UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

June 24, 1986

Mr. John P. Nolan
600 Airport Road, #209
Chapel Hill, North Carolina 27514

Dear Mr. Nolan:

I am pleased to respond to your letter to Mr. Denton which we received June 11, 1986, in which you expressed certain concerns about the Shearon Harris nuclear power plant. Specifically, you stated that "Carolina Power and Light has not conducted a full participation test of the present emergency plan." You also requested that "at least until such time as state and local governmental participation....is fully resolved, no exemption(s) from the requirement of a full participation test within one year prior to the granting of any full power license should be considered or approved," and that the NRC should "extend the evacuation zone to a larger region to include Chapel Hill."

In response to your statement that Carolina Power and Light (CP&L) has not conducted a full participation test of the present emergency plan, there was a full participation exercise conducted May 17-18, 1985, in which the State of North Carolina, and Wake, Chatham, Harnett and Lee counties participated. The Federal Emergency Management Agency (FEMA) reported that, based on a review of the exercise, the state and local emergency plans are adequate and capable of being implemented, and the exercise demonstrated that offsite preparedness is adequate to provide reasonable assurance that appropriate measures can be taken to protect the health and safety of the public living in the vicinity of the Shearon Harris nuclear power plant in the event of a radiological emergency.

Regarding a possible exemption from the requirement to conduct an exercise within one year prior to full power authorization, CP&L has stated by letter dated June 10, 1986, that they are now in the process of consulting with involved off-site response organizations on the scheduling of exercises for the Shearon Harris Plant. Furthermore, CP&L requested that the NRC staff hold in abeyance active review of the exemption request and the request for a hearing until the consulting process has been completed. At that point, CP&L will then provide additional information to the NRC staff for review. Consequently, the NRC staff will not act on this matter until the above cited additional information has been provided.

With respect to your comment on increasing the Plume Exposure Pathway Emergency Planning Zone (Plume EPZ) around the plant, commercial nuclear power plants in the U.S., based upon requirements of the NRC, have two concentric emergency planning zones (EPZs). EPZs are defined as the areas for which planning is needed to assure that prompt and effective actions can be taken to protect the public in the event of an accident. The choice of the size of the Emergency Planning Zones represents a judgment on the extent of detailed planning which must be performed to assure an adequate response. In a particular emergency, protective actions might well be restricted to a small part of the planning zones. On the other hand, for the worst possible accidents, protective actions might need to be taken outside the planning zones.

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The first zone, called the Plume Exposure Pathway EPZ, is an area of about 10 miles in radius from the center of the plant. The major protective actions planned for this EPZ, evacuation and sheltering, would be employed to reduce fatalities and injuries from exposure to the radioactive plume from the most severe of the core-melt accidents and to limit unnecessary radiation exposures to the public from less severe accidents at nuclear power plants. The second zone, called the Ingestion Pathway EPZ, is an area of about 50 miles in radius from the center of the plant. The major protective actions planned for this zone, putting livestock on stored feed and controlling food and water, would be employed to reduce exposure to the public from ingestion of contaminated food and water. The ingestion exposure pathway EPZ of 50 miles was selected because federal protective action guidelines would generally not be exceeded beyond 50 miles for a wide spectrum of hypothetical accidents.

The response measures established within the 10-mile and 50-mile EPZs can and will be expanded if the conditions of a particular accident warrant it. Also, although an EPZ is generally circular, the actual shape is determined based on local factors such as demography, topography, access routes, and governmental jurisdictional boundaries at a particular site. Smaller EPZs have been established for gas-cooled power reactors and smaller water-cooled power reactors.

The principal technical documents that describe the process of defining the size of the EPZs and the planning and protective measures to be taken within them are NUREG-0396, EPA 520/1-78-016, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light-Water Nuclear Power Plants," December 1978 and NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980. The principal technical study upon which the sizes of the emergency planning zones were based is NUREG-75/014, "Reactor Safety Study: An Assessment of Accident Risks in U.S. Commercial Nuclear Power Plants," October 1975, WASH-1400. I would also like to point out that the North Carolina State Emergency Plan in support of the Shearon Harris plant, CP&Ls Corporate Emergency Plan, and the Shearon Harris Nuclear Power Plant Emergency Plan are all located at the local public document room at the Wake County Public Library, Fayetteville Street, Raleigh, North Carolina.

I hope that the above discussion is responsive to your concerns.

Sincerely,

/s/

Bart C. Buckley, Senior Project Manager
PWR Project Directorate No. 2
Division of PWR Licensing-A
Office of Nuclear Reactor Regulation

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Docket w/incoming	HDenton	LRubenstein	DMiller	AJohnson(2)
NRC PDR w/incoming	TNovak	BBuckley	DMatthews	DMossburg PPAS
LA:PD#2:DPLA	PD#2:PM:DPLA	EPB F.Cantor by phone	PD/PD#2:DPLA	
DMiller	BBuckley	for DMatthews	DMcDonald	
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