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RELATED CORRESPONDENCE

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ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of)	
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PUBLIC SERVICE COMPANY)	Docket Nos. 50-443-OL
OF NEW HAMPSHIRE, <u>ET AL.</u>)	50-444-OL
)	
(Seabrook Station, Units 1)	(Offsite Emergency
and 2))	Planning Issues)
)	

APPLICANTS' DIRECT TESTIMONY NO. 6
(Sheltering)

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INTRODUCTION

The NHRERP does not contemplate mutually exclusive protective measures for any segment of the population, but provides for a continuum of protective responses that may be implemented to protect the health and safety of the public, including summer, seasonal populations. Further, this continuum of protective responses has the flexibility to ensure an adequate response to a wide spectrum of accident conditions.

The concept of protective action recommendation decisionmaking employed by the NHRERP is patterned on emergency planning guidance of NUREG-0654/FEMA-REP-1, Rev. 1 and emergency planning regulations of the Nuclear Regulatory Commission.

Protective Action Guides (PAGs) of the U.S. EPA have been incorporated in the NHRERP and provisions have been made for calculation of projected dose which permits reliance on the PAGs for protective action decisionmaking. Decision criteria have been developed and committed to procedures to aid accident assessment personnel and decision makers in making choices among available protective action options including that of sheltering.

The NHRERP provides for precautionary actions intended to avoid exposure of the beach population to potential radiological risk. Plans and procedures, including decision criteria, have been put into place specifically for implementation of these measures. Accident assessment personnel of the State of New Hampshire are prepared by procedures and training to evaluate the status and prognosis of plant conditions and safety systems for the purpose of recommending precautionary actions prior to the manifestation of radiological consequences.

While the preferred protective action for the seasonal beach population is evacuation, the State of New Hampshire is prepared to recommend the protective action of "shelter-in-place" considering specific conditions at the time of an accident (e.g., time of release, duration of exposure, magnitude of release). The statement of Section 2.6.5 of the NHRERP that "sheltering may not be considered a feasible protective action on the Seacoast beach during the summer" is not a command that proscribes sheltering as a protective action recommendation. The NHRERP will be amended to clarify this particular statement. Based on a study of potential shelters on beach areas, State of New Hampshire decision makers are aware of the availability of potential public shelters should sheltering be the appropriate recommendation. (See infra page 27.) In this regard, a comprehensive shelter study has been conducted for the seven coastal

communities within the Seabrook Station emergency planning zone (EPZ) to identify the existence of sufficient shelter capacity if needed for the beach population.

The NHRERP provides the method and means to ensure prompt notification of the summer, seasonal population of precautionary and protective actions to be taken. This is primarily accomplished by a system of fixed sirens providing coverage of the Seabrook Station EPZ. In addition, sirens specifically designated for beach areas of concern have public address capability for which taped, voice messages containing specific instructions for the beach population have been developed. Each campground in the EPZ will be equipped with tone-alert radios to supplement notification provided by the siren system. Both beach areas and campgrounds will be supplied with public information materials in the form of durable signs in the beach area, posters, and brochures that provide instructions to the public on actions to take in an emergency.

The NHRERP includes a special facility plan for each campground in the EPZ. These plans call for campground operators to ensure that campground users are notified of an emergency and are advised to depart the EPZ immediately in the event any precautionary or protective action is recommended for any segment of the population. Campground users constitute neither a significantly large segment of the population nor an inordinate concentration of persons in any

one area of the EPZ so as to impede their rapid departure from the EPZ in the event of an emergency.

The NHRERP, Volume 1, Section 2.6.5, contains an analysis of the relative, representative values of external sheltering factors for typical structures to be found in the Seabrook Station EPZ. This analysis concludes that essentially any residential structure in the Seabrook Station EPZ affords a cloud shielding factor of 0.9 which is assumed by the NHRERP for the purpose of choosing between the protective action options of evacuation and sheltering.

Furthermore, schools and day care centers are presumed to share the characteristics of structures that prevail in the Seabrook Station EPZ and to have at least the same dose reduction factors. Because protective action recommendations for the general public apply also to schools and day care centers, evaluation of the protection afforded by the individual structures is not considered as part of the decision-making process.

PLANNING BASIS FOR PROTECTIVE ACTIONS

The NHRERP Volume 1 and the local plans, Volumes 16 through 32, and specifically plans for the Towns of Seabrook and Hampton, Volumes 16 and 18 respectively, provide for a continuum of protective responses that may be implemented to protect the health and safety of the public, including the summer, seasonal populations, in the event of a radiological emergency. This continuum of protective responses has the

flexibility to ensure an adequate response to a wide spectrum of conditions.

The plans are premised on the basic concept of NUREG-0654/FEMA-REP-1, Rev. 1 (NUREG 0654) that any one or a combination of protective responses will be taken to achieve the best dose savings to the public. The continuum of responses prescribed by the NHRERP ranges from precautionary actions for the beach population at the early stages of an accident to the protective actions for the general public of shelter, evacuation, and control of access to affected areas. The NHRERP recognizes that under certain circumstances a recommendation to shelter the general public may be combined with closure of beaches and parks, evacuation of the public from beach areas and parks, and restriction of access to those areas. In other circumstances, shelter may also be recommended for beach areas.

1. Concept of Protective Action Decisionmaking

- a. Purpose of Protective Actions

The NHRERP is based on the planning guidance of NUREG 0654, which states at page 6:

The overall objective of emergency response plans is to provide dose savings (and in some cases immediate life saving) for a spectrum of accidents that could produce offsite doses in excess of Protective Action Guides (PAGs).

The NHRERP is predicated on the understanding that emergency planning for a nuclear plant is not required to be designed to cope with any particular accident sequence or a

"worst case accident".

NUREG 0654 states further at page 6:

No specific accident sequence should be isolated as the one for which to plan because each accident could have different consequences, both in degree and nature.

The protective action decision criteria of the NHRERP take into consideration plant conditions, evacuation clear times, shelter factors, and other conditions that may exist at the time of an accident.

b. Protective Action Guides and Projected Doses

Protective Action Guides (PAGs) are criteria provided for use by public health officials and decision makers to determine the need for protective actions and for choosing appropriate protective actions. The U.S. Environmental Protection Agency promulgated Protective Action Guides on the basis of projected doses which act as trigger points to initiate protective actions. The U.S. EPA Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, EPA - 520/1-75-001, cautions:

A Protective Action Guide under no circumstance implies an acceptable dose. Since the PAG is based on projected dose, it is used only in an ex post facto effort to minimize the risk from an event which is occurring or has already occurred.

(Manual of Protective Action Guides and Protective Action for Nuclear Incidents, U.S. EPA, September 1975 (Revised June 1980), pg. 1.1.) In sum, PAGs are guidance tools for use by

decision makers and are not levels of acceptable or unacceptable risks.

The NHRERP Volume 1, Section 2.6.3 incorporates the US EPA PAGs for direct exposure to radioactive materials within the Plume Exposure Pathway EPZ. The range of PAG doses delineated by the US EPA for the general public are indicated in Table 2.6-1 of the NHRERP. The guidelines incorporated in Table 2.6-1 provide protection for the most sensitive members of the general population: women who are pregnant and infants. As expressed in Section 2.6.3, New Hampshire has chosen to base its protective action decisions on the lowest values cited by the U.S. EPA, that is, a 1 rem whole-body projected dose, and a 5 rem thyroid projected dose.

In order to utilize the PAGs, projected doses to the general public must be determined. Projected doses must be determined following the incident based on data from (1) plant conditions, (2) release and meteorological conditions, (3) offsite radiological measurements, or (4) combinations of these three factors. (Manual of Protective Action Guides, U.S. EPA, p. 5.1.) The NHRERP, Volume 1, Section 2.5.2 provides for estimating the projected doses for the Plume Exposure Pathway EPZ and for reporting projected doses as quickly as possible in terms of whole body and thyroid doses. NHRERP, Volume 1, Section 2.5.3 describes the means by which State of New Hampshire officials will determine projected doses. Calculation techniques for this purpose are

explicated in procedures contained in NHRERP, Volume 4A, Appendices N, O, P, and Q. Each of these procedures incorporates the factors identified in the U.S. EPA Manual for determining projected dose.

c. Protective Action Recommendation
Decisionmaking for the General Public.

