

September 17, 1988

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.)

(Seabrook Station, Units 1 and 2))
)
_____)

Docket Nos. 50-443-OL
50-444-OL
(On-Site Emergency
Planning and Safety
Issues)

MEMORANDUM IN SUPPORT OF APPLICANTS'
MOTION FOR SUMMARY DISPOSITION OF
THE MASSACHUSETTS ATTORNEY GENERAL'S
AMENDED CONTENTION ON NOTIFICATION SYSTEM

Applicants submit this memorandum, Statement of Material Facts Not in Dispute, and the accompanying affidavits and attachments thereto in support of their motion for summary disposition of all issues raised in the Amended Contention on Notification System ("Amended Contention") of the Attorney General for the Commonwealth of Massachusetts ("Mass AG").

Mass AG's general contention, admitted by this Board's Memorandum and Order (Ruling on Admissibility of Mass. Amended Contention and Bases) of June 2, 1988, [hereinafter the "Order"] reads:

"Applicants have failed to comply with the provisions of 10 C.F.R. §50.47(b)(5) and Part 50, Appendix E, IV, D(3). The means they claim to have established to provide early notification and clear instruction to the populace of the Towns of Amesbury, Merrimac, Newbury, Newburyport, Salisbury and West Newbury, Massachusetts and Salisbury State Beach Reservation in Salisbury, Massachusetts are inadequate."

The contention was accompanied by two sets of bases, one concerning Applicants' Vehicular Alert and Notification System ("VANS") and the other concerning Applicants' backup airborne system. The contention and each basis and sub-basis is shown herein to contain no material fact in dispute, and therefore summary disposition in Applicants' favor as to all issues in Mass AG's contention should be granted. 10 C.F.R. §2.749(d).

I. As to VANS

Basis A of Mass AG's contention, as modified by the Order at 4, reads:

"The Applicants have indicated in a February 26, 1988 submission to the NRC (NYN-88025) as amended by the April 1, 1988 submission (NYN-88042) that their alert and notification system for the six Massachusetts communities within the Seabrook EPZ consists of the VANS vehicles and equipment functioning as fixed sirens and of fixed siren coverage from sirens located in New Hampshire. This system has numerous deficiencies rendering it inadequate and unable to meet the provisions of 10 C.F.R. §50.47(b)(5) and Part 50, Appendix E, IV, D(3)."

Mass AG's general allegation is broken down into several specific complaints, each of which is separately addressed below.

Basis A.1

"The VANS and the New Hampshire fixed sirens because of their locations, height, acoustic range and number, do not provide tone or message coverage for essentially 100 percent of the population in the Massachusetts plume exposure pathway EP2 at the sound pressure levels required in NUREG-0654 and FEMA-REP-10."

As seen below, Mass AG's allegations in Basis A.1 are put to rest by the Affidavits of Edward W. Desmarais, Richard J. Faix, and Eric Stusnick. No material fact remains in dispute, and hence summary disposition in Applicants' favor should be granted.

As to Mass AG's complaint about the ability of the sirens to provide message coverage, Mass AG misapprehends the system. Message coverage is not provided by the VANS sirens, but rather by the universally accepted Emergency Broadcast System ("EBS") radio broadcasts, as Mass AG in fact concedes.¹ Desmarais Affidavit at ¶¶4-7; Motion to Amend Bases at 1-3 (September 8, 1988). Applicants rely upon EBS, not the VANS sirens, to comply with the message requirement of 10 C.F.R. §50.47(b)(5) and Part 50, Appendix E, IV, D(3). Since the VANS sirens are not the means for obtaining

¹ In light of the fact that Mass AG now affirmatively pleads, for other purposes, that Applicants do not intend to use the voice-mode capability of their VANS sirens, Applicants offered to Mass AG that the voice-mode issue be stipulated out of the case here and in the other bases where it appears. Mass AG refused this proposal, and hence Applicants address the issue here and elsewhere where appropriate.

information and instructional messages, there is no requirement for siren public address sound levels. Id.

As to alerting tone coverage, the VANS sirens² do provide this coverage for essentially 100 percent of the population in the Massachusetts portion of the Seabrook Station Emergency Planning Zone ("Massachusetts EPZ") at the requisite sound levels, as demonstrated in the Affidavits of Stusnick and Faix. The siren sound level coverage for each VANS siren was determined by means of a computer model developed by Wyle Laboratories.³ Stusnick Affidavit at ¶ 5. Figure 2-2 of the FEMA-REP-10 Design Report depicts 60 dBC and 70 dBC sound level contours calculated by the model and then graphically combined into envelopes depicting the total system coverage. Id. Figure 2-2 shows that all the geographical areas within the Massachusetts EPZ where the population density exceeds 2,000 persons per square mile will

² Applicants do not rely upon New Hampshire fixed coverage for any portion of the coverage of Massachusetts. Desmarais Affidavit at ¶ 3.

³ The siren input parameters for the computer model calculations reflected the dual measured output of 134 dBC at 100 feet from the siren and siren activation at a height of 45 feet above ground level. Since there is a possibility that some VANS sirens may be activated at a height of 25 feet during the process of being elevated to maximum height, the computer model was also used to calculate the sound level coverage for each VANS location at that lower height. A comparison of the calculated 70 dBC and 60 dBC contours for both activation heights for each VANS location indicates that, on the average, the sound levels at the predicted contours would vary by less than one dB for activation at the lower height and would return to the full predicted level within one minute as the siren was raised to full height. Stusnick Affidavit at ¶ 8.

be subjected to a sound level of at least 70 dBC. Stusnick Affidavit at ¶11; Faix Affidavit at ¶4.

With the exception of four small areas, the remainder of the Massachusetts EPZ is covered by a sound level of at least 60 dBC. Stusnick Affidavit at ¶11. The four small areas that may not be so covered are covered by sound levels greater than 10 dB above the average ambient background level in each area, as determined in ambient noise surveys conducted during the summer 1988. Id. at ¶¶12-19.

Thus, the VANS sirens provide coverage to essentially 100 percent of the population in the Massachusetts EPZ at the expected siren sound levels presented in FEMA-REP-10.

Basis A.2

"The Applicants are legally prohibited under local ordinances from operating their six staging areas and their VANS vehicles at the pre-selected acoustic locations. The specific laws and ordinances can be identified when the Applicants disclose the acoustic locations and staging areas."

Basis A.2 of Mass AG's Amended Contention alleges that local ordinances prohibit operation of Applicants' VANS System. In response to Applicants' interrogatory requesting that Mass AG "Identify every local ordinance which the Mass AG contends would prohibit the Applicants from operating their staging areas and from operating their VANS vehicles at the pre-selected acoustic locations", the Mass AG identified only the "permissible sound pressure levels" contained in

"the Amesbury Zoning By-Law concerning environmental performance standards" [hereinafter the "Bylaw"]⁴. Massachusetts Attorney General's Response to First Set of Interrogatories Regarding the Massachusetts Attorney General's Amended Contention on Notification System at 8 (July 12, 1988) [hereinafter "First Response"]. Since Mass AG has alleged no other violation of local ordinance,⁵ Basis A.2 is limited to the issue of whether this Bylaw prohibits the operation of Applicants' VANS sirens.

The Bylaw does not prohibit the operation of the VANS sirens, for three independently sufficient reasons. First, pursuant to NRC regulation, it must be conclusively presumed that the Bylaw would not be enforced against Applicants

⁴ Presumably Mass AG here means Town of Amesbury Zoning Bylaw and Map, Section XI G(8). The version of this bylaw produced by the Mass AG in response to Applicants' discovery requests is attached hereto as Exhibit 1.

⁵ Even after the Mass AG finally assented to the protective agreement offered by Applicants since June 22, 1988, and he received from Applicants all of Applicants' proprietary and confidential information concerning the location of VANS staging areas and acoustic locations, the Mass AG failed to identify any other local ordinances that might interfere with Applicants' VANS system. See Massachusetts Attorney General's Additional Responses to Applicants' First Set of Interrogatories and Responses to Applicants' Second Set of Interrogatories at 2 n.2 (August 1, 1988) [hereinafter "Second Response"]. In response to this Board's order of August 19, 1988 requiring him, *inter alia*, to identify such ordinances, the Mass AG stated that he "knows of no other such ordinance." Massachusetts Attorney General's Additional Responses to Interrogatories and Production of Documents at 2 (September 6, 1988) [hereinafter "Additional Responses"]. Thus, Mass AG's assertion, in its entirety, seems to be that Amesbury's By-law renders Applicants' system illegal.

during an emergency. Second, the VANS sirens do not violate the Bylaw. Third, enforcement of the Bylaw against Applicants during an actual emergency would violate Applicants' First Amendment rights.

