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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judges:

Ivan W. Smith, Chairman
Dr. Richard F. Cole
Dr. Kenneth A. McCollom

SERVED MAY 8 1989

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
(ASLBP No. 82-471-02-OL)
(Offsite Emergency
Planning)

May 5, 1989

MEMORANDUM AND ORDER
(Returning Commuters Issue)

In the Partial Initial Decision on the New Hampshire Radiological Emergency Response Plan, LBP-88-32, 28 NRC 667, (December 31, 1988), the Board, seeking further advice from the parties, retained jurisdiction over those aspects of the Evacuation Time Estimates pertaining to whether the estimates properly accounted for "trips by returning commuters within the EPZ to their homes in the EPZ. . . ." Id. at 804. The matter of concern to the Board was rather narrow, and had been raised by similarly narrow proposed findings of the Massachusetts Attorney General.

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First we rejected as a matter of concern the effect upon the ETEs of the travel-home time of returning commuters. Id. at 786, Findings 9.47, 9.48. Then we declined to accept Intervenors' proposed findings respecting the "frictional" effects of commuter trips home against the flow of evacuating traffic. Id. and at 787. We acknowledged, but assigned no particular importance to the Attorney General's proposed findings concerning commuters returning home across the flow of evacuating traffic. Finally, as a direct consequence of the Attorney General's respective proposed findings, the Board focused on the effect of commuters returning home from points toward the center of the EPZ to points farther out in the EPZ traveling in the direction of the evacuating traffic. Id., Finding 9.52.

Even more particularly, the Board was moved by the concern expressed by the Attorney General and his expert, Dr. Adler, that many EPZ residents work at many places of employment along Route 1 in the Hampton/Seabrook area who travel home to EPZ towns in the north, and would have to traverse the critical intersection at I-95/Route 51. MAG PF 6.1.78. See 26 NRC at 787-88, Finding 9.53. Our special concern, of course, was the effect upon the ETEs for persons at the beach and areas close to the Seabrook Station. Id. In that context, the Board faulted the Attorney General for

simultaneously postulating a large number of returning commuters on weekdays and a swollen weekend beach population. We also explained that the Attorney General, through Dr. Adler, was double-counting commuters starting home from the beaches, because, as we found, they had already been counted as a part of the beach population. Id. at 789, Finding 9.58.

In response to the Board's invitation, the Applicants submitted arguments based upon the affidavit of its expert, Mr. Lieberman of KLD Associates.¹ The Massachusetts Attorney General countered with its response founded on the affidavit of its expert, Dr. Adler.²

Mr. Lieberman focused sharply on the Board's special concerns, a summer weekend scenario for beach traffic. But, apparently for conservatism, he postulated a summer mid-week commuter traffic pattern. He studied commuters whose trips originate near the beaches, but who were not counted as a part of the beach population. He identified the limited number of evacuation paths for the beach traffic to points at the EPZ boundary. In particular he analyzed commuters whose trips to home originated in the beach-area towns (but

¹ Applicants' Memorandum Regarding Interaction of Commuter Traffic Flow and Evacuation Traffic Flow Within The Seabrook EPZ, January 25, 1989.

² Massachusetts Attorney General's Response On The Issue of Returning Commuters and Their Impact On Evacuation Time Estimates.

not the beaches) of Hampton, Salisbury, and Seabrook. Lieberman Affidavit, passim.

In Hampton and Salisbury, according to Mr. Lieberman, the largest portion of commuters will return home by local streets to homes nearby. Another large portion of commuters in each town reside outside the EPZ and have already been included in the estimate of evacuees. A rather small portion will travel to homes in other towns within the EPZ, and of this small portion, only some will pass through the critical evacuation paths to their homes. Affidavit at 6-9. Mr. Lieberman estimates only 51 commuter vehicles from Hampton would pass west through the Route 51/I-95 interchange with no material influence on the ETE -- 2.5 minutes. Id. at 7. Even if all of the west-bound commuters from Hampton (154) were to irrationally pass through that intersection, the ETEs would still not be materially increased if Mr. Lieberman's analysis is valid.