NUREG 0654, criterion J. 9 provides that:

Each State and local organization shall establish a capability for implementing protective measures based upon protective action guides and other criteria. This shall be consistent with the recommendations of EPA regarding exposure resulting from passage of radioactive airborne plumes

The NHRERP, Volume 1, Section 2.6.7 describes the decision criteria to be applied for selecting protective actions for direct exposure within the Seabrook Station Plume Exposure Pathway EPZ. (Precautionary action decisionmaking is discussed under item (d) within.) These criteria are used by decision makers for choosing between sheltering and evacuation, and are sufficiently flexible to be applied to any type of projected or actual release from a nuclear power plant. The decision criteria depicted in Figure 2.6-7 of the NHRERP consider the time to release, time of plume arrival at a specified location, time of exposure at the reference location, projected dose, EPA PAGs, time available to make protective action decision, time available to implement protective actions, constraints to implementation of protective action decision, and dose reduction factors

pertinent to either sheltering or evacuation. At the final decision step in the process, the decision criteria call for detailed analysis and calculations to determine the comparative effectiveness of shelter and evacuation. If evacuation is indicated, it will be recommended. If shelter is indicated, then shelter will be recommended.

NHRERP, Volume 4A, Appendix U contains procedures which delineate the sequence of steps to be followed by accident assessment personnel of the New Hampshire Division of Public Health Services (DPHS) in applying the NHRERP decision criteria. As a practical matter, DPHS accident assessment personnel at both the State Emergency Operations Center (EOC) in Concord, New Hampshire and at the State Incident Field Office (IFO), co-located with the Utility Emergency Operations Facility (EOF) in Newington, New Hampshire, will obtain the indicated data in conjunction with utility accident assessment personnel.

Both facilities are to be activated at the early stages of an emergency, specifically at the Alert emergency classification level. Procedures contained in NHRERP, Volume 4A call for DPHS personnel to make contact with utility emergency personnel immediately after notification of an emergency to obtain available data on plant conditions. Accident assessment will be initiated at the State EOC and continued through the duration of an emergency at both the State EOC and at the IFO/EOF. DPHS accident assessment

personnel at the IFO/EOF will receive firsthand projected dose data and field measurement data, assess the data with utility accident assessment personnel in conjunction with emergency management personnel, perform independent calculations of projected doses and formulate protective action recommendations to be conveyed to the State EOC where the public protective action recommendation decision will be made.

d. Decisionmaking Criteria for Seasonal Beach Populations

The protective action decision criteria discussed in NHRERP, Volume 1, Section 2.6.7, contain decision criteria designed for summer, seasonal populations, including seasonal beach populations. These decision criteria incorporate considerations for precautionary actions for the summer, seasonal population based on the status and prognosis of plant conditions. These provisions of the NHRERP go beyond the emergency planning requirements of 10 CFR 50.47(b) and guidance of NUREG-0654/FEMA-REP-1, Rev. 1, in that they are not predicated on known potential radiological consequences expressed as projected dose. They are instead based on a prognosis by State of New Hampshire accident assessment personnel of the potential for plant conditions to lead to offsite consequences. On the other hand, protective actions are intended to mitigate the effects of a known risk to the offsite population, i.e., a protective action is an action taken to avoid or minimize projected dose.

NHREERP, Volume 2, Section 2.5.2 advises accident assessment personnel that complete radiological assessment data may not be available or no release may yet be projected when they are considering early, precautionary actions for the summer, seasonal population. Therefore, the current plant status and a prognosis of anticipated plant conditions may be the best indicator of the need for precautionary actions. Procedures contained in NHREERP, Volume 4A, facilitate consideration of plant status and prognosis of plant conditions by providing for early reporting of plant status data by the utility emergency organization to State of New Hampshire emergency management and public health officials. In particular, the Manager of the State of New Hampshire Radiological Health Program (or designated alternate) is instructed to contact the plant control room for plant status information immediately after being notified of an emergency classification level. The data to be obtained are identified on the notification form utilized by both utility and Division of Public Health Services' procedures. These data will be evaluated by State of New Hampshire accident assessment personnel and decision makers to determine the advisability of precautionary actions.

State of New Hampshire accident assessment personnel and decision makers will consider implementation of precautionary measures as early as the Alert emergency classification level. The description of Alert of NUREG 0654, Appendix I,

says in part:

Any releases [at this classification level are] expected to be limited to small fraction of the EPA Protective Action Guidance exposure levels.

At this classification level, no offsite action would be ordinarily warranted to protect the public, but its consideration here affords additional time to clear the beaches or prevent additional public access to the beaches.

At this stage the State's decisions will be based on the status of plant safety systems, with particular attention given to status of safety systems identified in Division of Public Health Services procedures, NHRERP, Volume 4A, Appendix U. These procedures contain sets of questions which elicit responses pertaining to the status of principal plant safety systems. While no specific response, or any combination thereof, will determine any action to be taken, the answers to these questions will provide accident assessment personnel with essential information on which to formulate a judgment on the implications of plant status for offsite precautionary actions. The procedures direct the attention of accident assessment personnel to the systems of concern.

These decision criteria of the NHRERP are not intended to dictate automatic implementation of precautionary actions at this classification level. They are intended to facilitate the exercise of judgment on the part of New Hampshire accident assessment personnel and decision makers

as to the most prudent course of action given the particular circumstances of an accident situation.

NHRERP, Volume 1, Section 2.6.7 states further at page 2.6-24:

If the degrading plant condition leads to a release or potential for release thereby initiating declaration of a Site Area Emergency or more severe ECL, immediate protective actions will be recommended [by State decisionmakers] for seasonal populations and for the general public within a two mile radius and five miles downwind.

Figure 2.6-6 of the NHRERP indicates that for these conditions during periods of summer, seasonal population, the recommended protective action would be evacuation of Hampton and Seabrook beaches. The intent of this provision is the implementation of protective measures for the beach population at the first indication of a potential for offsite populations to be affected. Under these conditions, any projected doses to the public would be expected to be below the lowest values of the EPA PAGs. At the Site Area Emergency classification level, offsite protective actions would not be expected to be necessary to protect the public. At this classification level, however, the State may consider precautionary or protective actions for the beach population. The description of Site Area Emergency of NUREG 0654, Appendix 1 provides foundation for this decisionmaking concept where it says:

Any releases [are] not expected to exceed EPA Protective Action Guideline exposure

levels except near site boundary.

The emergency classification levels incorporated into the NHRERP are inherently conservative, and are anticipatory in nature. They are initiated by conditions that allow anticipation of later consequences if conditions are not mitigated. Decision makers are thereby led to prudent courses of action before offsite consequences are realized.

In summary, where projected dose data that would allow application of the EPA PAGs for formulating protective action recommendation are not available, as much technical data as can be made available to, and evaluated by, accident assessment personnel and decision makers will be used in deciding appropriate actions to be taken. Where projected doses can be calculated on the basis of available source term data for accident assessment personnel and decision makers to evaluate against the PAGs, then the decision criteria of NHRERP, Volume 1, Figure 2.6-7 for selecting between the protective actions of sheltering and evacuation will be applied. Figure 2.6-7 and Figure 1A, Protective Action Recommendations Worksheet for the General Population, of NHRERP, Volume 4A, Appendix U, both of which delineate the criteria to be applied for selecting between sheltering and evacuation are provided as Attachment 1.

2. Implementation of Precautionary and Protective Actions for the Summer, Seasonal Population

Actions prescribed for implementation of precautionary and protective actions for the public, and specifically for

the seasonal beach population, are contained in appendices to both NHCDA (now Governor's Office of Emergency Management) and Division of Public Health Services procedures (Volume 4, Appendix F and Volume 4A, Appendix U respectively). These procedures establish explicit actions for implementation of early, precautionary measures for the Hampton and Seabrook beaches.

a. Public Alert and Notification

A key provision for initiation of protective actions is prompt notification of the public. This is achieved by activation of a system of fixed sirens situated throughout the 17 New Hampshire communities. These sirens provide audible alert coverage of the EPZ communities. For beach areas where precautionary actions may be recommended (i.e., Hampton and Seabrook beaches), three sirens have been designated for potential activation in early stages of an emergency for the purpose of initiating precautionary actions. Procedures are in place for these sirens to sound an alert signal and to broadcast a voice message in both English and French to advise beach populations of actions they should take. Procedures provide for immediate (within 15 minutes of the Governor's decision) activation of the audible alert system by either Rockingham County Dispatch Center or as a backup, by the Towns of Hampton and Seabrook after precautionary or protective action decisions are made for beach areas.