1. The Bylaw Would Not Be Enforced

The regulations conclusively presume that "in an actual emergency, state and local government officials will exercise their best efforts to protect the health and safety of the public." 10 C.F.R. § 50.47(c)(1)(iii)(B). Indeed, the regulations presume that state and local officials would follow Applicants' plan, not try to thwart it. "It is hardly unreasonable for the NRC to predict that state and local governments, notwithstanding their misgivings about the adequacy of a utility plan or their opposition to a particular plant location, would in the event of an actual emergency at a plant they were lawfully obligated to coexist with, follow the only existing emergency plan." Commonwealth of Massachusetts v. United States, No. 87-2032, slip op. at 12-13 (1st Cir. Sept. 6, 1988).

The Off-site Board in these proceedings has repeatedly held that this "best efforts" presumption will invalidate any contention that state or local officials would enforce local laws in such a way as to interfere with the response to an emergency. See Memorandum and Order (Ruling on Contentions on the Seabrook Plan For Massachusetts Communities) (July 22 and 29, 1988), Part II at 15 (rejecting argument that

Amesbury officials will enforce zoning ordinances against use of transfer point in emergency); id. at 86 (rejecting same argument as to Salisbury transfer point); id. Part I at 80-82 (rejecting argument of Mass AG that building code would be enforced to prohibit operation of special host facility during an emergency). This Board should likewise hold that, as a matter of law, the town of Amesbury would not enforce the Bylaw against attempts by Applicants to warn Amesbury citizens of an emergency. 52 Fed. Reg. 42078, 42082 (November 3, 1987) ("The presiding Licensing Board should not hesitate to reject any claim that state and local officials will refuse to act to safeguard the health and safety of the public in the event of an actual emergency".).

Precisely the same result -- that the Bylaw would not be enforced against warnings of an emergency -- can also be reached through a different application of the "best efforts" presumption. The Governor of the Commonwealth of Massachusetts has a statutory duty to respond to emergency situations, including "whenever the accidental release of radiation from a nuclear power plant endangers the health, safety, or property of people of the Commonwealth." Mass. Spec. L. ch. 31 § 5 (1980). During such an emergency, the Governor has the power to suspend "any general or special law or . . . any rule, regulation, ordinance or by-law." Id. § 8A. Given the irrebuttable presumption that the Governor would use his or her best efforts to respond to an actual

radiological emergency at Seabrook Station, the Board should find that the Governor would suspend operation of the Bylaw to the extent that it might interfere with warning the people of Amesbury of the emergency.⁶

2. The Bylaw Would Not Be Violated

Assuming arguendo that the "best efforts" presumption does not automatically override the Bylaw, that ordinance still does not interfere with the operation of Applicants' VANS sirens, because those sirens are not covered by the Bylaw.

The Bylaw sets "[m]aximum permissible sound pressure levels at specified points of measurement for noise radiated continuously from a facility between 10:00 p.m. and 7:00 a.m." Amesbury Zoning Bylaw and Map, Section XI G(8) (emphasis added). The temporal restriction strongly suggests that the Bylaw was aimed at regulating frequently-recurring noise nuisances, such as loud factories operating during hours when the general public is asleep. The VANS sirens (just like air-raid sirens and other such public-safety devices) do not constitute a noise nuisance. If the sirens

⁶ Although superfluous in light of the "best efforts" presumption that the Bylaw would not be enforced, it is also worth noting that the Massachusetts law of necessity would allow Applicants to ignore the Bylaw if necessary to protect the public health and safety in a real emergency. Commonwealth v. Thurber, 383 Mass. 328, 418 N.E. 2d 1253 (1981); Commonwealth v. Brugmann, 13 Mass. App. 373, 433 N.E.2d 457 (1982); see also Hornung, 'Necessity': Is It the Mother of Acquittals?, National Law Journal, May 4, 1987, at 6 (acquittal of Amy Carter, Abbie Hoffman, et al., through necessity defense).

sounded, the population of Amesbury would want to be able to hear.⁷

Moreover, the VANS sirens fall outside the actual language of the Bylaw. For one thing, the sirens would not operate "continuously". The term "continuously" is not given a special definition in the Amesbury Zoning bylaws and so must be interpreted sensibly, and given a meaning that accords with common sense and ordinary usage. Framingham Clinic, Inc. v. Zoning Board of Appeals of Framingham, 382 Mass. 283, 415 N.E.2d 840 (1981); Board of Selectmen of Hatfield v. Garvey, 367 Mass. 821, 291 N.E.2d 593 (1973). The VANS sirens will sound in Amesbury infrequently, if ever.

⁷ In essence, the Mass AG seems to be contending that any siren loud enough to meet the regulatory requirements of 10 C.F.R. 50.47(b)(5) and Part 50, Appendix E, IV D(3) would be forbidden as too loud under the Bylaw. Applicants, however, simply refuse to believe that the citizens of Amesbury would have chosen deliberately to deafen themselves to any emergency warning, such as in the event of a flood or hurricane. Applicants urge the Board to construe the Bylaw in such a way as to avoid such an absurd result.

As the Supreme Court held more than a century ago:

All laws should receive a sensible construction. General terms should be so limited in their application as not to lead to injustice, oppression, or an absurd consequence. It will always, therefore, be presumed that the legislature intended exceptions to its language, which would avoid results of this character. The reason of the law in such cases should prevail over its letter.

United States v. Kirby, 74 U.S. 482, 486-487 (1868). It would be an "absurd consequence" for this Bylaw to be construed to prohibit such public-safety warning devices as Applicants' VANS sirens.

Likewise, the common sense, ordinary use of the term "facility" is to connote some permanent, fixed installation. The VANS sirens are not such permanent, stationary facilities. Rather, they are mobile equipment, moved from place to place by truck, located at different sites (even in different states) at different times. Desmarais Affidavit at ¶38.

Thus the VANS sirens are neither a "facility" nor a source of noise "radiated continuously", within the meaning of the Amesbury bylaws, and therefore are not bound by the sound pressure limitations contained in the Bylaw.

3. Enforcement of the Bylaw Would Be Unconstitutional

Assuming arguendo that the "best efforts" presumption does not automatically override the Bylaw and that the Bylaw does otherwise apply to the VANS sirens, the Bylaw nonetheless could not constitutionally be enforced against Applicants in an emergency. Applicants would, in an emergency at Seabrook Station, sound the VANS sirens in order to alert Massachusetts citizens to the potential danger. This warning message is a form of communication protected by the First Amendment of the United States Constitution,⁸ so that any local law purporting to forbid such communication would be struck down as being unconstitutional as applied. See, e.g. Phillips v. Township of Darby, 305 F.Supp. 763

⁸ The Massachusetts constitution provides essentially the same protection. Mass. Const. part I, art. XVI ("The right of free speech shall not be abridged.")

(E.D. Pa. 1969) (striking down local loudspeaker ordinance); Maldonado v. County of Monterey, 330 F.Supp. 1282 (N.D. Cal. 1971) (same).

As a matter of law, the Bylaw would not be enforced against Applicants' VANS warning sirens, under the irrebuttable "best efforts" presumption. As a matter of statutory construction, the Bylaw does not apply to Applicants' mobile, public-warning sirens. And as a matter of constitutional law, the Bylaw could not be applied to prohibit Applicants from using VANS to warn the public. There being no issues of material fact in dispute, the Board should grant summary disposition in Applicants' favor as to Basis A.2.

Basis A.3

"The fourteen VANS locations are physically inaccessible to the VANS equipment."

The lack of merit in Mass AG's allegation in Basis A.3 is demonstrated by the recitation of facts in the Affidavits of Richard J. Faix and Joseph Story, II. No material fact remains in dispute and hence summary disposition in Applicants' favor should be granted.

In his responses to interrogatories, Mass AG defined the term "physically inaccessible", for the purposes of the contention, to mean "the inability of fully loaded VANS trucks and equipment to drive into and set up at the acoustic locations preselected for them." First Response at 8. Under

this definition, none of the acoustic locations are "physically inaccessible", as is demonstrated by the fact that Applicants already have taken similar trucks and equipment to each of the locations and, without difficulty, set up or simulated setting up the equipment there.

