

## RELATED CORRESPONDENCE

October 13, 1999

UNITED STATES OF AMERICA  
 NUCLEAR REGULATORY COMMISSION  
Before the Atomic Safety and Licensing Board

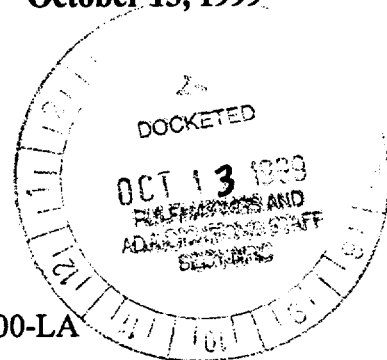
In the Matter of )

CAROLINA POWER & LIGHT  
COMPANY )

(Shearon Harris Nuclear Power Plant) )

Docket No. 50-400-LA

ASLBP No. 99-762-02-LA



**APPLICANT'S SECOND SET OF DISCOVERY REQUESTS DIRECTED TO  
THE BOARD OF COMMISSIONERS OF ORANGE COUNTY**

Pursuant to the Board's July 29, 1999 Memorandum and Order (Granting Request to Invoke 10 C.F.R. Part 2, Subpart K Procedures and Establishing Schedule), Applicant Carolina Power & Light Company ("CP&L") hereby requests the Board of Commissioners of Orange County, North Carolina ("BCOC") to answer the following Interrogatories and Requests for Admission fully, in writing, and under oath within 14 days after service of this discovery request.

**I. DEFINITIONS AND INSTRUCTIONS**

1. Scope of Discovery. These interrogatories and requests for admission cover all information in the possession, custody and control of BCOC, including information in the possession of commissioners, officers, employees, agents, representatives, investigators, attorneys, or other persons directly or indirectly employed or retained by them or voluntarily working with them (such as David A. Lochbaum of the Union of Concerned Scientists), or anyone else acting on BCOC's behalf or otherwise

subject to its control. The discovery sought by this request encompasses material contained in, or which might be derived or ascertained from, the personal files of BCOC commissioners, officers, employees, agents, representatives, investigators, attorneys, or other persons directly or indirectly employed or retained by them, working with them, or acting on BCOC's behalf.

2. Lack of Information. If you currently lack information to answer any interrogatory completely, please state:
  - a) The responsive information currently available;
  - b) The responsive information identified but currently unavailable; and
  - c) When you anticipate receiving such information currently unavailable.
3. Supplementation of Responses. Each of the following requests is a continuing one by agreement of the parties and pursuant to 10 C.F.R. § 2.740(e)(3). CP&L thereby requests that, in the event prior to the close of discovery on October 31, 1999, as directed by the Board, BCOC obtains or discovers any additional information which is responsive to any of CP&L's discovery requests, BCOC promptly supplement its responses to these requests. The supplementation duties of 10 C.F.R. § 2.740(e)(1) (persons having knowledge and experts) and 10 C.F.R. § 2.740(e)(2) (known incorrect responses) are continuing and unaffected by the parties' agreement.
4. Objections. In the event that BCOC objects to any interrogatory or request for admission under claim of privilege, immunity, or for any other reason, please indicate

the basis for asserting the objection, the person on whose behalf the objection is asserted, and describe the factual basis for asserting the objection in sufficient detail so as to permit CP&L to consider, and the Board to ascertain, the validity of such objection.

5. Estimates. Interrogatories calling for numerical or chronological information shall be deemed, to the extent that precise figures or dates are not known, to call for estimates. In each instance that an estimate is given, it should be identified as such together with the source of information underlying the estimate.
6. Board of Commissioners of Orange County. "BCOC," "Orange County," "intervenor," "you," and "your" means any branch, department, division, or other organized entity of the Board of Commissioners of Orange County, including its commissioners, officers, employees, agents, representatives, investigators, attorneys, or other persons directly or indirectly employed or retained by BCOC or voluntarily working with BCOC (such as David A. Lochbaum of the Union of Concerned Scientists), or anyone else acting on BCOC's behalf or otherwise subject to its control.
7. Date. "Date" means the specific day, month, and year, if ascertainable, or if not, the best approximation thereof (including by relationship to other events), and the basis for such approximation.
8. Discussion. "Discussion" means communication of any kind, including but not

limited to, any spoken, written, or signed form of communication.

