

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

In the Matter of:

CAROLINA POWER AND LIGHT	)	
COMPANY, <u>et al</u> (Shearon Harris	)	Docket Numbers 50-400 and
Nuclear Power Plant, Units 1	)	50-401, Operating Licenses.
and ?)	)	

KUDZU ALLIANCE'S SUPPLEMENT  
TO PETITION TO INTERVENE

Pursuant to 10 CFR Section 2.714(a) (3)(b) and the Board's Order of April 2, 1982, Petitioner Kudzu Alliance hereby files this Supplement to its Petition to Intervene listing the contentions which it seeks to have litigated in this matter, and the bases therefore, fully reserving its right to amend or expand this filing on the basis of information not now known to Petitioner, such as may be contained in amendments to the Applicants' Final Safety Analysis Report, Environmental Report, or Application, or in the Commission Staff's Safety Evaluation Report or Environmental Statements, which have yet to be filed in this proceeding; or for other good cause as provided for by 10 CFR Section 2.714(a)(1). Should the Board construe any of these contentions as an attack upon any rule or regulation of the Commission, or any provision thereof, Petitioner requests that such rule or regulation be identified and that Petitioner be permitted to seek an exception to or waiver of the application of such rule or regulation with respect to this particular proceeding.

Petitioner Kudzu Alliance would respectfully show that the Application for the necessary licenses to own, use and operate the

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facilities known as Shearon Harris Nuclear Station, Units 1 and 2, should be denied or appropriately conditioned since the grant of such licenses would contravene the National Environmental Policy Act of 1969 (NEPA), Pub. L. 91-190, 42 U.S.C.A. Section 4332, where the environmental costs will outweigh the economic, technical or other benefits, new and additional information now being available which alters the consideration made at the Construction Permit stage for the facility; and the requirements of 10 CFR Section 50.57 cannot be met where the Applicants cannot demonstrate that the facility has been constructed in conformity with the construction permit, that it has been constructed and will be operated in conformity with the Application, the Atomic Energy Act, and the rules and regulations of the Commission; the Applicants are not technically or financially qualified to engage in the activities for which they seek licensing; and there is a lack of reasonable assurance that license activities will be conducted in compliance with Commission regulations or that such activities can be conducted without endangering or being inimical to the health and safety of the public; in support of which Petitioner Kudzu Alliance would contend:

1. The long term somatic and genetic health effects of radiation releases from the facility during normal operations, even where such releases are within existing guidelines, have been seriously underestimated. The Applicant and Staff have relied upon estimates of the health effects of low-level ionizing radiation which are too optimistic. Dr. Karl Z. Morgan of Georgia Tech and others have attacked the BEIR report, for example, for seriously underestimating health effects. The effects are also estimated

based on the erroneous assumption of a healthy population with an age of approximately 30, ignoring the fact that fetuses and young children are much more susceptible to the long term effects of radiation. The NRC's analysis also underestimates the health effects of radiation doses actually received as detailed in the work of Gofman (see, e.g. Radiation and Human Health, 1981) and Mancuso, Stewart and Kneale. Moreover, the studies of radionuclide uptakes by Bernd Franke of the University of Heidelberg cast considerable doubt on the validity of NRC food chain calculations. The NRC analysis is also suspect in that it does not use the larger or largest values for the concentration of radionuclides obtained by independent scientific research (see, e.g. those results summarized in NRC Translation #520).