Of the 16 preselected VANS acoustic locations, two are located at the staging area where the VANS vehicle is parked. Faix Affidavit at ¶12. The remaining 14 were evaluated for accessibility before they were selected. Story Affidavit at ¶3. Mr. Story was one of the individuals responsible for the evaluation of potential acoustic locations, and his evaluation took into account whether each acoustic location affords sufficient space to park and deploy outriggers and adequate overhead boom clearance. Id.

A second review was conducted at each of the selected acoustic locations, which entailed actually driving a truck with a truck-mounted telescoping crane to each acoustic location and reverifying that there is sufficient room to deploy the outriggers and raise the boom. Id. at ¶¶4-6. As the review demonstrated, the 14 preselected acoustic locations are accessible and will accommodate the VANS equipment. Id. at ¶6.

In further responses to interrogatories, Mass AG asserts that various conditions exist at six acoustic locations.⁹

⁹ It is unclear from Mass AG's response what individual, if anyone, is claiming that these assertions constitute facts personally observed by that individual.

Based upon these asserted conditions, Mass AG concludes that these six acoustic locations are "physically inaccessible".

In fact, Mass AG's specific assertions concerning these acoustic locations are wrong, as the personal observations of Applicants demonstrate. Story Affidavit at ¶¶8-14. Indeed, for at least one location, Mass AG seems to be discussing the wrong place. Id. at ¶12. Moreover, at each of the five acoustic locations where Mass AG alleges or implies that Applicants could not set up the VANS equipment, Applicants have driven the VANS prototype to the location and set it up. Id. at ¶¶10-14. At the locations where Mass AG contends that there is no room to park the VANS vehicle, Applicants have repeatedly had ample room to park, even when conditions were as Mass AG alleges. Id. at ¶¶9, 14.

Applicants have presented detailed first-hand testimony that they have been and are able to drive to and set up their VANS equipment at each acoustic location. Mass AG's speculation to the contrary must yield to these uncontroverted facts. There being no dispute as to the material facts, therefore, summary disposition in Applicant's favor should be granted as to this issue.

Basis A.4

"The VANS vehicles are inadequate for their intended use. The vehicles cannot withstand and will not operate properly with the weights, amount and nature of equipment intended to be carried by the vehicles. The weight distribution with the siren fully extended will cause the equipment to fall and/or the lifting mechanism to bend or break under heavy wind or precipitation

conditions. Moreover, the telescopic crane will not reliably lift the siren to its fully extended position because of the weight of the siren and the capacity of the crane."

The recitation of facts in the Affidavits of Sebastian N. Caruso and Donald E. Johnson demonstrate the lack of merit in Mass AG's Basis A.4. These affidavits demonstrate that the vehicles can carry and will operate with the intended equipment, that weight distribution will not cause the equipment to fall or the lifting mechanism to fail in heavy wind or precipitation, and that the telescopic crane can and does reliably lift the siren.¹⁰ No material fact remains in

¹⁰ Moreover, Mass AG was not able to produce even a single fact in support of his assertions that "the [VANS] vehicles cannot withstand and will not operate properly with the weights, amounts and nature of equipment intended to be carried" and that "the telescopic crane will not reliably lift the siren to its fully extended position because of the weight of the siren and the capacity of the crane". First Response at 8-9, Second Response at 3-4. As to these issues, therefore, there can be no dispute of material fact, since Mass AG has no facts with which to attempt to contradict Applicants.

In support of his assertion that "the weight distribution with the siren fully extended will cause the equipment to fall and/or the lifting mechanism to bend or break under heavy wind or precipitation conditions," Mass AG was only able to point to two tests, both of which he apparently first learned about from Applicants during discovery. Second Response at 4. However, neither of these tests raises any factual issue as to the adequacy of Applicants' crane equipment. The bending observed during the pull test was normal structural deflection and did not indicate any failure of the equipment. Johnson Affidavit at ¶ . . . Nor does the seven-year old Florida Power & Light test of a prior version of the drive mechanism indicate any possibility for failure, since has subsequently upgraded this equipment to increase its strength five-fold, and Applicants of course are using the upgraded version of the equipment. Caruso Affidavit at ¶ 14.

dispute and hence summary disposition in Applicants' favor should be granted.

The VANS vehicles are more than adequate for their intended use. Caruso Affidavit at ¶¶9-13. Turning to the Mass AG's first specific assertion, the only relevant concerns regarding the adequacy of a vehicle carrying or transporting equipment/material are the weight of the equipment/material and the method used, if any, to secure it to the vehicle during transit. Caruso Affidavit at ¶4. The weight of a fully loaded VANS vehicle is far below the gross vehicle weight rating for the truck to be used. Id. at ¶¶6-8. The equipment also is securely attached to the truck. Id. at ¶5.

Turning to Mass AG's other assertions, several tests and/or analyses were performed to determine the ability of the crane to lift the siren, the stability of the VANS vehicles with the siren extended, and the ability of the crane to withstand heavy wind or precipitation conditions. Johnson Affidavit at ¶¶7, 17. The Johnson affidavit

The only other evidence collected by Mass AG indicates that wind will pose no problem for Applicants' crane assembly. See Caruso Affidavit at ¶ 21 and Attachment G. Here, too, therefore, Mass AG has been able to point to no facts which indicate any possible flaw in Applicants' system.

Putting aside the question of propriety of the Mass AG's having made these assertions in the first place when he had no factual basis for them, it is clear from Mass AG's interrogatory answers that he has no facts with which to rebut Applicants' testimony - or, if he has facts, that they were withheld during discovery.

describes the load factors to which the crane could be subject. Id. at ¶¶7-12, 14-15. Under all of these situations, the rated lifting capacity of the crane in any position far exceeds the hypothesized load. Id. at ¶¶13, 16. The Johnson affidavit further describes a pull test that was performed on a National Crane Series 4 hydraulic crane. No structural or stability deficiencies were observed during the pull test. Id. at ¶17. Bending did not constitute any failure on the part of the crane. Id. at ¶6.

Based on the analysis and testing described above, this type of lifting mechanism will support the siren package under the various design environmental loading conditions, and there is no danger of the equipment falling or the mechanism breaking. Id. at ¶¶6, 13, 16-18.

The uncontroverted evidence is that Applicants' truck can easily support the weight and distribution of the VANS equipment, that heavy wind or precipitation will not cause the equipment to fall or the mechanism to fail, and that the telescoping crane can readily and reliably lift the siren. No material issue of fact exists, and thus summary disposition shall be granted in Applicants' favor as to Basis A.4.

Basis A.5

"The time needed for driver alert, dispatch, route transit, setup and activation in accordance with NRC regulations will exceed 15 minutes for many of the VANS vehicles in optimum weather conditions. The reasons for this include the time required to get vehicles on the

road (which itself includes the time required to notify the driver, have the driver proceed to the vehicle, check out the vehicle and equipment, start the vehicle and leave the staging area, along with other vehicles at the staging area), the distance to be traveled, the traffic that will be encountered, the setup time and the need for both alert signal and message capability within the 15 minute period. In poor weather, heavy traffic, and nighttime conditions the times needed to accomplish these tasks will increase."

The Affidavits of Edward W. Desmarais, Edward B.

Lieberman, Sebastian N. Caruso, George A. Harper, Travis N. Beard and Gary J. Catapano demonstrate that no material facts are in dispute and Applicants' motion for summary disposition as to Basis A.5 should be granted.

The intervenor contention identifies the following stages in the VANS activation process:

1. Driver Alert;
2. Dispatch, including walking to vehicle, checking out vehicle, starting vehicle, and leaving staging area along with other vehicles;
3. Route Transit, including allowance for poor weather, heavy traffic, and nighttime travel;
4. Set up of VANS; and
5. Siren sounding.

The time required to complete these steps is addressed in the following regulation:

"The design objective of the prompt public notification system shall be to have the capability to essentially complete the initial notification within the plume exposure pathway EPZ within about 15 minutes."

10 C.F.R. Part 50, Appendix E, IV, D3. As interpreted by the Nuclear Regulatory Commission, however, NUREG-0654, contemplates that allowance for times in excess of 15 minutes will be made for areas beyond 5 miles. NUREG-0654 states:

"... The design objective for the system shall be to meet the acceptance criteria of section B of this Appendix. This design objective does not, however, constitute a guarantee that early notification can be provided for everyone with 100% assurance or that the system when tested under actual field conditions will meet the design objective in all cases."

