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Division of Licensing

SUBJECT: Comments on DES (NUREG-0972) re plant operation.Requesting public comments after decision supporting issuance of OL made inappropriate.

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108 Bridle Run
Chapel Hill, North Carolina
July 1, 1983

Nuclear Regulatory Commission
Washington, D. C. 20555

Att: Director, Division of Licensing

Docket No: STN 50-400
STN 50-401

Dear Sir or Madam:

This letter is in response to the Draft Environmental Statement (NUREG-0972) related to the operation of Shearon Harris Nuclear Power Plant, Units 1 and 2, Carolina Power and Light Company. My responses are in the form of criticisms and questions.

1) I think it is inappropriate to ask the public for comments after the decision has been made to support issuing an operating license to the plant. "The action called for is the issuance of an operating license for Shearon Harris Plant, Units 1 and 2." (page iii, signed by Dr. Prasad Kadambi, NRC)

2) Throughout the document, dose estimates and effects of radiation exposure are given as average doses to the population of a state, region, etc. Is this a deliberate attempt by the NRC to camouflage the effects? Anyone who thinks about the situation understands that not everyone will receive equal doses of radiation. By using averages, the true impact tends to be washed out. Is this the intention of the NRC? An example of this doublethink is on page 5-26 "The annual dose commitment is calculated to be the total dose that would be received over a 50-year period, following the intake of radioactivity for 1 year under the conditions existing 20 years after the station begins operation." I understand why the power companies want to maintain this confusion; I don't understand the motivation for the NRC's doing this.

3) The graphs on pages 4-63 are set up to be unreadable by a lay person. Is this the intention of the NRC? If all those who are potentially victims of radiation damage were trained mathematicians or physicists, then it would be fair to put the information concerning their safety and welfare in these terms. As it is, very ordinary people risk getting cancer or seeing their children die of leukemia. It is the worst kind of elitism, it seems to me, to toy with them in this way. People must know the risks they face by living within 20 or so miles of an operating plant, and the NRC is the government agency which has the mandate to be honest with them. People must know the risks in order to take responsibility for their own welfare; this is the essense of a democratic government. Because these figures are obscure, I will use the estimates made by the NRC for the Sumner Plant when I talk to the press or to groups in the community. These estimates indicate that Chapel Hill, which is 20 miles from the Shearon Harris Plant, faces the possibility of 50 to 500 early fatalities from a worst case accident, which, as we have seen from TMI, may be remote as a meteor hitting the White House or may be a one out of one chance. Any statistician knows that probability calculations are nearly useless when an event is as rare as the ones we are considering. Let's all be honest and say that what we are dealing with when probability figures are set down is an act of faith. Again, what is the payoff for the NRC in couching these figures in graphs that are virtually unreadable by ordinary people?

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4) What does the first sentence in the second paragraph on page 5-26 mean? I tried to diagram it and parse it in various ways, but it doesn't work. It sounds as though it may be important.

5) On page 5-72, the document estimates that a release into the groundwater would take 6.7 years to reach surface water and that in that time engineering measures could be taken so that "radioactive contamination may be isolated near the source." Is there at present the engineering capability to do this, or are those of us who will be asked to use that surface water supposed to take this as a promise that there will be such a capability 6.7 years from now? If such an engineering feat is possible now, why isn't this method being used to keep dioxin and other toxins from reaching the underground water supplies that are presently endangered?

6) On page 5-82, there is a discussion of the uncertainties of the probabilistic and risk assessment methodologies used in this analysis; in other words, there are many important facts that are both unknown and unknowable. One example cited in the discussion is as follows: "In the consequence calculations, uncertainties arise from an over-simplified analysis of the magnitude and timing of the fission product release, from uncertainties in calculated energy release, from radionuclide transport from the core to the receptor, from lack of precise dosimetry, and from statistical variations of health effects." There may be a variation "well over a factor of 10, but are not likely to be as large as a factor of 100." This says to me that all the probability calculations in this report could be up to a hundred times less or—and this is the greater worry—a hundred times worse than calculated here. My question is this: how can the NRC in good conscience recommend that the plant, or any plant, be licensed, if there are areas as important as the ones listed in the quote above in which the uncertainties are endemic? Just the last-mentioned item, health effects and the statistical variations in knowing just what damage radiation does or has done, would seem to be critical enough to hold up licensing. What kind of people and what kind of government would allow such a potentially dangerous (with such great "uncertainties") entity to be operated within such close proximity to a really sizeable population? Again, I understand why the power companies are cavalier about the uncertainties, dismissing them as inconsequential. I don't understand why the NRC is so eager to license the plant, or any plant, with such large areas of concern unknowable. The report admits that it is possible for a certain kind of accident to take out a sizeable portion of North Carolina and that there are many variables which are not calculable—and then suggests that the plant be licensed. Please tell me how the two sides of this equation fit together. It is frightening to read that you are suggesting that the plant be licensed on one page and to read on another that "the state of the art for quantitative evaluation of the uncertainties in the probabilistic risk analysis such as the type presented here is not well developed."

7) It is my understanding that there is no baseline data on background radiation for the area of North Carolina where I live. Yet this report speaks of an "average" for the state of North Carolina. Could you tell me where I might find a report of the study of background radiation for this state, and would you send me the data which applies to the Chapel Hill-Durham area specifically?

8) On page F-3 in which you are talking about the evacuation model, the report states: "For these people outside of the evacuation zone and within 40 km (25 miles), a reasonable relocation time span of 8 hours has been assumed, during which each person is assumed to receive additional exposure to the ground contamination." It is my understanding that people outside the 10-mile zone

will have no emergency warning sirens, no evacuation planning, no in-place monitoring capability, no training in sheltering, no potassium iodide. May I assume from this atatement about "relocation" within 8 hours (which is a formidable task even without the huge medical and university complex Chapel Hill has within its bounds) implies that we will be given these protective measures. Please clarify your meaning here. To say that we would be "relocated" without the things listed above is an empty statement.

I am writing this response because it makes me feel that I am doing the little bit I can do to counter the madness of being asked to live twenty miles from something that could exterminate me and everything I love at worst or give a portion of our number cancer at the least. I have come to believe that those of you in the bureaucracy who are and have been planning this madness have—for whatever reason—closed your minds to any concerns held by ordinary people. I have an awful suspicion that you get letters like mine and have a good laugh, dismissing them as misguided, subversive, or whatever. I hate being so cynical, but my three and a half years of involvement with the nuclear industry and the NRC (my own involvement being solely as a private citizen) has given me little assurance that the welfare and safety of people figure into the conclusions in any real way. Someone made a big mistake when CP&L was allowed to site the plant in the high-density area it is in, and now the rest of you are engaged in a multi-billion dollar cover up to save the initial investment—and the rest of us don't count. What real difference does it make if a couple of children or so die of leukemia because of the neighborhood nuclear plant? That is, after all, an "acceptable rate of loss."

I appreciate your hearing my concerns.

Sincerely,

Phyllis Lotchin

(Dr.) Phyllis Lotchin