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SUBJECT: Responds to NRC 781220 ltr to G Hart re need for power from proposed site. Believes truth is missing from administrative proceedings. Claims forecasts have been consistently too high.

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THE UNIVERSITY OF CHICAGO  
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Lee V. Gossick  
Executive Director for Operations,  
USNRC

Dear Lee Gossick:

Mrs. Frederick Waage of Pittsboro NC has asked me to respond to your letter of 12-20-78 to Gary Hart re the need for power from the proposed Shearon Harris Nuclear Power Plant (dockets 50-400/403).

I believe your letter explains well how the NRC has followed its administrative procedures on this issue. But one important ingredient of good decisionmaking is missing from these proceedings so far: the truth, as evidenced by the actual growth of CP & L's peak load. I am a CP & L stockholder of long standing (before they ever decided to risk more money than the whole company is worth on this one nuclear plant), and I use figures supplied by CP & L throughout this letter.

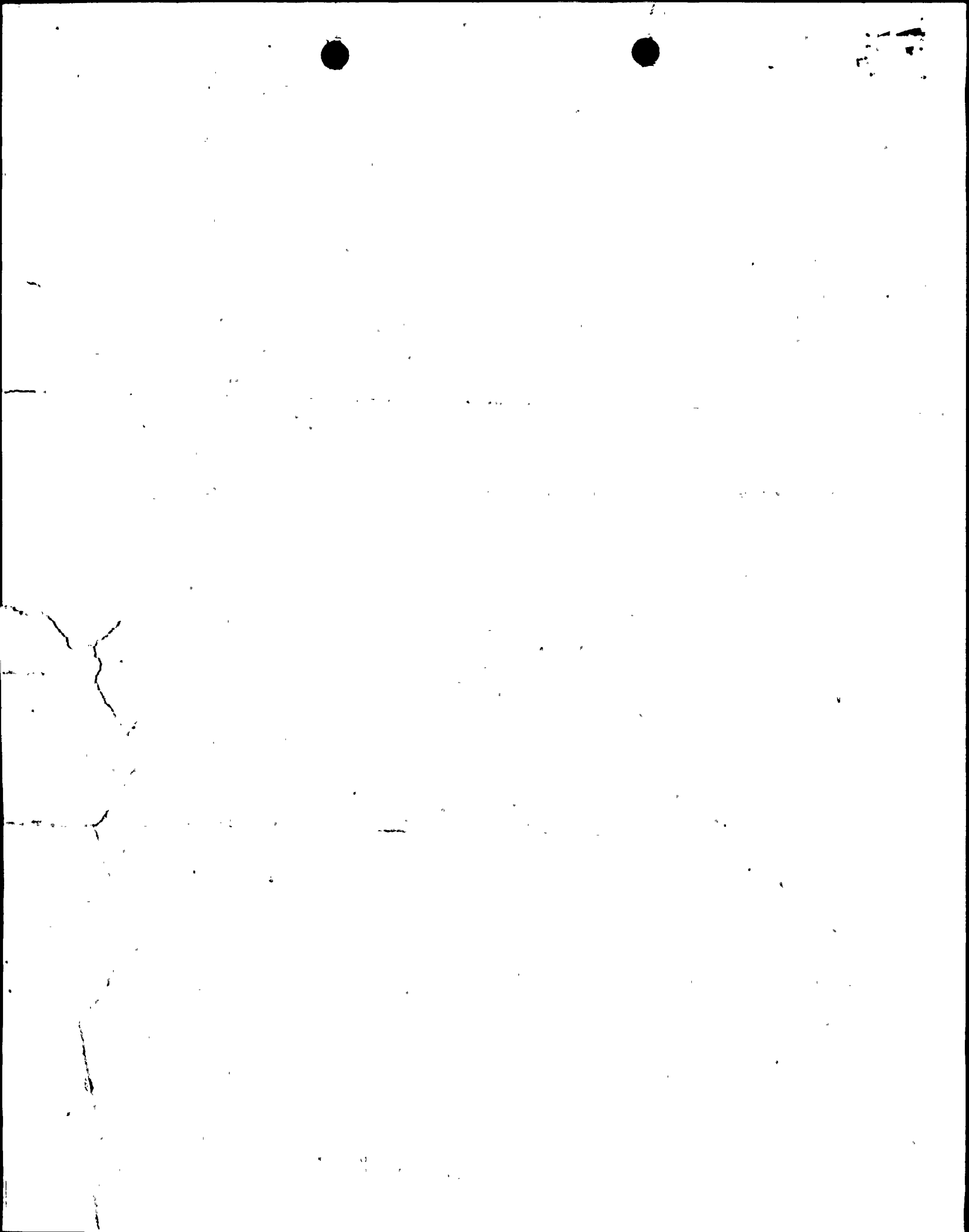
Before 1970, CP & L had been producing electricity at steadily declining cost, both in constant dollars and in current dollars. Since that time, CP & L's rates have risen faster than inflation. (Coincidentally, CP & L's first nuclear plant came on line in 1971, I believe. The large capital costs of nuclear plants have accounted for a large percentage of rate increases granted CP & L since then, according to CP & L's own reports to shareholders, e.g. "about 3/4" of a 15% increase, and a 35% increase "principally associated with the costs of bringing the Brunswick (nuclear) units on line"). Since 1972, demand has grown as CP & L has projected it only in one year (1972-73, when the rate of increase was about 6%). Due to increasing electricity costs, market saturation and other factors, CP & L demand has averaged only a 3.3% annual increase from 1973-78. So far in 1979, there has been no new peak, though CP & L has been a winter-peaking system in recent years.

