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APR 3 1981

Docket No. 50-261

Mr. J. A. Jones
Senior Executive Vice President
Carolina Power and Light Company
336 Fayetteville Street
Raleigh, North Carolina 27602

Dear Mr. Jones:

By letter dated December 1, 1980, you submitted a request for a spent fuel pool expansion for the H. B. Robinson Steam Electric Plant, Unit No. 2. We find that we need additional information to continue our review.

The information we need is detailed in enclosures 1 and 2. These questions will allow us to evaluate the impact resulting from the changes to the spent fuel pool and from the increased amount of stored fuel. This is the second of a series of requests on this matter. It is requested that you respond within 30 days of the date of this letter.

Sincerely,

Original signed by:
S. A. Varga

Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Enclosures:
As state

cc: w/enclosures
See next page

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SURNAME	DNeighbors	SVarga					
DATE	4/2/81:ds	4/7/81					

NRC FORM 318 (10/80) NRCM 0240 OFFICIAL RECORD COPY ☆ USGPO: 1980—329-824

Docket

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

April 3, 1981

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See next page

Mr. J. A. Jones
Carolina Power and Light Company

cc: G. F. Trowbridge, Esquire
Shaw, Pittman, Potts and Trowbridge
1800 M Street, N.W.
Washington, D. C. 20036

Hartsville Memorial Library
Home and Fifth Avenues
Hartsville, South Carolina 29550

U. S. Nuclear Regulatory Commission
Resident Inspector's Office
H. B. Robinson Steam Electric Plant
Route 5, Box 266-1A
Hartsville, South Carolina 29550

Michael C. Farrar, Chairman
Atomic Safety and Licensing
Appeal Board Panel
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Richard S. Salzman
Atomic Safety and Licensing
Appeal Board Panel
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dr. W. Reed Johnson
Atomic Safety and Licensing
Appeal Board Panel
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

STRUCTURAL ENGINEERING BRANCH
REQUEST FOR ADDITIONAL INFORMATION
H. B. ROBINSON UNIT 2 FUEL STORAGE MODIFICATION

1. Provide a description of all items which may be moved over the spent fuel assemblies. State which of these heavy objects is the critical one during operation and during installation.

2. Indicate whether fabrication and quality control of the spent fuel racks are in conformance with Subsection NF of the ASME Code. If not, identify and justify the deviations.

3. Provide the load combinations and the acceptance strains and/or the stress criteria used in the design of the fuel pool liner. Indicate how the leaktight integrity of the fuel pool liner will be maintained under heavy drop accident.

4. Provide the nonlinear finite element model used in the time history analysis. Describe in detail how the nonlinearities due to gaps, friction losses and boundary conditions are accounted for in the model and analysis. Discuss, also, the analysis and provide justifications.

5. Discuss the method used to account for the effect of sloshing water on the fuel pool walls and fuel racks.

6. Provide the method of analysis used to obtain the equivalent static load due to the cask drop on the slab.

7. Provide the numerical values for the "load correction factors" and describe how these factors are accounted for in the analysis of the rack assembly.

8. Discuss in detail the analysis used to account for the fuel handling crane uplift accident and provide the criteria used to assure the criticality in the racks is not violated.

9. Provide the criteria used in the design of the two added steel columns.

10. Provide and justify the time history and the floor response spectra used in the seismic analysis of the fuel rack assembly.

11. Indicate if this proposed modification conforms with the NRC position on fuel pool modification entitled "OT Position for Review and Acceptance of Spent Fuel Storage and Handling Applicatins", issued on April 14, 1978 and later amended on January 18, 1979. If not, identify and justify the deviations.

ENCLOSURE 2

ADDITIONAL INFORMATION REQUIRED BY
CHEMICAL ENGINEERING BRANCH ON THE PROPOSED
H. B. ROBINSON SPENT FUEL STORAGE EXPANSION (TAC 42415)

281-1 (9.3.2) The December 1, 1980 amendment request does not indicate any proposed modification of the spent fuel pit cooling loop (SFPCL) in conjunction with the proposed modifications for high-density spent fuel storage. Describe what changes, if any, will be made to the SFPCL to maintain the level of pool water purity with respect to visual clarity and activated corrosion and fission product buildup the same as for the original spent fuel storage capacity. Assume that the number of defective fuel assemblies increase in proportion to the increased spent fuel storage capacity. If no changes to the SFPCL are to be made, indicate how the same level of pool water purity will be maintained.

281-1 (9.3.2) Describe the samples and instrument readings and their frequency of measurement that will be performed to monitor the water purity and need for demineralizer resin replacement. State the chemical and radiochemical limits to be used in monitoring the spent fuel pool water and initiating corrective action. Provide the basis for establishing these limits. Your response should consider variables such as: conductivity, gross and iodine activity, demineralizer differential pressure, pH and crud level.