To: Dyer, NRR
Ref. G20060793
Due: 4/3/07

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February 8, 2007

Lisa M. Regner
Project Manager
Division of Operating Reactor Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Re: 2.206 Petition – Shearon Harris Fire Safety

Dear Ms. Regner:

As part of the review of our 2.206 Petition on the fire safety issues at the Shearon Harris Nuclear Plant, I would like to bring to the attention of the review panel another relevant document that may not have been available to them for their review. The document is the Response by CP&L, now Progress Energy, to Generic Letter 88-20 Supplement 4 – Individual Plant Examination for External Events (IPEEE), dated June 30, 1995. I am attaching the transmittal letter and the relevant page that addressed internal plant fires. The entire 430-page document is available in the NRC's Public Document Room under Accession no. 9507060075, but not in ADAMS. Page 2-6 of this IPEEE states:

> 2.2.2 Internal Plant Fires
>
> The object of this task is to estimate the contribution of accident sequences induced by in-plant fires to overall core damage frequency . . . The fire evaluation was performed on the basis of fire areas, which are plant locations completely enclosed by rated fire barriers. The fire area boundaries were assumed to be effective in preventing a fire from spreading from the originating area to another area based on the implementation of a satisfactory fire barrier surveillance and maintenance program.

CP&L erroneously assumes that its fire barriers were 100% effective in preventing a fire from spreading from room to room in its calculation that the overall fire hazard was very low. When evidence subsequently surfaced that the fire barriers were far less than 100% effective, CP&L used the erroneous results showing fire hazards to be very low to dismiss the significant safety problems at the Harris Plant.

Template: EDO-001

E-RIDS: EDO-01

Please see that this letter and accompanying attachment are provided to the panel reviewing the Petition.

Thank you for your attention to this matter.

Sincerely,

John D. Runkle
For Petitioners

Enc.

cc. Jim Warren, NCWARN
Paul Gunter, NIRS
David Lochbaum, Union Concerned Scientists
John H. O'Neill, Jr., Pillsbury Winthrop Shaw Pittman LLP for Progress Energy

CP&L

Carolina Power & Light Company
PO Box 165
New Hill NC 27562

William R. Robinson
Vice President
Harris Nuclear Plant

JUN 3 0 1995

File Number: HO-950569

SERIAL: HNP-95-061

United States Nuclear Regulatory Commission
ATTENTION: Document Control Desk
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
DOCKET NO. 50-400/LICENSE NO. NPF-63
RESPONSE TO GENERIC LETTER 88-20 SUPPLEMENT 4 - INDIVIDUAL PLANT EXAMINATION FOR EXTERNAL EVENTS (IPEEE)

Gentlemen:

The purpose of this letter is to submit the results of the Individual Plant Examination for External Events for Carolina Power and Light Company's (CP&L) Shearon Harris Nuclear Power Plant (SHNPP) as committed in our letter of October 15, 1992 (see enclosure). The IPEEE was completed in accordance with Generic Letter 88-20, Supplement 4 and the methods outlined in NUREG-1407 (the NRC's procedural and submittal guidance). Evaluation of seismic risk was performed using the Seismic Margins Assessment methodology developed by EPRI. Evaluation of fire risk was performed using the EPRI Fire-Induced Vulnerability Evaluation (FIVE) methodology combined with a traditional fire PRA. Evaluation of risk from other external events (including high winds, external flooding, and transportation and nearby facility accidents) was performed by demonstrating that the plant meets the 1975 Standard Review Plan (SRP) criteria for these external events.

The results of the seismic IPEEE indicate that there are no significant seismic concerns. Six minor modifications/repairs will be completed by the end of Refueling Outage (RFO) 7, currently scheduled for spring 1997. Examples include restraining carts and cabinets to preclude potential impact/interaction and attaching two cabinets together, also to preclude potential impact/interaction.

The fire IPEEE results indicate a core damage frequency (CDF) of approximately 1.1E-5 from the risk significant (>1E-6) fire scenerios. Per NUMARC/NEI 91-04, "Severe Accident Issue Closure Guidelines," it was not necessary to evaluate modifications or administrative changes to address these scenerios. However, one procedure enhancement related to remote shutdown will be implemented to verify the status of the pressurizer power operated relief valves after transfer to the Auxiliary Control Panel and to require isolation in case of a failed open relief valve. This procedure revision will be completed prior to startup from RFO 6, currently scheduled to begin in September 1995. Using the NUMARC/NEI 91-04 guidelines for IPEEE closure, CP&L expects to consider these scenerios during the development of plant-specific Severe Accident Management Guidance.