9. Person. "Person" means any individual, association, group, corporation, partnership, joint venture, or any other business or legal entity.
10. And and Or. "And" and "or" include the conjunctive "and" as well as the disjunctive "or" and the words "and/or."
11. Describe or Identify. The words "describe" or "identify" shall have the following meanings:
  - a) In connection with a person, the words "describe" or "identify" mean to state the name, last known business address, last known business telephone number, and last known place of employment and job title;
  - b) In connection with a document, the words "describe" or "identify" mean to give a description of each document sufficient to uniquely identify it among all of the documents related to this matter, including, but not limited to, the name of the author of the document, the date and title of the document, and identification numbers applicable to the document, the name of each person or entity signing or approving the document, the date on which the document was prepared, signed, and/or executed, and any other information necessary to adequately identify the document;
  - c) In connection with an entity other than a natural person (e.g., corporation, partnership, limited partnership, association, institution, etc.), the words "describe" or "identify"

mean to state the full name, address and telephone number of the principal place of business of such entity;

- d) In connection with any activity, occurrence, or communication, the words “describe” or “identify” mean to describe the activity, occurrence, or communication, the date of its occurrence, the identify of each person alleged to have had any involvement with or knowledge of the activity, occurrence, or communication, and the identity of any document recording or documenting such activity, occurrence, or communication.

## **II. INTERROGATORIES AND REQUESTS FOR ADMISSION**

The Applicant requests BCOC to answer the following interrogatories and requests for admission.

### **A. TECHNICAL CONTENTION 2 – Criticality Prevention**

**INTERROGATORY NO. 2-1.** Basis 2 of Contention 2 states that “further inquiry . . . is warranted in determining whether the required single failure criteria is met.” LBP-99-25 at 20. Describe in detail your understanding of “the required single failure criteria” as stated in Basis 2 of Contention 2.

**INTERROGATORY NO. 2-2.** Do you admit that the Commission allows licensees to take account of soluble boron present in the fuel pool water in performing spent fuel pool criticality analyses? If not, explain in detail why not.

**INTERROGATORY NO. 2-3.** Do you admit that Harris plant procedures, specifically Harris chemistry and radiochemistry procedure CRC-001, requires CP&L to

maintain at least 2000 parts per million ("ppm") of soluble boron in the Harris spent fuel pool water at all times? If not, explain in detail why not.

**INTERROGATORY NO. 2-4.** Do you admit that the Commission does not require licensees to demonstrate that criticality will not occur in the spent fuel pool assuming two independent fuel assembly misplacement events? If not, explain in detail why not.

**INTERROGATORY NO. 2-5.** Basis 2 of Contention 2 states that "one failure, misplacement of a fuel assembly, could cause criticality if credit for burnup is used." LBP-99-25 at 19. Holtec International has prepared for CP&L a Technical Report entitled "Evaluation of Fresh Fuel Assembly Misload in Harris Pools C and D," Revision 0 dated September 20, 1999<sup>1</sup> ("Harris Misload Evaluation"). This document expressly evaluates criticality for the storage racks in Harris spent fuel pools C and D in the event of a postulated fuel assembly misplacement. Does this fuel assembly misplacement analysis address BCOC's concerns regarding evaluation of criticality control in the event of misplacement of a fuel assembly? If not, explain in detail why not.

**INTERROGATORY NO. 2-6.** Do you admit that the criticality calculations in the Harris Misload Evaluation demonstrate that criticality would not occur in the storage racks for Harris spent fuel pools C and D in the event of misplacement of a single fresh fuel assembly of the maximum permissible enrichment allowable at Harris? If not, explain in detail why not.

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<sup>1</sup> Note that this is a proprietary document.

**INTERROGATORY NO. 2-7.** Do you admit that the criticality calculations themselves included in the Harris Misload Evaluation, without regard to your position on the validity of the input assumptions, are correct, accurate, and valid? If not, explain in detail why not.

**INTERROGATORY NO. 2-8.** BCOC's proposed Contention 2 stated that "only one failure or violation, namely placement in the racks of PWR fuel not within the 'acceptable range' of burnup, could cause criticality." Orange County's Supplemental Petition to Intervene ("Supplemental Petition") at 13. Explain in detail the basis for this statement, including a description of any analysis to support this statement.

**INTERROGATORY NO. 2-9.** Basis 1 of Contention 2 states that "GDC [General Design Criterion] 62 prohibits the use of administrative measures, and the use of credit for burnup is an administrative measure." LBP-99-25 at 18. Explain in detail the basis for your position that credit for burnup is an administrative measure and that GDC 62 prohibits the use of administrative measures.