Activation of the audible alert signal would be followed by a voice message over the siren public address system containing emergency instructions for the public. The script of the voice message is: "Attention . . . Attention . . . Because of a problem at Seabrook Station, the beaches are now closed. Please leave the beach immediately. Listen to a local radio station for more information."

In addition to the audible alert system, a series of permanent signs which display emergency instructions will be posted in recreation areas, including on the beaches, throughout the EPZ. Currently 18 locations for placement of these signs have been identified in cooperation with the NH Department of Resources and Economic Development. The instructions explain what to do when sirens are heard and identify the emergency broadcast stations from which further information and instructions can be obtained. This information is also displayed in both English and French. Additional public information materials containing the same information, again in both languages, will be available to transients at motels, hotels, and business establishments throughout the EPZ.

Emergency broadcast messages would be broadcast at 15-minute intervals over radio stations identified on the public information signs and in other informational materials for transients. The content of the EBS message would depend on the actions recommended by State of New Hampshire

decisionmakers. Sample EBS messages containing instructions for the transient population are provided as Attachment 2.

b. Precautionary Actions

Precautionary actions planned for implementation for Hampton and Seabrook beaches are delineated in NHRERP, Volume 4, Appendix F and Volume 4A, Appendix U. Those actions pertain particularly to the beach areas in an approximate 2-mile radius of Seabrook Station, in other words, those areas that could potentially be most immediately affected. This area is bounded by Great Boar's Head at Hampton Beach to the north and the New Hampshire-Massachusetts border at Route 286 and Ocean Boulevard at Seabrook Beach to the south. (The procedures contained in NHRERP, Rev. 2, define the northern boundary of this area as Little Boar's Head which is in North Hampton. The plan and procedures will be amended to identify this boundary as Great Boar's Head which is consistent with traffic control and public notification provisions for precautionary actions for the beach.)

Precautionary actions prescribed for this area are:

(1) Closing beaches that attract seasonal populations and which are in close proximity to the plant;

(2) Implementation of traffic control to discourage transient traffic from flowing into the affected areas, including beach areas;

(3) Issuance of public announcements of actions taken through emergency broadcast and normal media channels; and

(4) Monitoring of traffic flow and local conditions in affected areas.

To facilitate implementation of these actions, the following arrangements have been made:

(1) The Department of Resources and Economic Development, which has jurisdiction over State beaches and parks, has been designated to assist with closing beaches and parks and adjacent parking areas under its control. Procedures are in place for DRED to utilize lifeguards, park managers, and other available personnel for this purpose.

(2) Specific traffic control points have been designated for State and local police to discourage access of transient traffic into beach areas and to facilitate egress of outgoing traffic. These points are specified for implementation of early precautionary actions and are explained in the ETE Testimony.

(3) Procedures are in place at the Rockingham County Dispatch Center and in the RERPs for the Towns of Hampton and Seabrook for activation of public alert sirens and public announcements for the beaches. Additionally, public information personnel at both the Media Center and the State EOC are activated at the Alert classification to issue public announcements to the media.

(4) Utility, State and local emergency response organizations will be activated at the early stages of an emergency, as early as the Alert classification level, to

monitor conditions in the plant and in potentially affected areas.

The option of early, precautionary actions for beachgoers is not intended to imply that precautionary evacuation is the only option available to decisionmakers responsible for formulating recommendations for the public. Because the precautionary actions of closing the beach and that of evacuating the beach population at early stages of an emergency, before dose consequences would even be projected, would avoid incurrence of dose consequences to the beach population, it is a preferred option. Therefore, specific plans have been put in place to implement it.

c. Evacuation As A Protective Action

In the event that accident conditions preclude timely implementation of precautionary measures for beach populations, evacuation of beach areas as a protective action continues to be an option available to State of New Hampshire decisionmakers. Where projected dose data are available for assessment, the decision criteria contained in NHRERP, Volume 1, Section 2.6.7 and Figure 2.6-7 for selecting between sheltering and evacuation come into play. NHRERP, Volume 1, Section 2.6, at page 2.6-11 says:

If all potential radiological exposure can be avoided by implementing a timely evacuation, evacuation may be the preferred protective action. Where implementation of protective action is deemed appropriate, and where time and plant conditions permit, evacuation will generally be the selected course of

action.

Numerous factors can influence the effectiveness of evacuation. They include the delay time between accident warning and initiation of evacuation, the radius within which the public is evacuated, evacuation speed, and changing meteorological conditions during the evacuation.

Specific and detailed procedures are provided in the NHRERP to ensure early notification and evacuation of the beach population. Administrative provision for and coordination of emergency instructions to be broadcast have been provided in NHRERP, Volume 1, Section 2.1, and Volume 4, NHCDA procedures, and Volume 4B, State Police Communications Center procedures to ensure the flexibility to get the most appropriate message aired in a timely manner for the spectrum of accident conditions. The conditions covered by these provisions range from when the emergency organizations are fully staffed and are following a slowly developing situation to the case when a severe situation is developing rapidly prior to emergency organizations being able to fully staff or assess the situation.

d. Shelter In Place

NHRERP, Volume 1, Section 2.6.5 explains the shelter in place concept on which New Hampshire relies as a protective action option. This concept provides for sheltering at the location in which the sheltering instruction is received. The NHRERP, Volume 1, at page 2.6-6 explains this to mean:

Those at home are to shelter at home, those at work or school are to shelter in the work place or school building. Transients located indoors or in private homes will be asked to shelter at the locations they are visiting if this is feasible. Transients without access to an indoor location will be advised to evacuate as quickly as possible in their own vehicles (i.e., the vehicles in which they arrived).

Although precautionary actions for and evacuation of the beach areas are the preferred courses of action for the beach population because in most cases they would provide the greatest dose savings by avoiding potential radiological exposure risks altogether, sheltering as a protective action option for this segment of the population is not precluded. Sheltering for example may be the appropriate protective action for a puff release - a gaseous or gaseous and particulate release - of less than 2 hours duration. (Manual of Protective Action Guides, U.S. EPA, p. 1.29.) Sheltering would provide a constant cloud shielding factor of at least 0.9. Inhalation dose reduction from sheltering, which is variable with time, would also be effective for this period of time. Sheltering, which can be implemented quickly, in this case may afford a greater dose savings than evacuation if evacuation cannot be completed prior to a release. These factors are considered in the protective action decision criteria of NHRERP, Volume 4A, Appendix U.

The decision to recommend shelter must, of course, be based on its effectiveness in achieving the greatest savings

with the goal of maintaining projected doses below the lowest value of the EPA PAGs. For implementation of this protective action option, New Hampshire decisionmakers will rely on the mechanisms now in place, or to be put in place, in the NHRERP for recommending shelter to the public whether on the beach or any place else. These mechanisms include rapid assessment of accident conditions; activation of the public alert system, which include the beach public address system; and Emergency Broadcast System announcements. Specific emergency messages have been developed, and will be added to the plan, for advising the beach population to take shelter in the nearest indoor public location. A pre-recorded message to this effect will be in place at the beach siren activation points for broadcast over the beach public address system. The EBS sheltering message for the beach population will advise people to go to the nearest indoor public location. The EBS message for this contingency will also request owners/operators of public access facilities to assist people with taking shelter. A sample of these messages is provided as Attachment 3. It is expected that people will comply with emergency broadcast system announcements to take shelter and that owners/operators of public access facilities will make their facilities available for this purpose, as discussed in the testimony of the ETE and Human Behavior Panel.

The NHRERP, Volume 1, Section 2.6.5 contains provisions to assist accident assessment personnel and decisionmakers in

evaluating the effectiveness of shelter as a protective action option. Table 2.6-4 of NHREPP, Volume 1 provides representative values of external sheltering factors for typical structures that can be found in the Seabrook Station Plume Exposure Pathway EPZ. These representative values are generally applicable and are taken from Structure Shielding from Cloud and Fallout Gamma Ray Sources for Assessing the Consequences of Reactor Accidents, EG&G, Inc., Las Vegas, Nevada, EGG-1183-1670 (1975). On the basis of these values New Hampshire decisionmakers can approximate the level of whole body dose reduction that would be afforded to the population by a protective action recommendation to shelter. The values range from 0.2 or less (80% protection) for large office or industrial-type buildings to 0.9 (10% protection) for wood-frame houses with no basements. The NHRERP assumes a cloud shielding factor of 0.9 for all structures within the Seabrook Station Plume Exposure Pathway EPZ. As an assumed protection factor, New Hampshire accident assessment personnel would apply this factor to calculations of projected doses to determine the level of protection that would be provided by implementation of sheltering. (See NHRERP, Volume 4A, Appendix U, Figure 1A, Item 21.) Exceptions to this rule are certain institutions, including hospitals, nursing homes, and correctional facilities, where the risks from evacuation are higher than that for the general population and the structures offer better protection

than that assumed by the NHRERP.

e. Beach Shelter Capacity

"A Study to Identify Potential Shelters in the Beach Areas Near Seabrook Station" was performed for New Hampshire Yankee by Stone & Webster Engineering Corporation in March 1986 and updated in August, 1987. This study was performed to identify the approximate sheltering capacities that would be suitable for use by the beach population along the Massachusetts and New Hampshire coastlines within the 10-mile Emergency Planning Zone of the Seabrook Station. The study is provided as Applicants' Exhibit 2.