Thus, CP & L and the ASLB and the NC Public Utilities Commission forecasts have one thing in common: They have been consistently wrong, consistently too high. Let me take the two latest forecasts I know as examples: In December 1978, NCPUC projected 5.2% growth in CP & L peak and on that basis asked CP & L to show cause why its entire construction schedule should not be delayed a year. CP & L that same month projected growth at a 5.35% rate. Taking the 1975 peak of about 5,220 MW, either of these forecasts would imply annual increases of about 270 to 300 MW per year. Peaks would then project as follows: 1976 5390 to 5420 MW, 1977 5660 to 5720 MW, 1978 5930 to 6020 MW, 1979 6200 to 6320 MW. The actual 1978 peak was 5,605 MW. It is plain that such forecasts are already leaving reality far behind. Indeed, I wouldn't be surprised if 1979 peak growth is so small that the 1973-79 average compound growth rate works out to only about 3%.

My projections using 3.3% (actual) peak demand growth rates show the first "need" for the first harris unit would then be in the early 1990s to mid 1990s, outside the time frame the ASLB considered. This board is not charged simply to weigh the arguments raised, but to find the truth, as shown by the requirement for hearings even when there are no intervenors arguing against a utility's claims. The ASLB has not performed this duty, and the evidence that it has not is steadily growing.