Applying the same rationale to the Town of Salisbury, and adding cross-traffic to the mix, Mr. Lieberman estimates a 9.5 percent capacity reduction through the critical intersections at Salisbury Center over the first two hours. This is equivalent to a 2.7 percent reduction over a 7-hour ETE. This, according to Mr. Lieberman, is well within the 15 percent reductions used in IDYNEV over the entire

evacuation time frame to account for congested traffic.
Affidavit at 9.

With respect to the Town of Seabrook, Mr. Lieberman noted that, with the Seabrook plant construction now complete, commuter traffic will be greatly reduced relative to the data in the record from 1985, and in any event, commuters from Seabrook will follow a route to I-95 (Route 107) which will produce no significant interaction with beach area traffic.

Mr. Lieberman refers to the fact that while the ETES make the standard assumption that two lane roads are rolling terrain, in fact the roads east of I-95 are level with somewhat greater capacities. This he states is a "conservative posture." Affidavit at 11. While the Board has previously been critical of the notion that conservatism in ETES lies in the direction of over-estimating rather than accuracy, in this case, Mr. Lieberman seems to employ the concept in the sense that such a "conservatism" can compensate for uncertainties in the other direction.

Over all, Mr. Lieberman concludes that, within the narrow area of the Board's concerns, it is unnecessary to apply the IDYNEV model to represent commuter trips, and even were the model applied, there would be no "meaningful effect" on the ETES. Affidavit at 15.

The Massachusetts Attorney General counters with the affidavit of Dr. Adler who finds fault with "all of the arguments" made by Dr. Lieberman in his affidavit. MAG Response at 2. Before we proceed with an analysis of the current position of the Attorney General on the returning-commuter issue, we return briefly to his respective proposed finding and the Board's reaction to them. In Proposed Finding 6.1.77, and in Proposed Finding 6.1.78, the Attorney General pressed upon the Board the special concern that returning commuters will have a serious impact upon the evacuation of the summer weekend beach population. Almost as an after-thought the Attorney General tagged onto the end of Proposed Finding 6.1.77 the citation from Dr. Adler that there are likely to be tens of thousands of returning commuters on weekdays and that the potential effects on ETES for "some Regions" are substantial. Id. Nowhere else does the Attorney General, or Dr. Adler in any testimony cited to us, provide the details of their broader concern for weekday commuters and other Regions of the EPZ; the focus has been consistently on the peak traffic from the beaches on summer weekends.

Now, however, according to Dr. Adler, we should be looking at peak, mid-week commuter traffic in six non-summer scenarios and in nine sub-regions of the EPZ -- for example, Portsmouth, New Hampshire in the wintertime. Moreover, Dr.

Adler asserts that we need to look at commuters returning from beyond the EPZ, even though we retained jurisdiction over only the narrow problem of commuters starting within the EPZ for homes also within the EPZ. The Attorney General's response to the Board's concern over returning commuters has not been disciplined, and to our disappointment, not as helpful as it might have been. His effort to broaden the issue to other season and weather scenarios throughout the entire EPZ is essentially an effort to reopen the evidentiary record and to file new proposed findings without any effort to demonstrate good cause for that course of action.

Nevertheless, an important part of Dr. Adler's affidavit is aimed directly at the narrow area over which we retained jurisdiction. Dr. Adler makes a town-by-town, street-by-street, and intersection-by-intersection criticism of Mr. Lieberman's analysis of the beach evacuation routes. He challenges virtually every factual assumption made by Mr. Lieberman, including assumptions on the numbers of commuters, their distribution and their predicted movements around congested evacuation pathways. Dr. Adler challenges Mr. Lieberman's assertion that the effect of returning commuters will be absorbed by the 15 percent capacity reduction factors used in IDYNEV to approximate the effects of congested flow. Adler Affidavit at 3-6.

