Applicants' finding format. SAPL notes that this structure has caused some level of hardship and has absorbed a considerable amount of time which could otherwise have been spent on drafting additional findings. Further, it has in some cases impeded SAPL's ability to present its findings in the order it would consider optimum for logical progression of thought.

1. BACKGROUND AND INTRODUCTION

- 1.1. Agree.
- 1.2. Agree if the amendment of "to be operated" to "hoped to be operated" is made.
- 1.3. Agree.
- 1.4. Agree.
- 1.5. The SPMC is a utility authored plan. The Applicants decided to prepare this plan upon the decision of The Commonwealth of Massachusetts (The Commonwealth) not to participate in emergency planning for Seabrook.

- 1.6. Agree if "It is designed" is amended to "It is purportedly designed."
- 1.7. Agree.
- 1.8. Agree.
- 1.9. Agree if JI-46 is described as "(EPZ Hospitals and Host Hospital Capacity)", JI-57 is described as "(Radioactive Waste Water and Contaminated Materials)", SAPL EX-2 as "(Emergency Vehicle/Driver Performance)", SAPL EX-7 as "(Scope/Emergency Worker Facility)", SAPL EX-8 as "(Scope/NH 24-Hour Continuous Staffing)", SAPL EX-13 "(Scope/Special Facilities & KI Decisionmaking)."
- 1.10. Agree.
- 1.11. Agree.
- 1.12. Agree if all of the second sentence "As also contemplated . . . were adequate." is stricken and "More specifically" is stricken from sentence 3.
- 1.13. Agree if "The Regional Assistance Committee . . ." is prefaced by "Mr. Donovan testified that . . ."
- 1.14. Agree.
- 1.15. FEMA did not thoroughly review all facilities and equipment to be utilized to implement the SPMC.

- 1.16. Agree.
- 1.17. Agree.
- 1.18. Agree.
- 1.19. No rebuttable presumption attaches to issues or aspects of the plans and exercise on which FEMA did not make findings.
- 1.20. Agree.
- 1.21. Disagree.
- 1.22. Disagree.
- 1.23. Agree.
- 1.24. Agree.
- 1.25. Disagree.
- 1.26. Applicants' failures to comply with the requirements of 10 CFR §50.47(a) and (b) are wholly the result of inadequate emergency planning and cannot be attributed to the non-participation of the Commonwealth. Though that attribution provides the Applicants with a convenient excuse, any surface plausibility that that attribution of blame might seem to hold vanishes when the Board logically considers that a utility plan qua utility plan should be evaluated as a utility plan which ought not require state and local participation to be adequate. It makes no sense to this board to blame the failure of a plan, which should stand as a utility plan, on the fact it is a utility plan. Indeed to hold that

the argument that the problems are a result of governmental non-participation is meritorious would constitute an impermissible attack on the Commission's regulations holding that utility plans can be adequate.

1.27. Four of the Applicants expert witnesses who testified as to the SPMC and/or exercise issues identified themselves as employees of Aidikoff Associates. They are: John W. Baer, Qualifications ff. Tr. 22695, Michael C. Sinclair, Robert Cotter, Qual. ff. Tr. 25423, and William F. Renz, Qual. ff. Tr. 27223, Tr. 21542. Aidikoff Associates is contracted to New Hampshire Yankee for planning and litigation support. The Aidikoff witnesses will not be available to perform roles during a radiological emergency at Seabrook Station. Tr. 21543, 21545

1.27.a. There is no evidence in the record to establish any expertise in emergency planning of the Aidikoff Associates. Further, the avowed purpose of this consortium of independent consultants is to offer services to the nuclear industry. The likelihood, therefore, of bias in their testimony is large. Tr. 21543 Further, the Board is confused by conflicting information as to Robert Cotter's present employment. Though his resume indicates that he is employed by Impell (Qualifications, ff. Tr. 25423) he testified on

the stand that he is an employee of Aidikoff Associates.
Tr. 25435

5. PERSONNEL AND TRAINING

5.1.8. No ORO personnel are assigned for second shift staffing of the Reception/Decontamination Centers. Though Yankee Atomic Electric Company is relied on to provide second shift capability (Tr. 21428) no roster of Yankee Atomic personnel for the 2nd shift appears in the SPMC. The Board finds this lack of demonstration of adequate personnel acceptable.

5.1.9. There was no specific evidence adduced in the record to show that Yankee Atomic has sufficient numbers of personnel with the requisite training to fill 2nd shift positions at the Reception/Decontamination Centers.

. . .

5.1.65. Agree. Add as follows:

Further, Contention JI 56 raised the issue of whether there are adequate provisions for "those who become injured during the emergency, from radiatic
contamination/exposure."

5.1.66. Agree with first sentence. Delete remainder and replace with the following:

Dr. Kenneth Peele is the only one of three radiologists at St. Joseph's hospital who has taken the training course provided by Seabrook Station. Tr. 23335-36 The other two radiologists have not participated in a radiological emergency drill for something on the order of five to six years according to Dr. Peele. Tr. 23337-39

- 5.1.66.a. Dr. Peele's answer as to whether board certified radiologists would be prepared to handle the treatment of contaminated injured individuals was tentative in nature: "I think they should be." Tr. 23372
- 5.1.67. The decontamination rate for St. Joseph's Hospital, the primary MS-1 hospital, is six persons per hour according to SPMC Appendix M. Tr. 21426, 21568, App. Reb. No. 6 at 54. Dr. Peele testified that he could give no assurance that that rate could be met on an average basis. Tr. 23347
- 5.1.67.a. Dr. Peele testified that only two contaminated injured patients could be treated at any one time and that 10 to 20 additional patients could be held for treatment based on the expectation, as reflected in their disaster plan, that they would be receiving between 2 and 10 patients over the course of a period of time. Tr. 23348-50
- 5.1.67.b. Dr. Peele testified that the short term care of radiologically exposed patients such as intravenous

fluids, blood transfusions and antibiotic treatment could be done at St. Joseph's, though he would not be the physician directly in charge of those patients. Tr. 23329-30 Dr. Peele stated that the treatment of radiological exposure is not a routine part of the practice of the emergency room physicians at St. Joseph's. Tr. 23331 Dr. Peele testified that St. Joseph's would not be able to care for patients beyond initial treatment if it became apparent that they had received a large dose. Tr. 23322-23, 23326 St. Joseph's would have to arrange for transfer to a tertiary care facility after such a patient was externally decontaminated. Tr. 23325 The SPMC does not include any plans for hospital to hospital transfers of patients. Tr. 21451

5.1.67.c. Dr. Peele did agree that in viewing contaminated patients, the distinction as to whether the contamination was internal or external was an important one (Tr. 23367) and that that distinction has a significant impact on types of treatment undertaken. Tr. 23367-68, 23370 St. Joseph's Hospital does not administer decorporation agents. Tr. 23341

5.1.68. Sister Paula Bradley and Sister Doris Beouillette stated that they had a basic understanding of the biological effects of radiation; indeed their answers to questions

about their knowledge base did reveal that their understanding is quite rudimentary in nature and that they will be dependent upon the radiologist on duty for instruction. Tr. 23352-53, 23356, 23374-75 The Board fully believes that the nuns were testifying in good faith but realizes that sometimes individuals who do not have an overall comprehension of the extent of a subject matter cannot possibly make a good evaluative judgment of how much they know about a subject.

5.1.69. IN reviewing Objective 24 in the graded exercise, FEMA found that: "Medical and nursing staff members did not fully understand the biological effects of radiation and the significance of counts per minute, contamination, and millirem per hour dose rate." App. Exh. 43F at 231 [global 239]

5.1.70. Applicants witness Callendrello testified that he thought it reasonable to require the same number of hospitals for emergency response purposes at high population density and low population density sites. He felt that as a planner he had only to comply with the intent of FEMA Guidance Memorandum (GM) MS-1 and that, in light of other accessible hospitals in the Commonwealth, the FEMA guidance was reasonable. Tr. 21596-98 The Board disagrees. The Board finds that the FEMA guidance memo fails to properly consider population

density, and given the high population density at the Seabrook site, agreements with more than 2 or 3 MS-1 hospitals are required. Relying on other hospitals to respond on an ad hoc basis is not adequate planning.

5.1.71. The Board takes note of the fact that, under the provisions of the SPMC, all persons evacuated from hospitals and other special facilities by ambulance are transported directly to an MS-1 hospital for monitoring and, if necessary, decontamination services. App. Reb. No. 6 at 53. This means that the occupants of the 23 ambulances transporting hospital patients, the 60 from nursing homes and the 3 from special facilities (86 total) will be the least number to require processing through MS-1 hospital facilities. App. Reb. No. 6, Attachment T. The planning basis is that each ambulance is to transport 2 persons, which means that a minimum of 172 patients will need to be processed through MS-1 hospitals. This number includes none of those patients referred from Reception Centers after unsuccessful monitoring attempts and none of the homebound individuals, who may also be referred to MS-1 Hospitals. See App. PF 8.1.120

5.2. RULINGS OF LAW

5.2.4. The FEMA Guidance Memorandum (GM)MS-1 fails to appropriately interpret Commission regulatory requirements for the treatment of contaminated injured individuals a) because it fails to require more hospital facilities at high population density sites than at low population density sites and b) because it does not require that reasonable staffing levels be maintained on a continuous 24-hour basis over several days.

