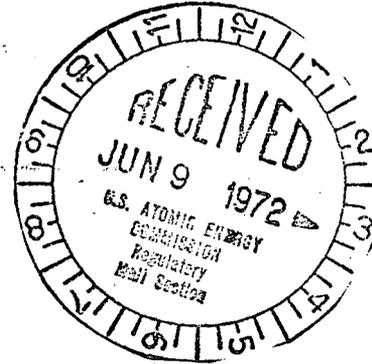




THE ASSISTANT SECRETARY OF COMMERCE
Washington, D.C. 20230

June 7, 1972

Dr. F. E. Gartrell
Director of Environmental Research
and Development
Tennessee Valley Authority
Chattanooga, Tennessee 37401



Dear Dr. Gartrell:

The draft environmental statement for "Watts Bar Nuclear Plant - Units 1 and 2, Supplements and Additions", which accompanied your letter of April 10, 1972, has been received by the Department of Commerce for review and comment.

In order to give you the benefit of the Department's analysis, the following comments are offered for your consideration.

In the draft environmental statement under section 2.1.3, Environment of the Area, page 18, it would be helpful if section 2 on "Fish and other Aquatic Life" could be expanded to include a specific listing of the organisms involved; i.e., a listing for phytoplankton and zooplankton similar to that already prepared for fish (Table 11). These tables should include specific identifications, wherever possible, to allow a complete evaluation of the flora and fauna in the area.

On page 20, inasmuch as the survey that was performed indicated increased fish production during the period of 1969-70, it would be useful to include data for the commercial catch more recent than that for 1965.

With regard to section 2.3.6, Biological Impact, page 43, in view of the importance of the Watts Bar Dam tailwaters (TRM 529.9) as a fish production area, and in view of the location of the plant intake (TRM 528) 1.9 mile downstream, it would seem premature, without additional information,

B.F. 3165

to say that the intake of 0.5 percent of the average river flow and the subsequent loss of the entrained organisms will be insignificant. It would be desirable if a study were conducted that would assess larval and fly densities in the area during different hydro settings. In addition, it would be desirable if some method of further reducing the intake of these organisms were investigated.

In section 2.3.7, Radioactive Discharges, on page 59, the subject of radiation exposure to humans from external sources and food-chain pathways is treated in the statement, and the environmental radiological program (page 47) appears adequate to monitor radioactivity levels in the aquatic environment. However, the estimated radiation doses that will be received by the aquatic biota should be discussed, including the possibility that fish eggs on the bottom of the reservoir will be exposed to radiation in excess of background levels.

Regarding section 2.3.8, Construction Effects, page 65, the Florida Department of Transportation's "Diaper Technique" may help minimize the problem of siltation and turbidity referred to here.^{1/}

In 3.3, Environmental Effects: Damage to Life Systems on page 68, the power plant cooling requirements are listed as 0.3 and 0.5 percent of the average annual volume of the river, but the requirements during low flow periods are not mentioned. Tables should be included that show these requirements with respect to time of year and river flow; biological productivity and concentration or organisms varies with both these factors.

In the draft environmental statement - supplements and additions, section 3.2.2, Heat Dissipation Alternatives, page 3-31, it is indicated that the blowdown from the cooling towers will be returned to the river via a diffuser, not through the holding pool as indicated in the draft environmental statement. It would seem desirable to utilize both systems to take advantage of the additional cooling provided by the pool.

^{1/} Hutt, Art. "Limits in Siltation". Florida Conservation and Engineering, 1971, pp.26-27.

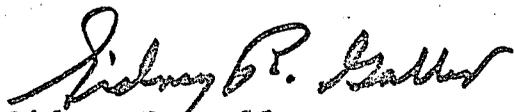
On page 3-49, in the section on Cooling Tower Blowdown, information should be supplied concerning the levels of residual chlorine that are expected in the blowdown during chemical defouling of the cooling system.

The text mentions that there is low tornado frequency in the area. This is true and it is interesting to note that analysis of the tornadoes in the United States show this general area has the lowest probability east of the 100th meridian.

Since the cooling towers will be designed on patent authorization from European patent holders, the design should be well engineered. It should be indicated that recent experience in Europe indicates cases of destruction of the towers by resonance rather than high winds. If the natural draft towers should become inoperative, an overspill of excessive heat into the river may occur.

