FROM:
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Charlotte, N.C. 28201
A. C. Thies

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DUKE POWER COMPANY
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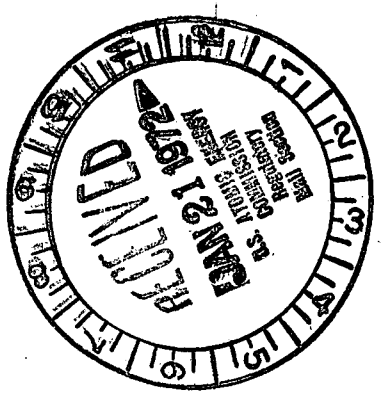
January 19, 1972



Director
Division of Radiological and Environmental Protection
United States Atomic Energy Commission
Washington, D. C. 20545

Reference: Oconee Nuclear Station
Unit 1
Docket No. 50-269

Dear Sir:

In reply to the notice in the Federal Register, Volume 36, No. 245 - Tuesday, December 21, 1971, we offer the following comments on the "Draft Detail Statement on the Environmental Considerations by the U. S. Atomic Energy Commission, Division of Radiological and Environmental Protection, Related to the Proposed Issuance of an Operating License to Duke Power Company for the Oconee Nuclear Station, Unit 1, Docket No. 50-269" issued December 13, 1971.

1. Page 8, Paragraph 2 - Additional information should be included to the effect that application for certification as required by Section 21(b) of the Federal Water Pollution and Control Act has been submitted.

2. Page 13, Paragraph 4 - The fencing will surround the plant site area not the entire exclusion area.

3. Page 17, Paragraph 2 - Bachelors' quarters referred to under "Population" are temporary quarters and will be removed after construction is completed. (Reference Technical Specification 3.9.3.11, Page 3.9-4, Section 15 of the Oconee Nuclear Station Final Safety Analysis Report.)

4. Page 21, Paragraph 2 - The design discharge rate of the spillway for Lake Jocassee is 46,000 cfs not 70,500 cfs as reported.

5. Page 37, Paragraph 1 - The correct number of fuel rods is 36,816.

6. Page 38, Paragraph 5 - The fluctuation limits identified as three feet for Keowee and six feet for Jocassee are for pumped-storage operation only and do not include the draw-down for hydroelectric operation.

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7. Page 44, Paragraph 1 - The 4,733 cfs maximum condenser circulating water flow includes 233 cfs service water which does not flow through the condenser.

8. Page 46, Table III-2 - This table is from the Velz study which estimates maximum discharge temperature 100.2°F. Duke's study based on later information estimates maximum discharge temperature of 93°F (reference Table 2, Supplement to Environmental Quality Features of Keowee-Toxaway Project, October, 1971).

9. Page 49, Paragraph 2 - South Carolina water quality criteria governing impoundments, see definition on Page 3 of "Water Classification - Standards System for the State of South Carolina" approved by Environmental Protection Agency, December 23, 1971, allows compliance to be checked under provisions in Paragraph F, Page 8, thus providing a tailrace excess temperature of 5°F.

10. Page 52, Paragraph 2 - Small fractions of gaseous liquid radioactive materials produced during reactor operation can enter the primary coolant system only if fuel defects are present.

11. Page 52, Paragraph 4 - Coolant accumulates some fission products that may have leaked from nuclear fuel only if the fuel has defects.

12. Page 53, Table III-4 - The table describes calculated annual releases from radioactive material and effluent from the Oconee Nuclear Station only in the case of 1 percent defective fuel in each reactor. Anticipated annual releases will be much lower. Liquid effluents, excluding Tritium, reported as 30 curies should be three curies. (Reference Table 5, Supplement to the Environmental Quality Features of Keowee-Toxaway Project, October, 1971.) Gaseous effluent activities reported as a 30-day hold-up, are calculated based on varying hold-up times according to source. (See Table 6, Supplement to Environmental Quality Features of Keowee-Toxaway Project, October, 1971.) For clarification, this table should show by suitable sub-titles or footnotes that the values shown are not those anticipated during normal operation, but are values which are not likely to be exceeded during simultaneous full power operation of all three units and with 1 percent failed fuel.

13. Page 57, Last Paragraph - In addition to the drumming provisions described, there is an alternate drumming station for low level wastes, and there also is provision for direct transfer of wastes such as ion exchange resins to shielded transport casks.

14. Page 63, Paragraph 1 - The reference to placement of fuel elements in the storage pool should indicate that this storage is for radioactive decay and cooling.

    Page 63, Paragraph 2 - The reference to fuel shipments should show that the shipments may be by truck or rail.

    Page 63, Paragraph 3 - The number of fuel shipments would more accurately be described as "up to 89."

15. Page 68, Paragraph 1 - The maximum rate of evaporation for a total of three reactor units operating on a hot, dry day would be about 5 percent of the <u>average</u> river flow to the lake of 1,100 cfs.

16. Page 68, Paragraph 4 - Intake and discharge cooling water will be sampled periodically for temperature and dissolved oxygen.

