

October 13, 1983

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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

Public Service Company of New  
Hampshire, et al.  
(Seabrook Station, Units 1 and 2)

Docket Nos.  
50-443, -444

NECNP CONTENTIONS ON NEW HAMPSHIRE  
EVACUATION TIME STUDY

1. The New Hampshire evacuation time estimates (ETEs) are inaccurate and overly optimistic in that they are based on an assumption that all persons instructed to evacuate will evacuate.

Basis: Both local conditions and aspects of the emergency plans will result in family members being scattered in various areas. The families will clog the evacuation routes and disrupt the evacuation by attempting to reunite before proceeding to evacuate.

There are many different activities in the recreational areas, including staying on the beach, swimming, arcades, shops, and the like. Families often split up to pursue their separate interests, agreeing to rendezvous later. Parents will not depart without gathering their families together.

As reflected in the Voorhees Report, parents can reasonably be expected to attempt to pick up their children from the schools, or to return to the EPZ from the relocation center when their children do not show up, although this would disrupt an orderly evacuation. Seabrook Station Evacuation Analysis, Technical Memorandum #1, Summary of Local Meetings, prepared for FEMA by Alan M. Voorhees and Associates (August, 1980) at 10. This is especially true for the Seabrook EPZ, since the local plans provide for parents and children in school to proceed separately to evacuation centers. Parents may not learn whether their children are safe by going to their relocation centers, because their children may be assigned to other places. In addition, children from one family may attend different schools throughout the area, often with relocation centers different from those that their parents would be sent to. This may cause much confusion and panic.

2. The New Hampshire ETEs are inaccurate and overly optimistic in that they assume that public transportation will be available to those who need it. There is no assurance that those responsible for driving the various busses and other forms of mass transportation will actually do so, rather than first assuring the safety of their own families or leaving the area altogether.

Basis: The Voorhees Report indicates that local officials believe that "School bus drivers will refuse to enter or remain in the EPZ because of the radiation exposure danger." (at 10)

The plans contain no demonstration that school bus drivers have made commitments to remain in or return to the Emergency Planning Zone during a radiological emergency and transport students, rather than evacuate with their own families. In the absence of any such commitments, there can be no reasonable assurance that they actually will perform this function.

3. The New Hampshire ETES are incomplete in that they do not account for the effects of severe adverse weather conditions in the Seabrook EPZ, such as flooding.

Basis: According to Hampton Police Chief Robert Mark, flooding occurs at least twice a year, especially along the north shore of Hampton Beach. (Testimony of July 15, 1983, Atomic Safety and Licensing Board hearings) Route 286 and Route 1A were recently closed near Brown's Fish Market in Hampton due to flooding. Parts of Route 51 and Ocean Boulevard are also subject to flooding.

4. The New Hampshire ETES are inaccurate and overly optimistic in that they do not adequately account for the crowds at the Seabrook dog track.

Basis: There may be as many as 100,000 people at an event at the Seabrook dog track at the same time as there is a large crowd at the beaches. The dog track crowd would hamper evacuation, particularly along Route 107, where it is often nearly impossible even to get out of a local driveway during heavy traffic.

5. The New Hampshire ETES are inaccurate and overly optimistic in that they do not adequately account for road conditions impeding traffic flow or vulnerable to blockage. Many of the evacuation routes are narrow and would be blocked by an accident or a stalled car, and those roads and the available traffic control personnel cannot handle both the traffic that will come from surrounding towns as well as the traffic generated by the town itself.

Basis: Where Ocean Boulevard joins Route 51, Route 51 is very narrow for several blocks. Route 286 is a two lane road where the shoulder is commonly used by traffic during busy periods. Since there is no place for a car to go if there is an accident or breakdown, it would clog either the shoulder or the roadway. The road also suffers from two serious bottlenecks at bridges where two or three lanes funnel into one. Police traffic control is necessary at the intersection of Routes 286 and 1A, along the shoulder of Route 286, and at the intersection of Route 286 and Washington Street. In Exeter, Route 101 is extremely narrow for about 10 miles and could become extremely congested in an evacuation. These are only a few examples of serious physical impediments to evacuation which are not discussed or evaluated in the local plans. The congested condition of these roads may not only generally impede evacuation, but may prevent effective removal of accidents or stalled vehicles. For example, on a Sunday afternoon in July of 1983, it took a Hampton Beach wrecking

company 3 hours to reach a disabled car a mile away from the gas station, and 2 hours to return with it to the gas station.