2. The Applicants and Commission Staff have failed to adequately assess the impacts of a serious accident at the facility, beyond design basis. The probabilistic analysis employed in the Reactor Safety Study (WASH 1400) has been so seriously criticized as to make its use in licensing proceedings as a basis for decision-making entirely inappropriate. "The consequence model used in WASH 1400 should be substantially improved, and its sensitivities explored, before it is used in the regulatory process." NUREG CR 0400, "Risk Assessment Review Group Report to the U.S. Nuclear Regulatory Commission, H.W. Lewis, Chairman," p xi. The design of this facility differs from that of the reference reactor considered in WASH 1400 in such significant manner as to adversely affect the probabilistic risk assessment employed in that study and relied upon <sup>by</sup> Applicants. "Reactor Safety Study Methodology Application Program: Sequoyah #1PWR Power Plant," NUREG CR 1659/1

of 4 (February 1981), ER-OL 7.1-1. Environmental consequences of serious accidents specifically including "(H)ealth and safety risks" and "(S)ocioeconomic impacts that might be associated with emergency measures during or following an accident should also be considered" in the environmental impact consideration in licensing. "Nuclear Power Plant Accident Considerations Under the National Environmental Policy Act of 1969, Statement of Interim Policy", 45 FR 40101 (June 13, 1980).

3. The economic costs of a severe accident with release of radiation to the environment (a so-called Class 9 accident) were not considered in the construction permit review for Shearon Harris. Such an accident could have enormous cost consequences especially in the event of an atmospheric release with the winds blowing in the direction of the major population centers of Raleigh, Durham, Chapel Hill or Cary.

4. Carolina Power and Light Company lacks the management capability to safely construct and operate Harris Units 1 and 2 in that, of the supervisory personnel on the Harris site, listed with their vitas at pp. 13.1.3-1 to 14 of the FSAR Amendment #2, only the site manager has PWR (electric) construction and operating experience. All of the other supervisory personnel are essentially receiving on-the-job training through the construction of the Harris plant. Certainly the one experienced person cannot closely and adequately oversee and supervise all phases of construction occurring at the Harris site.

5. Carolina Power and Light Company lacks the management capability to safely construct and operate Harris Units 1 and 2 as evidenced by their operation of the Brunswick Nuclear Plant.

Carolina Power and Light was much more directly involved in the construction of the Brunswick plant than of their other nuclear plant, the Robinson unit. Consultant A. Ronald Jacobstein, retained by the Public Staff of the North Carolina Utilities Commission (NCUC), filed a report (see NCUC Dockets Numbers E-2 Sub 428 and E-2 Sub 446) that concluded

During the mid-70's, CP&L management...did not properly address the staffing needs of the Brunswick station. As a result they were unable to respond to the acute needs of BSEP (Brunswick Steam Electric Plant) during the period 1978-1980. A backlog of problems developed during this time that simply overwhelmed the existing staff. These included: Main condenser failure, TMI-related modifications, Torus modifications, Pipe support evaluation and modification, Radwaste failure, Main Steam Valve and recirculation pump problems.

(Jacobstein report at page 7-3). Section 3 of Mr. Jacobstein's report provides a record of CP&L's understaffing and mismanagement during repairs and outages. It does not indicate a competent utility, nor one that is interested in efficiency or the health and safety of the public. Mr. Jacobstein's report also calls into question the representations made by CP&L during the 1979 hearings before the ASLB in Raleigh that management problems at Brunswick had been solved. In addition, upon information and belief, on more than one occasion CP&L has had to call in experts from the nearby General Electric nuclear fabrication and fuel facility to assist in controlling and operating the Brunswick plant. There will be no Westinghouse facility having such experts located near the Harris plant to provide the same type of emergency operating assistance currently available for CP&L's Brunswick plant. If, as at Brunswick, CP&L's own personnel is not capable of bring incidents at the Harris plant under control, the public's health, safety,



and property will be exposed to serious risks. There are no adequate assurances that the management problems evidenced at Brunswick will not also occur at the Harris plant.

6. Carolina Power and Light Company lacks the management capability to safely construct and operate Harris Units 1 and 2 as evidenced by the large amount of low-level radioactive wastes produced at the Brunswick plant. Section 5 of Mr. Jacobstein's report, cited earlier, describes how unusual contamination conditions were created by the design and repair deficiencies in the Brunswick plant. This clearly indicates inadequate and irresponsible management that places the production of electricity over and above plant maintenance, repair and health. In addition, CP&L has been dumping low-level radioactive wastes in local landfills, evidencing a complete disregard for the health and safety of the public.

