

# South Carolina Department of Health and Environmental Control

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2600 Bull Street  
Columbia, S.C. 29201

April 2, 1982

50-413/414

Mr. John Lehr  
Environmental Engineering Branch, AR-5200  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Re: Duke Power - Catawba Nuclear Station  
York County

Dear Mr. Lehr:

As we discussed on April 1, 1982, I've enclosed a copy of the water quality standards for S.C. industry. If you need more specific information, please feel free to call.

You were correct about the AEC requiring cooling towers for the Catawba Nuclear Plant. This happened in 1973 and was based on a study done by Duke Power. Since Duke Power is doing all the treatment technically available, this Department is not requiring any thermal plume studies. The projected flow rate of the cooling tower blowdown is approximately 60 cfs and should not be environmentally harmful.

To evaluate thermal plume data, this Department has required the thermal plume gradient 5° above ambient temperature not to exceed 25% of the cross section or 1/3 the surface area of the receiving waters and can not exceed 90°F. Any deviation would require a 316-A demonstration. Currently, we use the 18°F thermal plume gradient because it is more defined and less affected by outside forces (wind, etc.), but is not subjected to an area limitation. However, in the overall analysis, we still consider the 5° thermal plume and the area involved.

Please call if any additional information is needed.

Sincerely,



Brad Peacock, Engineer  
Industrial & Agricultural Wastewater Division  
Bureau of Wastewater & Stream Quality Control

BP/jf

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Add E. Adensom  
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