

**RAS 2177**

**RELATED CORRESPONDENCE**  
UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

September 8, 2000  
**DOCKETED 9/12/00**

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
Carolina Power & Light Company	)	Docket No. 50-400-OLA
	)	
(Shearon Harris Nuclear Power Plant)	)	ASLBP No. 99-762-02-LA
	)	

**NRC STAFF'S FIRST SET OF INTERROGATORIES  
AND REQUESTS FOR PRODUCTION OF DOCUMENTS  
DIRECTED TO THE APPLICANT**

Pursuant to the Board's Memorandum and Order (Ruling on Late-Filed Environmental Contentions) (August 7, 2000), the Staff of the Nuclear Regulatory Commission ("the Staff") hereby requests the Applicant, Carolina Power & Light Co. ("CP&L") answer the following General and Specific Interrogatories separately, fully, in writing, and under oath within 14 days after service of this discovery request pursuant to 10 C.F.R. § 2.740b, and to produce the documents requested below within 30 days after service of this discovery request pursuant to 10 C.F.R. § 2.741(d).

**I. DEFINITIONS**

1. The word "document" as used herein shall mean the originals and any copies of any written or recorded matter, whether produced, reproduced or stored on paper, cards, tapes, disks, film, e-mail, computer storage devices or any other medium and shall include, without limitation, matter in the form of books, reports, studies, statements, speeches, notebooks, agreements, appointment calendars, working papers, manuals, memoranda, notes, procedures, orders, instructions, directions, training materials, records, correspondence, diaries, plans, charts, diagrams, drawings, periodicals, lists, telephone

logs, recordings, minutes, photographs, negatives, computer printouts, legal pleadings (other than those filed in this proceeding), and any published materials, and shall also include, without limitation, originals, copies (with or without notes or changes thereon) and drafts.

2. The word "communication" shall mean correspondence, contact, discussion, or any other kind of written, electronic or oral exchange between two or more persons or entities including, but not limited to, all telephone conversations, face-to-face meetings or conversations, visits, conferences, internal and external discussions, and exchange of a document or documents or e-mail.

3. "Concerns," "concerning," or any other derivative thereof, includes referring to, responding to, relating to, pertaining to, in connection with, comprising, memorializing, commenting on, regarding, discussing, showing, describing, reflecting, analyzing, supporting, contradicting, and constituting.

4. "Relate" or "relating to" means pertaining to, recording, evidencing, setting forth, reflecting, referring to, discussing, showing, disclosing, describing, explaining, summarizing, concerning, or regarding.

5. "Identify" when used in reference to a natural person means to set forth the following: his name; his present or last known residential address and telephone number; his present or last known business address and telephone number; his employer; his title or position; his area of responsibility; and his business, professional, or other relationship with CP&L or other parties. If any of the above information has changed subsequent to the time period referenced in a particular interrogatory, set forth in the answer, and label

appropriately, current information as well as the information applicable to the time period referenced in the interrogatory.

6. "Identify" when used in reference to a corporation or other entity that is not a natural person shall mean to set forth the following:

- a. the full name of such entity, including its legal name and any assumed or trade names under which it transacts or has transacted business;
- b. the nature or form of such entity, if known;
- c. the address and telephone number of the entity's principal place of business or the principal place where such entity is to be found;
- d. whether CP&L has or had a relationship or affiliation with such entity, its affiliates or subsidiaries, and, if so, a description of such relationship;
- e. the persons presently or formerly employed by or associated with that entity who have the principal knowledge concerning the subject matter in question;  
and
- f. if any of the above information has changed subsequent to the time period referenced in a particular interrogatory, set forth in the answer, and label appropriately, current information as well as the information applicable to the time referenced in the interrogatory.

7. "Identify" when used in reference to a document shall mean to set forth the following: its title; its subject matter; its date; its author; its addressee (including the designated recipient, "cc" and "bcc" recipients, and the like); its file designation or other identifying designation; and its present location and present custodian.

8. "Identify" with respect to a contact or communication shall mean to set forth the following:

- a. the date of the communication;
- b. the type and means of communication;
- c. the substance of the communication;
- d. each person making the communication, and his location at the time the communication was made;
- e. each person to whom the communication was made, and his location at the time the communication was made;
- f. all other persons present during, participating in, or receiving the communication and the location of each such person at the time;
- g. each document concerning or relating to such communication; and
- h. each document upon which the communication is based or which is referred to in the communication.