7. Carolina Power and Light Company has insufficient and inadequate staff to safely operate the Harris Units along with the other nuclear plants it has in service. The management capability filings in this case consist mostly of organizational charts and plans. The qualifications of the actual individuals who staff the positions are not available, making it impossible to determine if the staff will, in fact, be able to safely operate the Harris Units, particularly in light of CP&L's record of continuing and worsening nuclear plant problems at its Brunswick and Robinson units.

8. Carolina Power and Light Company's cost-benefit analysis, calculated for all four Harris units in Section 11.0 of the Environmental Report and detailed more fully in section 8., indicates that the costs of the Shearon Harris plant slightly exceeds the benefits when the plant benefits are assumed over the same period as the

costs are calculated. Making more realistic assumptions of the costs for the first two units (see CP&L quarterly CWIP reports to NCUC of 12-31-80, 3-31-81, 6-30-81, 9-30-81 and 12-31-81), and calculating the cost-benefit for only 2 units makes the costs exceed the benefits by nearly \$3 billion! Thus under the National Environmental Policy Act (NEPA) construction should be halted immediately.

9. Carolina Power and Light Company's cost-benefit analysis is inadequate and erroneous under NEPA because it fails to take into account both the short-run and long-run price elasticities for electric demand. The addition of Harris Unit 1 to CP&L's rate base will increase fixed charges by about 75% above present levels, resulting in something like a 27% increase in charges to customers. Adding Harris Unit 2 to the rate base will raise total charges to customers approximately 14% more above present levels, resulting in a total increase on the order of 44% due to Harris. Utilizing average values for short-run and long-run elasticities as indicated by Lester Taylor in Volume 6, #1, pp. 74-110 of Bell J. Economics, and other economists (see, e.g. testimony of Dr. John O. Blackburn and Dr. E. Roy Weintraub, NCUC Docket No. E-100 Sub 35; testimony of Dr. Weintraub, Docket No. E-100 Sub 40) indicates that the cost increases necessitated by the addition of the two Harris Units will cause additional future sales of power to vanish. The long term effect (i.e. about 10 years) of the cost increases associated with the completion of Harris Units 1 and 2 could cause CP&L's sales to be as low as 69% of what they would have been without the Harris plants. These calculations assume that CP&L's sales forecasts and output of the Harris units is correct. In

fact, it is our contention that both of these estimates are highly erroneous, making the likely impact of the completion of the Harris Units even more devastating in reducing demand, mandating the abandonment of the project under NEPA.

10. Carolina Power and Light Company's cost-benefit analysis is inadequate under NEPA because it does not consider the immediate termination of the Harris project, and the reduction of demand for electricity that would result merely by passing on the "sunk cost" of the Harris construction to the customers. Applicant states in Section 1 of its Environmental Report that price increases are a means of causing energy conservation. Thus it is entirely appropriate to consider the energy conservation effects of price increases resulting from the cancellation of Harris Units 1 and 2 and charging those costs to the ratepayers, as CP&L is currently attempting to do in NCUC Docket No. E-2 Sub 444 for the costs associated with Harris Units 3 and 4 that have been cancelled. The conservation benefits from plant cancellation, using the same elasticities as indicated in Contention #9 above, can be obtained at considerably less cost than the conservation benefits from the electricity price increases resulting from constructing and operating Harris Units 1 and 2.

11. The sale of major portions of the Harris Plant to consortiums of municipal power authorities and rural electrical cooperatives places an unknown and potentially impossible burden on municipalities and other entities which lack the resources and ability to raise the significant funds which will be required to safely operate, maintain, and decommission the plant in conformity with NRC rules and regulations. As the experience of the



Washington Public Power Supply System has shown, miniscule to modest size municipalities and rural electrical cooperatives cannot be relied upon as unlimited revenue resources for construction and operation of nuclear facilities. An accident with the clean-up and liability costs of a magnitude equal to or greater than those experienced at Three Mile Island would cause many of these municipalities to default. Moreover, local voters may at any time refuse authorization to their elected representatives to expend funds on Shearon Harris.

