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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

(Offsite Emergency
Planning Issues)

**LICENSEES' MOTION FOR SUMMARY DISPOSITION
WITH RESPECT TO THE "ALS PATIENTS ISSUE"**

Pursuant to 10 C.F.R. § 2.749, on the basis of the affidavits of Anthony M. Callendrello, Kevin J. Callahan, Dr. Donavon Albertson, and John Bonds, filed herewith, and for the reasons set forth below, the Licensees move that the Licensing Board summarily dispose of the so-called "ALS patients issue" and find that the time for preparing ALS patients for transport has been adequately considered as a part of the planning basis for the ETES at Seabrook Station.

Reasons for Granting the Motion

In Public Service Company of New Hampshire (Seabrook Station, Units 1 and 2), ALAB-924, 30 NRC 331 (1989), the Appeal Board questioned whether the time necessary to prepare advanced

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life support (ALS) patients for transportation had been adequately taken into account in the planning basis for evacuation time estimates (ETEs) contained in the New Hampshire Radiological Emergency Response Plan (NHRERP). ALAB-924 at 351. In Public Service Company of New Hampshire (Seabrook Station, Units 1 and 2), LBP-90-12, 31 NRC ____ (May 3, 1990), this Licensing Board further addressed this matter and articulated the precise subissues to be resolved with respect to the matter as follows:

- (1) How long does it take to efficiently prepare an ALS patient for transportation?
- (2) Would preparation of patients at an early initiating condition, e.g., declaration of an alert, or at an order to evacuate, be medically appropriate?
- (3) How many ALS patients are there in the EPZ? Where are the ALS patients? Only at Exeter and Portsmouth Hospitals?
- (4) Would uncertainties in the times available to prepare ALS patients for evacuation produce ETEs that are too inaccurate to be useful in the selection of protective action options?¹

The affidavits filed herewith address each of these specific questions as well as the overall question as to whether the loading times have been adequately considered in the ETE planning basis for the NHRERP.

Beginning with the third of the specific questions listed above, the affidavits establish that an appropriate basis for analysis would assume that at the time of an emergency there would be present in the EPZ a total of 35 ALS patients (22 at

¹LBP-90-12, slip op. at 23.

Exeter Hospital² and 13 at Portsmouth Regional Hospital³), and this would occur during the day on week days.⁴

Turning next to the first specific question, that of preparation times, the affidavits reveal the following. At Exeter Hospital the average preparation time for an ALS patient is 115 minutes, 70 minutes of which can be accomplished prior to ambulance arrival, leaving a final preparation and loading time of 45 minutes.⁵ In the case of Portsmouth Regional Hospital, the average preparation time for an ALS patient is 45 minutes, 10 minutes of which can be accomplished prior to ambulance arrival, leaving a final preparation and loading time of 35 minutes.⁶

As to the second specific question, i.e., the possible commencement of patient preparation at an earlier time, the affidavits reveal the following. The Portsmouth Regional Hospital will use existing internal operational procedures and protocols to ensure 24-hour staffing for emergency conditions.⁷ Exeter Hospital commences calling in staff for an emergency at

²Callahan Affidavit ¶ 4.

³Albertson Affidavit ¶ 4.

⁴This is so because elective surgery is generally not performed on weekends or off hours and therefore the maximum ALS patient count logically will occur on week days. Callahan Affidavit ¶ 4; Albertson Affidavit ¶ 4.

⁵Callahan Affidavit ¶¶ 6-8.

⁶Albertson Affidavit ¶¶ 6-8.

⁷Albertson Affidavit ¶ 14.

Seabrook at the Site Area Emergency Classification.⁸ And the two hospital plans now provide for initiation of assembly of patients as medically appropriate upon receipt of the recommendation to evacuate which will maximize the number of patients available for evacuation upon arrival of the first ambulances.⁹

As to the fourth specific question, i.e., whether the inherent uncertainties as to ALS patient evacuation times at any given point in time make ETEs for such patients of no use in the planning process, the affidavits reveal that that is the case. The emergency plans of both of the hospitals provide for the decision on ALS patient protective actions (e. g., evacuation) to be made by the medical staff on a case-by-case basis and without reference to the ETE for that individual,¹⁰ and this fact combined with the limited number of ALS patients make the ETE for these persons an imprudent base from which to formulate protective action recommendations (PARs) for the individual ALS patient or the entire hospital.¹¹

Prescinding from the specific questions articulated by this Board in LBP-90-12, the affidavits also reveal the following: First, even if one assumes that the ETEs for these individuals are significantly longer than the relevant ETEs for the general

⁸Callahan Affidavit ¶ 11.