5.3. CONCLUSIONS

5.3.4. There is no reasonable assurance that there are sufficient trained staff and facilities at the MS-1 hospitals identified in the SPMC to treat the numbers of contaminated injured individuals, as defined by Commission regulations, who may reasonably be expected to require medical treatment in a radiological emergency at the Seabrook site. "Emergency Planning - Medical Services", 51 Fed. Reg. 32904 (Sept. 17, 1986)

8. PROTECTIVE ACTIONS FOR PARTICULAR POPULATIONS

8.1.2. Agree.

. . .

8.i.12. MAG introduced the testimony of Maureen Mangan and John Paolillo; this consisted of information elicited in interviews with representatives of the bus, ambulance and tow truck companies relied upon under the SPMC. On the basis of these interviews, the witnesses stated their belief that the number of emergency vehicles that will respond in the event of a radiological emergency at Seabrook will be substantially less than the numbers set forth in the LOA's/contracts in the SPMC. Mangan and Paolillo Dir., ff. Tr. 19429. passim.

. . .

8.1.62.a. Though buildings housing special facilities were surveyed for derivation of dose reduction factors so that separate protective action calculations could be based on the particular characteristics of those facilities in the New Hampshire portion of the EPZ, this was not done for Massachusetts special facilities. Tr. 21546

8.1.62.b. Under the SPMC, it is ultimately the facility administrator who is responsible for the choice of protective action implemented. Tr. 21548

Administrators of special facilities in Massachusetts do not know about the protection to be afforded by the structures their residents are in. App. Reb. No. 6, ff. Tr. 21049 at 33-34. Therefore, they do not have a sufficiently informed basis for making choices between evacuation and sheltering. The dose reduction factors of buildings are an important input in deciding whether greater dose savings are to be achieved by evacuation or sheltering. Tr. 21553-54

. . .

8.1.94. Applicants' witness Callendrello testified that the ambulances under contract to carry out the SPMC add up to 89 from 11 companies. He claimed there were 97 ambulances based on invoice information. Tr. 21583, 21587 Massachusetts Attorney General's witnesses Mangan and Paolillo testified that, based on their interviews, no more than 51 ambulances were likely to be provided by the companies listed in the SPMC. Mangan & Paolillo Dir., ff. Tr. 19429 at 20. They did not add in ambulances from two companies that signed up subsequent to their investigation. App. Exh. 41 Even adding all those ambulances into their total, the number arrived at is only 58. From the Reception Centers, all those

individuals who are radiologically contaminated who need transport to MS-1 hospitals and homebound handicapped people who need transport to regular host hospitals are supposed to be transported in separate vehicles to maintain contamination control. If an individual's condition is such that ambulance transport is required, an ambulance will supposedly be called in. Tr. 21582 Mr. Sinclair testified that moving people from Reception Centers to medical facilities will be accomplished by ambulances not under agreement from the companies normally serving the host communities. Tr. 21588 The Applicants have adduced no evidence to show that host community ambulance companies have had any training in contamination control. FEMA guidance (GM)MS-1 requires provisions for contamination control in transporting contaminated persons to medical facilities. Staff Exh. 7, Tr. 21579, 21581-82

8.1.94.b. The Applicants' claim that they can rely on the additional ambulances in the fleets of the contracted companies is not credible since those ambulance companies that did not contract certain of their vehicles did so because they did not feel they could make them available. Mangan and Paolillo Dir., ff. Tr.

19429 at 11, 12, 14. Indeed, the company owner from Front Line Ambulance, which is contracted for "up to" 15 ambulances, said he intends never to send more than 11. Id. at 12.

. . .

8.1.100. Applicants' witness Callendrello testified that, for Massachusetts special facilities, a trained health physicist could come up with a dose reduction factor (DRF) at the time of the accident based on the facility administrators' descriptions of building construction. Tr. 21549 The Board deems this approach ad hoc and unacceptable, particularly because the Applicants have not shown that they have sufficient health physics experts available to perform these calculations during an accident. Even if a facility were to refuse to cooperate in allowing a full facility survey, an external examination of the special facilities in the Massachusetts portion of the EPZ could be done and estimated DRF's derived. Tr. 21551 The Board finds that this information should be included in the SPMC prior to plant licensing. It is not presently in the plan. Tr. 21554-55

8.1.100.a. The Applicants' witness testified that the

Massachusetts protective action decisionmaking process does not discriminate between the general population and those in special facilities. Tr. 21547, 21555 The considerations for protective action decisionmaking between special facilities and the general public may be different than the NHRERP contemplates. App. Exh. No. 5, Volume 1 at 2.6-7 The Board finds that, logically, one approach has to be better than the other and the Board finds that the approach taken in New Hampshire is the superior one. Therefore, no best effort has been made in Massachusetts in planning for special facilities.

. . .

8.1.118. The SPMC states that monitoring and decontamination of special needs evacuees, including nursing home residents and the handicapped, are to be accomplished in the vehicles in which they arrive at the Reception Centers before they are transported to the designated host facilities. App. Reb. No. 6, ff. Tr. 21049 at 52, Tr. 21425

8.1.119. The number of personnel dedicated to the function of monitoring and decontaminating special needs persons at the Reception Centers are listed in the SPMC

Procedures Volume at IP 2.9 at Section 5.2.9.B.4. There are only 4 such persons designated. Tr. 21425, 21556

8.1.119.a. Applicants' witness Callendrello agreed that the kinds of decontamination that can be accomplished for a special needs person in a vehicle are limited. Tr. 21557

8.1.120. Agree on condition that 8.1.119.a. is adopted.

8.1.120.a. The Board is troubled by the Applicants' witness' stated expectation that the patterns of contamination on evacuees, both general population and special needs evacuees, will usually be "spot contamination: feet; hands; head; something like that." Tr. 21558 The Board knows from its own general knowledge base that, while those would be the expected patterns on employees working in a nuclear facility, material deposited on evacuees by a plume passing overhead will result in more extensive contamination.

. . .

8.1.122. Agree if and only if SAPL PF 5.1.70 is added.

8.1.123. Agree if and only if the following is added:

The Board finds that the lack of any clear standards in the FEMA (GM)MS-1 guidance memorandum as to the capacity required at each MS-1 hospital for treatment of the

contaminated injured renders the FEMA guidance useless in determining whether or not the Applicants planning complies with Commission regulations. Applying its own judgment, the Board finds that the Applicants have not met their burden of establishing that St. Joseph's and Brigham & Women's have sufficient capacity for the reasonably expected number of contaminated injured who could require treatment in a Seabrook emergency.

. . .

8.1.126. The provision in (GM)MS-1, p. 4, 0.4 - Areas for Review and Assistance Criteria, states in part that:

"Each hospital listed under Evaluation Criteria L.1 and L.3 shall have at least one physician and one nurse on call within about 2 hours who can supervise the evaluation and treatment of radiologically 'contaminated injured' members of the general public."

App. Reb. No. 6, ff. Tr. 21049 at 56.

The Board finds that one physician and one nurse on call would not be able to accomplish very much in treating contaminated injured individuals as revealed by the testimony of Dr. Peele, and therefore finds that the FEMA guidance does not provide a basis for a finding of adequacy of staffing. Dr. Peele testified that he could possibly oversee and provide advice to three treatment teams depending on how many physicians there

were (Tr. 23334), but that he would not be the physician directly in charge of the patients. (Tr. 23329-30) It is apparent to the Board that several physicians with supporting staff would be the minimum personnel required at any one time.

8.1.127. See SAPL PF 5.1.69.

8.1.128. The Board finds Attachment N to App. Reb. No. 6 of no evidentiary value whatsoever since there is no annotation as to capacity and special radiological capabilities of these facilities as required by Commission regulations. Emergency Planning - Medical Services at 51 Fed. Reg. 32904 (Sept. 17, 1986) Further, the Board notes that two of the hospitals on the list, Anna Jacques and Amesbury, are EPZ facilities that cannot be assumed to be available to treat the contaminated-injured.

8.1.129. There is no third MS-1 hospital listed in the SPMC and no contract. The name of such hospital does not even appear in the hearing record. Even if it did, there has been no showing that the bare requirements of the FEMA (GM)MS-1 memo, which the Board has found are not in themselves adequate to establish the qualifications of an MS-1 facility, have been met. See SAPL PF's 5.1.70, 8.123, 8.126 supra.

8.2. RULINGS OF LAW

None.

8.3. CONCLUSIONS

- 8.3.1. The Board concludes that adequate and implementable provisions have not been made for special needs populations in the Seabrook EPZ.

