JUN 23 1972

Docket No. 50-331

ENVIRON

Iowa Electric Light and Power Company
ATTN: Mr. Duane Arnold, President
Security Building
P. O. Box 351
Cedar Rapids, Iowa 52406

Gentlemen:

In connection with the preparation of our Environmental Statement for the Duane Arnold Energy Center (DAEC), 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 calculation for a gaseous and liquid effluent analysis that specifically relates to DAEC. 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 are 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.

We would like to meet with you at Oak Ridge on July 20, 1972 to discuss the use of this information in our environmental analysis. Information on this meeting will be provided later by Mr. Tom Row (ORNL). In order to maintain our licensing review schedule we will need a completely adequate response by July 13, 1972. Please inform us within 7 days after receipt of this letter of your confirmation of the schedule or the date you will be able to meet. If you cannot meet our specific date or if your reply is not fully responsive to our requests, it is

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highly likely that the overall schedule for completing the licensing review for this project will have to be extended. Since reassignment of the staff's efforts will require completion of the new assignment prior to returning to this project, the extent of extension will most likely be greater than the extent of delay in your response.

Sincerely,

Original signed by
Daniel R. Muller ENVIRON

Daniel R. Muller, Assistant Director
for Environmental Projects
Directorate of Licensing

Enclosure:
Request for Additional
Information

cc: Mr. Charles W. Sandford
Vice President (Engineering)
Iowa Electric Light and Power Company
General Office
P. O. Box 351
Cedar Rapids, Iowa 52406

Mr. R. Lowenstein
Lowenstein and Newman
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Washington, D.C. 20036

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RO (3)
Docket File (ENVIRON)
RP Rdg. File
EP-2 Rdg. File
R. S. Boyd, ADBWR's, L
S. Kari, L

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CRESS #03 M/C#975-120, etc. OFFICE ▶	EP-2:L	EP-2:L	ADEP:L			
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6/20/72 DATE ▶	6/20/72	6/20/72	6/26/72			

BOILING 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 offgas rate after 30 minutes delay.

5. Escape rate coefficients used (or referenced).

6. Mass of primary coolant in system (lb).

   a. Mass of primary coolant in reactor; mass water, mass steam (lb).

   b. Mass of primary coolant in recirculating system (lb).

7. Steam conditions at turbine (temp °F, press. psi, Flow lb/hr).

8. Normal recirculation flow rate (lb/hr).

9. Normal cleanup system flow rate (lb/hr). What type of resins are used? What decontamination factors are expected for each principal nuclide?

10. What is the expected performance of the expanded gaseous radwaste system from the main condenser air ejector? Give the design air in leakage. Is the condenser ejector one stage or two stages? Where is it discharged? How many condenser shells? (If applicable--Pounds of charcoal and operating temperature of)

11. What is the expected leak rate of primary coolant to the dry well? (lb/hr) How frequently is the dry well purged? What treatment is given to this purge?

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

13. 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.

14. Describe the treatment of the exhaust stream from the turbine seal glands.

a. 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.?)

b. How is the effluent stream from the gland seals treated and disposed of?

15. Provide average gallons/day and uCi/cc for the following categories of liquid waste. 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, "clean" or low conductivity waste and equipment drains);

b. "Dirty" wastes (for example, floor drain wastes, high-conductivity wastes, and laboratory wastes);

c. Chemical wastes;

d. Laundry, decontamination, and washdown wastes.

For these wastes (a-d), provide;

1. Number and 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. Decay 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.

16. For the condensate demineralizers, provide the flow rate lb/hr, type of resin used, expected backwash and regeneration frequency, and expected D.F. for each principal nuclide.

17. Dilution flow rate for liquid effluents, normal gpm and total gallons per year.