(1) Methodology

The study examined available listings of all commercial properties and tax-exempt properties (municipal and church buildings) in the beach area. These listings were taken from municipal tax records of the Tax Assessor Offices of the seven coastal municipalities.

Information was taken from tax assessment cards on each property particularly noting the building address, construction characteristics, available floor space, number of stories and whether or not there is a basement. Each property was then visually inspected externally to confirm its location and construction characteristics before developing a list of potential shelters.

Each potential shelter was visually inspected externally by a health physicist who estimated the structures' specific

cloud shielding factors. Public Protection Strategies for Potential Nuclear Reactor Accidents: Sheltering Concepts with Existing Public and Private Structures, SAND-77-1725, by Aldrich et al., February 1978, was utilized as reference for estimating shielding factors. Using this reference, masonry buildings and buildings with masonry basements were assigned shielding factors of 0.4 to 0.6 for cloud shielding. Wood frame buildings were assigned a cloud shielding factor of 0.9. Wood frame buildings were added as potential shelter area to the August 1987 update of the study because they meet the criteria used in calculations for deciding between the protective actions of sheltering and evacuation for the Seabrook EPZ. Wood frame structures that were judged not to conform to the reference criteria were eliminated from consideration.

The study also included a sample survey of private residences to estimate the numbers of beach area residences with basements or masonry construction and which would, therefore, provide a level of protection greater than that assumed by the NHRERP. For the August, 1987 update, the residence sampling was increased to 100 percent for Hampton and Seabrook beach areas.

(2) Results

(a) Public Shelters

The results of the March, 1986 study, utilizing more effective cloud shielding factors than the 0.9 assumed by the

NHRERP, showed a total potential sheltering area for the Hampton and Seabrook Beach areas of 311,000 square feet in a total of 115 public shelters. (Public shelters are defined as those facilities, commercial, municipal, church, etc., which are normally accessible to the public.) The results of the August, 1987 update of the study, which considered structures conforming to the NHRERP decision criteria, showed a total potential public shelter area of 1,380,000 square feet in Hampton Beach and 70,900 square feet in Seabrook Beach because of the inclusion of wood frame buildings.

It is recognized that not all of the potential public sheltering area can be considered as being available for sheltering because of stored materials and internal structural features. A separate visual inspection of 78 of 205 potential public shelters in Hampton Beach determined a range of building availability factors based on the type of commercial use to which the building is put. In so doing, potential shelter areas were classified into three groups: (1) hotels, motels, restaurants, and lounges; (2) entertainment centers; (3) clothing, gift and convenience stores. A potential shelter availability of two-thirds was allowed for group 1, one-half for group 2, and one-third for group 3. The Reception and Care Facility Program of the Federal Emergency Management Agency uses a factor of 10 square feet per person for short term public sheltering. When compared to this guideline, the availability factors

correspond approximately to permissible occupation load values of the National Fire Codes for groups 1 and 3. These values are 15 ft²/person and 30 ft²/person respectively. The results indicate a total public shelter availability of 861,000 square feet in Hampton Beach and 35,800 square feet in Seabrook Beach. This combined total of 896,800 square feet could provide short term shelter for approximately 89,600 persons.

The potential public shelters have been identified on maps of Hampton and Seabrook beach areas and denoted by their relative available shelter capacity. Their locations were compared to the relative density of the beach population on a crowded, good weather, summer weekend. An examination of aerial photographs taken on Saturday, July 18, 1987 (a hot, clear day with a peak temperature of 89° as measured at the Seabrook Station site), between 12 noon and 1 p.m., shows that beachgoers congregate in those areas of the beach in closest proximity to the potential shelters with greatest capacities. The largest concentration of beachgoers, for example, is in the immediate vicinity of the N.H. Department of Resources and Economic Development Headquarters on Hampton Beach. Immediately across Ocean Boulevard are located the potential public shelters with the largest capacity, i.e., the Hampton Beach Casino and the Ashworth Hotel with 73,606 square feet and 33,969 square feet of available shelter area (utilizing availability factors) respectively. All potential

public shelters in the Hampton and Seabrook Beach areas are located within one-half mile of the populated beach areas.

(b) Residential Shelters

The results of the residential survey showed that 34 percent of 3,036 residences in Hampton Beach and 51 percent of 758 residences in Seabrook Beach provide basement or masonry sheltering capability. The remaining percentage of residences provide sheltering characteristics at least as effective as that assumed by the NHRERP. The field survey revealed very few wood-frame residences that would not meet these sheltering characteristics.

The number of persons that could potentially be sheltered in residences (seasonal and permanent) is assumed to be the total number of people occupying residential buildings during the beach season. This is determined as follows:

- * KLD determined that there are an average of 2.6 vehicles per dwelling (see NHRERP, Volume 6, p. E-10).
- * The number of occupants per vehicle was determined from the 1987 Vehicle Occupancy Rate Survey to be 2.4 (see Applicants' Direct Testimony No. 7, p. 38).
- * The average number of persons per dwelling assumed is therefore 2.6×2.4 or 6.24.

At a rate of 6.24 persons per dwelling, residential structures having basement and masonry sheltering capability

would, therefore, provide that level of sheltering for 8,854 persons in the Hampton and Seabrook Beach area.

Including residences in the Hampton and Seabrook Beach areas having shelter characteristics at least as effective as those assumed by the NHRERP, shelter would be provided for 23,674 persons.

(c) Total Shelter Capacity/Peak Beach Population

The total potential sheltering area for Hampton and Seabrook beaches would therefore accommodate 113,274 persons - 89,600 in public, and 23,674 in residential structures.

Recent estimates of the peak beach population for Hampton and Seabrook were computed using the results of vehicle occupancy rate surveys and counts of projected peak number of vehicles for Hampton and Seabrook Beaches. The summer weekend peak population estimate is approximately 39,000 for Hampton and Seabrook Beaches combined. (The basis for these estimates is set forth in the testimony of the ETE and Human Behavior Panel.) Thus the available shelter space exceeds by a considerable margin the peak beach population.

A map and chart depicting available public and residential sheltering capacities in relation to their accessibility to beach locations in the beach areas between Great Boar's Head and the Massachusetts/Town of Seabrook border is provided as Attachment 4. The chart shows these capacities in terms of numbers of shelterees for whom potential short-term shelter is available in public and

residential buildings. This capacity is shown in increments of two-tenths of a mile. In addition, the chart shows the observed beach population on July 18, 1987 derived from aerial photographs taken on that date. This population includes numbers of people on the beach, in the water, and on the ocean side of Route 1A. The numbers of people observed are displayed in two-tenths of a mile increments as a means of showing the distribution of the beach population in relation to available shelter capacities.

Attachment 5 is a graphic of the matters presented in Attachment 4.

(3) Consequences for Decisionmaking

The cloud shielding factor (0.9) that is used by the NHRERP protective action decision criteria and by the State of New Hampshire dose assessment model allows reliance on essentially any indoor location, including wood-frame structures with no basement, for sheltering. A decision to recommend shelter-in-place would not be invalidated by the characteristics of the Seabrook area houses and public structures.

3. Implementation of Protective Actions for Campgrounds

Specific plans for special facilities within the Seabrook Station EPZ are contained in appendices to the local plans of the NHRERP, Volumes 16-32. These appendices are labeled Appendix F of Volumes 16-32. Appendix F includes plans for campgrounds located in the respective municipalities. The plans identify the campgrounds to which they pertain and contain descriptive information about the

campgrounds. They also explain the method of notification and the actions to be taken.

a. Notification

Campgrounds will be equipped with tone-alert radios which will enable proprietors or managers to be advised immediately of any protective measures recommended for the public. The tone-alert radios are activated by the EBS radio signal over which emergency instructions will be transmitted. In addition, all campgrounds in the EPZ are covered by the system of fixed sirens.