9. EVACUATION EQUIPMENT AND FACILITIES

9.1. FINDINGS OF FACT

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- 9.1.63. JI-56, bases A and B raised the issue of whether adequate provision has been made for monitoring and decontaminating members of the public and emergency workers. Contentions Memo. at 83-84. By Board ruling of January 26, 1989, intervenors were barred from litigating the adequacy of the provisions for decontamination showers at the SPMC Reception Centers.
Tr. 19141

. . .

9.1.74. The Board finds that the Applicants have not dealt appropriately with a number of important considerations in planning for monitoring and routing of evacuees through the trailers at the Reception Centers and referring them on for appropriate care. First, the Board finds it an unreasonable workload that the two individuals who are dedicated to the task of remonitoring evacuees after they shower (IP 2.9 Sections 5. 2.9 #3 and 5.5., Tr. 19067-68) are also responsible for monitoring contaminated articles (Tr. 25690). Further, those same two individuals are responsible for filling out contaminated article tags (Tr. 25692) and, if there is time, decontaminating the articles found to be contaminated (Tr. 25696-97) or if they cannot be decontaminated, bagging and tagging the articles and setting them aside for waste disposal. IP. 2.9 Section 5. 5.3

9.1.74.a. The Applicants have planned and FEMA has accepted that each trailer at the Reception Centers should be able to monitor 8300 persons in 12 hours. Tr. 19077 The Board has already computed that that would require an average rate of processing of evacuees of 700 per hour, or to be precise, 691.6 persons/hour. Tr. 19077-78 The

monitoring rate the Applicants assume is a 70 second monitoring time per person at each of 14 monitoring locations in the trailer. App. Reb. No. 17, ff. Tr. 25423 at 6. If the Applicants indeed met this rate, then 14 persons could, if contaminated, wind up down at the end of the trailer awaiting monitoring services and possible disposal of their contaminated articles from the two individuals there every 70 seconds. The Board finds that it is not reasonable to expect that these persons can perform the tasks assigned (see SAPL 9.1.74 infra.) at that rate even if only just one or two of the 14 monitored persons were sent for services every 70 seconds, much less the full 14.

9.1.74.b. The Board is concerned about the lack of clear criteria in the plan for referral of evacuees who cannot be decontaminated. It is not clear how the monitoring decontamination leader or the Radiological Health Advisor determines who gets referred to an MS-1 hospital and who is simply entered into the "Radiological Screening Program." Tr. 21558-60 IP 2.9 at 5.2.16 and IP 1.2 at 2.7 Applicants' witness Callendrello did not know if any medical authority has even been consulted on the question of whether simply putting people in the screening program without first having been examined at a medical facility was acceptable.

The Applicants' witness' statement that if an individual is determined to be internally contaminated, there is not much you can do for them is troubling to the Board. Tr. 21558 The Board has knowledge that there are therapies, which if instituted in a timely manner, can achieve significant reductions in internal contaminants.

9.1.74.c. Applicants' witnesses testified that individuals who cannot be decontaminated after 3 attempts get routed out of the trailer in the same direction as the clean evacuees. Tr. 25700 Though such persons may have internal contamination or have contaminated particles embedded in their skin, they are simply entered into the Radiological Screening Program so that the program "would then address that at a later time." Tr. 25703 The Board finds that the Applicants have not met their burden of proof of establishing that this approach provides reasonable assurance of adequate public protection. As previously stated (See SAPL PF 9.1.74.b. infra), the Board has found no evidence that Applicants will apply meaningful criteria for establishing which individuals are referred to MS-1 hospitals for further treatment and which get routed out of the trailer and put in the Radiological Screening Program. Further, the Board finds that the Applicants have adduced no evidence

to show that the services provided in the screening program will promote maximum dose savings.

. . .

9.1.109. The monitoring process for evacuees could be significantly delayed for several reasons:

- The admittance of more evacuees into the trailer for monitoring is halted when the process of doing gross contamination swipes is in progress. Tr. 25723 Areas are decontaminated using muslin cloth or contained with herculite duct tape. Tr. 25729 The Applicants have no data on how long this trailer decontamination process would take. Tr. 25731
- The process of monitoring and decontamination might be slowed or curtailed because of the need to change waste water tanks, which only have a 1200 gallon capacity. Mr. Donovan did not know if the replacement tanks were plumbed in a manner to permit continuous operation or not. Tr. 19097-98 A full 1200 gallon tank would weigh about 9600 lbs. Tr. 19099
- If a person with injuries requiring medical attention arrives at a Monitoring Trailer, a monitoring/decontamination person is assigned to attend to the injured individual. IP 2.9 at 5.2.15.B

The arrival of several such persons would significantly reduce the achievable monitoring rate through the trailer.

. . .

9.1.114. Mr. Donovan testified that he did not rely on anyone on his staff with expertise in health physics to review the adequacy of procedures in the monitoring trailers. Tr. 19090 He himself is not a health physicist. Tr. 19091 The Board finds Mr. Donovan not credible in a number of areas. He on the one hand stated that the waste water contamination levels would not have to comply with the NRC regulations at 10 CFR Part 20 in an emergency (Tr. 19101) even though host communities ought to be kept uncontaminated. Then he relied on the assumption that the water would be below 10 CFR Part 20 limits as a justification for not having required that the waste water tanks in the trailer be shielded to prevent interference with the monitoring instrument readings. Tr. 19120

. . .

9.1.128. FEMA did not check to see whether or not there were legal impediments to the contracted waste disposal

company taking the waste materials. Tr. 19115, 19119
The Board notes that counsel for the Applicants admitted
that the State of New Hampshire is not in compliance
with the Low Level Radioactive Waste Policy Amendments
of 1985 (Tr. 11915-11918) though he claimed that the
fact that the wastes are Massachusetts wastes make that
no problem. The Board questions the Applicants' logic
since the radioactive material was generated at the New
Hampshire based Seabrook Station Nuclear Power Plant.

9.2. RULINGS OF LAW

None.

9.3. CONCLUSIONS

There is no reasonable assurance that there will be
adequate equipment and facilities to carry out the SPMC
in the event of a radiological emergency.

12. NEW HAMPSHIRE EXERCISE PERFORMANCE

12.1. FINDINGS OF FACT

12.1.1. Agree.

12.1.2. Agree.

12.1.3. With respect to SAPL EX-12, SAPL presented a panel of
witnesses from the Salem Fire Department, Salem, N.H.
The witnesses on the panel were Daniel Lewis Breton, a

captain in the Salem Fire Department and John William Van Gelder, President of the Brotherhood of Salem Firefighters. Witnesses Breton and Van Gelder testified as to the inadequacy of the Reception/ Decontamination Center response in Salem as revealed during the FEMA graded exercise in June, 1988. Breton & Van Gelder Dir., ff. Tr. 25535, passim.

12.1.3.a. Under the NHRERP, the Salem firefighters are responsible for setting up the Reception/Decontamination Center in Salem and for monitoring and decontaminating evacuees arriving there. The primary Reception/Decontamination Center in Salem is located at Salem High School. Breton & Van Gelder Dir., ff. Tr. 25535 at 3-4 and App. Exh. 5, Vol. 38, Appendix B.

12.1.3.b. Captain Breton has been on the Salem Fire Department for almost 17 years, with at least 9 of those years in a command position. Tr. 25536, 25548. Firefighter Van Gelder was with the Salem Fire Department for 7 years, left for a period of 18 months to operate his own business, and then has served for almost another 6 years on the Department. He also had 5 prior years of experience with the Lynnfield, Massachusetts Fire Department. Breton & Van Gelder Dir. ff. Tr. 25535 at 2, Tr. 25538-39. Captain Breton has had extensive experience in judging the adequacy of response to

emergency situations. Tr. 25548-49. Captain Breton currently has supervisory responsibility over 15 men and is an incident commander when he is on duty. Breton & Van Gelder Dir., ff. Tr. 25535 at 2. Firefighter Van Gelder is President of the Brotherhood of Salem Firefighters. Tr. 25533. The Board finds Captain Breton and Firefighter Van Gelder dedicated to their profession and qualified to testify as to the capabilities of the Salem Fire Department and its personnel.

12.1.3.c. At the time Captain Breton and Firefighter Van Gelder testified in the hearing, there were 43 firefighters and 20 officers in the Salem Fire Department. Tr. 25539. The Salem Fire Department has no reserve firefighters. Id.

12.1.3.d. The number of firefighters needed to staff the primary Reception/Decontamination Center in Salem is 66. The number of firefighters to staff the secondary Reception/Decontamination Center in Salem is 20. PID at 5.28, 5.34, 5.35; App. Exh. 5, Vol. 38, Appendix B.

12.1.3.e. Only the primary Reception/Decontamination Center facility at Salem High School was tested during the graded exercise. App. Exh. 43F at 184 [global 192].

12.1.4. Captain Breton and Firefighter Van Gelder testified that on the occasion of the Exercise, only 15 on-duty

firefighters from Salem participated in performing emergency response functions at the Reception/Decontamination Center. Breton & Van Gelder Dir., ff. Tr. 25535 at 3. No off-duty firefighters responded, even though a tone went out to page them. The off-duty firefighters knew it was a Seabrook exercise. They would have been paid time and a half for responding. Id., Tr. 25563-64.

