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FACIL:50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina 05000400
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DENTON,H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Informs that util pursing changes to structural design basis,including eliminating postulated pipe breaks in primary main loop & arbitrary intermediate pipe breaks in Class 1,2, & 3 pipes,based on Generic Ltr 84-04.

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Carolina Power & Light Company

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SERIAL: NLS-84-460

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
UNIT NO. 1 - DOCKET NO. 50-400
ELIMINATION OF POSTULATED PIPE BREAKS IN PRIMARY MAIN LOOP AND ARBITRARY INTERMEDIATE PIPE BREAKS IN CLASS 1, 2, AND 3 PIPES

REFERENCES:
1) U. S. Nuclear Regulatory Commission. "Safety Evaluation of Westinghouse Topical Reports Dealing with Elimination of Postulated Pipe Breaks in PWR Primary Main Loop (Generic Letter 84-04)," February 1, 1984.

2) U. S. Nuclear Regulatory Commission. "Catawba Nuclear Station Unit 2, Safety Evaluation for the Elimination of Arbitrary Intermediate Pipe Breaks," March 1984.

Dear Mr. Denton:

Carolina Power & Light Company has been following the recent developments related to the postulation of pipe breaks in nuclear power plant piping systems and concurs with the nuclear industry's conclusion that, given the current knowledge and experience, there exists sufficient justification to eliminate certain breaks from the design basis. We are currently pursuing the following changes to the Shearon Harris structural design basis:

1. The elimination of postulated pipe breaks in the reactor coolant system primary loop.

2. The elimination of arbitrary intermediate pipe breaks in ASME Code Class 1, 2, and 3 piping systems.

In order to establish the regulatory basis for the primary loop changes, and in accordance with the provisions of Generic Letter 84-04 (Reference 1), we will request an exemption to the requirements of GDC-4 with respect to asymmetric blowdown loads resulting from discrete breaks in the primary loop. In support of this request, we will submit a report demonstrating that the fracture mechanics studies, previously evaluated and accepted by the Staff, envelope the site-specific parameters of the Shearon Harris design. The exemption request and the supportive documentation will be submitted for your review by January 1985.

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The Company agrees with the Staff's conclusions (Reference 2) that "The Standard Review Plan (SRP) guidelines in MEB 3-1 (with regard to arbitrary intermediate pipe breaks), were not intended to be absolute requirements but rather represent viable approaches considered to be acceptable by the staff" and that "it has become apparent that the particular criterion requiring the postulation of arbitrary intermediate pipe breaks can be overly restrictive and result in an excessive number of pipe rupture protection devices which do not provide a compensatory level of safety." We will request relief from the existing SRP guidelines regarding the postulation of arbitrary intermediate pipe breaks by January 1985. The request will be accompanied with the supportive technical justification.

The benefits we expect to realize from these design basis changes stem from the elimination of pipe whip restraints and other structural provisions associated with the mitigation of the postulated breaks. Specific benefits will include:

1. Reduced potential for restricted thermal or seismic movement.

2. Reduced design, material, and erection costs.

3. Improved efficiencies in operation, maintenance, and in-service inspection resulting from better access.

4. Improved thermal efficiency, with a corresponding reduction in containment heat load.

The Company requests that a decision be made on each request within three months of submittal to allow realization of design and construction savings.

Should you have any questions with regard to this issue, please contact Mr. Pedro Salas (919) 836-8015.

Yours very truly,

S. R. Zimmerman
Manager
Nuclear Licensing Section

PS/ccc (786PSA)

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