NUREG-0654, FEMA-REP-1, Rev. 1, Appendix 3 at 3-1.¹¹

The Commission has concluded that the 15 minute time limit is a "general objective" and that planners have timing flexibility in designing a system to notify the population located between 5 and 10 miles from the plant. Final Rule on Emergency Planning, CLI-80-40, 12 NRC 636, 638 (1980) ("The

¹¹ Section B of Appendix 3 provides in pertinent part:

"2. The minimum acceptable design objectives for coverage by the system are:

a) Capability for providing both an alert signal and an informational or instructional message to the population on an area wide basis throughout the 10 mile EPZ, within 15 minutes.

b) The initial notification system will assure direct coverage of essentially 100% of the population within 5 miles of the site.

c) Special arrangements will be made to assure 100% coverage within 45 minutes of the population who may not have received the initial notification within the entire plume exposure EPZ."

lack of a specified percentage [of people who need to be notified within 15 minutes] from 5 to 10 miles is to allow planners the flexibility to design the most cost-effective system to meet this general objective.")

As discussed below, the VANS system developed by New Hampshire Yankee meets the regulatory design objective. Each of the consecutive independent events involved in the mobilization of the VANS vehicle will be analyzed separately.

1. Driver Alert.

The initial notification call from the Seabrook Control Room Communicator is received by the NHY Offsite Response EOC Contact. Catapano Affidavit at ¶5. This contact person mobilizes the VANS by entering a simple code into a touch pad sitting on his desk where he receives the notification call. Id. at ¶7. This touch pad causes the transmission of an electronic signal which activates alarms at the staging areas. Id. at ¶¶7-12. The notification is completed and verified electronically within 10 seconds. Catapano Affidavit at ¶12.

2. Dispatch.

By procedure the VANS drivers are responsible for ensuring that the vehicles are ready at all times for immediate dispatch, and no additional check is required upon notification. Beard Affidavit at ¶8; Caruso Affidavit at ¶13. At the time of notification the driver walks to the vehicle, disconnects the external power cord to the battery

charger and drives away. Beard Affidavit at ¶5. As a result of 50 tests, the average time for this phase is less than 40 seconds. Id. at ¶¶3-6. Mass AG alleges some delay because the vehicles are being dispatched simultaneously. However, there is no reason to expect any appreciable delay in exiting the facility, because a maximum of only three VANS are dispatched from any single staging area. Desmarais Affidavit at ¶12.

3. Route Transit.

The results of 1397 test runs done in the Spring and Summer of 1988 are tabulated on Summary Tables 1 and 2 in the Desmarais Affidavit at ¶18. (The results of all test runs have been supplied to Mass AG.) This provided transit time data under a variety of road conditions, including clear roads, heavy summer weekend traffic, rain and darkness. Id. at ¶17. The results of the test runs clearly show that for acoustic locations VL-02 through VL-15 the transit times are well below the ten minute goal except for two anomalous runs which are explained in the table. Id. at ¶¶18, 19, 21.

For Acoustic Location VL-01 the two studies showed that 92 of 98 runs were completed within 10 minutes. Two anomalous runs occurred because of a fireworks display and a dump truck blocking the road. Four runs on summer weekends exceeded 10 minutes. Id. at ¶20. In order to ensure that the transit times to Acoustic Location VL-01 are below ten minutes on summer weekends, New Hampshire Yankee has arranged

for a satellite staging area within a 0.6 mile travel distance. Id. at ¶¶21-23. This short distance will ensure that the transit time can be accomplished in less than ten minutes. Id. at ¶23. The satellite staging area will be manned with a driver and vehicle from early evening Friday to late evening Sunday during the period from May 15 to September 15. Desmarais Affidavit at ¶22. The satellite staging area will also be manned on Memorial Day, July Fourth, and Labor Day. Id. The satellite staging area will be equipped so that, upon activation, audible and visual alarms will be triggered. Catapano Affidavit at ¶11. A radio will be available to verify notification during transit to the acoustic location. Id.

For Acoustic Location VL-16, the geographical area covered uniquely by this siren is between 10 and 11 miles from Seabrook and has a maximum population of 401, less than 0.2 percent of the EPZ, located within an area of approximately 3 square miles. Desmarais Affidavit at ¶26. This small segment of the population will not be notified within 15 minutes (average transit times for the spring and summer transit times were 12:15 and 11:42). Id. at ¶25.

As stated above, NUREG-0654 contemplates a flexible approach in which not all of the population between 5 and 10 miles from the plant receives notification within 15 minutes. In accordance with FEMA Guidance Memorandum AN-1, New Hampshire Yankee has indicated in the FEMA-REP-10 Design

Report that this area, because it is an extremely rural area beyond 5 miles with low population, requires notification within 45 minutes and should be evaluated by FEMA accordingly.

Moreover, flexibility is also required because this is a utility plan. Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1 CLI-86-13, 24 NRC 22 (1986) ("flexibility is called for by the legal requirement that we consider a utility plan").

The VANS system should not be compared in any way with the capabilities of a pole-mounted siren system. Rather the VANS system should be "evaluated for adequacy on its own merits, without reference to the specific dose reductions which might be accomplished under the plan or to the capabilities of any other plan." 52 Fed. Reg. 42078, 42084 (November 3, 1987). As the Commission recognizes, "no utility plan is likely to be able to provide the same degree of public protection that would obtain under ideal conditions, i.e. a state or local plan with full state and local participation, but ... it may nevertheless be adequate." Id.

Although there are no preset minimum criteria for notification in the EPZ beyond 5 miles, a system capable of notifying essentially 99.8 percent of the population within 15 minutes is more than adequate.

The final point to be addressed is the effect that winter adverse weather conditions, such as snow storms, could have on transit times. For the purpose of estimating adverse winter weather travel times, it was assumed that these conditions represent the situation where there is an accumulation of snow on the pavement which exceeds one-half inch in depth and the roads remain passable. Winter adverse weather conditions occur about 5% of the time. Affidavit of George A. ... at ¶15.

The VANS trucks are equipped with dual mud and snow tires on the rear axle, which with the weight of the vehicle will provide sufficient traction to propel the vehicle over a snow or ice-covered roadway. ... Affidavit at ¶13.

Based on allowances for driver alerting, dispatching, and set-up, transit times in excess of 10 minutes have the potential for extending completion of notification beyond 15 minutes. Using conservative assumptions, estimated adverse winter transit times are determined by multiplying spring average transit time by 1.33. Lieberman Affidavit at ¶¶4-8. This calculation results in transit times possibly exceeding 10 minutes for the following acoustic locations.

<u>Location</u>	<u>Time</u>
VL-01	11:25
VL-09	10:17
VL-10	10:20
VL-11	10:47
VL-12	11:24
VL-13	10:39

Id. at ¶8. As discussed above, the Commission takes a flexible approach to the 15 minute alerting objective. The Commission "recognizes that not every individual would necessarily be reached by the actual operation of such a system under all conditions", 52 Fed. Reg. 55402 (August 19, 1980), and "that an absolute (100% effective) notification of every individual within the emergency planning zone is not required ... but that the NRC's objective is to come as close to that as possible." Final Rule on Emergency Planning, CLI-80-40, 12 NRC 636, 642 (1980). This flexibility is further appropriate for a utility plan that attempts to compensate for the non-participation of state and local governments. Cf. 10 C.F.R. §50.47(c)(1).

Winter adverse weather conditions, that occur about 5% of the time, could delay a few of the VANS by 1.5 minutes or less. This delay is 10% or less of the 15 minute design objective, Desmarais Affidavit at ¶24, and thus is acceptable.

The estimated adverse winter transit time to acoustic location VL-16 is 16:20. Lieberman Affidavit at ¶8. In light of the discussion above, the small population involved, and the fact that notification of this small population on the fringe of the EPZ can still easily be accomplished in less than 45 minutes, this transit time is acceptable.

4. Set Up of Sirens

The set up time of the siren consists of the time required for the VANS operator to proceed from the vehicle cab, remove the boom strap, lower the stabilizing outriggers and raise the siren boom to the operable position (i.e. from the stored position to the 80° position with the two outer boom sections fully retracted and clearing the limit switch). Beard Affidavit at ¶6. This process was tested 50 times and found to take less than one minute. Id. at ¶¶4, 7. In addition, the tarpaulin covering the boom and siren will be designed to automatically uncover when the siren is raised and does not need to be manually removed by the operator during setup. Caruso Affidavit at ¶18.

5. Siren Sounding

After remote activation, the sirens will sound for a period of three minutes. Desmarais Affidavit at ¶10. If the activation signal is transmitted prior to the siren being set up, the signal will be stored and then siren will automatically begin to sound for three minutes once the siren is set up. Id.