12.1.4.a. Firefighter Van Gelder testified that the consensus among Salem firefighters is that representatives from Seabrook Station who came into the town lied to them. Tr. 25562

12.1.5. The firefighters unreservedly stated that there was not enough manpower to carry out the tasks they are assigned under the NHRERP. Breton & Van Gelder Dir., ff. Tr. 25535 at 5, Tr. 25555, 25557.

12.1.6. The lack of manpower for carrying out the Reception/Decontamination functions in the Town of Salem, revealed by the graded exercise constitutes a fundamental flaw in the NHRERP. This flaw meets the criteria set forth in ALAB-903 in that there is a demonstrated failure to carry out an essential plan element and a significant plan revision is necessary to identify more appropriate sources of personnel to perform these essential functions. Long Island Lighting

Company (Shoreham Nuclear Power Station, Unit 1), ALAB-903, 28 NRC 499, 505 (1988).

12.1.6.a. Captain Breton testified that if there were a house fire in Salem at the time of a radiological emergency, he might necessarily have had to send his entire crew of firefighters to respond to that fire if that were the response recommendation. Tr. 25545-47 During the actual exercise, a fire at 15 Henry Street in Salem called away 9 of the 12 Salem firefighters from the Reception Center just 2 minutes after the Center was fully set up. Breton & Van Gelder Dir., ff. Tr. 25535 at 9-10, Tr. 25557-58. Even prior to that occurrence, fire calls had taken Salem Fire Department personnel out of the Reception/Decontamination Center and had impaired the set up of the facility. Tr. 25557 Firefighter Van Gelder testified that if that fire had been in the south part of Salem, not one firefighter from the Salem Fire Department would have been left at the Reception/Decontamination Center. Breton & Van Gelder Dir., ff. Tr. 25535 at 10, Tr. 25558. Captain Breton testified that the Salem Fire Department averages 10 emergency calls per day. Breton & Van Gelder Dir., ff. Tr. 25535 at 9. Captain Breton further testified that, if the fire had been larger, they might have also had to

pull the mutual aid firefighters out of the Reception Center to deal with it. Tr. 25579-80

12.1.6.b. Captain Breton testified that the Salem Fire Department could not compromise the safety of the rest of the town to perform its Seabrook emergency response functions. Tr. 25547. He testified that the firefighters must maintain fire protection, do EMS rescues and the kinds of things they do every day. Tr. 25580

12.1.6.c. The Board finds that the problem of conflicting emergency roles has not been litigated in this proceeding. The idea that the firefighters would first respond to emergencies for which they are more fully trained to respond and for which they have greater role certainty is consistent with the Board's prior human behavior findings. P.I.D. 7.4, 7.48, 7.53 The Board concludes that relying on firefighters who have potential concurrent emergency responsibilities constitutes a fundamental plan flaw as revealed by the June 1988 exercise.

12.1.6.d. The reliance upon mutual aid fire departments does not remedy the fundamental flaw identified by the Board. The New Hampshire towns with which Salem has mutual aid agreements are mostly volunteer fire departments. Tr. 25560 The Town of Windham, for example, has only 2 permanent men on duty. Tr. 25561 Captain Breton

testified that the extent of help they could expect from Windham during a fire is that they would send a vehicle over. Id. He further testified as to the difficulty of working with firefighters from other communities with whom they don't normally function as a team, who may do things differently and who have unknown levels of training. Tr. 25567 Further, the towns Salem normally relies on for mutual aid are Methuen, Massachusetts and Lawrence, Massachusetts. Tr. 25560 Those towns have indicated that they will not respond to anything that has to do with a Seabrook incident (Id.), but even assuming they would, they would respond to requests from Massachusetts EPZ towns which would leave them unavailable to Salem. Tr. 25581 Captain Breton has further informed the Board that there is a "domino effect" with mutual aid such that, when towns are called out of town to help in another, that may affect the mutual aid town's ability to handle their own emergency situations to such an extent that that town might also have to call in help from elsewhere. Tr. 25579 Given the size of the area that could be affected by a Seabrook emergency, the Board does not find mutual aid a realistic way to remedy the serious manpower shortages revealed by the exercise.

12.1.7. The firefighters stated that, in their judgment, there was overall confusion at the Reception Center on the day of the exercise. Breton Dir., ff. Tr. 25535 at 7. They stated that there was lack of coordination and people who did not know what they were doing. Id. Captain Breton testified that problems during the exercise related to the fact that "none of us had a full understanding of what we were actually supposed to do." Tr. 25552 He further testified that the plan is not clear enough; that parts of it are very confusing. Tr. 25576

12.1.7.a. The improper packing of the trucks with the equipment for setting up the monitoring stations had been an ongoing problem that the firefighters had been trying to straighten out for some period of time. They had relayed the problems to their chief who was to let Seabrook personnel know about the problem. The disorganization of the material in the truck remained a big problem during the exercise. Breton & Van Gelder Dir., ff. Tr. 25535 at 6; Tr. 25550-52, 25569-70, 25573-74. Since the graded exercise, Captain Breton has not even seen the truck, which is supposed to be parked in the back of the Salem Fire Department. Tr. 25572 The exercise occurred almost a full year prior to his testimony.

- 12.1.8. Captain Breton also stated that their prior knowledge as to the approximate times when things were to happen during the exercise, including the approximate time when they would be expected to activate the Reception/Decontamination Center, helped make their response more efficient than it otherwise would have been, though he said their response could hardly be characterized as "efficient." Breton & Van Gelder Dir. ff. Tr. 25538 at 8. They also testified that the need to carry out their regular duties impeded the performance of the exercise. Id. at 9.
- 12.1.9. In ALAB-900, the Appeal Board held that a qualifying exercise must test all the FEMA objectives. Long Island Lighting Company, (Shoreham Nuclear Power Station, Unit 1), ALAB-900, Slip Op. at 21-22. FEMA Objective 36 calls for an unannounced, off hours exercise. App. Exh. 43 F at 268 [global 276].
- 12.1.9.a. The evidence indicates that during a real radiological emergency, the firefighters would place a higher priority on responding to other emergencies in Salem that are in the nature of the kinds of emergencies to which they regularly respond. Tr. 25547, 25580. See also SAPL PF 12.1.6.b. supra.
- 12.1.10. Captain Breton was not present during the monitoring and decontamination part of the exercise because at the time

he left, which was in the 2:00 - 3:00 p.m. time frame, the trucks were not completely unloaded nor were the stations set up. Tr. 25543, 25550. Firefighter Van Gelder was present during the whole exercise from about 11:30 a.m. until 6:00 or 7:00 p.m. Breton & Van Gelder Dir. ff. Tr. 25535 at 5, Tr. 25544. Firefighter Van Gelder testified the estimated time of opening of the Reception Center was around 1300 hours (1:00 p.m.), but that the Reception Center was not fully set up until 1632 hours (4:32 p.m.) when the notification was made to the EOC. Tr. 25556 He testified that the exercise "evacuees" stood outside the doorway of the Reception/Decontamination Center for a couple of hours waiting to get inside. Breton & Van Gelder Dir. ff. Tr. 25535 at 8; Tr. 25556-57. He further testified that some of the buses did not show up at the Salem Reception/Decontamination Center until about the time the exercise was to be terminated and they were just turned around and sent back. Breton & Van Gelder Dir. ff. Tr. 25535 at 8, Tr. 25559.

12.1.11. The FEMA Exercise Report said of the performance at the Salem Reception/Decontamination Center as follows:

The Salem facility was activated in a timely and effective manner. The assigned personnel performed as a team and demonstrated their knowledge of Emergency Plan Procedures for the necessary stations to be established throughout the facility. All necessary equipment and supplies were available and

adequately demonstrated by the staff. The staff was knowledgeable in the procedures to establish and operate each function of the facility. App. Exh. 43 F at 184 [global 192] and Breton & Van Gelder Dir., ff. Tr. 25535 at 7.

Captain Breton and Firefighter Van Gelder swore that the FEMA evaluation of the exercise was not an accurate reflection of what actually went on. They said they saw confusion, lack of coordination and people who did not know what they were doing. Breton & Van Gelder Dir., ff. Tr. 25535 at 7.

- 12.1.12. SAPL EX-4 alleges that only two (2) State of New Hampshire sampling teams were utilized during the Exercise and, therefore, sample collection and transport were not adequately demonstrated. Contentions Memo. at 117. This allegation was correct. App. Exh. 43 F at 192-193 [global 200-201].
- 12.1.13. The NHRERP contemplates the use of up to three two-man environmental teams. App. Reb. No. 23, ff. Tr. 22702 at 32. The Board finds that this number is woefully inadequate to sample over the large land area in the N.H. portion of the EPZ. The Seabrook portion of the EPZ is in excess of 100 square miles.
- 12.1.14. During the development of the extent of play portion of the exercise scenario, the New Hampshire Division of Public Health Services expressed concern about the impact to normal State operations and requested that

only two of the three teams participate on Day 2 of the exercise. App. Reb. No. 23, ff. Tr. 22702 at 32-33; Tr. 23126-27. Mr. Gram testified that the reason for that was that the State lab's ability to respond to other incidents would have been impaired if two more people were committed to performing in the exercise and he was told they would have to shut down the State lab. Id.