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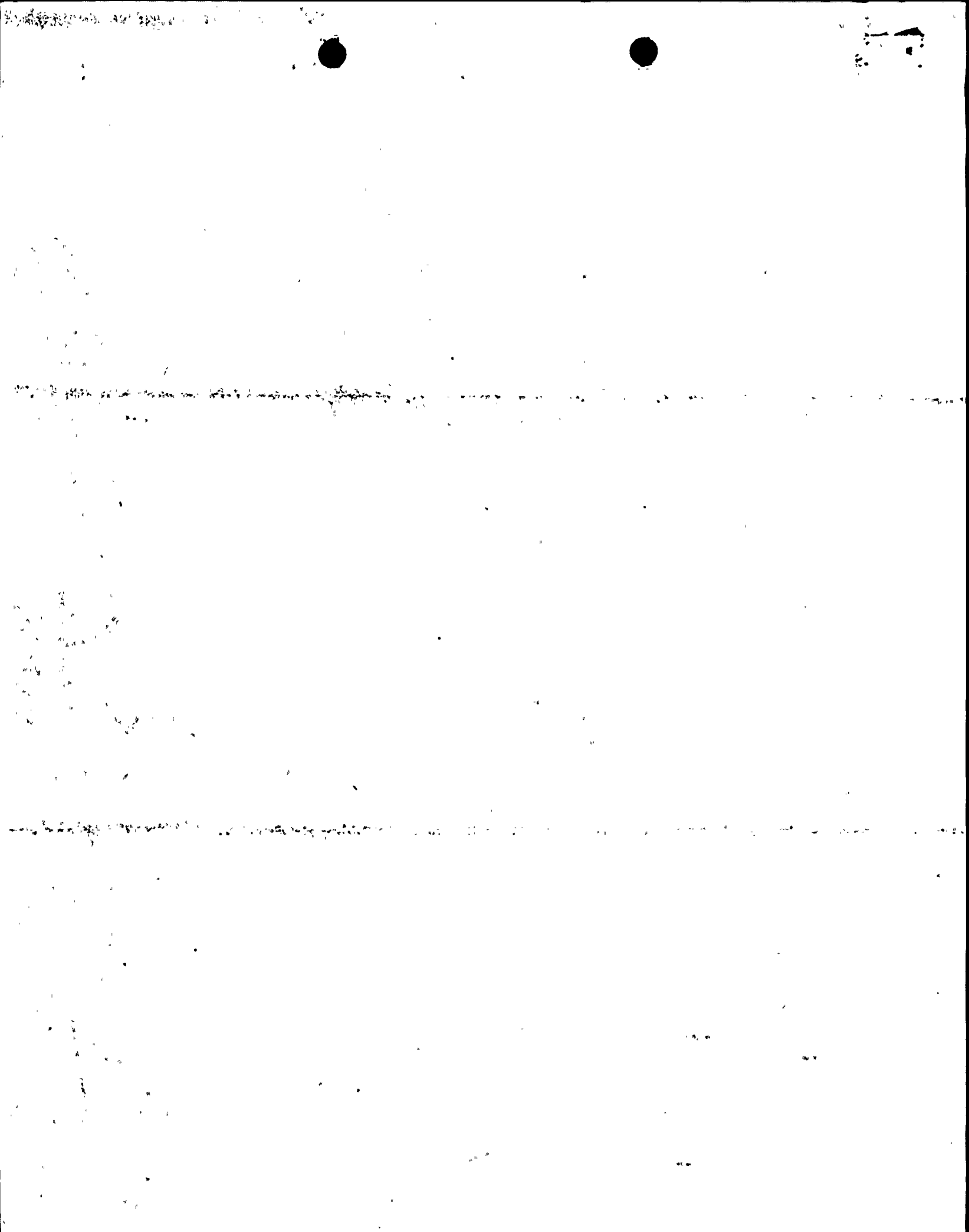


Moreover, speaking as a working conservation manager and energy consultant, I know of many mechanisms whereby significant cuts in electric demand could be made throughout the CP & L system without loss of any function now delivered by electricity. Among the most obvious of these are better insulated water heaters, more efficient motors and appliances, and waste heat recovery. Constructing the Shearon Harris plant at a cost of \$4.2 billion will simply force electric rates that much higher and make the economics of conservation, insulation, solar space and water heating, and other alternative sources of energy that much more attractive.

Therefore it is my considered view that the long term growth of demand on the CP & L system will be even less than the 1973-78 rate, i.e. less than 3.3% annually. We shall see what actually happens. I may be wrong, and CP & L's experts may be right for the first time in some years (nearly a decade). But I want to emphasize the costs if they continue to be wrong. Unnecessary construction on the Harris facility could lead to increased electric bills long before any power can be delivered, due to Construction Work in Progress charges. If approved, such charges might begin this year and continue into the mid- or late 1980s without any electricity being delivered. Moreover, the entire Harris plant, if built, would overload the CP & L system with baseload capacity. Counting 700 MWe at the Robinson nuclear plant and 321 MWe at each Brunswick nuclear unit, we have 2342 MWe committed baseload capacity, not much less than the existing annual base load (at the early morning hours when the lowest demand on the system is reached.) If 3600 MWe from the Harris plant were added to that, there would be 5942 MWe of baseload capacity in the 1980s on a system that has yet to peak above 5605 MWe for total PMAK demand. To require nearly 6000 MWe of baseload capacity implies a system made much more efficient through much greater baseload loads, or a system peak of around 12000-15000 MWe. Such projections of system peak were made (at an 11% annual growth rate) in the earliest proposals for the Harris plant, but these have long since been abandoned as unrealistic. What this means is that if the Harris plant is built on schedule, its capacity cannot be fully utilized as a base load. Yet high capacity factors are the basis of nuclear power economics -- the tremendous capital investment in nuclear plants must be spread among a large number of KWH to keep the electricity costs competitive. If the Harris plant is built when there is no need for such an enormous baseload capacity, it will actually force electric bills even higher due to being inefficiently used. There is also the matter of higher customer charges to provide a rate of return on the \$4.2 billion investment. Moreover there is evidence leaked by CP & L cost accounting and other personnel that the actual costs may now be between \$6 and \$8 billion. For all these reasons the Harris plant will doom itself economically by driving up electric rates which will lead people to turn to other sources of energy and eliminate the "need" for the Harris plant.

