008

Environmental File

MAR 15 1972

Distribution:
Docket file (environ.)
AEC PDR
Local PDR
DRL Rdg. file
D. Vassallo
C. Hale
N. Brown (2)
PWR-1 Rdg. file
H. Denton
REP Files
Team Ldr., Laboratory
REP Project Leader
J. Felton
Compliance (2)
F. Logan
V. Benaroya

Docket No. 286

Consolidated Edison Company
of New York
ATTN: Mr. William J. Cahill, Jr.
Vice President
4 Irving Place
New York, New York 10003

Gentlemen:

In connection with the preparation of our Environmental Statement for the Indian Point Nuclear Generating Unit 3, we have established a program to determine 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 for a gaseous and liquid effluent analysis that specifically relate to Indian Point. 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. Forty-five copies of separate answers should be submitted for (1) the facility as presently designed and (2) any projected design changes.

This information should be provided by March 24, 1972. If it is impossible to meet this schedule, please let us know. We would like to meet with you and representatives of other utilities at Oak Ridge on March 29 and 30, 1972, to discuss the use of this information in our environmental analysis.

Sincerely,

/s/

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

Enclosure:
As stated

LB

OFFICE ▶	ETS/DRL	SRS/DRL	PWR-1/DRL	PWR-1/DRL	A/D:PWR's
SURNAME ▶	VBenaroya/imh	HRDenton	CHale	DVassallo	RCDeYoung
DATE ▶	3/14/72	3/14/72	3/14/72	3/15/72	3/15/72

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. Expected 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. Turbine operating conditions (temperature ^{o}F, pressure psi, flow rate, lb/hr).
14. Total flow rate in the condensate demineralizer (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 purging 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 μCi/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 principal nuclide 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, normal gpm and total gallons per year.