Finally, the Voorhees Report indicates that local officials believe that local roads and traffic personnel cannot handle the volume of traffic that may come from other towns in the event of an emergency (at 11).

6. The New Hampshire ETES are inaccurate and overly optimistic in that they do not account for blockage of evacuation routes caused by vehicles running out of gas.

Basis: Gasoline supplies and availability are limited such that many of the vehicles that run low can be expected to run out, thereby clogging the narrow evacuation routes and hindering the evacuation. There are only three gas stations in Hampton Beach, which are often out of gas, and Route 51, a major evacuation route, does not have any gas stations on it all the way to Route 95.

7. The New Hampshire ETES are inaccurate and overly optimistic in that they assume that traffic rules and controls will be obeyed.

Basis: Poor driver behavior under crowded traffic conditions is common in the Seabrook area. The Hampton Fire Chief has observed people trying to make four lanes out of two-lane roads when the traffic gets bad, thus making the roads impassable for emergency traffic. He has also observed drivers who disregard traffic barriers; and especially in the evenings,



drunk and rowdy drivers who are likely to cause more traffic accidents and are less apt to follow directions.

Driving behavior deteriorates in the panic caused by an emergency situation. The Hampton Chief of Police has observed that "people can become very emotional during an evacuation, compounding the problem of moving them out." (Testimony of Chief Robert Mark, July 15, 1983, Atomic Safety and Licensing Board hearings) During one evacuation, a person from outside the evacuation zone tried to break through a road barrier in order to rescue his mother after being turned away several times by police. Id.

The problem of poor driver behavior will be particularly serious at Seabrook since many of the drivers are likely to be from the Boston area, which is notorious for such poor and selfish driving habits. The presence of only a few such drivers would seriously hamper an evacuation by disrupting traffic controls and increasing the likelihood of automobile accidents.

g. The New Hampshire ETES are inaccurate and overly optimistic in that they assume that major traffic control points will be manned.

Basis: The New Hampshire ETES do not account for failure of emergency response personnel to occupy traffic control positions, or delays in arriving at traffic control positions. According to the Voorhees Report, local officials believe that

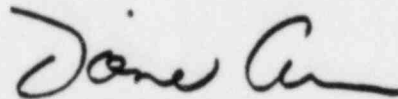
some, if not all, police and fire officers will evacuate their families rather than report to their posts. (at 10)

Because many police and fire officers work part time and/or live outside the EPS, it may be impossible to contact them about an emergency; and if they are contacted, it may take some time before they can reach their positions. In Kensington, for example, the Chief of Police works part time and lives two towns away, a fifteen minute drive under normal conditions. More important, he is a full time police officer--one of only three sworn officers--for the town of Stratham, and may have to serve in Stratham when an accident happens. In South Hampton, the Chief of Police lives in East Kingston and works a full shift in Plaistow, which is 1/2 hour away. Of the remaining officers, one is a selectman who will have other duties in an emergency, the others work in locations from fifteen minutes away to as far as Boston, more than an hour. And Boston is too far away for contact by use of a tone pager. In Hampton, 16 out of 36 permanent fire department employees and 5 out of 20 on-call fire department employees live outside of Hampton. A number of these employees have told the Fire Chief that they would be reluctant to return to Hampton during a radiological emergency. For those who did return, the time necessary to return to Hampton could significantly delay the emergency response.

The lapse of time between the start of an evacuation and the occupation of traffic control positions could also be

exacerbated by an early evacuation. If the public is notified of an emergency at the plant--either through radio announcements, or monitoring of police radios--it is likely to begin evacuation before an evacuation is actually ordered. The clogging of the roadways during a premature evacuation would also hamper the ability of emergency response personnel to reach traffic control positions.

Respectfully submitted,



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October 13, 1983



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