12.1.15. The purpose of the Exercise objective was to demonstrate that equipment, procedures and personnel are adequate for the proper collection and transport of environmental samples and that the training provided to sample collection teams is adequate to ensure proper utilization of equipment and procedures. Two sample collection teams are not sufficient for this purpose because of the large land area over which samples should be collected. There was not a showing that NHDPHS sampling teams are adequately experienced and trained in sampling equipment, techniques, and procedures. App. Exh. 43 F at 192-193 [global 200-201].

12.1.16. On Day 2 of the Exercise, the two environmental sampling teams (total of four persons) were dispatched from Concord, New Hampshire, to the NH IFO, co-located with the NHY EOP, in Newington, New Hampshire. From there, the environmental sampling teams were dispatched to sampling locations in the field by NH accident

assessment personnel. One team went to the wrong site and demonstrated a need for additional training. The Board finds that the number of teams tested was too small. Further, the Board takes notice of the 50% failure rate in performance as described in the FEMA Final Report, which further heightens the Board's concern as to this issue. App. Exh. 43 F at 193 [global 201].

12.1.17. Agree.

12.1.18. Though the process of directing traffic and controlling access are normal day-to-day functions of law enforcement organizations, they do not normally have to follow Traffic Control and Access Control diagrams in a traffic management plan prepared by the consultant to a private entity. Similarly, though law enforcement personnel are trained to use radio communications, dispatch personnel and locate intersections, they do not normally have to monitor dosimetry readings, dispatch virtually all the police personnel in the region, nor preside over traffic direction and control of an evacuation over a large land area. App. Exh. 5, Vol. 6 and App. Reb. No. 23 ff. Tr. 22702 at 39.

12.1.19. The levels of training among traffic control personnel in New Hampshire are variable. P.I.D. 3.40, 3.45, 3.46. The extent of deployment of police personnel into the

field during the Exercise necessarily considered the impact on normal State and local law enforcement operations in a non-emergency situation. App. Reb. No. 23, ff. Tr. 22702 at 35. However, Applicants witnesses did not provide any evidence to support a claim that many more police personnel could not have been involved in the exercise without adversely impacting their normal operations.

12.1.20. FEMA Objective #20 calls for a demonstration of the organizational ability and resources necessary to control evacuation traffic and to control access to evacuated and sheltered areas. This demonstration was to include notification, coordination, assessment, assignment and field deployment of sufficient personnel and resources. Only four New Hampshire State Police Troopers from Troop A, Epping and one local police officer in each of the 11 participating New Hampshire EPZ communities having traffic control responsibilities were allocated to demonstrate traffic or access control functions in the field, though the purpose of the field deployment was to test not only organizational ability in the field and the adequacy of procedures and training for field personnel but the sufficiency of personnel as well. App. Reb. No. 23, ff. Tr. 22702 at 35-36, App. Exh. 43 F at 182-183 [global 190-191].

12.1.21. During the Exercise, some notification and coordination functions were demonstrated. This demonstration showed that the various law enforcement organizations could properly notify, assess and assign a limited number of resources in support of protective action recommendations following NHRERP procedures. However, no State Troopers were put into the field to compensate for the non-participation of 4 of the EPZ communities and only one TCP was established in Hampton, the town with potentially the greatest traffic control problem. Tr. 23127-28.

12.1.22. The total field participation of local community police in the 11 participating towns was only sixteen local officers. The use of additional police personnel to test these functions was required for an adequate demonstration. Consistent with the NHRERP, Volume 4B, State Police Communications section, a State Police EOC Liaison was notified to report to the New Hampshire Emergency Operations Center (EOC) located in Concord at the ALERT emergency classification level. This State Police representative serves as the coordination point between the State of new Hampshire emergency response organization and State Police operations. One of the actions the State Police EOC Liaison at the State EOC performs is to establish communications with State

Police Headquarters in Concord. App. Reb. No. 23, ff. Tr. 22702 at 36-37.

- 12.1.23. A significant number of State Troopers should have set up TCPs because the capability of sufficient numbers of officers to respond has been a contested issue. The limited scope of response achieved during the exercise weighs heavily in favor of intervenors claim that there are not sufficient personnel. (See SAPL PF 12.1.55.c. infra.)
- 12.1.24. In order to assess State Police personnel resource availability, the State Police EOC Liaison requested State Police Headquarters to transmit a copy of the daily trooper roster. This roster included information regarding on-shift police personnel duty locations throughout the State for that specific day. Additionally, this roster included information with respect to off-duty personnel, e.g., State Troopers off-shift, on vacation, or on sick leave. App. Reb. No. 23, ff. Tr. 22702 at 37; Tr. 22431-33. Reviewing a roster, however, did not demonstrate that personnel could actually be deployed with an "integrated capability" to respond in the context of the exercise scenario. 10 CFR Part 50, Appendix E §IV.F.1 n.4.
- 12.1.25. During the Exercise, the State Police Troop A IFO Representative at the New Hampshire Incident Field

Office (IFO) utilized information in coordination with the State Police EOC Liaison to make priorities and assignments of actual personnel. In an actual emergency, these personnel would be dispatched to Troop A headquarters from various State Police barracks throughout the state. At Troop A headquarters, they would receive dosimetry and field assignments and be dispatched into the field. App. Reb. No. 23, ff. Tr. 223702 at 38.

- 12.1.26. Local police personnel in participating municipalities have the responsibility for traffic control functions.
- 12.1.27. Provisions for the distribution of traffic control equipment were demonstrated to only a limited extent. During the Exercise, in addition to the twenty (20) State and local police officers demonstrating access and traffic control, four (4) State and seven (7) local non-police support personnel were also deployed to demonstrate distribution of equipment. App. Reb. No. 23, ff. Tr. 22702 at 39.
- 12.1.28. Intervenor's specific assertion that personnel from the Town of Hampton did not staff any traffic control location is correct. As the Town of Hampton did not participate in the Exercise, traffic control responsibilities for the town fell to the New Hampshire State Police. However, New Hampshire State Police, in

conjunction with the State Department of Transportation, only managed to demonstrate traffic control at one point, TCP D-HA-01, located in the Town of Hampton at the intersection of High Street and Lafayette Road. No TCPs were established in the beach area. App. Reb. No. 23, ff. Tr. 22702 at 39. (See also SAPL PF 12.1.21 supra.)

12.1.29. SAPL EX-7 alleges that the exercise of the NHRERP failed to demonstrate the capability to provide for the decontamination of emergency workers, equipment and facilities because the Emergency Worker Facility at the Hillside Junior High School in Manchester was not opened and demonstrated during the Exercise. Furthermore, intervenors assert that there was no showing of adequate provisions for the disposal of contaminated wastes. Contentions Memo. at 118-19.

12.1.30. Monitoring and decontamination activities for emergency workers were to be demonstrated at activated Reception/Decontamination Centers. Emergency workers (EW's) were to be directed to report to one of the activated Reception/Decontamination facilities to be monitored after the completion of their assignment. This demonstration was not reasonable, even though procedures for monitoring and decontaminating members of the public and emergency workers are essentially the

same, because EW's additionally have to turn in dosimetry and other equipment that is not handled at the Reception/Decontamination facilities. There was no showing that upon having turned in their dosimetry, EW's could be referred immediately for appropriate care depending upon their exposure levels. Tr. 23131-33.

12.1.31. There is a requirement that all "major observable portions" of offsite emergency plans be tested in the qualifying Exercise. ALAB-900, Slip Op. at 3 (1988). However, on the day of the Exercise, the Hillside Junior High School, which serves as a secondary Reception/Decontamination facility for the host community of Manchester and as the Emergency Worker Decontamination facility, was not demonstrated. Monitoring and decontamination activities for emergency workers were alleged to have been demonstrated at the activated Reception/Decontamination facilities in the host communities of Salem and Dover. App. Reb. No. 23, ff. Tr. 22702 at 42; Tr. 22165-66. The Board has already found that having general public evacuees and emergency workers at the same facility is not wise. P.I.D. 5.48

12.1.32. In order to assess the adequacy of the EWF and its associated supplies, equipment and staffing, representatives of FEMA inspected the Hillside Junior High School. This inspection was conducted on July 22,

1988, and included observation by a representative of the Joint Intervenors. The facility, its operational layout, procedures, staffing, equipment and supplies were assessed and found to be adequate. App. Reb. No. 23, ff. Tr. 22702 at 42-43; App. Ex. 43F, at 191 [global 199]; Tr. 22165-66. The Board finds that this kind of review would suffice for FEMA verification of equipment and resources, (leg 3) but ought not satisfy the FEMA exercise requirement (leg 2). See App. PF at 1.14 and ALAB-900 (1988).