The total time for the siren activation sequence is therefore:

<u>Event</u>	<u>Time</u>
1. Driver Alert	10 seconds
2. Dispatch	less than 40 seconds
3. Route Transit (VL-01-VL-15)	less than 10 minutes
4. Set Up VANS	1 minute
5. Siren Sounding	3 minutes
<u>Total Time</u>	less than 15 minutes

Desmarais at ¶23.

Therefore, the VANS system developed by New Hampshire Yankee meets this design objective.

Basis A.6

"Snow, icy and extreme cold weather conditions will impede extension of the sirens to their operational position, rotation and oscillation of the sirens during the tone and message modes and operation of the sirens themselves."

The Affidavits of Sebastian N. Caruso, Donald E. Johnson, and Lawrence M. Jacobson respond conclusively to the allegations in Basis A.6. No material fact remains in dispute and hence summary disposition in Applicants' favor should be granted.

In his responses to interrogatories, Mass AG detailed all the facts upon which he based the assertions in Basis A.6. Mass AG stated that, "snow and ice will gather under extreme weather conditions in the sections of the crane through which its extension takes place and in the mechanism

designed to rotate and oscillate the siren (see Design Report at 2-12, 2-14, 2-16 for definition of those terms). Once that occurs the mechanism will not function in the manner designed by the Applicants". First Response at 13. These assertions by Mass AG, however, are erroneous and groundless.

The VANS cranes, _____, will extend and raise the sirens to operational positions in snowy, icy, and extreme cold conditions because, for one thing, the crane boom, crane control, and siren system components are kept under a tarpaulin type cover which will prevent puddles and deflect precipitation to the ground. Caruso Affidavit at ¶18. Furthermore, the VANS operators will perform the maintenance required to keep the VANS vehicles in a state of readiness for deployment, including removing snow and ice, as outlined in the SPMC procedures. Id. at ¶17.

In any event, snow and ice would not hinder crane operation, due to the force generated by the hydraulic system. Johnson Affidavit at ¶¶23-27, Caruso Affidavit at ¶19-20. The hydraulic control valves are covered and the hydraulic fluid has a rated operating range down to -22°F. Caruso Affidavit at ¶20. Thus, VANS cranes will operate regardless of snow and ice, because it is covered by a tarpaulin and has enough excess power to overcome any resistance due to ice and snow.

The mechanism that oscillates the siren (rotates the siren through 360° and reverses) is designed so that weather

conditions do not impede operation. The rotation mechanism is in a weather proof housing and is effective in keeping out rain and snow regardless of operating position. Jacobson Affidavit at ¶3. In addition, the rotation mechanism will be covered by a tarpaulin while parked at the Staging Area. Caruso Affidavit at ¶18. Extensive experience with the rotation mechanism in _____, including bi-weekly operational checks over a _____ year period, has identified no failures of the weather tightness design. Jacobson Affidavit at ¶¶2, 5-7. In addition, the _____ system is successfully used all over the world, including Alaska. Id. at ¶4.

In short, snowy, icy, and cold weather conditions will not affect the operation of VANS, specifically the crane and siren rotation mechanism, and Mass AG's allegation in Basis A.6 should be dismissed.

Basis A.7

"At a sound level of 134 dBC anyone within 100 feet of the siren during its operation will suffer severe hearing damage."

The Affidavits of David N. Keast, Karl D. Kister, Louis C. Sutherland and Richard J. Faix dispose of the allegations in Basis A.7. No material fact remains in dispute and hence summary disposition in Applicants' favor should be granted.

Mass. AG, in his response to Interrogatory No. 24,¹² states that the basis for contention Basis A.7 is "Appendix 3 (at 3-8) of NUREG-0654, FEMA-REP-1, Rev. 1" which states:

¹² First Response at 14.

"The maximum sound levels received by any member of the public should be lower than 123 dB, the level which may cause discomfort to individuals".

Id.

As stated in the Keast Affidavit, the 123 dB level was chosen by him as a general limit that would protect the public regardless of the frequency, duration or number of soundings. Keast Affidavit at ¶¶5-7. The goal of the 123 dB criterion was to provide a safe notification system. This goal may also be achieved by varying other aspects of the design and use of the siren system. Id. at 7.

The Kryter Affidavit compares the effect on hearing for exposure to both the sound level that formed the basis of Appendix 3 of NUREG-0654, FEMA-REP-1, Rev. 1 and the particular sound level produced by the VANS system. Kryter Affidavit at ¶¶4-9. The affidavit concludes that exposure to the NUREG-C654 system should not cause any permanent hearing damage and there would only be minor temporary hearing loss that would last for only a short time. Id. at ¶¶7-9. On the other hand, exposure to the sound level produced by the VANS system is not expected to cause permanent hearing damage nor result in temporary hearing loss. Id.

This conclusion regarding the VANS system also finds support from Mass. AG's own expert, Dr. Sataloff, who has stated "that the likelihood of possible hearing damage under these circumstances [is] not significant." Keast Affidavit at ¶10, Attachment B.

Furthermore, as there are no permanent structures (except at the staging areas themselves), Faix Affidavit at ¶12, at or within 100 feet of the preselected siren locations, Id. at ¶13, it is unlikely that any member of the public will be subjected to a sound pressure level of 134 dBC. Sutherland Affidavit at ¶4. In fact, with the siren operating at 25 feet, the maximum sound level at ear level (5 feet) is 131 dBC (the level assumed in the Kryter Affidavit). Id. at ¶5. Thus, the VANS siren system is a safe means of notifying the public in terms of potential hearing damage and meets the safety criteria intended by NUREG-0654.

Basis A.8

"Because of the large size of the intended dispersion angle (60 degrees), sound irregularities will occur within the coverage angles including gaps in sound coverage for certain areas. Moreover, the oscillation of the speaker assembly will cause gaps in coverage when the siren is used in its tone alert mode."

As seen below, Mass AG's allegations in Basis A.8 are put to rest by the recitation of facts in the Affidavit of Louis C. Sutherland. No material fact remains in dispute and hence summary disposition in Applicants' favor should be granted.

Mass AG asserts that "sound irregularities will occur within the coverage angles including gaps in sound coverage for certain areas." In response to Applicants' first set of interrogatories regarding the Massachusetts Attorney General's Amended Contention on Notification System, Mass AG

further defined gaps in sound coverage as "nulls" or "irregularities where the sound emitted by one speaker effectively cancels out the sound emitted from another speaker." However, as discussed in the Sutherland Affidavit, irregularities due to sound cancellation are theoretically possible only for stationary, pure tone, point sources in a laboratory environment. Sutherland Affidavit at ¶8. Thus, this effect is, practically speaking, not significant for real world applications such as the Seabrook siren system, nor was it observed during testing of the siren. Id. at ¶9-10.

Furthermore, for a rotating siren such as the dual system, angular irregularities are immaterial. No "gaps" in coverage of the dual sirens are anticipated since, due to rotation, they will each be capable of radiating a broad siren tone pattern whose axis of symmetry slowly rotates over 360 degrees, ensuring coverage at all angles. Id. at ¶10.

Mass AG has withdrawn the assertion that "the oscillation of the speaker assembly will cause gaps in coverage when the siren is used in its tone alert mode." First Response at 16.

Basis A.9

"Listeners in areas where there is an overlap in sound coverage from 2 or more sirens, whether both sirens are in Massachusetts or one is in Massachusetts and one is in New Hampshire, will experience severe echo conditions, rendering any voice message unintelligible."

Mass AG's allegation in Basis A.9 should be summarily rejected on the ground that Applicants are not using the VANS sirens for voice messages, as described in the Desmarais Affidavit at ¶¶4-7, 29.

Basis A.10

"The Applicants have not indicated when and under what circumstances the tone alert mode or the message mode will be used."

Mass AG's allegation in Basis A.10 is refuted by the facts stated in the Desmarais Affidavit at ¶4-7, to wit that the circumstances under which the tone alert mode will be used are described in SPMC Section 3.2.5, attached to the Desmarais Affidavit. Desmarais Affidavit at ¶31. Applicants are not using the message mode, as stated in the Desmarais Affidavit at ¶¶4-7, 30.

Basis A.11

"Sufficient drivers and backup drivers will not be stationed at the six staging areas to ensure 24 hour availability of the system. Moreover, the system will work reliably, if at all, only when each vehicle is manned by at least two people."

The recitation of facts in the Affidavit of Edward W. Desmarais demonstrate the lack of merit in Mass AG's allegations in Basis A.11. No material fact remains in dispute and hence summary disposition in Applicants' favor should be granted.