A supply of public information materials, including posters and brochures, will be provided to all campgrounds; and the plans call for campground operators to ensure that public information materials containing emergency instructions are available for users of their facilities.

Therefore, there are two methods of notification. One is the siren signal. Second, the operators will be alerted by tone-alert radios which provide notification and emergency instructions.

b. Actions

The campground plans provide that at a Site Area Emergency, campgrounds may be directed to undertake a protective response or to close on a precautionary basis. If the facility is advised to close as a precaution or if there is a sheltering recommendation announced for any part of the EPZ, campground operators would instruct campers to pack all

belongings and to leave the area. Public information brochures containing emergency instructions would be available for all campers.

If an evacuation is recommended in any part of the EPZ, campground operators would make an accounting of all current users of the campground and instruct campers to evacuate the area by evacuation routes specified in the campground plan.

The total maximum capacity of campgrounds in the Seabrook Station EPZ is approximately 8500 campers. This maximum capacity of campground users is distributed over a total of 1889 camp sites in 18 campgrounds situated within 11 of the 17 municipalities of the Seabrook Station EPZ. Thus, campground users constitute neither a significantly large number nor an inordinate concentration of persons in any one area of the EPZ. Therefore, it is reasonable to conclude that campground users would be able to depart the area rapidly whether this was to occur prior to an evacuation of the general population or during such an evacuation. Maximum total vehicle capacity of campgrounds is approximately 2950, or 1 vehicle for every 2.9 campers. Five of these campgrounds are day and youth camps for which nineteen buses have been allocated. Consequently, there is ample vehicle capacity for campground users to depart from the area.

4. Sheltering for the General Public

a. Concept of Shelter in Place

As explained previously, New Hampshire employs the

shelter in place concept as a protective action option for the general public. This concept provides for short-term sheltering at the location in which the sheltering instruction is received. Those at home are to shelter at home, those at work or school are to be sheltered in the work place or school building.

Except for institutionalized populations, sheltering and evacuation will be implemented on a municipality by municipality basis in New Hampshire. One town may be advised to take shelter, while an abutting town is advised to evacuate or take no protective action. Therefore, shelter areas in New Hampshire are defined as municipalities. The decision to implement sheltering or evacuation of a particular municipality in the EPZ would be based on a prediction that projected doses to the general population would equal or exceed EPA Protective Action Guides (PAGs) for these areas.

b. Assessment of Existing Shelter Adequacy

The NHRERP, Volume 1, Table 2.6-4 provides representative values of external (whole body) sheltering factors for typical structures that can be found in the Seabrook Station EPZ. On the basis of these values, New Hampshire decision makers can approximate the level of protection that would be afforded to the population by a protective action recommendation to shelter. The values range from 0.2 or less (80% protection) for large office or

industrial type buildings to 0.9 (10% protection) for wood-frame houses with no basements. Based on the previously cited studies by Aldrich, et al., and their analysis of typical structures to be found in the Northeast region of the United States, Seabrook Station EPZ structures have a cloud shielding factor of at least 0.9; and this is, therefore, a reasonable sheltering protection factor to be assumed by the NHRERP. As an assumed protection factor, New Hampshire decision makers would apply this factor to calculations of projected doses to determine the level of protection that would be provided by implementation of sheltering. The only exceptions to this rule are certain institutions, including hospitals, nursing homes, and correctional facilities, where risks from evacuation are higher than that for the general population. For these institutions, shielding factors of the individual structures have been determined and would be applied to calculation of projected doses to the resident populations according to instructions contained in NHRERP, Volume 4A, Appendix U.

(1) Shelter Effectiveness of Residences in the
Seabrook Station EPZ

Because of their location in the Northeast region of the United States, Seabrook Station EPZ residences can be expected to consist of substantial construction materials and to be of airtight construction. Essentially any indoor location, even a wood-frame house with no basement, provides at least a 10% reduction for a cloud source. This assessment

of the relative shelter effectiveness of structures in the Seabrook Station EPZ indicates that typical residential structures afford a cloud shielding factor of at least 0.9.

(2) Shelter Effectiveness of Schools and Day Care Centers

It is reasonable to assume that schools and day care centers share the prevailing characteristics of typical structures of the Seabrook Station EPZ, and are airtight, winterized structures.

Further, because protective action recommendations for the general population are applied to schools and day care centers, evaluation of protection afforded by these structures would neither make them more suitable for sheltering, nor affect the choice of the sheltering option. Specific protective action recommendations would not be made for schools (which, for the purpose of the plan, include day care centers) based on the relative sheltering factors of their structures. The NHRERP explicitly says in NHRERP, Volume 4A, Appendix U that sheltering factors other than 0.9 are not to be considered for school facilities. Schools (and day care centers) will follow the same protective actions prescribed for the general population.

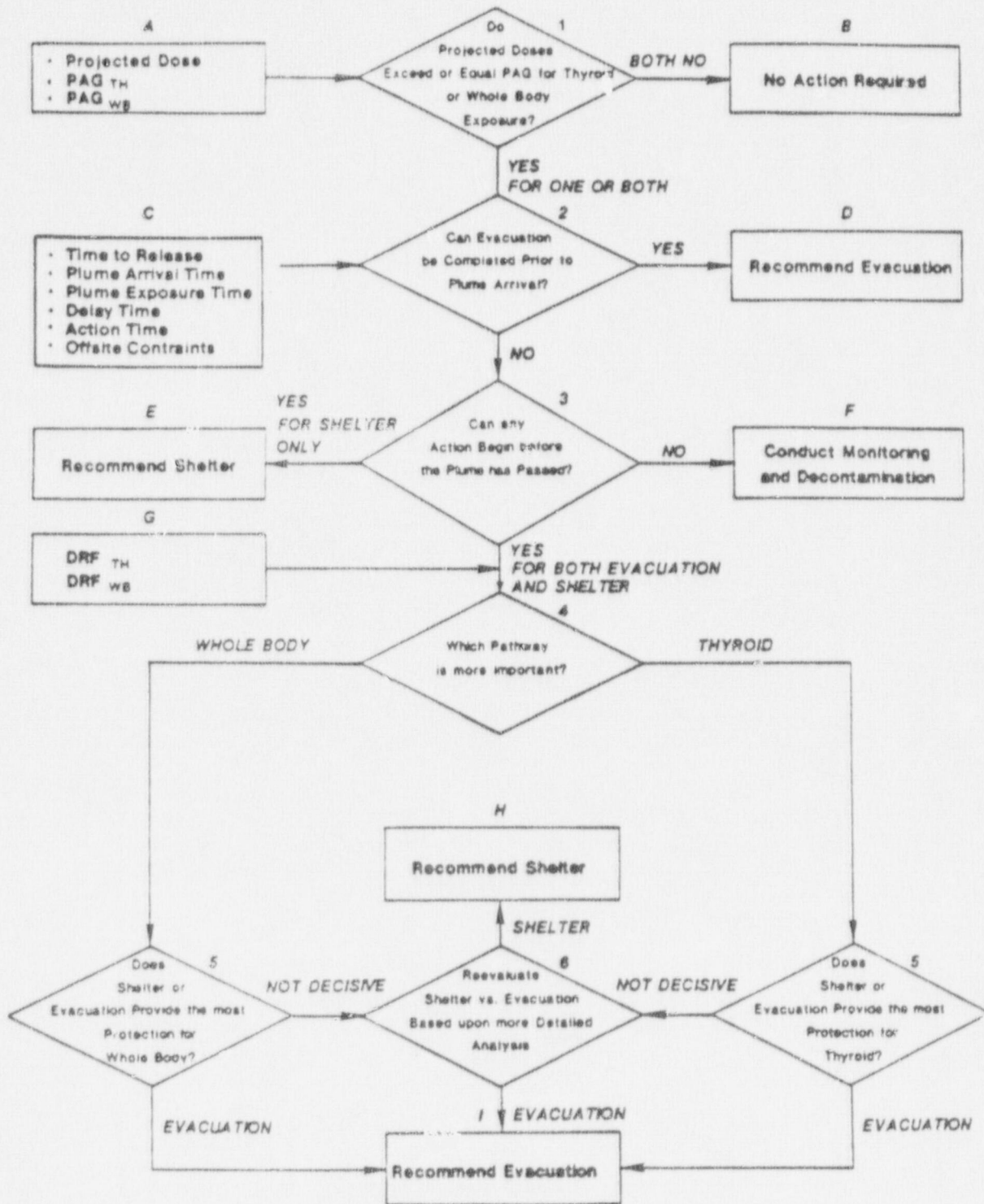


FIGURE 2.6-7 Decision Criteria for Selecting between Evacuation and Sheltering Recommendations for the Governor

