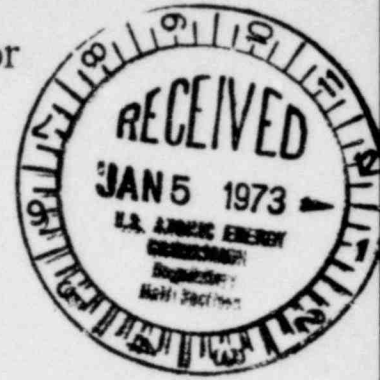




# United States Department of the Interior

OFFICE OF THE SECRETARY  
WASHINGTON, D.C. 20240



ER 72/1249

JAN 5 1973  
50-313

Dear Mr. Muller:

This is in response to your letter of October 25, 1972, requesting our comments on the Atomic Energy Commission's draft statement, dated October 1972, on environmental considerations for Arkansas Nuclear One, Unit 1, Pope County, Arkansas.

Our comments are presented according to the format of the statement or according to specific subjects.

## Summary and Conclusions

The proposed conditions to the issuance of an operating license for the project will help assure the protection of the environment.

## Site Location

We suggest that Buffalo National River, a recently authorized National Park System area, be included on the oblique illustrations given on page 2-2.

## Historic and Natural Landmarks

The comments of the State Liaison Officer for Historic Preservation regarding nominations to the National Register of Historic Places should be reflected in this section. The State Liaison Officer is William E. Henderson, Director, Arkansas Department of Parks and Tourism, State Capitol, Room 149, Little Rock, Arkansas 72201.

The statement should provide factual data to reflect the presence or absence of archaeological resources on or along the proposed transmission lines. Survey information on significant resources should be included with estimates of costs necessary to salvage any resources that cannot be environmentally or economically avoided by line relocation.

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The proposed action will not adversely affect any existing, proposed or known potential unit of the National Park System, or any known historic, natural or environmental education sites eligible for the National Landmark Programs.

#### Ecology of Terrestrial Environs

We are pleased that a comprehensive description of the soils and vegetation occurring in the project area is given in the statement. However, the statement could be improved by including information at the Soil Series level of classification rather than at the highest level of classification - namely, Ultisols. The Soil Series could be named for the "dry sites, moist sites, wet sites, and overflow area" headings used in Table 2.4. This type of information can be obtained from the Soil Conservation Service of the U.S. Department of Agriculture.

We suggest that Soil Service taxonomic units also be determined and used in the post construction evaluation of right-of-way damages and potential soil erosion study mentioned in the second paragraph on page 4.3. Such information can be correlated with the needed soil conservation practices developed by the Soil Conservation Service, the Forest Service and local County Extension personnel.

In addition we suggest that soil series taxonomic units be used and correlated with the radiological monitoring studies discussed on page 6-2. This correlation would then be available for planning future generating stations.

#### Heat-Dissipation Systems

Condenser cooling for Unit One is to draw 1,700 cfs of water from Illionis Bayou, an arm of Lake Dardanelle located to the southeast of the main reservoir, heat it about 15°F and return it to a shallow 80-acre embayment, thence to the main reservoir. The warmed water is actually returned to the reservoir upstream of the intake point. The applicant's and AEC's analyses both indicate that significant recirculation of heated water may occur. Measurements of operational temperatures may indicate the economic and environmental desirability of reversing this proposed unusual intake-discharge configuration that takes cooling water downstream and discharges it upstream.

### Intake and Discharge Structures

It is indicated on page 3-7 that debris and dead fish that accumulate at the intake will be chopped and then discharged through the circulating-water system to the embayment. We suggest that the waste disposal method which will be used in the event that the proposed disposal method results in unacceptable conditions.

### Results of Free-discharge Surface Temperatures

The heated water discharge plume from the 80-acre embayment has been analyzed by both the applicant and AEC for the free-discharge and forced-discharge techniques. The analyses indicate that the forced-discharge system will result in significantly lower surface and average temperatures in the lake than the free-discharge system. This conclusion appears to be reasonably accurate to us. Therefore, we believe that the extensive thermal monitoring program to determine the extent of the heat plume upon plant operation may indicate the need for a forced jet type discharge.

### Effects on Land Use

According to Table 4.1, 734 acres of recreation and reservation area will be used by Arkansas Nuclear One. The fourth paragraph on page 5-3 should indicate if the Delaware Public Use Area on Lake Dardanelle is part of this designated area.

### Effect on Terrestrial Environment

The statement should indicate the probable impacts of transmission lines and tall structures at the site on birds such as the eagles and waterfowl.

We also think that this section should indicate the effects of the chemicals deposited on the ground as a result of cooling-tower drift on plants in addition to fish and wildlife.

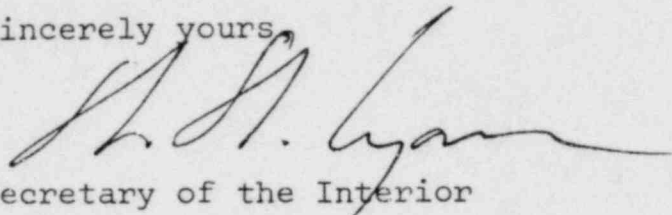
### Plant Accidents

This section contains an adequate evaluation of impacts resulting from plant accidents through Class 8 for airborne emissions. However, the environmental effects of releases to water is lacking. Many of these postulated accidents listed in Tables 7.1, 7.2, and 7.3 could result in releases to Lake Dardanelle and the Arkansas River.

We also think that Class 9 accidents resulting in both air and water releases should be described and the impacts on human life and the remaining environment discussed as long as there is any possibility of occurrence. The consequences of an accident of this severity could have far-reaching effects on land and in the lake which could persist for centuries affecting millions of people.

We hope these comments will be helpful to you in the preparation of the final environmental impact statement.

Sincerely yours,



Deputy Assistant

Secretary of the Interior

Mr. Daniel R. Muller  
Assistant Director for  
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Directorate of Licensing  
U. S. Atomic Energy Commission  
Washington, D. C. 20545

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