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MAR 27 1972

Docket No. 50-269 50-270
and 50-287

Mr. William O. Holmberg
 ATTN: Mr. Jack Anderson
 Office of Federal Activities
 Environmental Protection Agency
 Waterside Mall, Room 3632
 Fourth & M Streets, S.W.
 Washington, D.C. 20460

ENVIRON, FILE (NEPA)

Dear Mr. Holmberg:

I am pleased to provide you with one copy of the final environmental statement, prepared by the Commission's Regulatory Staff, on environmental considerations under the National Environmental Policy Act of 1969 relating to the application submitted by the Duke Power Company for the Oconee Nuclear Station, Unit No. 1. Although the licensing action at this time is for Oconee Nuclear Station, Unit 1, the Final Environmental Statement has been written considering the combined effects of operation of Units 1, 2, and 3.

This statement includes a discussion of the comments of various Federal, State, and local agencies and private organizations and individuals concerning the environmental effects associated with the facility. A notice of the availability of the statement is being forwarded to the Office of the Federal Register for filing and publication.

Sincerely,

LESTER ROGERS

Lester Rogers, Director
 Division of Radiological and
 Environmental Protection

Enclosure:

Final Environmental Statement for
 the Oconee Nuclear Station, Unit
 No. 1, 2, and 3

OFFICE ▶	REP:PB	REP:PB	REP:DIR		
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DATE ▶	3/ /72	3/ /72	3/27/72		

SUMMARY AND CONCLUSIONS

1. This is the Final Detailed Environmental Statement by the U. S. Atomic Energy Commission, Division of Radiological and Environmental Protection, related to the proposed issuance of an operating license to the Duke Power Company for the operation of Unit 1 at the Oconee Nuclear Station in the State of South Carolina, county of Oconee, near the city of Seneca. This statement will also serve for future consideration of operating licenses for Units 2 and 3.
2. The Oconee Nuclear Station will have three units, each with a pressurized water reactor having an electrical output of about 922 megawatts (of which 36 megawatts will be used within the plant) and a waste heat generation of about 1650 megawatts. Although the present action is concerned with the proposed issuance of a license to operate one unit, this Statement considers the environmental impact of the simultaneous operation of all three units. The Oconee Station is integrated into the applicant's Keowee-Toxaway Project in an arrangement that provides water for condenser cooling as well as hydroelectric power (140 megawatts total) for peaking purposes. The Project at present consists of Lake Keowee (impounded by the Keowee Dam) and its completed hydroelectric station, the Oconee Nuclear Station with one unit completed and two units in an advanced stage of construction, and Lake Jocassee with its 610-megawatt pumped-storage facility (which is also under construction).
3. The environmental impact, including adverse and beneficial environmental effects, of the Oconee Nuclear Station is as follows:
 - Reassignment of use of about 2000 acres of land for the Station and its exclusion area and withdrawal of some marginal agricultural production;
 - Flooding of 26,000 acres of wooded and farm land to form Lake Keowee and Lake Jocassee, and conversion of much of the remainder of the applicant's land acquired for the Project (157,000 acres total) to forestry and wildlife management programs;
 - Removal of about 340 residences and relocation of almost 900 residents from the land used by the Project;

- Withdrawal of a maximum of 4733 cubic feet per second (three units of the Station) of water from near the bottom of Lake Keowee, elevation of the temperature of the water (in which aquatic biota may be entrained) by about 18°F in passage through the condenser-cooling systems, and discharge of the water nearer the lake surface at 95 to 100°F during the late summer months;
- Reduction of the oxygen concentration in the surface waters near the plant discharge during periods of the year when the plant is withdrawing oxygen-deficient water from the hypolimnion and discharging it to the surface;
- Conversion of 7,800 acres of farm land and forest to transmission line right-of-way;
- Discharges of small quantities of chemicals (that are not expected to produce discernible effects) into the headwaters of the Hartwell Reservoir via the tailrace of the Keowee hydroelectric station;
- Discharges of small quantities of radioactive gaseous and liquid wastes to the environment;
- Creation of a very low probability risk of accidental radiation exposure to nearby residents;
- Addition of electrical energy generating capacity needed to support the economic growth of the area served by the applicant's power network;
- Creation of an area that may become attractive for residences;
- Creation of a recreational lake area, including a visitors' center and associated tourist amenities; and
- Stimulation of the local economy through taxes, direct employment, tourism.

4. The following alternatives were considered:

- Purchase of power from outside sources;
- Location of the Station at other sites;

- Adoption of once-through cooling using the flowing stream at this site;
 - Use of fossil fuel with once-through cooling and pumped-storage hydroelectric peaking;
 - Use of fossil fuel with evaporative cooling towers and gas-turbine peaking;
 - Use of fossil fuel with evaporative cooling towers and pumped-storage hydroelectric peaking at a separate location;
 - Use of nuclear fuel with evaporative cooling towers and gas-turbine peaking;
 - Use of nuclear fuel with evaporative cooling towers and pumped storage hydroelectric peaking.
5. The following Federal, State and local agencies submitted comments on the Draft Detailed Environmental Statement issued December 13, 1971:

Council on Historic Preservation
 Department of Transportation
 Department of Commerce
 Health, Education and Welfare
 Department of the Army, Corps of Engineers
 Federal Power Commission
 Department of the Interior
 Department of Agriculture
 Department of Housing and Urban Development
 Environmental Protection Agency
 Office of the Governor of South Carolina
 State Water Resources Commission, South Carolina
 State Commission of Forestry, South Carolina
 Department of Parks, Recreation and Tourism, South Carolina
 Pollution Control Authority, South Carolina
 Wildlife Resources Department, South Carolina
 Appalachian Council of Governments, South Carolina

The texts of all comments received are appended to this Final Environmental Statement. Identification of where the Draft Statement was revised in response to the comments is tabulated in an appendix.

6. The conclusion is that the benefits to be derived from operation of the Oconee Nuclear Station outweigh the adverse effects identified in this Statement. On the basis of the evaluation and analysis set forth in this Final Statement, and after weighing the environmental, economic, technical and other benefits against environmental costs and considering available alternatives, it is concluded that from the standpoint of environmental effects the action called for is the issuance of a license to operate Unit 1 of the Oconee Nuclear Station providing the applicant takes the following additional action:
 - (1) Accumulate information required to establish baselines for the evaluation of thermal, chemical and radiological effects of station operation on terrestrial biota and aquatic biota in Lakes Keowee, Hartwell and Jocassee.
 - (2) Develop and implement a comprehensive monitoring program that will permit surveillance during plant operation of thermal, chemical, and radiological effects on terrestrial biota and on aquatic biota in Lakes Keowee, Hartwell, and Jocassee.
 - (3) Monitor concentrations of chemical discharges into Hartwell Reservoir.
 - (4) Monitor the temperature of the condenser cooling discharges into Lake Keowee.
7. The date that this Final Environmental Statement is being made available to the public, to the Council on Environmental Quality, and to the other agencies noted in Item 5 above is March 24, 1972.