⁹Bonds Affidavit ¶ 5.

¹⁰Bonds Affidavit ¶ 7; Callendrello Affidavit ¶ 9.

¹¹Bonds Affidavit ¶ 8; see also Callendrello Affidavit ¶¶ 9, 27-28.

population, which they are not, this would not affect PAR formulation. This is so because, if the condition of a patient prevents him or her from being loaded into an ambulance soon enough to join the evacuating stream of the general population, it will be because he or she cannot be moved from his or her bed soon enough to do so. This means they will be sheltered in their rooms by default, in excellent shelter¹² which is the only alternative in any event and the alternative which would maximize possible dose savings given the facts.¹³

Second, the affidavits make clear that the evacuation times for the ALS patients are essentially within the envelope of the shortest midweek daytime ETE for the general population of the ERPAs involved. And in no case are they sufficiently long to affect PAR decision making. Turning first to the Exeter Hospital: It is located in ERPA F, the shortest midweek ETE for which is 4:40.¹⁴ The last ambulance is estimated to arrive at its assigned special facility 2:13 after the order to evacuate.¹⁵ It is also estimated that the last ambulance to evacuate an ALS patient will take 15 minutes to proceed (keeping in mind that this will be late in the evacuation) from the special facility to

¹²Callendrello Affidavit ¶ 11.

¹³Id. The Commonwealth has suggested that if that is the case there should be a plan to take people to the basement. See Tr. 28,428-29. This ignores the fact that the reason that the patient cannot be evacuated is because he or she cannot or should not be moved from his or her room at all.

¹⁴Callendrello Affidavit ¶¶ 16-17.

¹⁵Callendrello Affidavit ¶¶ 18-20.

the EPZ boundary.¹⁶ This means that so long as all ALS patients at Exeter hospital can undergo final preparation and be loaded in 2:12 or less,¹⁷ the time to evacuate these patients will not exceed the ETE for the general population.¹⁸ Exeter Hospital is capable of loading five ambulances simultaneously.¹⁹ This means a total of ten patients at two per ambulance.²⁰ This means a theoretical time of 2:15 to load all patients.²¹ This exceeds the 2:12 limit, but the three minutes will be easily erased because the loading of patients will begin before the last ambulance arrives at 2:13, and thus three full loading periods will not be necessary.²²

As to the Portsmouth Regional Hospital: It is located in ERPA G, the shortest midweek daytime ETE for which is 5:35.²³ Patient preparation time before loading totals two to three hours.²⁴ Applying the times for last ambulance arrival and travel time as was done with the Exeter Hospital above, this

¹⁶Callendrello Affidavit ¶ 21.

¹⁷4:40 - 2:13 - 0:15 = 2:12; Callendrello Affidavit ¶ 21.

¹⁸Callendrello Affidavit ¶ 22.

¹⁹Callahan Affidavit ¶ 9.

²⁰Callahan affidavit ¶¶ 9-10.

²¹22 ÷ 10 = 2.2 loadings = 3 loading time periods x 45 minutes = 2:15. See Callendrello Affidavit ¶ 23.

²²Callendrello Affidavit ¶ 23.

²³Callendrello Affidavit ¶¶ 16-17.

²⁴Albertson Affidavit ¶ 10.

means that so long as the ALS patients from the Portsmouth Regional Hospital can undergo final preparation and loading in 3:07 or less,²⁵ the time to evacuate these patients will not exceed the ETE for the general population.²⁶ Portsmouth Regional Hospital is capable of loading three ambulances simultaneously.²⁷ This means a total of three patients at one per ambulance,²⁸ for a calculated loading time of 2:55.²⁹ Given the parallel preparation and loading of ALS patients and the range of ALS patient preparation times for Portsmouth Regional Hospital (2:00 to 3:00), the range of times for patient preparation remaining to be performed after the arrival of the last ambulance is 0 to 47 minutes.³⁰ Thus the range of times for loading the five required waves is 2:55 (assuming all preparation done before the last ambulance is assumed to arrive (2:13)) to 3:42 (assuming the preparation time was 3:00).³¹ This means that even assuming Portsmouth Regional Hospital did not start initial ALS patient preparation until the actual order to evacuate, and assuming they did not perform any loading prior to the time the last ambulance

²⁵ 5:35 - 2:13 - 0:15 = 3:07; Callendrello Affidavit ¶ 21.

