FROM: Duke Power Company
Charlotte, North Carol[illegible] 28201
W. S. Lee

DATE OF DOCUMENT: 10-30-70
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TO: Dr. Peter A. Morris

ACTION NECESSARY ☐ NO ACTION NECESSARY ☐
CONCURRENCE ☐ COMMENT ☐
DATE ANSWERED: BY:

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DESCRIPTION: (Must Be Unclassified)
Ltr in response to our 10-12-70 ltr which transmitted Dept of Interior's 9-28-70 ltr....furnishing comments on Dept of Interior's comments on Duke's

ENCLOSURES: Oconee Sta. Enviro Rpt.

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Compliance (2)			
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DUKE POWER COMPANY
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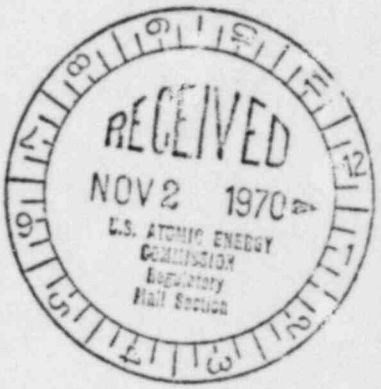
WILLIAM S. LEE
PRESIDENT, ENGINEERING



October 30, 1970

Dr Peter A Morris, Director
Division of Reactor Licensing
Atomic Energy Commission
Washington, D C 20545

Re: Oconee Nuclear Station
Docket Nos 50-269, -270 and -287

Regulatory File Cy.

Dear Dr Morris:

Please refer to your letter of October 12, 1970 transmitting the Department of Interior's letter of September 28, 1970 commenting on our environmental report for the Oconee Nuclear Station.

In the introductory and closing paragraphs of its letter, the Department of Interior suggests that our environmental statement be substantially expanded to include additional detail. In our cover letter to you of July 10, 1970, transmitting the environmental report, we indicated the report was necessarily brief. At this late stage in consideration of our application for operating licenses on a nearly complete project, it was not feasible to include a broad spectrum of details from our voluminous files of environmental studies that were developed during the early stages of the Keowee-Toxaway Project, of which Oconee is a part. Beginning in early 1965, the many environmental aspects of this project were reviewed step by step with the applicable local, state and federal agencies with the result that every such agency, including the Department of Interior, has concurred in this project including its environmental aspects. We feel that the statement appropriately summarizes the pertinent information from these many proceedings.

With respect to the numbered paragraphs in the Department of Interior's letter, we offer the following:

1. Regarding Interior's comment about radionuclides in the Keowee River, the figure of 24 percent of the maximum permissible limit for radioactive liquid waste was obtained from Table 11-6, p 11-23 of our Final Safety Analysis Report. This table presents the results of calculations of the maximum activity in the station effluent for the three Oconee reactor units, assuming that each was operating with one percent defective fuel for a period of one year! This one percent defective fuel condition is a design assumption that was used in specifying and sizing the radioactive waste disposal systems. The table is not intended to represent the normal or

expected operating condition. Actually, the 24 percent number should be interpreted as a figure of merit! It demonstrates the ability of the radioactive liquid waste system to handle an extreme design condition which is assumed to exist simultaneously in all three reactor units, without exceeding a small percentage of the permissible limits.

The radioactive liquid waste system has provisions for hold-up of liquids in tanks, for decay of radioactivity, for treatment by ion exchange and evaporation to reduce the activity even further and for controlled, monitored release in accordance with AEC regulations (10CFR20). Further, the Technical Specifications for the Oconee Nuclear Station list additional requirements for processing all wastes to reduce the radioactivity to as low a level as practicable within the limits of 10CFR20.

Therefore, because of the over-sized radioactive waste systems that have been provided in the design of the Oconee Nuclear Station and the regulatory requirements for processing these wastes to reduce their activity level and the requirements for controlling and measuring these effluents, the releases from the three units, during normal operation, should total less than <u>one percent</u> of the maximum permissible limits, both on a short-term and on an annual basis.