12.1.33. The NHRERP contemplates the identification and decontamination or retention of contaminated materials such as vehicles and other personal effects. The FEMA Final Exercise Report states: "Clothing and personal items (simulated to be contaminated) were removed, inventoried, bagged, tagged and stored in a secure place." App. Exh. 43F at 184 [global 192]. However, the FEMA Report was contradicted by the firefighters at Salem who saw directly what went on during the exercise. (SAPL PF 12.1.11 supra).

12.1.34. The FEMA Report for Objective #25, which deals with waste disposal, makes no comment on observation of actual exercise events that went on related to waste disposal. App. Exh. 43F at 190-191 [global 198-199] At 1400 on Day 2 of the Exercise, Applicants witnesses

testified, NH State EOC officials "discussed" the matter of decontamination waste materials and contaminated vehicles. At 1452, they purportedly requested assistance from New Hampshire Yankee for removal of decontamination wastes in accordance with the existing agreement for this purpose. Subsequently, on Day 2, NH State EOC officials are said to have developed a long-term sampling and recovery plan that included provisions for periodic monitoring of contaminated vehicles held in restricted areas and for disposal of decontamination waste materials by New Hampshire Yankee. App. Reb. No. 23, ff. Tr. 22702 at 43-44. However, no movement or storage of waste was actually demonstrated.

12.1.35. SAPL EX-8 alleges that there was no demonstration of 24-hour continuous staffing of the New Hampshire Staging Areas and Reception Centers and that continuous staffing of local and host EOCs was not shown to be adequate. Furthermore, intervenors assert that key positions in the NH IIO were not fully staffed, there were no provisions employed for filling vacant positions, and the Governor's office was not properly represented. Contentions Memo. at 119-20.

12.1.36. Applicants witness testified that approximately 575 responders in the New Hampshire organizations participated in the Exercise. App. Reb. No. 23, ff. Tr.

22702 at 56. The estimated number of emergency workers in a New Hampshire response is 1300. P.I.D. 5.48. Therefore, less than half of the emergency responders were tested. The Board does not find this an adequate level of participation for a full participation exercise.

12.1.37. Agree if the following addition is made: Nothing was done to augment or compensate for the inadequate staffing. This may account for the poor performance by the Seabrook Civil Defense Director noted by FEMA. App. Exh. 43F at 144 [global 152].

12.1.38. Response facilities and positions were not adequately staffed to demonstrate the appropriate response to events dictated by the Exercise scenario. See SAPL PF's 12.1.5, 12.1.6.a., 12.1.21. There were personnel shortages in significant areas of the response organization and those absences impacted the organizational ability to implement the assigned response functions. In demonstrating FEMA Objective #34, shift changes for key staff positions were fully accomplished in only two of the eleven participating local New Hampshire EOCs. The rest accomplished only limited partial shift changes. Tr. 23163. Two communities, Seabrook and Kingston, did not demonstrate a shift change at all. None of the 6 non-participating

communities demonstrated shift changes. Id. In the NH State IFO, three of the nine Local Liaison Officers and a special needs liaison were not replaced on the second shift. The plan specifies a maximum of nine Local Liaison Officers if all seventeen communities do not participate, though the adequacy of that level of staffing has not been shown. On the second shift, the Local Liaison Officer functions were handled with only six Local Liaison Officers. There was no actual shift change of personnel at the local staging areas in the non-participating communities. Tr. 23162. The record is not clear as to whether there were personnel shift changes at the LSA's even in the participating communities. App. Reb. No. 23, ff. Tr. 22702 at 47-48; App. Exh. 43F at 199 [global 207].

- 12.1.39. Host facilities were not sufficiently staffed and operational in a timely manner. The Exercise did not demonstrate the ability to alert, mobilize and activate sufficient personnel necessary for facility functions. See SAPL PF's 12.1.5., 12.1.6., 12.1.6.a., 12.1.6.b. On May 23, 1988, FEMA conducted an inspection and review of personnel rosters compiled in support of the NHRERP. This verification of personnel activity, a part of leg 3 of the FEMA process does not supplant the requirement

that capabilities be demonstrated in an exercise. App. Reb. No. 23, ff. Tr. 22702 at 48, App. PF. 1.14.

- 12.1.40. Prior to the exercise, the NHRERP did not require 24-hour staffing of staging areas and reception centers, a problem that FEMA identified as a Plan Issue requiring correction. Tr. 23160-61. Demonstration of 24-hour capability for those positions by actually turning over a complete shift was not carried out in the course of the exercise. App. Exh. 43F at 198 [global 206].
- 12.1.41. The Applicants claim that, although second-shift staffing of transportation staging areas was not part of the extent of play, they met their requirements because the State Transportation Staging Area Supervisor presented rosters to FEMA evaluators showing sufficient personnel for protracted staffing of positions and explained arrangements that would be made for protracted staffing and used the same method to demonstrate protracted staffing capability at Reception Centers. App. Reb. No. 23, ff. Tr. 22702 at 48. The Board again finds that paper rosters do not an exercise demonstration make. The checking of personnel rosters is part of leg 3 of the FEMA review process, not part of leg 2, the exercise. App. P.F. 1.14.
- 12.1.42. The Board finds that though New Hampshire claims it has corrected for the lack of 24-hour management staffing at

reception centers by stating that it will invoke the New England Compact, it should be demonstrated that such a shift change could actually be carried out. The same is true for New Hampshire's plan to use a group of 30 National Guard personnel that allegedly have been trained to provide second-shift supervision at reception centers; that part of the plan should be tested in an exercise. Tr. 21722.

12.1.43. See SAPL PF 12.1.41.

12.1.44-53. SAPL offers no findings on these issues and would not agree with Applicants' findings except for 12.1.45.

12.1.54. SAPL EX-13 alleges that there was no adequate demonstration of the capability to protect people confined to nursing homes, hospitals and like special institutions. There was no test of the capability of host facilities to receive special facility evacuees. Further, there was no test of the capability to transport special facility evacuees by ambulance. The Contention further states that there was no test of:

- (1) the ability to make decisions regarding the administration of KI to institutional populations; and
- (2) that the test of evacuation bed bus capability was too limited. TOH/NECNP EX-1, Basis f asserts that insufficient regular buses (18 of 453), special needs buses (2 of 71) and ambulances (1 of 48) were

demonstrated; Basis g asserts there was no demonstration of actual availability of transportation resources.

Contentions Memo. at 121-22, 125.

12.1.54.a. Applicants witness Callendrello testified that the rationale for not testing the host facilities capability to receive patients was that hospitals and nursing homes receive patients and residents daily and it was not necessary to exercise a "normal function." App. Reb. No. 23 at 61, Tr. 23164. When asked as to whether those host facilities normally perform decontamination services, he said he could not remember whether there was to be an attempt at the host facility or if they were to go to an MS-1 hospital. Tr. 23165. He did not know if routing the contaminated and non-contaminated through the facility separately would create a difficulty. Tr. 23166. He agreed that decontamination is not a normal function for those host facilities and that the host facility personnel would need to be involved in receipt of the patients. Tr. 23166-67. However, Mr. Callendrello tried to suggest that the host facility personnel would not be involved in monitoring and decontamination. The Board finds this testimony not at all credible. If contaminated persons were to be brought into their facility, host facility personnel would necessarily need to be involved in the

set up of facilities to achieve this objective. The Applicants have failed to demonstrate an integrated capability to serve the needs of special facility evacuees. See also P.I.D. 5.78

12.1.54.b. The Rockingham County Nursing Home has 209 patients.

Burrows Dir. ff. Tr. 4405 at 1. Mr. Callendrello agreed that it is not in the normal course of events that a host nursing home or hospital receives an influx of even only as many as 50 patients. Tr. 23169. However, he still maintained that the capability for the receipt of a few patients by most hospitals and residents by host nursing homes was an indication of the ability to receive large numbers of patients at those host facilities. Tr. 23170. He cited disaster scenario planning by hospitals but did not know if nursing homes would practice this kind of planning. Tr. 23171. The Board finds Mr. Callendrello's assumptions of preparedness unsubstantiated by solid evidence. His answers were speculative and, the Board feels, a disingenuous attempt to rationalize failure to test adequately a major observable portion of the plan.

12.1.55. SAPL EX-2 states:

The graded exercise of the NHRERP failed to demonstrate the ability to provide a sufficient number of buses and ambulances with properly trained drivers to reasonably assure that transit-dependent, special facility and special needs populations can be adequately protected. There was further not an adequate

demonstration that the buses that were employed in the exercise could be properly routed. Therefore, the requirements of 10 CFR §50.47(a)(1), §50.47(b)(10), §50.47(b)(14) and NUREG-0654 J.9 and J. 10.d, g and k have not been met.