17. Page 70, Paragraph 4 - Duke does not expect any species to be eliminated from habitat changes due to transmission line construction.

18. Page 71, Paragraph 5 - Since Oconee is located on a large reservoir, reference 5 to a laboratory study on the effect of warm water on river bottom plants and animals by the Federal Water Pollution Control Administration is not appropriate. Moreover, bottom temperature of Lake Keowee is not expected to reach 86°F.

19. Page 72, Paragraph 1 - Reference 6 relating to a study involving effective heated water effluent upon the macroinvertebrate riffle fauna of the Delaware River has no direct relation to Oconee because of the dissimilarity of the two locations.

20. Page 80, Paragraph 1, Second Sentence - The word "maximum" should be inserted to show that Table III-4 presents identities and <u>maximum</u> quantities of radioactive material, etc.

21. Page 81, Paragraph 1, Third Sentence - The dose of 12 man-rem should be identified as being an annual dose.

22. Page 82, Table V-2 - The doses reported in Table V-2 are design basis doses for one percent failed fuel. Annual average doses are estimated to be lower.

23. Page 87, Paragraph 1 - A primary coolant source of one percent failed fuel is used in evaluating steam generator tube leak.

24. Page 102, Paragraph 1 - The installed capacity is greater than 7,000 megawatts. The peak load as yet has not exceeded 7,000 megawatts.

25. Page 107, Paragraph 4 - The condenser cooling water supply of 4,400 cfs is adequate for dissipating 4,950 megawatts of waste heat for three units or 1,650 megawatts per unit.

26. Page 112, Paragraph 2 - Several statements in this paragraph are misleading and confusing. For example, proposed guide lines are referred to as stated requirements; and it is implied that the items being discussed are questions yet to be resolved. Duke considers that the items in this paragraph already have been resolved by the Technical Specifications and by the fact that the applicant must comply with 10CFR50 Appendix I as adopted.

    Twelve containment purges per year are not scheduled, however, approximately 12 purges per year are anticipated.

27. Table X-4 - To facilitate reference in these comments, the six alternatives for power generation are designated as follows:

Description of Alternative	Alternative Number For Nuclear Fueled Steam Generation	Alternative Number For Fossil Fueled Steam Generation
With Pumped Storage Hydro Peaking and Impounded Lake Once through Cooling	N1	F1
With Wet Cooling Tower and Gas Turbine Peaking	N2	F2
With Wet Cooling Tower and Pumped Storage at Separate Location	N3	F3

Land Use, Agriculture, Line 1 - The annual loss of agricultural production due to land inundated by the Keowee-Toxaway project is estimated at $220,000 as given in Table 14 of the Supplement to Environmental Quality Features of Keowee-Toxaway Project, October, 1971. Therefore, the costs to environment of $108,000 shown under alternatives N1, N3, F1 and F3 are low. Assuming that only 10 percent as much land will be required for alternatives N2 and F2, the costs under each of these alternatives should be $22,000.

Land Use, Industrial Power, Line 9 - It is presumed that amounts shown as 'Benefit' under all six alternatives represent the capital investment on the powerhouse including cooling lake, cooling towers, etc. In Duke's opinion, such capital costs of project should be treated as 'Costs' rather than 'Benefits.'

Apparently, the cost of the initial nuclear fuel core of $61,400,000 has been included in the investment under alternatives N1, N2, and N3, whereas a similar cost for fossil fuel does not appear in the investment under alternatives F1, F2, and F3. This does not afford a fair economic comparison of the different alternatives. Duke, therefore, contends that the costs of initial nuclear fuel core if included under alternatives N1, N2, and N3 should rightly be excluded. Also, it would be erroneous to ignore the economic impact of the yearly operating, maintenance, and fuel costs pertaining to an alternative. Due credit should also be given to alternatives N1 and F1 for the cooling capacity and potential for pumped storage by adding capitalized cost of cooling towers and pumped storage reservoir capacity to alternatives N2, N3, F2, and F3, which would necessitate these additional facilities.

To bring out clearly the overall economic impact of the various alternatives, the capitalized costs of fuel, operating and maintenance expenses should be added to the capital investment as shown in the following table and then compared with benefits.

	Costs Under Alternatives (million dollars)					
	N1	N2	N3	F1	F2	F3
DRL's estimate as shown in Table X-4 (as 'Benefit')	639	588	664	534	488	554
Duke's estimate Capital investment excluding fuel costs	569	519	535	479	423	439
Capitalized cost of Fuel, Operating & Maintenance	239	282	250	490	533	501
Capitalized cost of Additional Wet Cooling Towers & Pumped Storage Reservoir	-	49	49	-	49	49
Total Duke estimate of costs	808	850	834	969	1005	989

Power, Commodity Value, Line 31 and 32 - It is suggested that the benefit/cost comparison would be more meaningful if shown in close proximity on Table X-4. The benefit of power would be the same for each of the alternatives considered.

Sincerely,

A. C. Thies

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