Mass AG asserts that "sufficient drivers and backup drivers will not be stationed at the staging areas to ensure

24 hour availability of the system." As described in the Desmarais Affidavit, however, New Hampshire Yankee will ensure continuous 24-hour per day coverage seven days per week. Desmarais Affidavit at ¶¶34-36. Provision has been made for supplemental drivers as well as backup VANS and drivers. Id. at ¶¶34, 38-39.

Mass AG further asserts that "the system will work reliably, if at all, only when each vehicle is manned by at least two people." Contrary to Mass AG's assertion, the prototype VANS vehicle has worked reliably with one operator as demonstrated to the Mass AG during discovery, during training, by numerous tests and through inspection by NRC Region 1 inspectors. The prototype VANS vehicle is comparable in all relevant aspects to the VANS vehicles to be used. Id. at 33.

Furthermore, the ability of the VANS vehicles to work reliably with one operator was also demonstrated 50 times during recent dispatch and set up timing tests. Beard Affidavit at ¶¶3-8.

Basis A.14

"The Applicants have not identified the equipment to be used for remote activation of the VANS sirens and, therefore, no conclusion can be reached concerning the reliability of the equipment. Moreover, the Applicants have not indicated whether the siren signals will be pre-recorded or broadcast to the remote locations and have not provided sufficient information to conclude that in either event the equipment has adequate fidelity to ensure intelligibility."

As seen below, Mass AG's allegations in Basis A.14 are rebutted by the recitation of facts in the Affidavits of Gary J. Catapano and Edward W. Desmarais. No material fact remains in dispute and hence summary disposition in Applicants' favor should be granted.

The Seabrook Station Public Alert and Notification System FEMA-REP-10 Design Report, dated April 30, 1988 describes how the Whelen siren systems function, including the remote control of sirens. Catapano Affidavit at ¶¶14-16, 19. Nonetheless, in the interests of achieving the fullest possible disclosure on the record, the Catapano Affidavit describes in more detail the equipment used to generate and broadcast the siren activation signals and the equipment used to receive and activate the sirens. *Id.* at ¶¶20-34.

The Design Report answers Mass AG's specific allegation that "the Applicants have not indicated whether the siren signals will be pre-recorded or broadcast to the remote locations . . . ," by indicating that the siren tone is produced by a tone generator located in the electrical cabinets of the sirens. *Id.* at ¶¶16-17.

The short answer to Mass AG's remaining allegation that "the Applicants . . . have not provided sufficient information to conclude that in either event the equipment has adequate fidelity to ensure intelligibility" is that the message mode or public address mode capability of the VANS

sirens is not planned to be used. Desmarais Affidavit at ¶¶4-7; Motion to Amend Bases at 1-3.

Thus Applicants have provided detailed descriptions of the equipment upon which they rely, and have amply demonstrated the reliability of that equipment. Catapano Affidavit at ¶¶14-35. No issue of material fact remains in dispute as to this assertion. Since Applicants do not use the public address mode, Mass AG's remaining assertions in Basis A.14 are irrelevant. Accordingly, summary disposition should be granted in Applicants' favor.

II. As to the Airborne System

Basis B of Mass AG's contention reads:

"The Applicants have not identified the circumstances under which the backup airborne alerting system would be called into operation, the flight path it would take, whether tone or message mode would be used, the time necessary to complete a single operational run, or the areas the helicopter is intended to cover. This lack of information prevents this Board from making a finding that the airborne system meets NRC regulations and standards."

Basis B contends that, due to a lack of information¹³ and five alleged deficiencies,¹⁴ the Board cannot find "that the airborne system meets NRC regulations and standards." The airborne system referred to by the Mass AG is the helicopter-mounted siren array employed by Applicants as a secondary backup to the VANS system and the backup VANS vehicles. The "NRC regulations and standards" referenced by the Mass AG are those cited in Mass AG's contention itself, *i.e.* 10 C.F.R. § 50.47(b)(5) and Part 50, Appendix E, IV, D(3). The sole issue raised by Mass AG's Basis B, therefore, is whether the helicopter-mounted sirens comply with those two cited regulations.¹⁵

Summary disposition of an issue is appropriate "if the filings in the proceeding . . . show that there is no genuine

¹³ Mass AG's claim of a lack of information is specious. Procedure 2.13 of the SPMC describes the circumstances when the helicopter would be used, *i.e.* when the NHY ORO Director at his discretion deploys it to meet some unanticipated contingency. Desmarais Affidavit at ¶ 42. No information on flight path, flight duration, or area covered is provided for the simple reason that such facts would depend on the contingency to which the NHY ORO Director was responding. *Id.* Tone mode only would be used, as Mass AG is aware. *Id.* at ¶ 44; Motion to Amend Bases at 1-3.

¹⁴ Only three alleged deficiencies were admitted for litigation: weather limitations on operation, aircraft flight duration, and garbling of voice messages. Order, slip op. at 9-11.

¹⁵ It is axiomatic that an intervenor is limited to the precise terms of its contention. Texas Utilities Electric Co. (Comanche Peak Steam Electric Station), ALAB-868, 25 NRC 912, 938 n. 83 (1987); Carolina Power and Light Co. (Shearon Harris Nuclear Power Plant), ALAB-856, 24 NRC 532, 545-546 (1986).

issue as to any material fact and that the moving party is entitled to a decision as a matter of law." 10 C.F.R.

§2.749(d) (emphasis added). With regards to this particular issue, a fact is material if it tends to prove or disprove whether Applicants' helicopter-mounted sirens comply with such requirements as may be imposed for them by 10 C.F.R. § 50.47(b)(5) and Part 50, Appendix E, IV, D(3).

Only one fact, however, is material to that issue. That fact is that the helicopter-mounted sirens are a backup system. Applicants do not rely on the helicopter-mounted sirens in any way to meet their obligation to comply with these notification regulations. Desmarais Affidavit at ¶¶42-43. Applicants rely entirely upon the VANS system itself, and add the helicopter sirens as a backup only out of an excess of caution.¹⁶ There cannot be any dispute that the helicopter-mounted sirens are only a backup.

After having been litigated three times in three separate proceedings, it is now beyond dispute that 10 C.F.R. § 50.47(b)(5) and Part 50, Appendix E, IV, D(3) do not require any backup system at all. Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1) LBP-85-12, 21 NRC

¹⁶ History also played some role here. Having designed and partially installed the helicopter system in the fall of 1987, when some but not all of Applicants' original fixed-siren system had been destroyed by the Massachusetts state and local governments, Applicants saw no point in abandoning it, and so included it as a backup to the VANS system even though it was neither legally required nor factually necessary. Desmarais Affidavit at ¶ 43.

644, 752-759 (1985); Kansas Gas and Electric Co. (Wolf Creek Generating Station, Unit 1), LBP-84-26, 20 NRC 53, 67 (1984); Consolidated Edison Company of New York (Indian Point, Unit No. 2), LBP-83-68, 18 NRC 811, 938-939 (1983). Since a backup system is entirely discretionary, and goes beyond the requirements established by regulation, no standard exists against which the adequacy of such a system can or should be measured. Long Island Light Co. (Shoreham Nuclear Power Station, Unit 1), LBP-85-12, 21 NRC 644, 759 (1985) ("If no such procedures are needed, a fortiori, no standard time limit need be met . . .").

This Board admitted litigation of Mass AG's Basis B on the strength of arguments that, since Applicants had included the backup system in their plan, the Board must make findings of fact concerning it, and that at least two other boards have made findings of fact concerning backup systems even while holding them not to be required. Order, slip op. at 10. Without waiving Applicants' lingering doubts concerning those arguments, Applicants respectfully submit that the information record now contains all the information necessary to the Board for making such findings.

As to the only material issue, i.e. whether the helicopter-mounted sirens are relied upon by Applicants to meet their regulatory obligations, there is no factual dispute. As to all other, non-material issues, Applicants have, in the Beard Affidavit, the Desmarais Affidavit, and in

their responses to the interrogatories propounded by the Mass AG, provided a wealth of factual detail concerning this backup system. There exist, at most, three factual disputes concerning the system¹⁷: would the helicopter be able to fly in certain weather conditions allegedly so adverse as to incapacitate the VANS trucks; how much area could the helicopter reach with sound coverage in the time it was airborne; and whether any "informational messages" broadcast by the helicopter would be intelligible.¹⁸

Since there are no requirements for the backup system to meet, however, these potential disputes are immaterial and the Board need not resolve them.¹⁹ Assuming that the Mass AG

¹⁷ As Mass AG has noted, Applicants in their interrogatories "in every conceivable respect asked the Mass AG to describe the factual bases" for the deficiencies he asserted. "Massachusetts Attorney General's Response to Applicants' Revised Motion to Compel" at 3 (August 15, 1988). The Mass AG may now only properly contest those factual assertions identified in his responses to those interrogatories. Memorandum and Order (Ruling On Applicants' Revised Motion to Compel), slip op. at 7 (August 19, 1988). ("Further, we are told and rely upon the statement that 'The responses are those of the Mass. Attorney General and the Applicants can rely on them as such in this litigation.'").