12.1.55.a. Only 20 buses were run contemporaneously with the exercise scenario in New Hampshire. Tr. 23066 The response required in an actual radiological emergency in New Hampshire is on the order of 533 buses for a full EPZ evacuation. Tr. 23066-67 The areas evacuated under the exercise scenario for the New Hampshire portion of the EPZ called for evacuation of all portions of the NH EPZ except for ERPA G. Therefore, a great area of the NH EPZ was supposedly evacuated under the scenario. Tr. 23082-83

12.1.55.b. Only 3 bus companies participated to the extent of providing buses and/or drivers in the New Hampshire portion of the EPZ (Tr. 23115, 23193) out of a pool of 18 bus companies that could have participated. Tr. 23189 Two of the companies were not even successfully contacted by telephone. Tr. 23188 Ten of the companies would not even participate to the extent of phone communication of their resources and just responded simply that they were not participating. Tr. 23189

12.1.55.c. Attachment C to the Applicants' testimony provides guidance as to the numbers of resources that should be evaluated in a graded exercise. It states at subsection

2 on page) that: "A representative number may vary from 100 percent to a portion of the total activity." App. Reb. No. 23, Attachment C. Commission regulations call for "mobilization of State, local and licensee personnel and other resources in sufficient numbers to verify the capability to respond to the accident scenario." 10 CFR Part 50, Appendix E §IV.F.1.n.4.

12.1.56. Applicants' witness Callendrello testified that one of the considerations for whether a response activity was done in or out of sequence with the exercise scenario was the availability of FEMA evaluators for the particular function. Tr. 23057-58, 23062 He reluctantly conceded on cross-examination that the exercise could have tested the capability to mobilize more buses to the state transportation staging area contemporaneously with the exercise scenario, where they could have been observed arriving by a FEMA evaluator. Tr. 23065-66

12.1.56.a. Applicants' witness Callendrello agreed that for some activities, the test of the "integrated capability" of response organizations to respond should mean that those activities should be tested contemporaneously with the exercise scenario. 10 CFR Part 50, Appendix E §IV.F.1,n.4, Tr. 23057

12.1.57. Mr. Gram testified that, in selecting the bus sample size to test during the exercise, the sample was not considered in relation to an estimate of the population to be evacuated in the scenario. Tr. 23084 He stated that the focus was on the ability to run bus routes, not the ability to move people. Tr. 23085, 23087

12.1.57.a. Applicants' witness Callendrello testified initially that the timing of deployment of buses would not have an impact on evacuation time estimates. Tr. 23090-91. He agreed that the time for deployment of all buses was simply not tested. Tr. 23095, 23097. Though he did agree that if bus suppliers had been called upon to supply more buses, it could have taken more time to get the additional buses deployed, he added that that "might not" have had any impact on ETE's. He testified tautologically: "The evacuation time estimate is the evacuation time estimate it [sic]." Tr. 23094-95, 23090-91 Mr. Callendrello further stated that the ETE was based upon the implementing procedures and since FEMA found the implementing procedures adequately demonstrated, the ETE timing sequence was supported. Tr. 23092 Mr. Gram stated that he thought FEMA had dealt with the issue of how long it would take to respond in their pre-evaluation of transportation resources. Tr. 23096 Mr. Callendrello went on to

testify that Applicants did provide data that indicated some deployment time for all of the resources needed, but he was not sure whether that data came from the assumptions of bus owners or from the ETE's. Tr. 23097. He said that deployment of resources during the exercise was on a staggered basis to approximate the "expected" deployment time. Tr. 23098.

12.1.57.b. The draft FEMA Report included times to complete bus routes while the Final Report does not include this information. Tr. 22112 The decision to delete completion times was solely the FEMA RAC Chairman Mr. Donovan's decision. Id. He determined, after talking to an exercise participant, the State of New Hampshire, that the bus route completion times had "no value" because there is no specific time in the plan to evaluate them against--and because cars ran some of the routes and could travel faster than buses, thus not making the times comparable. Tr. 22113

12.1.57.c. A bus route with the comment "Completed with Controller Intervention" means that the controller had to intercede to get the vehicle driver to their designated location. Tr. 22115 Mr. Donovan stated that routes so designated would not be credited as a completed successful demonstration. Tr. 22116, 22118-119 Controllers,

though part of an exercise demonstration, will not be available during an actual evacuation. Id.

12.1.57.d.- Transit-dependent route #5, Rockingham TSA to South Hampton LSA, is described in the draft FEMA report as follows: "Completed with controller intervention (on second attempt). Returned once to Rockingham TSA after getting lost and calling TSA. Time to complete 131 minutes." The Final FEMA report says only "Completed with controller Intervention". Tr. 22121

- Only one of five Town of Hampton Falls bus routes were completed, and that was a run from Hampton Falls to the Reception Center in Dover. Routes 47 and 48 were not even run but were cancelled. Tr. 22124-25, App. Exh. 43 F at 169 [global 177]. None of the Town of South Hampton routes were completed. Tr. 22125
- Route #6 in the Final FEMA Report, which is South Hampton Route 1, simply states "Completed with Controller Intervention." The text in the draft report says: "Completed with Controller intervention (General confusion--driver causes accident forcing private vehicle off road.) Time to complete: - 78 minutes." Tr. 22134, FEMA Draft Report ff. Tr. 22170 at 211. Mr. Donovan did not think the information from the draft report should be included in the Final Report and he edited it out. Tr. 22137, 22139

- For Seabrook Route 2 (Route 40) in the FEMA Final Report, it simply says "Completed." The draft report says "Completed (Much confusion over maps--missed many turns.) Time to Complete--61 minutes." Tr. 22140, FEMA Draft Report, ff. Tr. 22170 at 213. Again, Mr. Donovan edited out the language from the draft. Tr. 22140-41, 22149 The route where turns were missed was one along which transit-dependent people would have been waiting for a ride. Tr. 22145 Mr. Donovan admitted, "If I had envisioned that this draft (the Draft FEMA Report) would have been turned over to the Intervenors, I would not have released it at the time I released it." Tr. 22151

12.1.57.e. Mr. Donovan assumed in evaluating the bus route performance during the exercise that: 1) in a real emergency local people on the buses would give the drivers directions and 2) the staff at access and traffic control points would give buses instructions. He testified: "So we factored all that into our analysis and concluded it, as the report states, as a successful demonstration." Tr. 22131-32

12.1.57.f. The Board does not consider 20 buses an adequate demonstration of a major observable portion of the offsite plan i.e., the capability of mobilizing sufficient numbers of buses to verify the capability to respond to a radiological emergency in a timely fashion.

The Board finds the Applicant witnesses testimony that they could not test more buses due to lack of FEMA observers unpersuasive. Their testimony as to timeliness of deployment of transportation resources during the exercise is indicative of a muddled logic wherein there is the assumption that assumptions can be tested by further assumptions and expectations.

The Board finds that FEMA Objectives 18 & 19 were not adequately demonstrated because no "integrated capability" to coordinate a reasonable sized sample of transportation resources contemporaneously with the exercise scenario was demonstrated.

12.1.57.g. The Board finds the Applicant witness Gram's claim that the pre-evaluation review of resources sufficed to demonstrate the exercise objective of integrated and timely deployment of bus resources plainly wrong. The FEMA evaluation process consists of 4 separate legs (See App. PF 1.14). The Board finds that plan review does not suffice to satisfy the requirement to demonstrate this capability in a qualifying exercise.

12.1.57.h. The Board finds that the FEMA rebuttable presumption attaching to bus transportation resources dissolved not only because an inadequate sample of buses were tested but also by virtue of the fact that Mr. Donovan factored some improper assumptions into his analysis (see SAPL PF

12.1.57.e. supra). The traffic control personnel cannot be expected to stop and give detailed directions. Such a planning expectation would require that ETE's be lengthened. Further, the Board finds that the integrity of the FEMA review process is called into question due to the fact that information about troubles in completing routes was edited out of the final FEMA report. Mr. Donovan's rationale for those deletions does not withstand scrutiny.

12.1.58. The Applicants' justification for not extensively deploying resources to demonstrate particular functional areas was that certain responders' functions were assumed to be "similar to their normal employment functions . . ." App. Reb. No. 23 at 15, Tr. 23099. Among the functions encompassed by this faulty justification were bus driving, ambulance driving and functions of law enforcement personnel. Tr. 23099-100.

12.1.58.a. Mr. Callendrello conceded that normally bus drivers do not need to check dosimetry Tr. 23100-101, but that they would need to do so during a radiological emergency. Tr. 23105. He also conceded that all but the Berry Transportation Company drivers would be driving in areas they do not normally service and would be required to drive routes they do not normally drive which might require reading a map. Tr. 23100-101, 23103. The same

differences hold true for ambulance and wheelchair van drivers. The FEMA exercise report recommended that ORO bus drivers have the assistance of route guides in reading and recording their dosimetry readings. Tr. 23104-105, App. Exh. 43F, page 211 [global 219]. Bus route guides will not be available to assist the bus drivers expected to drive routes in the N.H. portion of the EPZ. Tr. 23105-106

12.1.58.b. The FEMA evaluation stated that: "Most bus drivers, ambulance drivers, town personnel and a few local police did not frequently monitor exposure." Tr. 23106-107, App. Exh. 43F at 154 [global 162]. Mr. Callendrello characterized the procedure of dosimetry reading by the above-mentioned emergency response personnel as "one very small aspect of a component of it [an objective]." Tr. 23107-108. The Board finds the minimization of the importance of this procedure for protection of emergency workers as highly inappropriate and indicative of poor judgment on the part of the witness.