FIGURE 1A

Protective Action Recommendation Worksheet
For General Population

1. Time of calculation (use 24 hour clock) _____ hours
2. Time of release start _____ hours
3. Release duration _____ hours
4. a. Wind Speed _____ mph
- b. Wind direction from _____ degrees
5. Distance to reference location _____ miles
6. Affected subareas
(use Items 4B and 5 and Figure 2) _____
7. Plume travel time (Item 5/Item 4a)
8. Time until exposure (choose a or b)
 - a. If release has begun:
 - (1) Difference (Item 1 - Item 2) _____ hours
 - (2) Time [Item 7 - Item 8a(1)] _____ hours
 - b. If release will begin later
 - (1) Difference (Item 2 - Item 1) _____ hours
 - (2) Time [Item 7 + Item 8b(1)] _____ hours
9. Evacuation Conditions
 - a. Season (circle one)
 - (1) Summer: May 15 - Sept 15
(see Protective Actions for Seasonal Populations)
 - (2) Winter: Sept 15 - May 15
 - b. Weather (circle one)
 - (1) Normal seasonal weather
(mild, light rain, light snow)
 - (2) Adverse
(Summer: heavy rain/fog - Winter: heavy snow/ice)
10. Evacuation Time _____ hours
(Use items 6 and 9 and Figure 3, Evacuation Time Estimates to determine evacuation time.)
11. Exposure Time _____ hours
[Item 10 - Item 8a(2) or 8b(2)]

FIGURE 1A (cont'd)

- | | | |
|---|-------------|---|
| 12. Evacuation Exposure Period | _____ hours | |
| (smaller of Item 3 or Item 11) | | |
| 13. Projected Whole Body Dose Rate | _____ R/hr | |
| 14. Monitoring Team Whole Body Dose Rate | _____ R/hr | |
| 15. Most Reliable Whole Body Dose Rate | _____ R/hr | |
| (Item 13 or Item 14) | | |
| 16. Projected Thyroid Dose Rate | _____ R/hr | |
| 17. Monitoring Team Thyroid Dose Rate | _____ R/hr | |
| (from calculations) | | |
| 18. Most Reliable Thyroid Dose Rate | _____ R/hr | 2 |
| (Item 16 or Item 17) | | |
| 19. Whole Body Evacuation Dose | _____ R | |
| (Item 12 x Item 15) | | |
| 20. Thyroid Evacuation Dose | _____ R | |
| (Item 12 x Item 18) | | |
| 21. Whole Body Shelter Dose | _____ R | 2 |
| (Item 15 x Item 3 x 0.9) | | |
| 22. Thyroid Shelter Dose (choose a or b) | | |
| a. For release duration of less than | | |
| 1 hour (Item 18 x Item 3 x 0.5) | _____ R | |
| b. For release duration of greater | | |
| than 1 hour (Item 18 x Item 3 x $\frac{[1-0.5]}{\text{Item 3}}$) | _____ R | 2 |
| 23. Whole Body Indicated Action - | _____ | |
| refer to Figure 4 (indicate no action, | | |
| shelter, or evacuation) | | |
| 24. Thyroid indicated action - | _____ | |
| refer to Figure 4 (indicate no action, | | |
| shelter or evacuation) | | |
| 25. Recommended Protective Action _____ | | |
| (Record more severe action from Item 23 or Item 24 on Figure 2.) | | |

BEACH PRECAUTIONARY ACTION

(French and English)

DATE RELEASED:

TIME RELEASED:

RELEASED BY:

"We interrupt our program at this time to bring you the following message. This is not a test.

(CHOOSE ONE OF THE FOLLOWING:)

(An ALERT condition has been declared at Seabrook Station; an Alert presents no threat to public health and safety.)

(A SITE AREA EMERGENCY has been declared at Seabrook Station; (no release of radiation has occurred; no release of radiation) (is likely to occur.)

As a precaution, the State of New Hampshire has closed beach and state park areas in Seabrook and Hampton. Persons on the beaches and in state park areas in Seabrook and Hampton should leave the beaches and park areas immediately. The Governor is making this recommendation after consulting with State of New Hampshire Emergency Management and public health officials.

The closing of beaches is a precautionary measure based on policy adopted long before Seabrook was operational. It does not mean that a release of radiation has occurred or will occur.

All persons should stay tuned to this station for further information.

I repeat, because of a problem at Seabrook Station, the beach and state park areas in Seabrook and Hampton have been closed. Persons on the beaches and in state park areas in Seabrook and Hampton should leave the beaches and park areas immediately.

The following portion of this message is directed to persons in Brentwood, East Kingston, Exeter, Greenland, Hampton, Hampton Falls, Kensington, Kingston, New Castle, Newfields, Newton, North Hampton, Portsmouth, Rye, Seabrook, South Hampton, and Stratham:

State of New Hampshire Emergency Management and public health officials are currently reviewing the situation at Seabrook Station with the Governor of New Hampshire. At this time, there is no need to take any action if you are not on the beaches or in

state park areas in Seabrook and Hampton. If these conditions change, state officials may make additional recommendations and we will inform you immediately. Please stay tuned to this station for further information and instructions.

People in the towns of Brentwood, East Kingston, Exeter, Greenland, Hampton, Hampton Falls, Kensington, Kingston, New Castle, Newfields, Newton, North Hampton, Portsmouth, Rye, Seabrook, South Hampton and Stratham should look up the annual emergency information mailed to them. If you are not in any of these towns, there is no reason to take any action. Posters, signs, and brochures with emergency information have been provided in beach areas, parks, motels, hotels, and business establishments. If these are unavailable, information is also contained in area telephone books.

Once again, the Seabrook Station has declared an (Alert/Site Area Emergency). This does not mean that a release of radioactive materials has occurred or will occur. This message will be repeated frequently on this station until new information is available. Stay tuned to this station for the latest official information.

MESSAGE D -- SITE AREA EMERGENCY (SHELTERING/BEACHES
CLOSED/BEACH AREAS EVACUATED)

(RELEASE OF RADIOACTIVE MATERIAL)

DATE RELEASED:

TIME RELEASED:

RELEASED BY:

"A Site Area Emergency was declared at _____(time) today at Seabrook Station.

There has been a release into the air of radioactive materials from the Seabrook Station. The radioactive release does not exceed levels established by the United States Environmental Protection Agency, and does not present a hazard to public health and safety. The release occurred at _____(time).

As a precaution, however, certain actions for the public are being recommended by the Governor of New Hampshire. The Governor is making these recommendations after consulting with State of New Hampshire Emergency Management and public health officials. State and local Emergency Operations Centers are functioning and state and local emergency response personnel are ready to take any necessary actions.

(Seasonal only) The State of New Hampshire has closed state beaches and parks in the Hampton and Seabrook areas. Access to these areas by non-residents is being restricted. As an additional precaution, all persons residing in, working in or visiting Hampton Beach or Seabrook Beach, between Great Boar's Head to the north and Route 286 and Ocean Boulevard to the south, are advised to evacuate those areas immediately.

People in the towns of Seabrook, Hampton Falls, Hampton (and (circle other towns affected) Brentwood, East Kingston, Exeter, Greenland, Kensington, Kingston, New Castle, Newfields, Newton, North Hampton, Portsmouth, Rye, South Hampton, Stratham) will be safer if they SHELTER IN PLACE. This means you should remain indoors at your current location. Staying indoors will provide

you with protection from radiation caused by radioactive material which leaves the Seabrook Station site area due to weather conditions or other factors. In order to get the greatest protection from possible exposure to radiation, you should take the following actions:

1. Shelter indoors at your current location.
2. Make sure all windows and doors are closed tightly.
3. If you are in your car, close all windows and vents while you continue to travel to your destination.
4. Turn off all fans, heating or air conditioning systems if they bring in outside air.
5. Take a radio with you and move to the room with fewest windows and doors.
6. Keep all members of your household indoors and stay tuned to your local Emergency Broadcast System radio station.
7. Remain indoors until told by local or state officials that it is safe to go outside, or until further protective actions are recommended.