12. Carolina Power and Light Company should not receive an operating license for the Harris plant until it has developed and demonstrated an adequate security plan. There are no adequate assurances that Applicant will be capable of preventing the introduction by workers or visitors of explosives or other sabotage devices onto the plant site; nor the introduction and use of drugs, either depressants (e.g. barbiturates, alcohol, etc.) stimulants (e.g. amphetamines) or hallucinogens (e.g. LSD, mescaline, etc.) by operating, maintenance, and security personnel on the site. Additionally there are no adequate indications of sufficient defenses against insane persons or terrorists employing modern military equipment against the plant. Equipment such as rockets, bazookas, grenades, etc. is readily available at the several large military installations only a few hours drive from the Harris plant. Losses of equipment and material from those installations is a fairly regular and on-going occurrence.

13. Carolina Power and Light Company has not provided reasonable assurances that adequate protective measures can and

will be taken by federal, state and local emergency preparedness officials in the event of a radiological emergency. An emergency evacuation or relocation plan is not available, nor is there any indication of intentions to properly test such a plan as required by 10 CFR Section 50.47 and Appendix E, if such a plan is ever developed. Additionally, the cost of preparing and implementing an evacuation plan was not considered in the cost-benefit analysis of Applicant's Environmental Report. As such little information is currently available regarding evacuation and emergency preparedness plans, Kudzu Alliance specifically reiterates its intention and desire, stated in the introduction to this Supplement, to amend this contention when and if the appropriate information is made available.

14. Carolina Power and Light Company should be required to place real time radiation monitors around the site that are capable of reading gamma, alpha, and beta radiation levels continuously and remotely. Such devices are necessary to provide emergency operations personnel with the information required to make the decisions that could protect the health and safety of the public under conditions of radiological release to the environment. Thermoluminescent dosimeters are only accurate within about plus or minus 30%, and they only indicate what has happened in the past. Additionally, they have to be picked up and read, causing a significant lag time in the availability of information that could greatly hamper the efforts of emergency personnel to assure the health and safety of the public.

15. Carolina Power and Light Company should be required to

install and operate, on every discharge point from the Harris plant, both gaseous and liquid, equipment that can analyze not only the rate of emissions, but the type and amount of each radionuclide being emitted. The information obtained from these devices is necessary for federal, state and local agency personnel to be able to reliably determine what radionuclides the plant is introducing into the environment so as to be able to better protect the health and safety of the public. It is well-established that different radionuclides have substantially different physical and biological effects on living organisms, making it necessary to have information as to the specific radionuclides being released, and the amount of each radionuclide to reasonably assure the health and safety of the public.

WHEREFORE KUDZU ALLIANCE respectfully requests that:

1. The application of Carolina Power and Light Company, et al for a license to operate Shearon Harris Units 1 and 2 be denied.
2. Construction on the Shearon Harris project be immediately suspended and an expedited full evidentiary hearing be granted on Contentions 8, 9 and 10, above, regarding the current situation with respect to the costs and benefits of completing Harris Units 1 and 2.
3. The Board grant such other relief as to it seems necessary and just.

This the 14<sup>th</sup> day of May, 1982.

EDELSTEIN and PAYNE  
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CERTIFICATE OF SERVICES

THIS IS TO CERTIFY that the foregoing document was this day served upon the following parties by placing it in the United States Mail, postage prepaid, addressed as follows:

Secretary of the Commission  
Nuclear Regulatory Commission  
Washington, D.C. 20555  
Attn: Docketing and Service Branch

Executive Legal Director  
Nuclear Regulatory Commission  
Washington, D.C. 20555

In addition this document was personally served upon EDIE SEYKORA, authorized agent for Applicants, at the offices of Edelstein and Payne.

This the 14<sup>th</sup> day of May, 1982.

M. Travis Payne