¹⁸ Since Applicants do not intend to broadcast any "informational messages", there is nothing to test for intelligibility. See Desmarais Affidavit at ¶ 44; Motion to Amend Bases at 1-3. Thus, this issue drops out, and only two possible factual disputes exist as to the backup system.

¹⁹ For the Board to hold otherwise would require that a hearing be held whenever an applicant chose to provide an extra safeguard or system beyond those required by the NRC regulations. Such a ruling would deter applicants from ever going beyond the absolute minimum in safety precautions required by law, lest they unnecessarily and for no purpose increase their litigation burden. Clearly the Board intended no such counter-productive result when it admitted Basis B

introduces admissible evidence controverting Applicants' statements as to some or all of these points, the Board need only note the controversy in its findings and then go on to make its ultimate ruling that the system is a backup. Having made that ruling, the Board should enter summary disposition in Applicants' favor.

Basis B.1

"One of the circumstances which might give rise to the need for a backup system, poor weather (and in particular high wind, heavy rain, snow, icy or extreme cold conditions), is equally or more debilitating or the use of a helicopter."

Mass AG's allegations in Basis B.1 are refuted by the recitation of facts in the Affidavits of Travis N. Beard Edward W. Desmarais, and Sebastian N. Caruso.

Even though the airborne system is supplemental, New Hampshire Yankee has designed and tested its airborne alerting system so that its performance is compatible with NRC and FEMA guidelines for a primary mobile siren alerting system. Beard Affidavit at ¶13. The Beard Affidavit describes in further detail the airborne system and lists applications of similar systems currently in use in a variety of circumstances and conditions. Id. at ¶¶9-12.

Mass AG asserts that Applicants' helicopter may not be able to fly in certain weather conditions which Mass AG alleges could give raise to the need for a backup to the VANS

for litigation.

vehicles. The flaw in Mass AG's assertion is that, in most or perhaps all of the weather conditions alleged by Mass AG,²⁰ the VANS vehicles could still be able to reach their objectives. Desmarais Affidavit at ¶¶40-41; Caruso Affidavit at ¶13. It thus is irrelevant whether the helicopter could fly in such weather. Accordingly there is no fact, material or otherwise, in dispute.

Basis B.3

"A steady 3 to 5 minute tone alert capable of repetition cannot be accomplished with the airborne system for significant numbers of people even within the covered area because the speed necessary to provide that duration of a tone is too slow for extended operation of the aircraft."

Mass AG's allegations in Basis B.3 are refuted by the Affidavit of Travis N. Beard.

As a backup system to primary public alerting, not subject to regulatory requirements or guidelines, the Seabrook airborne alerting system is not required to provide a steady 3 to 5 minute tone as asserted by Mass AG. Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1) LBP-85-12, 21 NRC 644, 758-759 (1985); Kansas Gas and Electric Co. (Wolf Creek Generating Station, Unit 1), LBP-84-

²⁰ Although Mass AG refers to snow in his sub-basis, he omitted to refer to snow at all in his response to Applicants' interrogatories seeking the facts underlying Basis B.1. First Response at 20-21. Since a severe blizzard is the only weather condition within Mass AG's allegations that might keep the VANS vehicles from rolling, Desmarais Affidavit at ¶¶ 40-41, it appears that the VANS trucks would function in every weather condition that Mass AG has identified as being within the scope of Basis B.1.

26, 20 NRC 53, 67 (1984); Consolidated Edison Company of New York (Indian Point, Unit No. 2), LBP-83-68, 18 NRC 811, 938-939 (1983).

However, even though this airborne alerting system is supplemental, New Hampshire Yankee has designed, implemented, and tested its airborne alerting system so that its performance is compatible with NRC and FEMA guidelines for the primary mobile siren alerting system. Beard Affidavit at ¶13. The airborne siren warning tone levels exceed the specified criterion levels for the duration of 30 seconds. Id. at ¶14. For a helicopter flying 40 miles per hour at 500 feet, the sound coverage band generated would be 6,700 feet wide for 70 dBC coverage and 11,200 feet wide for 60 dBC coverage. Id. at ¶15.

Basis B.4

"Any attempted informational messages for the airborne siren will be garbled and unintelligible because of the strength and size of the speaker array and amplifier system, the height of the aircraft and the effect of the helicopter's rotary blades."

Once again Mass AG makes an assertion premised on the misapprehension that Applicants would broadcast voice messages from their sirens. Once again Applicants point out, as in fact Mass AG has conceded, that Applicants do not intend to broadcast voice messages. Desmarais Affidavit at ¶44; Motion to Amend Bases at 1-3. Once again there is no issue of fact, material or immaterial, in dispute.

Conclusion

For the foregoing reasons, Applicants' motion for summary disposition should be allowed as to all issues raised in Mass AG's Amended Contention.

Respectfully submitted,

Jeffrey P. Trout

Jay Bradford Smith (Att)

Thomas G. Dighan, Jr.
Kathryn A. Selleck
Jeffrey P. Trout
Jay Bradford Smith
Ropes & Gray
225 Franklin Street
Boston, MA 02110
(617) 423-6100

Counsel for Applicants

4. There are no requirements for minimum siren message mode sound pressure levels.
5. The population density distribution for the geographical area within the Massachusetts plume exposure EPZ has been determined.
6. Those areas where the population density exceeds 2,000 persons per square mile have been identified and are depicted on Figure 2-2 of the Seabrook Station Public Alert and Notification System FEMA REP-10 Design Report.
7. All other areas have a population density less than 2,000 persons per square mile.
8. The siren sound coverage for each VANS siren was determined by means of a computer model developed by Wyle Laboratories.
9. Figure 2-2 of the FEMA-REP-10 Design Report depicts 60 and 70 dBC sound level contours calculated by the model and then graphically combined into the envelopes depicting the total system coverage.
10. All geographical areas having a population density greater than 2,000 persons per square mile will be subjected to a sound level of at least 70 dBC.
11. With the exception of four small areas, the remainder of the Massachusetts EPZ is covered by a sound level of at least 60 dBC.

12. The first area, a small portion of the Parker River National Wildlife Refuge in Newbury is located approximately 9.8 miles from Seabrook Station and does not have permanent residents.
13. The second area, the south face of Crane Neck Hill, is located approximately 11 miles from Seabrook Station and is uninhabited.
14. The third area, west of Route 113 and south of Pleasant Street is located approximately 11.2 miles from Seabrook Station. This area is currently uninhabited but under development with roads and building lots which include homes under construction but not yet occupied.
15. The fourth area, a portion of Parish Road, is located approximately 11 miles from Seabrook Station. There is one residence in close proximity to the calculated edge of 60 dBC coverage. Even though this residence may lie within the 60 dBC coverage, for conservatism it is considered to be outside the 60 dBC coverage.
16. Ambient sound surveys were conducted in all four areas.
17. These four areas are covered by sound levels greater than 10 dBC above the average measured summer daytime ambient sound level in each area.
18. Applicants do not rely upon New Hampshire fixed siren coverage for any of the portion of the coverage for Massachusetts.

19. The VANS sirens provide coverage to essentially 100 percent of the population in the Massachusetts EPZ at the requisite siren sound levels presented in FEMA-REP-10.

AS TO BASIS A.2

20. The VANS sirens do not operate continuously.
21. The VANS sirens are not permanent, stationary facilities. Rather they are mobile equipment, moved from place to place by truck, located at different sites (even in different states) at different times.
22. The Governor of Massachusetts and the town officials of Amesbury will obey the statutes of the Commonwealth of Massachusetts and the Constitution of the United States.
23. The Governor of Massachusetts and the town officials of Amesbury will use their best efforts to protect the populace in response to a radiological emergency at Seabrook Station, including allowing Applicants to activate the VANS sirens.

AS TO BASIS A.3

24. Of the sixteen preselected VANS acoustic locations, two are located at the staging area where the VANS vehicle is parked.
25. A review was conducted at each of the selected acoustic locations, which entailed actually driving a truck with a truck-mounted telescoping crane to

each acoustic location and verifying that there is sufficient room to deploy the outriggers and raise the boom.

