June 17, 1986

Ms. Davies
424 Westcliffe Ct.
Raleigh, North Carolina 27606

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D. Matthews, EPB

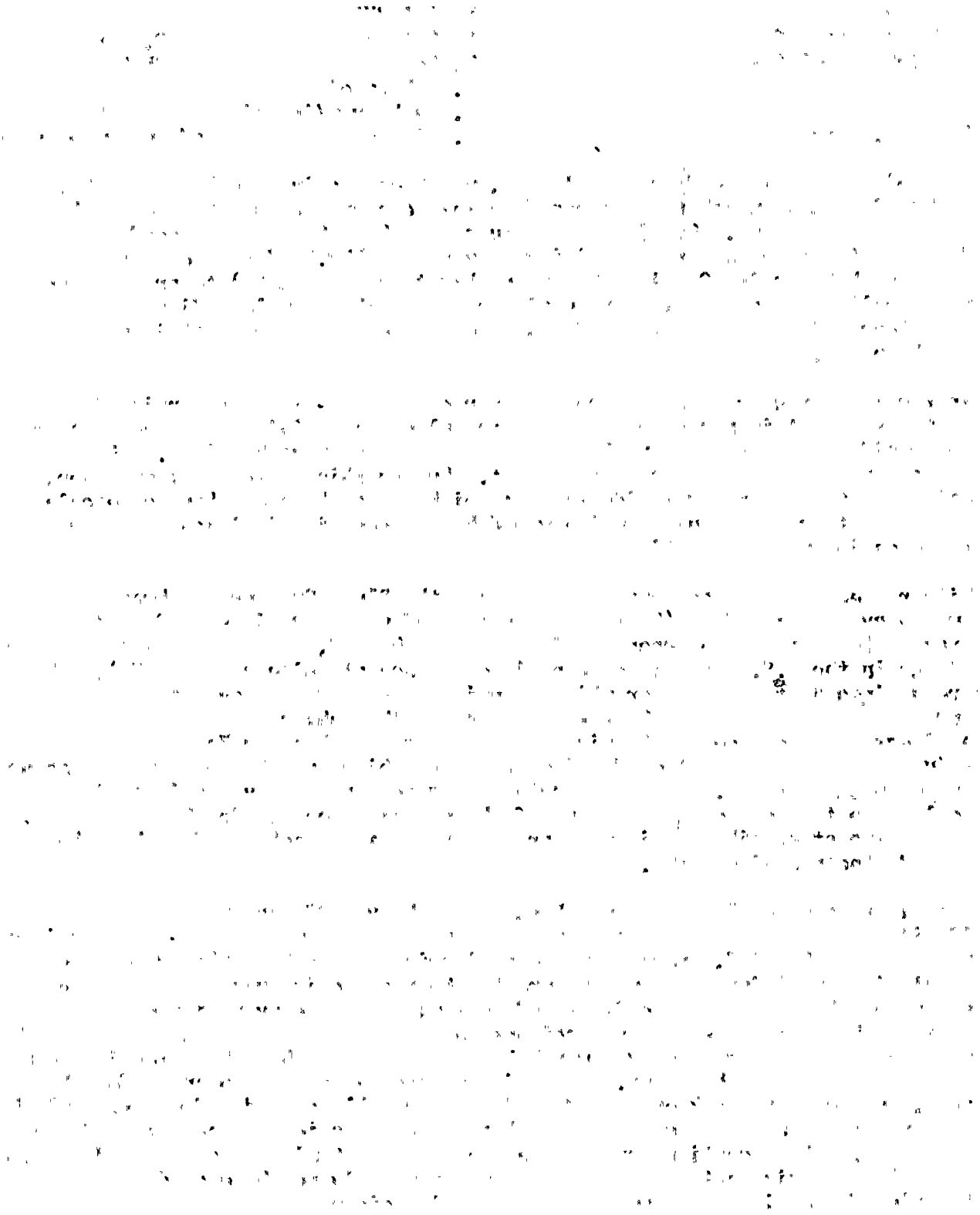
Dear Ms. Davies:

I am pleased to respond to your letter, which we received on May 27, 1986, to Mr. Denton in which you expressed certain concerns about the Shearon Harris nuclear power plant. Specifically, you state that the safety record to date for the Shearon Harris facility is very "shabby." You also requested that the NRC require Carolina Power and Light Company (CP&L) to prepare and make public a comprehensive evacuation plan for the 25 mile radius around the Shearon Harris facility, and that the NRC conduct a thorough inspection of the plant.

In regard to your concern on the safety record at the Shearon Harris Plant, an NRC resident inspector has been at the plant since July 1980, and at least two resident inspectors have been at the site since November 1983. There are presently three inspectors at the plant. During this period of inspection, no major safety concerns were identified; neither was there any kind of escalated enforcement action required which would be the case if significant safety deficiencies were identified.

With respect to your comment on increasing the Plume Exposure Pathway Emergency Planning Zone (Plume EPZ) from a radius of 10 miles to 25 miles around the plant, based upon requirements of the NRC, commercial nuclear power plants in the U.S. 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.

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.

The Federal Government will study the reactor accident in Russia along with other ongoing studies in the U.S. and abroad to determine if the size of the present emergency planning zones around U.S. commercial power plants needs to be reevaluated.

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.

With respect to NRC inspection activities at the Shearon Harris site, as mentioned above, there are currently three full time NRC resident inspectors at the site. In addition to the above inspection activities, special inspection teams composed of approximately 10 to 15 professionals, including NRC consultants, have conducted in-depth inspections at the site. Moreover, NRC inspection teams have conducted site inspections in the past and our inspection activity is being intensified as the plant construction is nearing completion. I can assure you that all appropriate inspection activities are being taken to assure that the Shearon Harris plant is being constructed in accordance with its design criteria.

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

Sincerely,

B.C. Buckley

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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