9. "Possession, custody or control" includes actual and constructive possession, custody and control. Any document which is not in a person's immediate physical possession, but in regard to which the person has a right to compel production from a third person, or which is otherwise subject to the control of the person in question, is within the person's "possession, custody or control."

10. The words "you" or "your" as used in herein shall mean the Applicant, Carolina Power & Light Co. ("CP&L"), and any member, agent, servant, employee, consultant, contractor, technical advisor, representative, officer or other person(s) acting

for or on behalf of CP&L, or at CP&L's direction and control, or in concert with or assisting CP&L.

11. "Licensee" or "Applicant" means in the context of this discovery request, Carolina Power & Light Company and any agent, servant, employee, consultant, contractor, technical advisor, representative, officer or other person(s) acting for or on behalf of them, or at their direction and control, or in concert with or assisting them.

12. "Intervenor" or "BCOC" means in the context of this discovery request, the Board of Commissioners of Orange County, North Carolina and any agent, servant, employee, consultant, contractor, technical advisor, representative, officer or other person(s) acting for or on behalf of them, or at their direction and control, or in concert with or assisting them.

## II. INSTRUCTIONS

1. Each interrogatory shall be answered separately and fully, in writing and under oath or affirmation, and shall include all pertinent information available to you, your officers, employees, directors, advisors, representatives, or counsel, based upon the personal knowledge of the person answering. The production of the documents requested herein shall take place at the offices of the U.S. Nuclear Regulatory Commission in Rockville, Maryland, unless other arrangements for inspection and copying are mutually agreed to by the parties.

2. To the extent that you do not have specific, complete and accurate information with which to answer any interrogatory, you should so state, and the interrogatory should be answered to the extent information is available, identifying each person who is believed to have accurate information with respect thereto.

3. Each interrogatory and document request shall be deemed to be continuing, and you are requested timely to supplement your answers with additional facts, documents, information, and names of witnesses which become known, in accordance with 10 C.F.R. § 2.740(e)(1) and (2) of the NRC's Rules of Practice.

4. The word "and" and "or" shall be construed either in the conjunctive or in the disjunctive so as to bring within the scope of these discovery requests any information that might otherwise be construed to be outside their scope.

5. Wherever appropriate, the singular form of a word shall be interpreted in the plural, and vice versa, so as to bring within the scope of these discovery requests any information that might otherwise be construed to be outside their scope.

6. Wherever appropriate, the word "his" shall include "her" or "their," and vice versa, so as to bring within the scope of these discovery requests any information that might otherwise be construed to be outside their scope.

7. Please produce each document requested herein in the form and condition in which it exists on the date of service of this request, including all comments, notes, remarks, and other material that may have been added to the document after its initial preparation.

8. Documents produced in compliance with this request should be accompanied with an indication as to the particular paragraph(s) or questions under which the documents are being produced.

9. If you object to or claim a privilege (attorney-client, work product, or other) with respect to any interrogatory or document request, in whole or in part, or seek to withhold documents or information because of the alleged proprietary nature of the data,

please identify the information or document, set forth the nature of the privilege or objection asserted and the underlying factual basis for the objection or claim of privilege, and respond to the remainder of the interrogatory or document request.

10. For any document or part of a document that was at one time, but is no longer, in your possession, custody, or control, or which is no longer in existence, or which cannot be located or produced, identify the document, state where and how it passed out of existence or why it can no longer be located and the reasons therefor, and identify each person having knowledge concerning such disposition or loss and the contents of the document.

### III. GENERAL INTERROGATORIES

Pursuant to agreement between the Staff and CP&L, these general interrogatories are in addition to the fifteen interrogatories per contention allowed by the Board's July 29, 1999, Memorandum and Order, and are continuing in accordance with 10 CFR § 2.740(e) through the end of the discovery period, October 20, 2000, as established in the Board's August 7, 2000, Memorandum and Order.

#### **GENERAL INTERROGATORY NO. 1.**

State the name, business address, and job title of each person who was consulted and/or supplied information for responding to these interrogatories and requests for the production of documents. Specifically note for which interrogatories, requests for admissions and requests for production each such person supplied information.

