



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
ENVIRONMENTAL RESEARCH LABORATORIES
Rockville, Maryland 20852 R32

50-443

April 22, 1982

Mr. Irwin Spickler
Div. of Site Safety and
Environmental Analyses
Office of Nuclear Reactor Regulation
Nuclear Regulatory Commission
Washington, DC 20555



Dear Mr. Spickler:

In partial response to Task Order No. 1 of Interagency Agreement No. NRC-03-81-099, enclosed please find my evaluation and comments on the following:

Seabrook Nuclear Station Units 1 and 2
Public Service Company of New Hampshire
Final Safety Analysis Report
Section 2.3.5
Long-Term (Routine) Diffusion Estimates:
Objective and Calculations

At your convenience I will be pleased to discuss this evaluation with you and your staff.

Sincerely,

Isaac Van der Hoven

Isaac Van der Hoven
Air Resources Laboratories

Enclosure

cc: E.H. Markee, ONRR/NRC

Add: Irwin Spickler

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B.I.I.*

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Comments on

Seabrook Nuclear Station Units 1 and 2
Public Service Company of New Hampshire
Final Safety Analysis Report
Section 2.3.5
Long-Term (Routine) Diffusion Estimates
Objective and Calculations

Prepared by

Isaac Van der Hoven
Air Resources Laboratories
National Oceanic and Atmospheric Administration

April 21, 1982

It should be noted that the section being reviewed pertains to the estimation of downwind doses from routine reactor emissions to the atmosphere throughout the year. Thus the use of sector-averaged diffusion models, such as Equation 10, are appropriate. When a choice was available, the report has tended towards the conservative (high concentration values) approach. Examples are: 1) using the plume rise model giving the smallest plume rise; 2) assuming that no unlimited mixing takes place and that the annual average daytime and nighttime mixing depth prevails during these two parts of the day; and 3) assuming that diffusion in the unmodified marine air is always Type F.

The solar radiation criteria for the development of a TIBL is not supported by any reference. Is solar radiation actually measured at the site? Will inland cloudiness hinder the development of a TIBL?

The TIBL height model (Eq. 35) has little verification by measurement. The same holds true for the Brookhaven TIBL model (NUREG/CR-0936).



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
ENVIRONMENTAL RESEARCH LABORATORIES
AIR RESOURCES LABORATORIES

April 15, 1982

A N N O U N C E M E N T

This is to inform you that effective April 19, 1982,
the Air Resources Laboratories of NOAA will be located
at the following address:

National Oceanic and Atmospheric
Administration
Air Resources Laboratories, 8th Floor
6010 Executive Boulevard
Rockville, MD 20852

Telephone Nos: 443-8276
443-8811



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