Docket No. 50-289
50-320

FEB 15 1972

ENVIRON

Mr. John G. Miller
Vice President
P.O. Box 542
Reading, Pennsylvania 18101

Dear Mr. Miller:

In connection with the preparation of our Environmental Statement for Three Mile Island 1 & 2, we have established a program for estimating the type and quantities of nuclides to be released annually from this facility. Personnel from the Oak Ridge National Laboratory are assisting us in this part of the environmental review. For this program we need basic data for a source term calculation and for a gaseous and liquid effluent analysis that specifically relate to Three Mile Island. Much of this information may already be in your application or Environmental Report, but to expedite the review we require a tabulation of this information as indicated in the enclosed list. Any data that is inconsistent with information in your SAR or Environmental Report should be identified. Separate answers should be submitted for (1) the facility as presently designed, and (2) any projected design changes.

This information should be provided by February 18, 1972. If it is impossible to meet this schedule, please let us know. When we have this information for Three Mile Island and other facilities we may need to meet with you and representatives of other utilities at Oak Ridge to discuss the use of this information in our environmental analysis.

Sincerely,

Original Signed By
R. C. DeYoung
R. C. DeYoung, Assistant Director
for Pressurized Water Reactors
Division of Reactor Licensing

Enclosure:
List of Questions

cc: See page 2

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OFFICE ▶						
SURNAME ▶						LB
DATE ▶						

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DATE ▶	2/14/72	2/ /72	2/14/72	2/14/72	2/14/72

Signed by Dr Jones

PRESSURIZED WATER REACTORS

Basic Data for Source Term Calculation

1. Operating power (Mwt) at which impact is to be analyzed.
2. Weight of U loaded (first loading and equilibrium cycle).
3. Isotopic ratio in fresh fuel (first loading and equilibrium cycle).
4. Design basis percentage of leaking fuel.
5. Escape rate coefficients used (or reference).
6. Plant factor.
7. Number of steam generators.
8. Type of steam generators (recirculating, straight through).
9. Mass of primary coolant in system total (lb) and mass of primary coolant in reactor (lb).
10. Primary coolant flow rate (lb/hr.).
11. Mass of steam and mass of liquid in each generator (lb).
12. Total mass of secondary coolant (lb).
13. Generator operating conditions (temperature and pressure).
14. Total steam flow rate in the secondary system (lb/hr).
15. What is the containment volume (ft^3)?
16. What is the expected leak rate of primary coolant to the containment (lb/hr)?
17. How often is the containment purged? Is it filtered prior to release? Are iodine absorbers provided? What decontamination factor is expected?
18. Is there a continuous air cleanup for iodine in the containment? If so, what volume per unit time is circulated through it? What decontamination factor is expected? At what concentration will pruging be initiated?
19. Give the total expected continuous let down rate (lb/hr).
    a. What fraction is returned through the demineralizer to the primary system? What is the expected demineralizer efficiency for removal of principal isotopes?
    b. What fraction of this goes to boron control system? How is this treated, demineralization, evaporation, filtration?
    c. Is there a separate cation demineralizer to control Li and Cs?

20. What fraction of the noble gases and iodines are stripped from that portion of the let down stream which is demineralized to the primary return system? How are these gases collected? What decay do they receive prior to release?

21. What fraction of the noble gases and iodines are stripped from that portion of the let down stream which is sent to the boron control system? How are these gases collected? What decay do they receive prior to release?

22. Are releases from the decay tanks passed through a charcoal absorber? What decontamination factor is expected?

23. How frequently is the system shut down and degassed? How many volumes of the primary coolant system are degassed in this way each year? What fraction of the gases present are removed? What fraction of other principal nuclides are removed, and by what means? What decay time is provided?

24. Are there any other methods of degassing (i.e., through pressurizer, etc.)? If so descirbe.

25. If gas is removed through the pressurizer or by other means, how is it treated?

26. What is the expected leak rate of primary coolant to the secondary system (lb/hr)

27. What is the normal rate of steam generator blowdown? Where are the gases from the blowdown vent discharged? Are there charcoal absorbers on the blowdown tank vent? If so, what decontamination factor is expected?

28. What is the expected leak rate of steam to the turbine building? What is the ventilation air flow through the turbine building (CFM)? Where is it discharged? Is the air filtered or treated before discharge? If so, provide expected performance.

29. What is the flow rate of gaseous effluent from the main condenser ejector? What treatment is provided? Where is it released?

30. What is the origin of the steam used in the gland seals (i.e., is it primary steam, condensate, or demineralized water from a separate source, etc.)? How is the effluent steam from the gland seals treated and disposed of?

31. What is the expected leak rate of primary coolant to the auxiliary building? What is the ventilation air flow through the auxiliary building (CFM)? Where is it discharged? Is the air filtered or otherwise treated before discharged? If so provide expected performance.

32. Provide average gallons/day and uCi/cc for following categories of liquid effluents. Use currently observed data in the industry where different from the SAR or Environmental Report (indicate which is used).

a. High-level wastes (for example, primary coolant let down, "clean" or low conductivity waste, equipment drains and deaerated wastes);
b. "Dirty" wastes (for example, floor drain wastes, high-conductivity wastes, aerated wastes, and laboratory wastes)'
c. Laundry, decontamination, and wash-down wastes;
d. Steam generator blowdown - give average flow rate and maximum short-term flows and their duration;
e. Drains from turbine building.

For these wastes (a - e) provide:

1. Number of capacity of collector tanks.
2. Fraction of water to be recycled or factors controlling decision.
3. Treatment steps - include number, capacity, and process D.F. for each step. If step is optional, state factors controlling decision.
4. Cooling time from primary loop to discharge.
5. How is waste concentrate (filter cake, demineralizer resin, evaporator bottoms) handled? Give total volume or weight and curies per day or year.

33. Dilution flow rate for liquid effluents, gpm.