**INTERROGATORY NO. 2-10.** BCOC's proposed Contention 2 defines two "physical measures . . . to prevent criticality." Supplemental Petition at 10. These two physical measures are stated as first, "maintaining a certain physical distance between fuel assemblies" and second, "surrounding each fuel assembly with a neutron-absorbing material." Supplemental Petition at 10-11. Do you admit that these two physical measures to prevent criticality, as defined in your proposed Contention 2, do comply with GDC 62? If not, explain in detail why not.

**INTERROGATORY NO. 2-11.** Identify each method of criticality control that you maintain would be acceptable under GDC 62 and explain in detail the basis for your answer and conclusions.

**INTERROGATORY NO. 2-12.** Do you admit that every criticality control measure requires some type of administrative controls for implementation? If not, explain in detail why each such criticality control measure does not require some type of administrative controls for implementation.

**INTERROGATORY NO. 2-13.** Do you maintain that the administrative controls attendant to enrichment and burnup limits are different in nature from those attendant to other forms of criticality control, including “maintaining a certain physical distance between fuel assemblies” and “surrounding each fuel assembly with a neutron-absorbing assembly?” See Supplemental Petition at 10-11. If so, explain in detail why.

**INTERROGATORY NO. 2-14.** Do you admit that the enrichment of nuclear fuel is a physical system or process? If not, explain in detail why not.

**INTERROGATORY NO. 2-15.** Do you admit that the burnup of nuclear fuel is a physical system or process? If not, explain in detail why not.

**B. TECHNICAL CONTENTION 3 – Quality Assurance**

**INTERROGATORY NO. 3-1.** Contention 3 states in its first paragraph: “CP&L’s proposal to provide cooling of pools C & D by relying upon the use of previously completed portions of the Unit 2 Fuel Pool Cooling and Cleanup System and the Unit 2 Component Cooling Water System fails to satisfy the quality assurance criteria



of 10 C.F.R. Part 50, Appendix B, specifically Criterion XIII (failure to show that the piping and equipment have been stored and preserved in a manner that prevents damage or deterioration), Criterion XVI (failure to institute measures to correct any damage or deterioration), . . .” LBP-99-25 at 20-21. CP&L’s “Supplemental Quality Assurance Requirements for the Design Change Packages Associated with Completion of the Units 2 & 3 Spent Fuel Pool Cooling System,” at Section 5.2, sets forth an Equipment Commissioning Plan to address the fact that all equipment and components in the Spent Fuel Cooling System were not stored pursuant to controlled storage and preservation measures. (The Equipment Commissioning Plan was provided to BCOC as Enclosure 16 to the April 30, 1999 CP&L Response to an NRC Request for Additional Information.)

- a) Does the Equipment Commissioning Plan adequately address BCOC’s concerns relating to the failure to store and preserve all the equipment and components of the Spent Fuel Cooling System pursuant to the requirements of 10 C.F.R. Part 50, Appendix B? If not, explain in detail why not.
- b) Section 5.2.5 of the Equipment Commissioning Plan requires the repair of any deficiency identified after detailed inspections to be accomplished pursuant to the Harris Plant ASME Code Section XI Repair and Replacement Program. Does the Equipment Commissioning Plan adequately address BCOC’s concerns relating to the failure to institute measures to correct any damage or deterioration to equipment and

components of the Spent Fuel Cooling System pursuant to the requirements of 10 C.F.R. Part 50, Appendix B? If not, explain in detail why not.

**INTERROGATORY NO. 3-2.** Paragraph 2 of Contention 3 states: "Moreover, the Alternative Plan submitted by Applicant fails to satisfy the requirements of 10 C.F.R. § 50.55a for an exception to the quality assurance criteria because it does not describe any program for maintaining the idle piping in good condition over the intervening years between construction and implementation of the proposed license amendment, nor does it describe a program for identifying and remediating potential corrosion and fouling." LBP-99-25 at 21. In addition to the Equipment Commissioning Plan, CP&L described the procedures for the remote inspection of embedded welds and piping in its April 30, 1999 CP&L Response to an NRC Request for Additional Information, Enclosure 1, Response to Requested Item III.4. Specifically, the inspection procedure "will also include criteria and instructions to conclusively ascertain if Microbiologically Induced Corrosion or other corrosion mechanisms have resulted in degradation of this piping." See Special Plant Procedure (SPP-0312T) Revision 0.