The Environmental Radioactivity Monitoring Program samples, from the upper reaches of the Hartwell Reservoir and from the Clemson and the Anderson water supply intakes, will confirm that this degree of control has been achieved during station operation.

2. With respect to thermal effects, Interior asks about possible interactions between Oconee and future stations planned for Lake Keowee. Our studies show that the extra temperature in condenser cooling water from each of the future stations will be dissipated without adverse effects among the stations, and the capacity of the future stations will be limited to achieve this result. However, the current regulatory proceeding is with respect to Oconee and not the future stations. Dr Velz's 1966 report and Mr Udall's April 7, 1966 letter were only with respect to a 3000 mwe nuclear station at the Oconee site, which is being developed to 2658 mwe. The terms of our FPC license for Project #2503 will require additional proceedings before that agency and other agencies before the future thermal sites can be developed. Since 1959, Duke has had a full-time group engaged in water resources research with emphasis on thermal effects and with the guidance of a number of consultants. As pointed out in our environmental report, this group will include Oconee in its monitoring program that already covers a number of lakes on our system. These field tests will be used to compare results with predicted behavior and to serve as a sound basis for future developments. The conceptual design of the Keowee-Toxaway Project, including the skimmer wall and condenser cooling water system for Oconee, was based on field analyses of analogous existing developments on our system.

3. Interior suggests that information be presented on proposed and alternative facilities to prevent damage to fish and other organisms drawn to or passing through the cooling water intakes. It should be clearly understood that the "proposed" facilities are already built. The alternative to Keowee-Toxaway was thermal stations with cooling towers but without Lake Keowee as a cooling reservoir. The development of Lake Keowee substantially increases the population of fish and other aquatic organisms which would not have occurred had the alternative been selected. The intakes at Oconee were designed with conservatively low water velocities that have proven successful at our other installations on similar lakes in preventing damage to fish.

4. Interior asks for information on the proposed and alternative chemical treatment for condenser cleaning. The condenser tubes will be cleaned mechanically at Oconee without the use of chemicals.

5. Duke's water resources research group includes the Keowee-Toxaway Project and the upper end of Hartwell in its continuing water quality monitoring program. Sampling stations have been selected and data collection will start shortly as Lake Keowee continues to fill prior to Oconee operation. This, along with continuing post-operation sampling, will serve to appraise the impact of Oconee's operations on the environment. Interior's letter emphasized the impact on recreational and water supply use. As explained in our environmental report, the Keowee-Toxaway Project will provide, and in fact is already providing, substantial recreational and water supply benefits that did not exist before Keowee-Toxaway was built and would not exist if the alternative had been selected.

6. The combined effect of the three units at Oconee was used as a basis of establishing the requirements for waste control facilities. This is further reflected in our comments under Item 1 above.

7. This item suggests that we present information on the visual impact of Oconee and other construction, and our plans to minimize this impact. Through careful project planning as well as architectural treatment, we have attempted to enhance the visual impact of the entire project but not to hide it as "minimize" might suggest. Although located in a remote, lightly-traveled area, the attractiveness of this project is evidenced by the fact that 347,000 visitors have come to view the project since visitors' facilities were completed in July 1969, fifteen months ago. Visitor's comments with respect to the visual impact as noted in the guest book are highly laudatory. The visitors' center itself has just received the 1970 Honor Award of the American Institute of Architects.

We look forward to continued cooperation with the several agencies of the Department of Interior in connection with the environmental aspects of the Keowee-Toxaway Project. Many of these aspects, not found in the alternative to this project, are in the areas of specific interest to the Department of Interior: downstream flow augmentation in

periods of dry weather, extensive recreational opportunities, soil conservation measures, preservation of virgin timber, recovery of historical information and artifacts, substantial fisheries resources, wildlife preservation and propagation, public water supply, flood control, and opportunities for enjoyment of scenic beauty.

We appreciate this opportunity to have furnished this information in connection with the Department of Interior's comments.

Yours very truly,

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