26. At Acoustic location VL-02, Applicants have observed the parking lot numerous times in the spring and summer, and it has never been close to being full. In addition, part of the lot is not used for parking, and this part is large enough to accommodate the VANS vehicle.
27. All VANS drivers will be trained to locate VL-03 (and all other acoustic locations). When Applicants set the VANS prototype up at VL-03, fully extending the boom, there were no stability problems.
28. At VL-06, Applicants easily set up the VANS prototype, fully extending the boom, with no interference by the trees and without obstructing the access road.
29. At VL-07, Applicants set up the VANS prototype, fully extending the boom, with no stability problems.
30. The pictures which Mass AG represented to depict VL-07 in fact depict some area other than VL-07.
31. At VL-12, Applicants set up the VANS prototype, fully extending the boom, with no interference by the trees and without blocking the road.
32. Applicants are able to, and intend to, set up on the dirt rather than on the paved pad at VL-13. Applicants

have set up the VANS prototype here, fully extending the boom, with no problems.

AS TO BASIS A.4

33. The crane manufacturer has informed Mass AG that high winds will not impair the operation of the VANS crane assembly.
34. The deflection observed during Applicants' pull test is a normal structural phenomenon and did not indicate any failure of the VANS crane.
35. The wind tunnel test cited by Mass AG is seven years old and was performed on a drive mechanism less than one-fifth as strong as that used by Applicants.
36. The weight of a fully loaded VANS vehicle is far below the gross vehicle weight rating for the model of truck to be used.
37. The VANS equipment is securely attached to the VANS truck.
38. The only relevant concerns regarding the adequacy of a vehicle carrying or transporting equipment/material are the weight of the equipment/material and the method used, if any, to secure it to the vehicle during transit.
39. The rated lifting capacity of the crane in any position far exceeds the hypothetical load.

40. A pull test that was performed on a hydraulic crane showed no structural or stability deficiencies.

41. Based on analysis and testing, the VANS lifting mechanism will support the siren package under the various design environmental loading conditions, and there is no danger of the equipment falling or the mechanism breaking.

AS TO BASIS A.5

42. Notification of the VANS is completed and verified electronically within 10 seconds.

43. Applicants have established procedures by which the VANS drivers are responsible for ensuring that the vehicles are ready at all times for immediate dispatch, and no additional check is required upon notification.

44. At the time of notification the driver walks to the vehicle, disconnects the external power cord to the battery charger, and drives away. As a result of 50 tests of this process (which included having the drivers walk 100 feet to the vehicle), the average time for this phase is less than 40 seconds.

45. There is no reason to expect any appreciable delay in exiting the facility because a maximum of only three VANS are dispatched from a single staging area.

46. The VANS transit studies, involving 1397 test runs, provided transit time data under a variety of road conditions, including clear road, heavy summer weekend traffic, rain, and darkness.
47. The results of the VANS transit study clearly show that for acoustic locations VL-02 through VL-15 the transit times are well below the ten minute goal.
48. Applicants have arranged for a satellite staging area within a 0.6 mile travel distance of VL-01, to be manned during summer weekends and holidays. The short distance from the satellite staging area to VL-01 will ensure that the transit time can be accomplished in less than ten minutes.
49. The geographical area covered uniquely by the siren at VL-16 is between 10 and 11 miles from Seabrook Station and has a maximum population, over three square miles, of 401 people, or less than 0.2 percent of the EPZ population.
50. The transit time to VL-16 is less than 15 minutes.
51. The VANS trucks are equipped with dual mud and snow tires on the rear axle, which with the weight of the vehicle will provide sufficient traction to propel the vehicle over a snow or ice-covered roadway.
52. Winter adverse weather conditions occur about 5% of the time in the EPZ.

53. Estimated adverse winter transit times can be determined, using conservative assumptions, by multiplying spring average transit times by 1.33.
54. Winter adverse weather conditions could delay a few VANS by 1.5 minutes or less. This delay is 10% or less of the 15 minute design objective.
55. The estimated adverse winter transit time to VL-16 is considerably less than 20 minutes.
56. Applicants' VANS system is part of a utility emergency plan designed to compensate for the non-cooperation of state and local governments.
57. The setup time of the siren consists of the time required for the VANS operator to proceed from the vehicle cab, remove the boom strap, lower the stabilizing outriggers, and raise the siren boom to the operable position. This process was tested 50 times and found to take less than one minute.
58. The tarpaulin covering the boom and siren will be designed automatically to uncover when the siren is raised and does not need to be manually removed by the operator.
59. After remote activation, the sirens will sound for a period of three minutes.
60. If the activation signal is transmitted prior to the siren being set up, the signal will be stored and the

siren will automatically begin to sound once it is set up.

AS TO BASIS A.6

61. The VANS crane will extend and raise the siren to its operational position in snowy, icy, and extreme cold conditions because the crane boom, crane control, and siren system components are kept under a tarpaulin-type cover which will prevent puddles and deflect precipitation to the ground.
62. The VANS operators will perform the maintenance required to keep the VANS vehicles in a state of readiness for deployment, including removing snow and ice, as outlined in the SPMC procedures.
63. Snow and ice would not hinder crane or outrigger operation, because the VANS hydraulic system generates enough excess power to overcome any resistance due to ice and/or snow.
64. The hydraulic control valves are covered and the hydraulic fluid has a rated operating range down to at least -22°F.
65. The mechanism that oscillates the siren (rotates it through 360° and reverses) is designed so that weather conditions do not impede operation.
66. The rotation mechanism is in a weatherproof housing and

is effective in keeping out rain and snow regardless of operating position.

67. The rotation mechanism will be covered by a tarpaulin while parked at the staging area.
68. Extensive experience with the rotation mechanism has identified no failures of the weather tightness design.
69. The siren manufacturer has informed Mass AG that weather conditions will not impair operation of the system, and that the system is used all over the world including Alaska.

AS TO BASIS A.7

70. The goal of the 123 dB criterion in NUREG-0654, FEMA-REP-1, Rev. 1, Appendix 3 may be achieved by varying other aspects of the design and use of the siren system.
71. There are no permanent structures (except for two of the staging areas themselves) at or within 100 feet of the preselected siren locations.
72. With the siren operating at 25 feet, the maximum sound level at ear level (5 feet) is 131 dBC.
73. Exposure to the sound level produced by the VANS system will not cause permanent hearing damage nor result in temporary hearing loss.
74. The VANS sirens comply with the safety criteria intended by NUREG-0654.

AS TO BASIS A.8

75. The oscillation of the speaker assembly will not cause gaps in the coverage when the siren is used in the tone alert mode.
76. Neither dispersion angle nor angular irregularities in sound emission will reduce the effective siren coverage because of siren rotation and atmospheric effects.
77. Sound irregularities due to sound cancellation are theoretically possible only for stationary, pure tone, point sources in a laboratory environment.
78. For a rotating siren such as Applicants', angular irregularities are immaterial.

AS TO BASIS A.9

79. Applicants do not use the VANS sirens for voice messages.

AS TO BASIS A.10

80. SPMC Section 3.2.5 describes when and under what circumstances the siren tone alert mode will be used.
81. Applicants have indicated, in the SPMC and throughout these proceedings, that they do not use the message mode of the VANS sirens.

AS TO BASIS A.11

82. Applicants will ensure continuous 24-hour per day coverage, seven days per week, for every VANS vehicle at

every staging area. The satellite staging area will be continuously manned during its periods of operation.

83. Applicants have made provisions for supplemental drivers as well as backup VANS and drivers.
84. The prototype VANS vehicle works reliably with one operator, as demonstrated during training, by numerous tests, by inspection by NRC Region 1 inspectors, and by demonstration to Mass AG during discovery.
85. The prototype VANS vehicle is comparable in all relevant aspects to the VANS vehicles to be used.
86. The ability of the VANS vehicles to work reliably with one operator was also demonstrated 50 times during recent dispatch and setup timing tests.

AS TO BASIS A.14

87. The FEMA-REP-10 Design Report describes how the siren systems function, including the remote control of the sirens.
88. The Design Report also indicates that the siren tone is produced by a tone generator located in the electrical cabinets of the sirens.
89. The message mode or public address mode capability of the VANS sirens is not planned to be used.

AS TO BASIS B

90. Applicants' helicopter system is a backup to a backup, and as such is not relied upon by Applicants in any way

to meet NRC alerting and notification regulations and standards.