12.1.59. Mr. Callendrello testified that only 49 of 66 special needs routes (for hospital, nursing home and transit-dependent populations) were completed. Tr. 23109-110 Based on those numbers, 26% of those routes were not completed or required controller intervention to complete. Tr. 23111. That percentage of unsuccessful

route completion was not adequate and was not deemed adequate by FEMA. Tr. 23112 Nonetheless, Mr. Callendrello opined that they had had "a high success rate" on bus route completion. Id. That Mr. Callendrello would consider a 74% completion rate among rates that he considered "high success" seriously damages his credibility in the eyes of this Board. The Board sees from its own examination of transit-dependent and nursing home and special facilities routes in the FEMA Report that 71 routes were completed of 98 attempted, for only a 72% completion rate. App. Exh. 43 F, pages 166-171 [global 174-179], Tr. 22120-21. Mr. Donovan testified that only 34 of the transit-dependent routes from local staging areas were successfully completed out of a total of 48 routes. Tr. 22129 This is only a 71% completion rate.

12.1.59.a. The Board finds the completion percentages of transit-dependent and special facility bus routes not supportive of a conclusion that the demonstrations were adequate.

12.1.60. Mr. Donovan testified that two of the total 98 special facility and transit-dependent routes were run to a homebound individual and a risk facility. The homebound route was "completed with controller intervention" (See SAPL PF 12.1.57.c) and the risk facility route (#80 in

the Final Draft) was not counted because the other half of the route was not run. Tr. 22129-30.

12.1.61. See SAPL PF 12.1.59 and 59.a.

12.1.62. See SAPL PF 12.1.59. and 59.a. and 12.1.60.

12.1.63. Mr. Callendrello said that what drove the extent of play for ambulances for the contaminated injured during the exercise was the FEMA guidance (GM) MS-1 on the scope of demonstration required for medical emergency drills and biennial exercises. Tr. 23122, App. Reb. No. 23, Attachment B at page 3 of 4. Only one ambulance was tested for transport of a contaminated injured individual. Tr. 23121. The Applicants apparently did not draw any distinction between the requirements for biennial exercises and qualifying exercises as regards FEMA Objective 23. Tr. 23118. Further, the Applicants ignored the Appeal Board's holding in ALAB-900 that the demonstration of one ambulance and one ambulette did not constitute the "sufficient number" contemplated by the Commission's regulations because that holding had to do with a demonstration of ambulances for special facilities rather than the contaminated injured. The Board does not believe Applicants' distinction leads to a conclusion that one ambulance is a sufficient test for the contaminated injured. The Board instead finds the FEMA guidance on demonstration of ambulances for the

contaminated injured unreasonably undemanding and, as ALAB-900 instructs, the Board makes this judgment with an eye to the NRC's regulatory requirements rather than the customary practices of FEMA. ALAB-900, Slip Op. at 11 (1988); See also ALAB-861, 25 NRC 129 (1987).

12.1.63.a. The Board notes that Applicants only tested one ambulance for special populations in spite of ALAB-900, Tr. 23120-21. Mr. Callendrello testified that FEMA had not assessed the preparedness of ambulance companies at Shoreham and that that was the reason why the test of only one ambulance and one ambulette for special populations was found inadequate in scope for the exercise at the Shoreham Plant. Tr. 23120-21. The Board finds that reason for distinguishing the requirements for scope of an adequate exercise between the two sites unpersuasive at best. The Board finds that evaluation of resources by FEMA, one leg of the FEMA review process, (See App. PF 1.14) does not absolve licensees from conducting an exercise demonstration of sufficient scope; a leg of the FEMA review cannot stand only by leaning against another leg. The Board agrees with the Appeal Board that one ambulance is not a sufficient test of capability to transport members of special populations requiring ambulance transport.

Further, FEMA rated Objective 23 "Not Met." App. Exh. 43F at 186-187 [global 194-195].

12.1.63.b. The Applicants' witness claimed that the constraint of taking more ambulances off the road kept them from a broader test of ambulance response capability. Tr. 23123 The Board finds this claim not at all credible since the witness did agree that ambulances in use during the exercise could have been released to attend to real medical emergencies should any have arisen. Id.

12.1.64. See SAPL PF 12.1.59 and 59.a.

12.1.65. See SAPL PF 12.1.59, 12.1.54.a. and 12.1.54.b.

12.1.66. See 12.1.54.a and 12.1.54.b.

12.1.67. Agree.

12.1.68. During the Exercise, DPHS personnel responsible for recommending the use of KI recommended its use for emergency workers in municipalities located within two (2) miles of the plant. As a result, the direction for emergency workers located within this area to take KI was given at 1629. At 1409, over two hours earlier, New Hampshire had recommended the evacuation of towns located within five (5) miles of the plant. The Applicants statement that the only health care institution that could have potentially been affected by the KI directive, the Seacoast health Center in Hampton, had already undertaken to evacuate does not relieve the

Applicants of the responsibility to plan a scenario that fully tests all the FEMA objectives. App. Reb. No. 23, ff. Tr. 22702 at 63. Objective No. 16 states:

Demonstrate the ability to make decisions to recommend the use of KI to Emergency Workers and institutionalized persons, based upon predetermined criteria, as well as distribute and administer it once the decision is made, if necessitated by radioactive release. App. Exh. 43F at 163 [global 171]

12.1.69. The purpose of this exercise scenario, in part, was to demonstrate the ability of DPHS personnel to make appropriate decisions for the administration of KI to potentially affected persons based on the available information and the DPHS Procedures in the NHRERP. The purpose of the scenario was not met for the reasons state in SAPL PF 12.1.68. FEMA Objective No. 16 requires a demonstration of the ability to make decisions, recommend the use and distribute KI to both emergency workers and institutionalized persons. ERPA G was never ordered to evacuate. Special facilities in those ERPA G towns should at the very least have gotten instruction to administer KI because plume passage was expected over that area. Mr. Callendrello tried to claim that the "decisionmaking process is the same for both classes of persons." Tr. 23171-72 However, he was forced to agree that emergency workers would self-administer the KI whereas in nursing homes that would be an assisted

process. Tr. 23173 Further, the Board disagrees with Mr. Baer's testimony (Tr. 23174) that the dose reduction factors of buildings do not enter into the process for deciding whether or not to administer KI. It is clear from a reading of the NHRERP that DRF's are considered. App. Exh. 5, Vol. 1 at 2.6-7. Clearly, calculating the expected dose to residents in a building would require a consideration of the dose reduction afforded by the structure.

12.1.70. FEMA Objective 36, that deals with unannounced, off hours exercises, was not tested in the June 1988 Graded Exercise of the NHRERP. Tr. 23071-72

12.1.70.a. The Applicants did not test Objective 36 because of guidance in an amendment to GM EX-3 dated 3/7/88 discussed with them by FEMA. MAG Exh. 93, Tr. 23072 That guidance memorandum, however, was provided to regional directors under a transmittal letter which stated that it should be used in conjunction with NUREG-0654, FEMA REP 1, Revision 1, Supplement 1 which is the guidance which applies to the evaluation of utility plans. Tr. 23072-73 The NHRERP is not a utility plan. Tr. 23073 Applicants witness Callendrello conceded that the amendment to GM EX-3 did not specifically address non-utility plans. Tr. 23075 Applicants gave no convincing reason why the N.H. part of the exercise

could not have been unannounced or why the exercise for both the N.H. and Mass. portions of the EPZ could not have been carried out during off hours. ALAB-900 states that: In summary, the adequacy of the scope of a pre-license emergency exercise must be judged against the NRC's regulatory requirements, not the customary practice of FEMA in designing and conducting such exercises." Tr. 23069-71 ALAB-900 further states that the major planning elements that should be tested are incorporated in the FEMA Objectives. ALAB-900 Slip Op. at 21-25 (1988). See also SAPL PF 12.1.8. The Board finds that the qualifying exercise should have tested FEMA Objective 36.

12.2. RULINGS OF LAW

The qualifying exercise must fully test each and every one of FEMA's exercise objectives with the exception that Objective 37 must be tested only in relation to utility plans. ALAB-900, Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1) Slip Op. (1988)

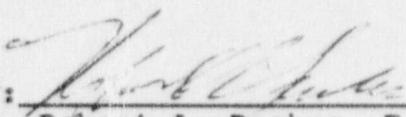
12.3. CONCLUSIONS

12.3.1.. The Board finds and rules that the graded exercise was not of sufficient scope to test all of the FEMA

objectives. Serious fundamental flaws were revealed in major observable portions of the NHRERP.

Respectfully submitted,
By its Attorneys,

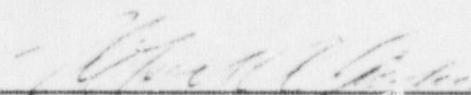
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DATED: August 11, 1989

I hereby certify that copies of the within Seacoast Anti-Pollution League's Proposed Findings of Fact, Rulings of Law, and Conclusions with Respect to the SPMC and the Graded Exercise have been forwarded by first-class mail, postage prepaid, to all parties on the attached service list.


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