- a) Does the Equipment Commissioning Plan and CP&L's inspection procedure adequately address BCOC's concerns relating to alleged failure to describe a program for identifying and remediating potential corrosion and fouling of the equipment and components of the Spent Fuel Cooling System? If not, explain in detail why not.

- b) Is there any other inspection procedure that BCOC contends should have been implemented to ascertain if the inaccessible piping and welds were subject to Microbiologically Induced Corrosion or other corrosion mechanisms? If so, describe the procedure in detail.
- c) If CP&L were to inspect all 15 welds and associated piping embedded in concrete with a remote camera that has a camera resolution to 1/32" wire, would that 100% inspection adequately address BCOC's concerns regarding identification of corrosion in the piping? If not, explain in detail why not.

**INTERROGATORY NO. 3-3.** Paragraph 3 of Contention TC-3 contends that inspection of the welds embedded in concrete "cannot be adequately accomplished with a remote camera." LBP-99-25 at 21.

- a) Explain in detail why not.
- b) What inspection of the welds in concrete does BCOC contend would be adequate?

**INTERROGATORY NO. 3-4.** Describe in detail why BCOC contends CP&L's Alternative Plan submitted pursuant to 10 C.F.R. §50.55a does not "provide an acceptable level of quality and safety?"

**INTERROGATORY NO. 3-5.** Describe in detail any alleged health and safety impacts that would result from the alleged deficiencies in the Alternative Plan as set forth in Contention 3.

**INTERROGATORY NO. 3-6.** In light of the destruction of certain quality records regarding the welds in the Units 2 & 3 Spent Fuel Pool Cooling System, does BCOC agree that compliance with the ASME Code quality documents requirements with respect to those welds embedded in concrete would “result in hardship or unusual difficulty without a compensating increase in the level or quality or safety?” If not, explain in detail why not.

**INTERROGATORY NO. 3-7.** CP&L provided BCOC with a Technical Report, dated May 12, 1999, prepared by Dr. Ahmad A. Moccari, which determined that no “nuisance bacteria capable of causing material degradation due to MIC were present in any of the seven water samples from the C & D spent fuel pool cooling lines.” Dr. Moccari also noted the fact that the piping was filled with demineralized water with measured very low concentrations of chloride, fluoride, and sulfate. Furthermore, Dr. Moccari explained that the piping had been flooded with water for an extended period of time and there has been no evidence of material degradation in the form of leakage of the piping that was not embedded in concrete and is located at the low points in the system.

- a) Explain how (giving all technical bases for the explanation) stainless steel could be subject to MIC degradation in the water and chemistry environment present in the Units 2 & 3 Spent Fuel Pool Cooling System embedded piping.
- b) In light of Dr. Moccari’s findings and the video inspection of embedded piping to confirm that material degradation was not present, does BCOC agree that there is no

material degradation of the piping in the Units 2 & 3 Spent Fuel Pool Cooling System? If not, explain in detail why not.

- c) Do you dispute Dr. Moccari's analysis in any way? If so, explain in detail why.
- d) Explain how there could be material degradation of the piping embedded in concrete and no material degradation of the same piping, existing under the same environmental conditions, that is not embedded in concrete?

Respectfully submitted,



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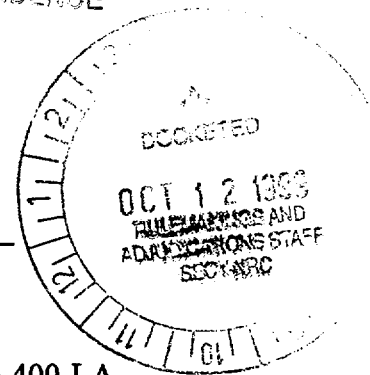
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Dated: October 13, 1999

RELATED CORRESPONDENCE

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board



In the Matter of )

CAROLINA POWER & LIGHT )  
COMPANY )

(Shearon Harris Nuclear Power Plant) )

Docket No. 50-400-LA

ASLBP No. 99-762-02-LA

**CERTIFICATE OF SERVICE**

I hereby certify that copies of the foregoing "Applicant's Second Set of Discovery Requests Directed to the Board of Commissioners of Orange County," dated October 13, 1999, was served on the persons listed below by U.S. mail, first class, postage prepaid, and by electronic mail transmission, this 13th day of October, 1999.

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