In short, while Mr. Lieberman presented a reasoned and fully explained analysis of the effect of returning commuters following the evacuation direction in the towns near Seabrook Station. Dr. Adler has countered in kind. The Board has a factual dispute before it and further advice from the parties is needed in several areas:

1. Limiting the consideration to the effect of commuters whose trips originate within the EPZ and terminate at home (before evacuating) within the EPZ upon evacuation of the summertime beach population, interested parties should submit proposals for resolving the factual dispute raised by the Lieberman and Adler affidavits.
2. Dr. Adler again states that he has the procedure and data to model the effect of returning commuters, albeit in areas beyond the narrow area of concern to the board. Adler Affidavit at 10. Dr. Adler previously testified (Tr. 9538) that he has data that can be used to better account for returning commuters. See LBP-88-32, 28 NRC, supra, at 789. Can the parties agree to the validity of the data and procedures suggested by Dr. Adler, or agree upon other inputs to the IDYNEV model?
3. Given, that Mr. Lieberman and Applicants believe that further IDYNEV runs with returning-commuter

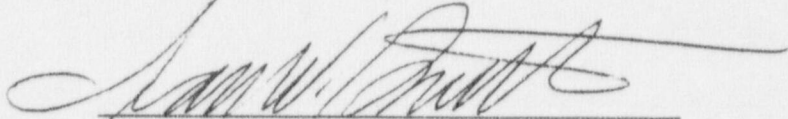
trips would not materially change the ETEs, is there not some advantage in demonstrating this fact by IDYNEV modeling?

4. The Board previously expressed the opinion that further refinement of the ETE's with respect to returning commuters would not likely affect the choice of protective actions of evacuation versus sheltering, but that the State of New Hampshire decisionmakers are nevertheless entitled to the most accurate ETEs reasonably achievable. 28 NRC at 789. After considering the Lieberman and Adler affidavits, what does the State of New Hampshire believe about the ETEs? Does it believe that more modeling can produce better or more useful information? Does it believe that the debate between Lieberman and Adler provides all that the State can use. Now is the time for the New Hampshire emergency officials to make their views known.
5. The NRC Staff originally supported Applicants in their proposed finding that returning commuters are accounted for in that their trips from home are accounted for. Now the Applicants acknowledge that the commuter trips to home were not modeled. The Board wants advice and any appropriate

recommendations from the Staff on the matter at hand.

The Board will consider a schedule and order for submitting reports on this issue at the opening of the evidentiary session in Boston, Massachusetts, on May 15, 1989. The Board requests that the State of New Hampshire be represented at that session.

FOR THE ATOMIC SAFETY AND
LICENSING BOARD

A handwritten signature in cursive script, appearing to read 'Ivan W. Smith', written over a horizontal line.

Ivan W. Smith, Chairman
ADMINISTRATIVE LAW JUDGE

Bethesda, Maryland

May 5, 1989.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of

PUBLIC SERVICE COMPANY OF NEW
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(Seabrook Station, Units 1 and 2)

Docket No.(s) 50-443/444-DL

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing LB M&O (RETURNING COMMUTERS..) have been served upon the following persons by U.S. mail, first class, except as otherwise noted and in accordance with the requirements of 10 CFR Sec. 2.712.

Administrative Judge
Alan S. Rosenthal, Chairman
Atomic Safety and Licensing Appeal
Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Administrative Judge
Howard A. Wilber
Atomic Safety and Licensing Appeal
Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Administrative Judge
Richard F. Cole
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Robert R. Pierce, Esquire
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Edwin J. Reis, Esq.
Office of the General Counsel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Administrative Judge
Thomas S. Moore
Atomic Safety and Licensing Appeal
Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Administrative Law Judge
Ivan W. Smith, Chairman
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Administrative Judge
Kenneth A. McCollom
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Administrative Judge
James H. Carpenter
Alternate Technical Member
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Lisa B. Clark
Attorney
Office of the General Counsel
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Docket No. (s) 50-443/444-DL
LB M&D (RETURNING COMMUTERS..)