²⁶ Callendrello Affidavit ¶ 22.

²⁷ Albertson Affidavit ¶¶ 9, 11.

²⁸ Albertson Affidavit ¶¶ 9, 13.

²⁹ $13 \div 3 = 4.33$ loadings = 5 loading periods x 35 minutes = 175 minutes or 2:55. See Callendrello Affidavit ¶ 24.


³⁰ Callendrello Affidavit ¶ 24.

³¹ Callendrello Affidavit ¶ 24.

arrives at the facility, and assuming that the maximum 3:00 time was needed for patient preparation time, the final patient preparation and loading time would exceed the midweek daytime ETE for the ERPA by 35 minutes.³² Even assuming, in theory, that such a disparity were to occur, the 35 minute period is not enough to affect any choice of PAR.³³

In addition, it should be realized that the above-described calculations are conservative in nature.³⁴ Thus, it is clear that the ETE for ALS patients will be essentially within the envelope of the ETE of general populations and need not be separately considered for planning purposes.

Respectfully submitted,



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³²Callendrello Affidavit ¶ 24.

³³Tr. 26,933-34; Callendrello Affidavit ¶ 6.

³⁴Callendrello Affidavit ¶ 26.

**STATEMENT OF MATERIAL FACTS AS
TO WHICH NO MATERIAL ISSUE
REMAINS TO BE HEARD**

1. A prudent planning basis for the ALS patient census at the time of an emergency would be a total of 35 ALS patients in the entire EPZ (22 at Exeter Hospital and 13 at Portsmouth Regional Hospital).

2. This number of 35 would occur during the day on week days.

3. At Exeter Hospital the average preparation time for an ALS patient is 115 minutes, 70 minutes of which can be accomplished prior to ambulance arrival, leaving a final preparation and loading time of 45 minutes.

4. In the case of Portsmouth Regional Hospital, the average preparation time for an ALS patient is 45 minutes, 10 minutes of which can be accomplished prior to ambulance arrival, leaving a final preparation and loading time of 35 minutes.

5. In accordance with its emergency management plan, Portsmouth Regional Hospital will use internal operational procedures and protocols to ensure 24-hour staffing for emergency conditions.

6. Exeter Hospital commences calling in staff for an emergency at Seabrook at the Site Area Emergency Classification.

7. The hospital emergency plans for both Exeter and Portsmouth Regional Hospitals provide for initiation of assembly of patients, as medically appropriate, upon receipt of the recommendation to evacuate which will maximize the number of

patients available for evacuation upon arrival of the first ambulances.

8. The emergency plans of both of the hospitals provide for the decision on ALS patients protective actions (e.g., evacuation) to be made by the medical staff on a case-by-case basis and without reference to the ETE for that individual.

9. In the event an ALS patient is not evacuated or is delayed in evacuation, the only other protective action for such a patient is sheltering.

10. Exeter Hospital is located in ERPA F, the shortest midweek daytime ETE for which is 4:40.

11. Exeter Hospital is capable of loading five ambulances simultaneously. Patients will be loaded two per ambulance.

12. The Portsmouth Regional Hospital is located in ERPA G, the shortest midweek daytime ETE for which is 5:35.

13. Portsmouth Regional Hospital is capable of loading three ambulances simultaneously. Patients will be loaded one per ambulance.

14. The last ambulance is estimated in the ETE Study to arrive at its assigned special facility 2:13 after the order to evacuate.

15. Towards the end of the evacuation time frame, the last ambulance to evacuate an ALS patient will take 15 minutes or less to proceed from the special facility to the EPZ boundary.

16. The loading of patients will begin before the last ambulance arrives at Exeter Hospital.

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CERTIFICATE OF SERVICE

I, Thomas G. Dignan, Jr., one of the attorneys for the Licensees herein, hereby certify that on June 26, 1990, I made service of the within document 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):

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