#### **GENERAL INTERROGATORY NO. 2.**

For Contention EC-6, give the name, address, profession, employer, area of professional expertise, and educational and scientific experience of each person the

Applicant expects to call as a witness at the hearing and/or expects to provide sworn affidavits and declarations in the written filing for the Subpart K proceeding described in the Board's August 7, 2000, Memorandum and Order, and the general subject matter on which each person is expected to provide sworn affidavits and declarations for the written filing. For purposes of answering this interrogatory, the educational and scientific experience of expected witnesses may be provided by a resume of the person attached to the response.

**GENERAL INTERROGATORY NO. 3.**

For contention EC-6, identify each expert on whom the Applicant intends to rely on in its written filing for the Subpart K proceeding described in the Board's August 7, 2000, Memorandum and Order, the general subject matter on which each expert is expected to provide sworn affidavits and declarations for the written filing, the qualifications of each expert whom the Applicant expects to provide sworn affidavits and declarations for the written filing, a list of all publications authored by the expert within the preceding ten years, and a listing of any other cases in which the expert has testified as an expert at a trial, hearing or by deposition within the preceding four years.

IV. **SPECIFIC INTERROGATORIES**

**SPECIFIC INTERROGATORY NO. 1.**

Provide joint frequency distributions of wind speed and direction by atmospheric stability class, based on appropriate meteorological measurement heights and data reporting periods in the format described in Regulatory Guide 1.23. These joint frequency distributions should be based on hourly-averaged measurements collected from the Harris site meteorological instrumentation, as described in Section 2.3.3 of the Harris Final Safety Analysis Report ("FSAR"), for a recent five-year period. If the information requested above



is unavailable, as an alternative provide hour-by-hour listing of hourly-averaged meteorological parameters for a recent five year period on one or more 3.5" IBM-formatted floppy disks in the data format described on pages 2.3.3-8 through 2.3.3-10 of NUREG-0800, or the ARCON96 format described in Section 4.4.2 of NUREG/CR-6331 r1. Data on floppy disk is acceptable in any reasonable format if the format is completely described and if a sample file dump with values for at least one day is provided.

**SPECIFIC INTERROGATORY NO. 2.**

Identify, and provide estimates of the frequency of those accident scenarios that in addition to leading to core damage would also lead directly to loss of spent fuel pool cooling. These should include, but are not limited to, sequences initiated by loss of offsite power, loss of component cooling water ("CCW"), loss of nuclear service water ("NSW") return valves (leading to loss of emergency service water ("ESW")), interfacing systems loss-of-coolant accident ("LOCA") scenarios whose consequences result in loss of CCW (as a result of flooding for example, if any), flooding scenario SWF, and contributions from the following fire scenarios: Control room fire scenario 1D1, fires in areas 1-A- SWGRA and 1-A-SWGRB. If possible, provide the estimate sorted out by event tree sequence, and by initiating event, and provide the dominant cutsets.

**SPECIFIC INTERROGATORY NO. 3.**

For the set of scenarios described in Specific Interrogatory No. 2, provide an estimate of the contribution to the frequency of each of the plant damage states ("PDSs") that can result in the release of significant radiological source terms, i.e., bypass (including induced steam generator tube rupture), early containment failure, late containment failure,

and very late containment failure. Report separately the contribution to each from scenarios initiated by a loss of offsite power.

**SPECIFIC INTERROGATORY NO. 4.**

For the set of scenarios described in Specific Interrogatory No. 2, provide an estimate of the frequency of each significant release category, and provide a description of each release category. In this description provide not only the time and location of release and the release fractions, but also a description of the most likely pathways to the environment.

**SPECIFIC INTERROGATORY NO. 5.**

For the complete set of core damage accidents, provide an estimate of the frequency with which a release of radionuclides from containment would provide an environment in which continued operation of the spent fuel pool cooling would be jeopardized, a) as a result of damage to equipment from a hostile environment caused by releases into the auxiliary building, for example, and b) as a result of the environment preventing operator access. Present the results in logical groupings of scenarios that address the timing and location of the release.

**SPECIFIC INTERROGATORY NO. 6.**

If any results responsive to Specific Interrogatories Nos. 1-6 are based on revisions to the Individual Plant Examination (“IPE”) and Individual Plant Examination of External Events (“IPEEE”), provide a summary description of the most pertinent changes from the IPE and IPEEE.