Schools, hospitals and other institutions in the towns advised to shelter are taking similar sheltering actions. Public officials have instructions for protecting the children or other persons in their care until sheltering is no longer necessary. Parents and relatives are advised not to call the schools or other institutions, nor to drive to the schools to attempt to pick up their children. Community safety will be better protected if the phone lines are kept open for official communications and the schools are permitted to conduct their sheltering plans over the next several hours.

Please refrain from all unnecessary use of communications systems. Do not call Police, Fire, or public officials, relatives, neighbors or friends unless absolutely necessary. Your use of telephones for unnecessary calls may tie up circuits needed by others for emergency calls.

If you are at home, look up the emergency information mailed to you about Seabrook Station for further information. If you are sheltering at your workplace or other public building, ask to review the emergency information brochures delivered to all hotels, motels and most other businesses. Consult the telephone book for additional information. Stay tuned to this EBS station.

If you are not (seasonal only -- at the Hampton or Seabrook beaches or park areas, and not) located in the towns of Seabrook, Hampton Falls, Hampton (or) (circle other towns affected) Brentwood, East Kingston, Kensington, Exeter, Greenland, Kingston, New Castle, Newfields, Newton, North Hampton, Portsmouth, Rye, South Hampton, Stratham, there is no reason for you to take shelter or other actions. Actual or potential consequences of the incident do not affect areas beyond the towns already given instructions. If these conditions change, public health officials may change these recommendations and we will inform you immediately.

If you know of any neighbors or co-workers with hearing or language problems, please be sure they are aware of this announcement and understand what they should do.

(Seasonal only) To repeat: the State of New Hampshire has closed state beaches and parks in Hampton and Seabrook. Access to these areas by non-residents is being restricted. As an additional precaution, all persons residing in, working in or visiting Hampton Beach or Seabrook Beach, between Great Boar's Head to the north and Route 286 and Ocean Boulevard to the south, are advised to evacuate those areas. (Seasonal only)

Seabrook Station has declared a Site Area Emergency. It has been advised that people in the towns of Seabrook, Hampton Falls, Hampton (and) (circle other towns affected) Brentwood, East Kingston, Exeter, Greenland, Kensington, Kingston, New Castle, Newton, North Hampton, Portsmouth, Rye, South Hampton, Stratham, should SHELTER IN PLACE. That is, remain indoors with outside ventilation sources closed off.

This message will be repeated every fifteen minutes or until new information becomes available. Stay tuned to this Emergency Broadcast System Station for the latest official information."

Beach Public Address Shelter Message

Attention ... Attention ...
Because of a problem at Seabrook Station,
beaches are now closed. Please leave the
beach and go indoors immediately.
Listen to the radio for more information."

MESSAGE F -- GENERAL EMERGENCY (SHELTERING/TOWNS AND BEACHES)
 (RELEASE OF RADIOACTIVE MATERIAL)

DATE RELEASED:

TIME RELEASED:

RELEASED BY:

"A General Emergency was declared at _____ (time) today at Seabrook Station."

A release of radioactive material into the air occurred at _____ (time).

Certain actions for the public are being recommended by the Governor of New Hampshire. The Governor is making these recommendations after consulting with State of New Hampshire Emergency Management and public health officials. State and local Emergency Operations Centers are functioning and state and local emergency response personnel are ready to take any necessary actions.

(Seasonal only) The State of New Hampshire has closed state beaches and parks in the Hampton and Seabrook areas. Access to these areas by non-residents is being restricted. As an additional precaution, all persons residing in, working in or visiting Hampton Beach or Seabrook Beach, between Great Boar's Head to the north and Route 286 and Ocean Boulevard to the south, are advised to seek shelter indoors immediately. Go to a nearby building where you can take shelter until advised by this EBS station that instructions have changed.

Owners and operators of business establishments and other public access buildings are asked to assist people seeking shelter.

People in the towns of Seabrook, Hampton Falls, Hampton (and) (circle other towns affected) Brentwood, East Kingston, Exeter, Greenland, Kensington, Kingston, New Castle, Newfields, Newton, North Hampton, Portsmouth, Rye, South Hampton, Stratham are advised to SHELTER IN PLACE. This means you should remain indoors at your current location. Staying indoors will provide you with protection from radiation caused by radioactive material

released from the Seabrook Station. In order to get the greatest protection from possible exposure to radiation, you should take the following actions:

1. Shelter indoors at your current location.
2. Make sure all windows and doors are closed tightly.
3. If you are in your car, close all windows and vents while you continue to travel to your destination.
4. Turn off all fans, heating or air conditioning systems if they bring in outside air.
5. Take a radio with you and move to the room with fewest windows and doors.
6. Keep all members of your household indoors and stay tuned to your local Emergency Broadcast System radio station.
7. Remain indoors until told by local or state officials that it is safe to go outside, or until further protective actions are recommended.

Schools, hospitals and other institutions in the towns advised to shelter are taking similar sheltering actions. Public officials have instructions for protecting the children or other persons in their care until sheltering is no longer necessary. Parents and relatives are advised not to call the schools or other institutions, nor to drive to the schools to attempt to pick up their children. Community safety will be better protected if the phone lines are kept open for official communications and the schools are permitted to conduct their sheltering plans over the next several hours.

Please refrain from all unnecessary use of communications systems. Do not call Police, Fire, or public officials, relatives, neighbors or friends unless absolutely necessary. Your use of telephones for unnecessary calls may tie up circuits needed by others for emergency calls.

If you are at home, look up the emergency information mailed to you about Seabrook Station for further information. If you are sheltering at your workplace or other public building, ask to review the emergency information brochures delivered to all hotels, motels and most other businesses. Consult the telephone book for additional information. Stay tuned to this EBS station.

If you are not (seasonal only -- at the Hampton or Seabrook beaches or park areas, and not) located in the towns of Seabrook,

Hampton Falls, Hampton (or) (circle other towns affected) Brentwood, East Kingston, Kensington, Exeter, Greenland, Kingston, New Castle, Newfields, Newton, North Hampton, Portsmouth, Rye, South Hampton, Stratham, there is no reason for you to take shelter or other actions. Actual or potential consequences of the incident do not affect areas beyond the towns already given instructions. If these conditions change, public health officials may change these recommendations and we will inform you immediately.

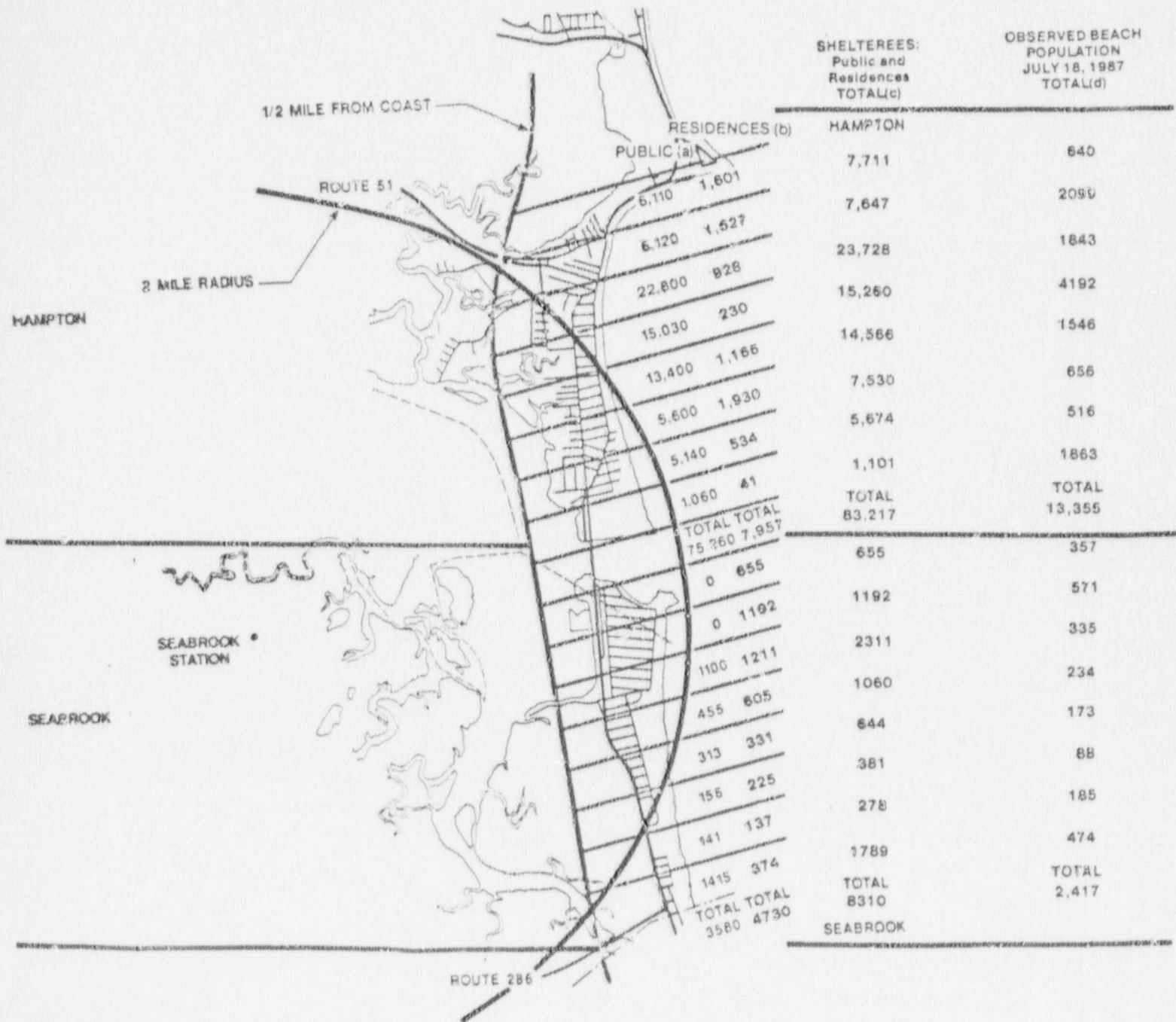
If you know of any neighbors or co-workers with hearing or language problems, please be sure they are aware of this announcement and understand what they should do.