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As specified in NUREG-1407, no estimate of core damage frequency is required for other external events since our review showed that SHNPP complies with the 1975 SRP for these external events. This was determined by a review of information available in the Final Safety Analysis Report (FSAR), by collecting supplemental information that might have changed since the last FSAR revision, and by performing a confirmatory plant walkdown.

In accordance with Generic Letter 88-20, the external events portion of USI A-45, "Shutdown Decay Heat Removal Requirements," are subsumed within the IPEEE and are therefore considered resolved. The Eastern United States Seismicity Issue and Generic Issue-131 (seismically induced failure of flux mapping transfer cart) are likewise considered resolved. Also, the Fire Risk Scoping Study Issues in NUREG/CR-5088 were examined and addressed. Finally, this IPEEE addresses the revised "Design Probable Maximum Precipitation" criteria (Generic Letter 89-22) and Hurricane Andrew lessons learned (Information Notice 93-53, Supp. 1).

Questions regarding this matter may be referred to Mr. R. W. Prunty at (919) 362-2030.

Sincerely,

W R Robinson

RWP/rwp

Enclosure

W. R. Robinson, having been first duly sworn, did depose and say that the information contained herein is true and correct to the best of his information, knowledge and belief; and the sources of his information are officers, employees, contractors, and agents of Carolina Power & Light Company.

Darlene S. Yarborough

Notary (Seal)

My commission expires: 2-6-2000

c: Mr. S. D. Ebneter
Mr. S. A. Elrod
Mr. N. B. Le

DARLENE S. YARBOROUGH
NOTARY PUBLIC
HARNETT COUNTY, NC

# Shearon Harris Nuclear Power Plant
# Unit No. 1

# Individual Plant Examination for External Events Submittal

CAROLINA POWER & LIGHT COMPANY

June 1995

In the case of active electrical and control equipment, it may not be possible or cost effective to demonstrate operability on the basis of achieved test level or by use of generic equipment response spectra (SQUG). The systems engineers are required to evaluate the electrical circuits and operations procedures to assess the consequences and recovery action for relay chatter, breaker trip, etc.

### 2.2.2 Internal Plant Fires

The object of this task is to estimate the contribution of accident sequences induced by in-plant fires to overall core damage frequency. The analysis considers the likelihood of fire occurrence in each plant area and its subsequent impact on plant systems. Equipment damage resulting from the thermal effects of fire (conductive, radiative and convective) are considered as well as the degradation of operation reliability. Potential vulnerabilities raised in the Sandia FRSS related to seismic/fire interactions, effects of suppressants on safety equipment and control system interactions are addressed through specifically tailored walkdowns, as defined in the EPRI FIVE methodology.

The models were developed in a systematic manner which enables the specific strengths and weaknesses of plant defenses against fire to be clearly identified.

The fire evaluation was performed on the basis of fire areas, which are plant locations completely enclosed by rated fire barriers. The fire area boundaries were assumed to be effective in preventing a fire from spreading from the originating area to another area based on the implementation of a satisfactory fire barrier surveillance and maintenance program. The fire area boundaries recognized in this study are identical to those identified in the plant's Safe Shutdown Analysis (SSA) (CP&L, SSD). In some cases these fire areas were further subdivided into compartments and for analysis purposes, for the more significant compartments, fire damage states within those compartments were defined that identified subsets of the equipment within the compartments as being damaged due to the fire.

The analysis was conducted in three main stages as follows:

Stage 1 is a systematic qualitative and quantitative screening analysis of all plant fire areas/zones, following the methodology described in FIVE, Phase 1 and Phase 2, steps 1 and 2. The screening analysis was based largely on information already available in the plant's SSA and the IPE study. This resulted in the identification of fire areas and compartments in accordance with the FIVE methodology. At this stage all equipment and cable in an area/compartment is assumed to be damaged. The damage was assessed qualitatively to determine if the effects were significant; that is, whether the fire would cause a plant shutdown or trip, or lead to loss of safe shutdown equipment. Areas/compartments not screened out qualitatively were then subject to a determination of their associated fire frequency ($F_1$) and conditional core damage frequency ($P_2$), given loss of all functions which may be impacted by the fire. If the resulting fire induced core damage frequency ($F_1 \times P_2$) was less than 1E-6 per year the area/compartment was screened out.