There could be few worse financial disasters for a company than to build one plant worth more than all the rest of the company is, and find that it is not needed.

I would like to add these comments on other issues: It is likely the costs of the Harris plant will exceed its benefits in any case due to the tremendous rate of cost increases in nuclear power plants. There is as yet no solution to the problem of nuclear waste. The ALAB -477 decision requiring realistic plans to resolve all safety issues during construction has yet to be applied to the Harris plant and may halt construction when it is applied (the sooner the better- why risk building an unsafe plant at great cost?).



There are many problems associated with long-term operation of large reactors, e.g. "green grunge" in steam generators, steam generator tube failures, stress to pipes, vessels and welds from heat, pressure, radiation, corrosion etc, instrumentx and electrical failures due to heat, moisture, pressure etc. Any of these can require extensive repairs and long outages for refitting. Thus we have operating experience telling us these plants will have more problems than had been thought.

And of course there is the issue of radiation protection. The Harris plant is projected to release a whole-body dose of about 22.6 mrem/year at the plant boundary. With the legal limit down to 25 mre/year and the 22.6 being based on perfect operation, no abnormal releases, the public has reason for serious concern. If, in the light of new evidence such as the Mancuso-Stewart-Kneale studies, radiation protection limits must be lowered yet again, the public may face excessive exposure from the Harris plant. More importantly, experts such as Dr. Thomas Elleman, head of the Nuclear Engineering Department at NC State University, believe lower exposure standards for workers (260 mrem/year) would force the nuclear industry to shut down entirely. This is a real possibility that is not being taken into account in current licensing.

These additional issues give me even more reason to believe that the Shearon Harris nuclear power plant is an unnecessary risk to the public, the stockholders and the taxpayers. Under these circumstances continuing investment in it is at best ill-advised. I have already petitioned the Commissioners of the NRC to stop construction and reopen hearings on this plant for many reasons, including several cited in this letter. I have yet to receive a response, even a notification that my petitions have been received. I would appreciate knowing what is being done with these petitions or whether they have been lost in the mails (I can supply copies).

There is one last point I'd like to make: the Appeal Board denied the intervenors any further hearings on need for power because the new evidence (of 1978) favored their position, thus they were not entitled to cross-examine it. This view is ridiculous. It says that because the intervenors may be right, they cannot have a hearing to determine if they are. (Of course, if they were shown to be wrong by the evidence, the same result would follow. Moreover, as I've pointed out, the evidence continues to show the CP & L and NRC Staff positions are wrong.) This is heads-they-win, tails-you-lose decisionmaking and there is too much of itx going on in the NRC. I am heartened by such sensible decisions as the rejection of much of the "Rasmussen report". In these decisions the facts have been recongnized. But in many others, e.g. this Shearon Harris case, the facts are still on the sidelines.

Looking at the situation at any given time in this Shearon Harris case, I'm sure anyone could agree that there are many good arguments on both sides. But looked at over time, CP & L's arguments are seen to be collapsing under the weight of facts, although slowly and reluctantly. I submit that construction of this project should be halted immediately so that consideration of the facts, when they finally prevail, will not be prevented by the economic losses that would be involved in shutting down a plant with billions invested in it. A loss of the \$500 million already invested is substantial, but if the plant is not needed what is involved is not a \$500 million loss, but a savings of \$3.7 billion in capital and much more in electric bills in the future. Moreover, as a shareholder I know CP & L can survive a \$500 million loss. A \$3 billion loss would bankrupt us, most likely, wiping out all the shareholders' investments. I think the benefits of stopping construction now outweigh the costs by a substantial margin, given the enormous losses possible if the plant is built and not needed or not fully useable.



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