

January 31, 1991

Docket No. 50-443

Mr. Ted C. Feigenbaum
President and Chief Executive Officer
New Hampshire Yankee Division
Public Service Company of New Hampshire
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Dear Mr. Feigenbaum:

SUBJECT: SEABROOK OFFSITE DOSE CALCULATION MANUAL (TAC NO. 77672)

In a letter dated October 26, 1990, you provided a revised Seabrook Offsite Dose Calculation Manual (ODCM) for NRC review. The purpose of this letter is to notify you that the ODCM may be used on an interim basis; however, permanent use should await approval by the NRC staff of the written documentation cited below.

The ODCM, in general, contains methodology that should give conservative (Method I) or realistic (Method II) values of doses and dose rates due to routine releases of gaseous and liquid effluents from the Seabrook site. However, you are requested to provide written documentation by April 1, 1991 of any deviations in methodology, assumptions and input parameters from Regulatory Guide 1.109 in using Method II. In addition, you are requested to provide and justify the bases used in determining the occupancy factors for the "Rocks" and Education Center, in not monitoring airborne activity near the point of highest calculated long term site boundary D/Q from primary vent releases and in using a lower mixing ratio than that recommended in NUREG-0133. Equations that contain the term EL(R) should also be modified to show that there is actually a summation over two values of EL(R). These comments are addressed more fully as items 1 through 5 in Section A of the enclosure and were discussed during a December 26, 1990 telecon with your staff. The additional comments in the enclosure are offered for consideration as improvements to a future revision of the Seabrook ODCM.

Sincerely,

Original signed by
Gordon E. Edison, Senior Project Manager
Project Directorate I-3
Division of Reactor Projects - 1/11
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure: See next page

LA: PDI-3
MRushbrook:dr
1/31/91

PM: PDI-3
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[SEABROOK TAC 77672]

QFol
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Mr. Ted C. Feigenbaum

Seabrook

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Seabrook

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COMMENTS ON SEABROOK ODCM

DATED OCTOBER 26, 1990

A. The licensee should respond to the following items by April 1, 1991:

1. When Method II is used to calculate dose rates, a statement should accompany the reported doses which 1) states that Regulatory Guide 1.109 has been followed or 2) explicitly describes any deviations in methodology, assumptions and input parameters from Regulatory Guide 1.109 and the bases for the deviations.
2. The bases used in determining the occupancy factors of 67 hours/year for the "Rocks" and 12.5 hours/year for the Education Center should be provided and justified.
3. Justification should be provided for displacing the nearest monitor for airborne activity sampling approximately 90° from the direction in which the highest primary vent stack long term annual average site boundary D/Q (Table B.7-4) is calculated.
4. The bases for the use of a mixing ratio of 0.10 for Method I and 0.025 for use with Method II for the dose due to liquid effluents should be justified, since Section 4.3 of NUREG-0133 recommends a value of 1.0.
5. Equations that contain the term $EL(R)$ (e.g., in Sections 3.4, 3.5, 3.6, 7.2.1, 7.2.2 and 7.2.3) should be modified to show that there is actually a sum over $EL(R)=1.0$ and $EL(R)=$ "value from Table B.1-15."

B. The following items are offered for consideration as improvements to a future revision of the Seabrook ODCM:

1. Section 5.1.2 should contain a statement indicating how it is to be determined that the Turbine Building Sump activity is not greater than 10% of MPC.
2. The methodology to determine the setpoint of the Primary Component Cooling Water System monitor should be added to Section 5.1.
3. A fraction, f_4 , should be added to Section 5.1 to account for the activity released past the Primary Component Cooling Water System monitor.

4. In Section 5.1, the " \leq " in Equation 8-3 should be changed to " $=$ ".
5. The methodology to determine the setpoints for the radioactivity monitors on a) the Gaseous Waste Processing System and b) the Turbine Gland Seal Condenser Exhaust should be added to the ODCM.
6. A summation over all sources of radioactive material in liquid effluents should be added to Equation 2-1.
7. Equation 2-1 should include the contribution to the offsite concentration due to releases from the Primary Component Cooling Water Systems.
8. It is acceptable to follow the recommendation of Basis Statement 3/4.11.2.1 (in NUREG-0472 and the Seabrook ODCM) and base compliance with the organ dose rate limit of Technical Specification 3.11.2.1 on the thyroid dose to a child via the inhalation pathway.
9. The ground plane dose calculation for Mn-54 and Co-60 should be checked.
10. The first part of the definition EL(R) following Eq. 3-3 should apparently read "vent stack Elevation Release Point (R) to ground level."
11. The last sentence in the first paragraph of Section 7.2.3 should be deleted, since it is out of place.
12. The source, release pathway and the radioactivity monitor for the Primary Component Cooling Water System should be added to Figure B.6.1.
13. The Turbine Gland Seal Condenser Exhaust Monitor should be shown in Figure B.6-2.
14. Attention should be given to including legible figures of sampling locations in Section 4.0.
15. The Interlaboratory Comparison Program should be identified in the ODCM.
16. The calculation methodology for deriving EL(R) should be documented or referenced in Table B.1-15.