We hope these comments will be of assistance to you in the preparation of the final statement.

Sincerely,



Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

cc: Mr. Lester Rogers, Director
Division of Radiological and
Environmental Protection
U. S. Atomic Energy Commission
Washington, D. C. 20545



THE ASSISTANT SECRETARY OF COMMERCE
Washington, D.C. 20230

June 7, 1972

Dr. F. E. Gartrell
Director of Environmental Research
and Development
Tennessee Valley Authority
Chattanooga, Tennessee 37401



Dear Dr. Gartrell:

The draft environmental statement for "Watts Bar Nuclear Plant - Units 1 and 2, Supplements and Additions", which accompanied your letter of April 10, 1972, has been received by the Department of Commerce for review and comment.

In order to give you the benefit of the Department's analysis, the following comments are offered for your consideration.

In the draft environmental statement under section 2.1.3, Environment of the Area, page 18, it would be helpful if section 2 on "Fish and other Aquatic Life" could be expanded to include a specific listing of the organisms involved; i.e., a listing for phytoplankton and zooplankton similar to that already prepared for fish (Table 11). These tables should include specific identifications, wherever possible, to allow a complete evaluation of the flora and fauna in the area.

On page 20, inasmuch as the survey that was performed indicated increased fish production during the period of 1969-70, it would be useful to include data for the commercial catch more recent than that for 1965.

With regard to section 2.3.6, Biological Impact, page 43, in view of the importance of the Watts Bar Dam tailwaters (TRM 529.9) as a fish production area, and in view of the location of the plant intake (TRM 528) 1.9 mile downstream, it would seem premature, without additional information,

to say that the intake of 0.5 percent of the average river flow and the subsequent loss of the entrained organisms will be insignificant. It would be desirable if a study were conducted that would assess larval and fly densities in the area during different hydro settings. In addition, it would be desirable if some method of further reducing the intake of these organisms were investigated.

In section 2.3.7, Radioactive Discharges, on page 59, the subject of radiation exposure to humans from external sources and food-chain pathways is treated in the statement, and the environmental radiological program (page 47) appears adequate to monitor radioactivity levels in the aquatic environment. However, the estimated radiation doses that will be received by the aquatic biota should be discussed, including the possibility that fish eggs on the bottom of the reservoir will be exposed to radiation in excess of background levels.

Regarding section 2.3.8, Construction Effects, page 65, the Florida Department of Transportation's "Diaper Technique" may help minimize the problem of siltation and turbidity referred to here.^{1/}

In 3.3, Environmental Effects: Damage to Life Systems on page 68, the power plant cooling requirements are listed as 0.3 and 0.5 percent of the average annual volume of the river, but the requirements during low flow periods are not mentioned. Tables should be included that show these requirements with respect to time of year and river flow; biological productivity and concentration of organisms varies with both these factors.

In the draft environmental statement - supplements and additions, section 3.2.2, Heat Dissipation Alternatives, page 3-31, it is indicated that the blowdown from the cooling towers will not be returned to the river via a diffuser, not through the holding pool as indicated in the draft environmental statement. It would seem desirable to utilize both systems to take advantage of the additional cooling provided by the pool.

^{1/} Hutt, Art. "Limits in Siltation". Florida Conservation and Engineering, 1971, pp.26-27.

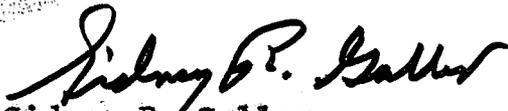
On page 3-49, in the section on Cooling Tower Blowdown, information should be supplied concerning the levels of residual chlorine that are expected in the blowdown during chemical defouling of the cooling system.

The text mentions that there is low tornado frequency in the area. This is true and it is interesting to note that analysis of the tornadoes in the United States show this general area has the lowest probability east of the 100th meridian.

Since the cooling towers will be designed on patent authorization from European patent holders, the design should be well engineered. It should be indicated that recent experience in Europe indicates cases of destruction of the towers by resonance rather than high winds. If the natural draft towers should become inoperative, an overspill of excessive heat into the river may occur.

We hope these comments will be of assistance to you in the preparation of the final statement.

Sincerely,



Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

cc: Mr. Lester Rogers, Director
Division of Radiological and
Environmental Protection
U. S. Atomic Energy Commission
Washington, D. C. 20545