Diane Curran, Esq.
Harmon, Curran & Tousley
2001 S Street, N.W., Suite 430
Washington, DC 20009

Thomas G. Dianan, Jr., Esq.
Ropes & Gray
One International Place
Boston, MA 02110

Robert A. Backus, Esq.
Backus, Meyer & Solomon
116 Lowell Street
Manchester, NH 03106

Paul McEachern, Esq.
Shaines & McEachern
25 Maplewood Avenue, P.O. Box 360
Portsmouth, NH 03801

Gary W. Holmes, Esq.
Holmes & Ellis
47 Winnacunnet Road
Hampton, NH 03842

Judith H. Mizner
Silverplate, Gernter, Baker, Fine,
Good and Mitzner
88 Broad Street
Boston, MA 02110

Charles P. Graham, Esq.
McKay, Murphy and Graham
100 Main Street
Amesbury, MA 01913

Jane Doherty
Seacoast Anti-Pollution League
5 Market Street
Portsmouth, NH 03801

Ashod N. Amirian, Esq.
376 Main Street
Haverhill, MA 01830

Leonard Kopelman, Esq.
Kopelman and Paige, P.C.
77 Franklin Street
Boston, MA 02110

George W. Watson, Esq.
Federal Emergency Management Agency
500 C Street, S.W.
Washington, DC 20472

Edward A. Thomas
Federal Emergency Management Agency
442 J.W. McCormack (PDCH)
Boston, MA 02109

George D. Bisbee, Esq.
Assistant Attorney General
Office of the Attorney General
25 Capitol Street
Concord, NH 03301

Suzanne Breiseth
Board of Selectmen
Town of Hampton Falls
Drinkwater Road
Hampton Falls, NH 03844

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LB M&O (RETURNING COMMUTERS..)

John Traficante, Esq.
Chief, Nuclear Safety Unit
Office of the Attorney General
One Ashburton Place, 19th Floor
Boston, MA 02108

Peter J. Brann, Esq.
Assistant Attorney General
Office of the Attorney General
State House Station, #6
Augusta, ME 04333

The Honorable
Edward J. Markey, Chairman
ATTN: Linda Correia
Subcommittee on Energy Conservation and
Power
House Committee on Energy and Commerce
Washington, DC 20515

Richard A. Hampe, Esq.
Hampe & McNicholas
35 Pleasant Street
Concord, NH 03301

J. P. Nadeau
Board of Selectmen
10 Central Street
Rye, NH 03870

Allen Lampert
Civil Defense Director
Town of Brentwood
20 Franklin Street
Exeter, NH 03833

William Armstrong
Civil Defense Director
Town of Exeter
10 Front Street
Exeter, NH 03833

Sandra Gavutis, Chairman
Board of Selectmen
RFD #1 Box 1154
Kensington, NH 03827

Calvin A. Canney
City Manager
City Hall
126 Daniel Street
Portsmouth, NH 03801

Anne Goodman, Chairman
Board of Selectmen
13-15 Newmarket Road
Durham, NH 03824

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

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

Michael Santosuosso, Chairman
Board of Selectmen
South Hampton, NH 03827

R. Scott Hill-Whilton, Esquire
Lagoulis, Hill-Whilton & McGuire
79 State Street
Newburyport, MA 01950

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LB M&D (RETURNING COMMUTERS..)


Stanley W. Knowles, Chairman
Board of Selectmen
P.O. Box 710
North Hampton, NH 03862

Sandra F. Mitchell
Civil Defense Director
Town of Kensington
Box 10, RR1
East Kingston, NH 03827

Norman C. Katner
Superintendent of Schools
School Administrative Unit No. 21
Alumni Drive
Hampton, NH 03842

The Honorable
Gordon J. Humphrey
ATTN: Janet Coit
United States Senate
Washington, DC 20510

Dated at Rockville, Md. this
8 day of May 1989



Office of the Secretary of the Commission