

**Attachment E**

Letter from Dr. John F. Brown, SC Dept. of Health and Environmental Control  
providing response to request for evaluation of risk from thermophilic organisms  
dated July 27, 2000

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Ms. Mary M. Santini  
Group Environment, Health & Safety  
Duke Power  
13339 Hagers Ferry Road (MG0303)  
Huntersville, NC 28078-7929

Re:Duke Power/Catawba Nuclear Station, Units 1 and 2/ Environmental Report - Operating License Renewal/Thermophilic Microorganisms

Dear Ms. Santini:

Thank you for the technical documents you sent relative to public health considerations of thermophilic microorganisms and their application to the Catawba Nuclear Station cooling lake. I have reviewed this material and related technical information in my own library.

While some microorganisms associated with thermal water discharges, especially related to air conditioning cooling towers, have been demonstrated to have deleterious human health effects, these events have occurred rarely and none have been identified with heated water sources associated with nuclear power plants, to my knowledge.

Pathogenic species of Legionella bacteria and Naegleria amoeba have been identified in heated cooling waters associated with nuclear plants. In most cases, the heated waters showed a very small increase (approximately 10-fold) over unheated source waters, but were substantially higher in source waters in a few cases.

The most likely exposure to Legionella aerosol would be to workers within the plant. This would not impact the general public beyond the plant boundaries. A similar exposure possibility exists for Naegleria amoeba, with slightly greater exposure potential for swimmers.

The potential public health hazard from pathogenic microorganisms whose abundance might be promoted by artificial warming of recreational waters is largely theoretical and not substantiated by available data. There is some justification for providing appropriate respiratory and dermal protection for workers regularly exposed to known contaminated water, but there seems no significant health threat to off-site persons near such heated recreational waters. Routine monitoring for pathogenic microorganisms could be established if suspicious illnesses arose or if there were significant community concerns. Please contact me at 803-898-0652 if you desire additional discussion of this matter.

Sincerely,

*John F. Brown, DVM, PhD*

John F. Brown, DVM, PhD  
State Toxicologist