(Seasonal only) To repeat: the State of New Hampshire has closed state beaches and parks in Hampton and Seabrook. Access to these areas by non-residents is being restricted. As an additional precaution, all persons residing in, working in or visiting Hampton Beach or Seabrook Beach, between Great Boar's Head to the north and Route 286 and Ocean Boulevard to the south, are advised to seek shelter indoors immediately. Go to a nearby building where you can take shelter until advised by this EBS station that instructions have changed. (Seasonal only)

Seabrook Station has declared a General Emergency. It has been advised that people in the towns of Seabrook, Hampton Falls, Hampton (and) (circle other towns affected) Brentwood, East Kingston, Exeter, Greenland, Kensington, Kingston, New Castle, Newton, North Hampton, Portsmouth, Rye, South Hampton, Stratham, should SHELTER IN PLACE. That is, remain indoors with outside ventilation sources closed off.

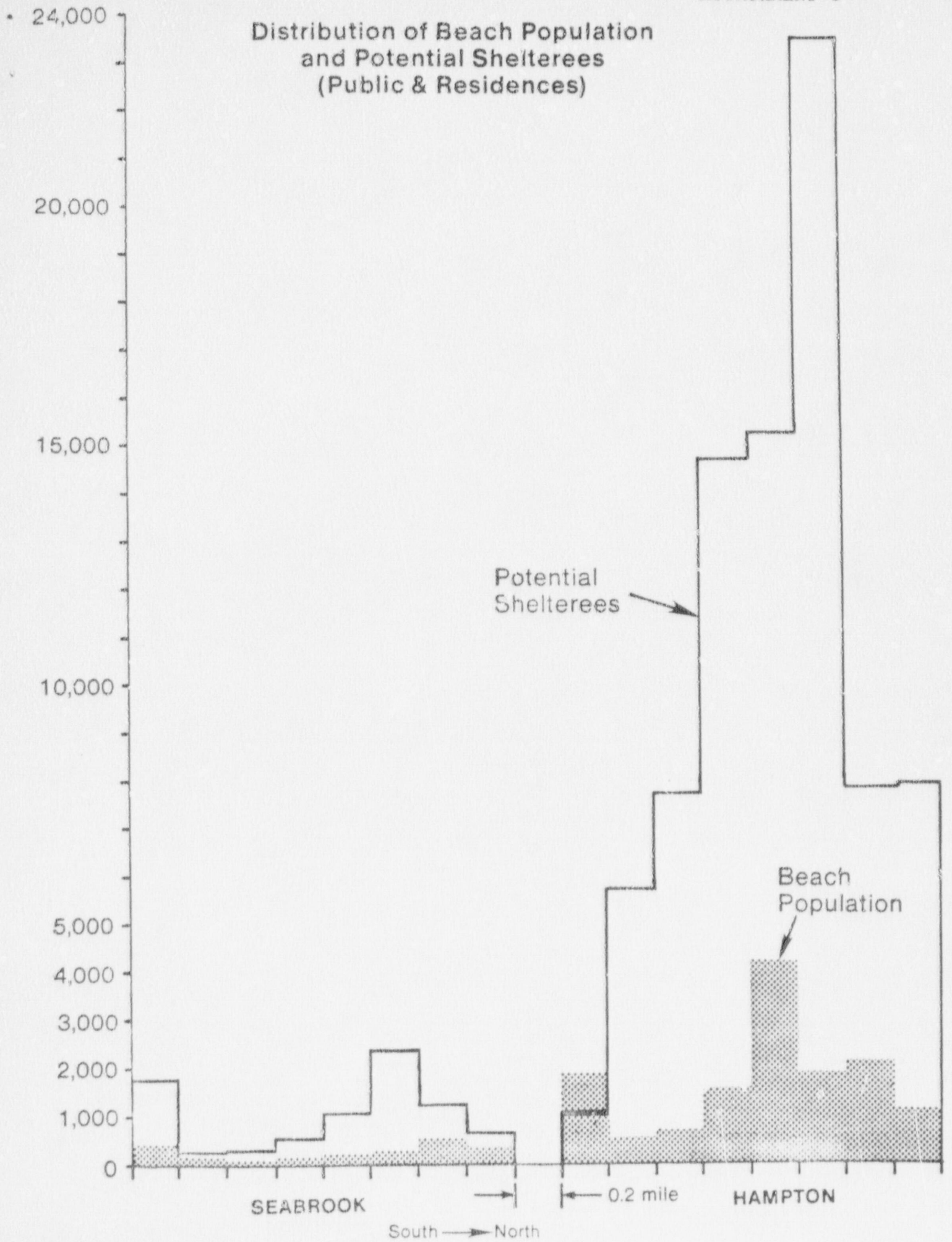
This message will be repeated every fifteen minutes or until new information becomes available. Stay tuned to this Emergency Broadcast System Station for the latest official information."

POTENTIAL SHELTER CAPACITY (PERSONS)



- (a) The total shelter capacity (persons) in public buildings (i.e. churches, restaurants, motels, etc.).
- (b) The total shelter capacity (persons) in private residences.
- (c) (a) + (b).
- (d) The total number of people on the beach, in the water, and on the ocean side of Route 1A on July 18, 1987 at approximately 12:20 P.M., in .2 mile increments.

Distribution of Beach Population and Potential Shelterees (Public & Residences)



CERTIFICATE OF SERVICE

'88 JUN 11 P6:14

I, George H. Lewald, one of the attorneys for the Applicants herein, hereby certify that on January 6, 1988, I made service of the within documents by depositing copies thereof with Federal Express, prepaid, for delivery to (or, where indicated, by depositing in the United States mail, first class postage paid, addressed to):

Administrative Judge Ivan W. Smith
Chairman, Atomic Safety and
Licensing Board Panel
U.S. Nuclear Regulatory
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4350 East West Highway
Bethesda, MD 20814

Robert Carrigg, Chairman
Board of Selectmen
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Judge Gustave A. Linenberger
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Chairman, Board of Selectmen
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U.S. Senate
Washington, DC 20510
(Attn: Tom Burack)

*Senator Gordon J. Humphrey
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Mr. Thomas F. Powers, III
Town Manager
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Portsmouth, NH 03801

Mr. Angie Machiros
Chairman of the Board of
Selectmen
Town of Newbury
Newbury, MA 01950

Mr. Peter J. Matthews
Mayor
City Hall
Newburyport, MA 01950

Mr. William S. Lord
Board of Selectmen
Town Hall - Friend Street
Amesbury, MA 01913

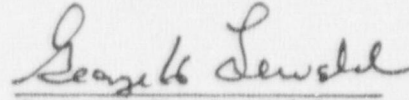
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Fine, Good & Mizner
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George H. Lewald

(* = Ordinary U.S. First Class Mail)