



United States Department of the Interior

FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE  
WASHINGTON, D.C. 20240

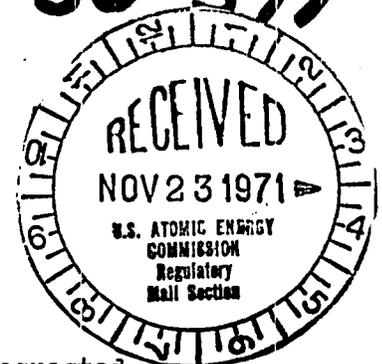
ADDRESS ONLY THE DIRECTOR,  
BUREAU OF SPORT FISHERIES  
AND WILDLIFE

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Mr. L. Manning Muntzing  
Director of Regulation  
U.S. Atomic Energy Commission  
Washington, D.C. 20545



Dear Mr. Muntzing:

This is in reply to Mr. DeYoung's letter of June 2 which requested our comments on the Preliminary Safety Analysis Report submitted by the Tennessee Valley Authority for the proposed Watts Bar Nuclear Plant, Units 1 and 2, Chickamauga Lake, Rhea County, Tennessee, AEC Docket Nos. 50-390 and 50-391.

TVA prepared a draft environmental statement, dated May 14, on this project. Our comments were requested and the Department of the Interior letter of comment was forwarded to TVA on July 22. We commented that a good discussion of the environmental impacts of the proposed generating plant was presented in the draft statement.

The project will be located at Tennessee River Mile (TRM) 528 on the west shore of Chickamauga Lake 2 miles below Watts Bar and about 8 miles southeast of Spring City, Tennessee. It will utilize two closed cycle pressurized water reactors, each designed for a power output of 3,425 megawatts thermal and a total electrical generating capacity of 1,270 megawatts.

Condenser cooling will be provided by a closed-cycle system including natural draft cooling towers. Makeup water for evaporative losses in the towers, cooling water for plant auxiliaries, and blow-down water (between 55 cfs and 134 cfs) will be withdrawn from the head of a channel feeding from the Chickamauga Reservoir at TRM 528. This water will be held in a 20-acre reservoir prior to use in the cooling system. Return water from the plant auxiliary and blow-down will discharge into this reservoir. The temperature of this water will have a maximum increase of 10° F. Some of the water in the storage reservoir will recycle through the plant and some will be returned to Chickamauga Lake. Some cooling can be expected to occur in the storage reservoir before the water is discharged into the lake. Heat discharged to the reservoir will be less than 1.0 percent of the waste heat discharged by the plant. Water entering the reservoir will meet applicable water quality standards.

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Chickamauga Lake and the surrounding area support important fish and wildlife resources. The fishery consists of a variety of game and food fish species, including largemouth bass, smallmouth bass, spotted bass, white bass, channel catfish, blue catfish, flathead catfish, black crappie, white crappie, sauger, bluegill, freshwater drum, buffalo, suckers, and carp.

Fish population surveys conducted in 1970 indicated production to be about 182 pounds per acre. Game and pan fish made up 12 percent of this amount. There is an annual commercial harvest of about 144,000 pounds of fish from Chickamauga Lake. The Watts Bar tail water area is considered favorable spawning habitat for sauger, white bass, and smallmouth bass. This area supported about 6.1 percent of the fishing done in TVA's 12 reservoir tail waters during the period 1965 - 1969. On July 1, 1965, the State of Tennessee designated a 3-mile area downstream from Watts Bar Dam (TRM 526.9) as a mussel sanctuary.

The lake and the surrounding areas, including the Yellow Creek Management Area located one mile from the plant site and the Hiwassee Management Area 27 miles away, support white-tailed deer, gray squirrel, raccoon, wild turkey, ruffed grouse, cottontail rabbit, bobwhites, ducks and geese. Hunting pressure in the vicinity of the project is light to moderate, but is increasing.

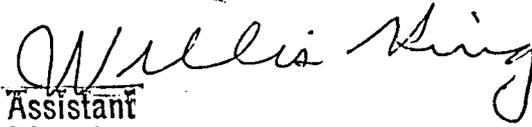
In most respects, the monitoring program outlined by TVA is adequate. It is expected that the release of radioactive materials will not exceed allowable limits set by the AEC. The effects of radioactivity on fish and wildlife are poorly understood. Acceptable dose rates and body burdens of radiation for fish and wildlife have not been established. In view of the probable existence of two nuclear generating stations on Chickamauga Reservoir, it is imperative that the monitoring programs be well planned, coordinated, and carefully executed. Toward this end, TVA should include samples of common upland game and waterfowl and some of their foods in the monitoring program. Aquatic plants and animals as well as water and sediments should be sampled within 500 feet of the effluent outfall. Every effort must be made to safeguard these resources. Therefore, we recommend that the monitoring studies be coordinated with the appropriate Federal and State agencies and conducted as planned. These studies also should include:

1. Gamma radioactivity analysis of water and sediment samples collected within 500 feet of the effluent outfall.
2. Beta and gamma radioactivity analysis of selected plants and animals as near the effluent outfall as possible.
3. Radioactivity analysis of wildlife and waterfowl samples together with some samples of their foods in the project area.

The project has the potential of affecting the fish and wildlife resources and the environment adversely. We have been concerned about the possibility of damage to aquatic life from the heated effluent; the radioactive wastes and chemicals that will or may be released to the receiving waters; the velocity of the waters approaching the fish screening device on the intake; the movement into and entrapment of aquatic animals in the cooling system; the possibility of terrestrial animals and birds being adversely affected by radioactive effluents of the project; and by the project transmission lines.

These concerns have been allayed for the most part because the TVA has expressed assurance of compliance with all applicable Federal and State regulations and that any unforeseen problems that may become apparent through the environmental and radiological program studies will be corrected. Therefore, we have no objection to the issuance of the construction permit for this project.

Sincerely yours,

  
Assistant  
Director