**SPECIFIC INTERROGATORY NO. 7.**

Provide calculations for each pool that determine the time to heat up spent fuel pools (“SFPs”) A, B, C, and D to boiling, and after boiling has started, the additional time to then boil the coolant level down to the top of the spent fuel racks, assuming the design heat load in each pool and no operator actions to recover cooling or provide makeup to the SFPs.

**SPECIFIC INTERROGATORY NO. 8.**

Explain the use of SFP gates at the Harris plant, including but not limited to, the amount of time necessary to move the gates during any emergency, the plant equipment necessary to move the gates (including normal and emergency power supplies), whether procedure requires removal of the gates in the event of a loss of SFP cooling, and the percentage of time, on an annual basis, the spent fuels are operated with the gates(s) removed.

**SPECIFIC INTERROGATORY NO. 9.**

Describe the operators actions necessary to establish makeup to the SFP, including but not limited to, the sources of makeup (consider normal sources of makeup, as well as any alternative available contingency methods), the maximum volume of water from each source, the expected flow rate, and the estimated time it would take to establish makeup water flow.

**SPECIFIC INTERROGATORY NO. 10.**

Describe how the coolant level could be determined and coolant inventory could be managed if the fuel handling building was uninhabitable and the coolant level in the SFPs falls below the indicating range of the SFP level instruments.

VII. DOCUMENT PRODUCTION REQUESTS

The Staff requests the Applicant to produce the following documents directly or indirectly within its possession, custody or control.

**DOCUMENT REQUEST NO. 1.**

All documents requested by, and provided to, the Board of Commissioners pursuant to Orange County's First Set of Environmental Discovery Requests Directed to the Applicant dated August 21, 2000, at 6-10.

**DOCUMENT REQUEST NO. 2.**

All documents that are identified, referred to or used in responding to all of the above general and specific interrogatories and any subsequent interrogatories and requests for admissions relating to contention EC-6.

**DOCUMENT REQUEST NO. 3.**

All plant procedures related to the normal, abnormal, and emergency operation of the spent fuel storage system at Harris nuclear plant for the following systems: spent fuel pool cooling, fuel handling building ventilation, component cooling water system, service water system, on-site AC power supply system, and any system that is relied upon or can provide normal or backup coolant makeup to the spent fuel pool. Procedures directly related to fuel handling or cask loading or unloading operations do not need to be included. Service water and component cooling water procedures not related to providing cooling to the spent fuel pools also need not be included.

**DOCUMENT REQUEST NO. 4.**

Detailed drawings indicating the location of systems, structures, and components within the fuel handling building, and those other portions of the plant where operators must perform actions to recover cooling to the SFP in the event of an emergency (as directed by site procedures or expected contingent actions by plant operators). Provide the largest and most legible drawings available.

**DOCUMENT REQUEST NO. 5.**

A drawing of the plant site showing the relative distances between site structures, including fuel handling building ("FHB"), reactor building and the ultimate heat sink. Provide the largest and most legible drawing available.

**DOCUMENT REQUEST NO. 6.**

Annotated plant drawings to illustrate, in relation to the answer provided to Specific Interrogatory No. 5, the likely release pathways in relation to the equipment affected or the locations which operators would need to access, including the fuel handling building in particular. Provide the largest and most legible drawings available.

**DOCUMENT REQUEST NO. 7.**

All calculations indicating the design maximum heat load of each individual spent fuel pool (A, B, C and D) with Unit 1 in operation. If calculations are not available provide

the power history of the spent fuel stored in each SFP and any assumptions used to determine the decay heat for fuel assemblies from future offloads.

Respectfully submitted,

Susan L. Uttal */RA/*  
Counsel for NRC staff

Dated at Rockville, Maryland  
this 8<sup>th</sup> day of September 2000

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
)  
CAROLINA POWER & LIGHT COMPANY ) Docket No.50-400-LA  
) ASLBP No. 99-762-02-LA  
(Shearon Harris Nuclear Power Plant) )  
)

CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF'S FIRST SET OF INTERROGATORIES AND REQUESTS FOR PRODUCTION OF DOCUMENTS DIRECTED TO THE APPLICANT" in the above-captioned proceeding have been served on the following through deposit in the NRC's internal mail system, or by deposit in the NRC's internal mail system, with copies by electronic mail, as indicated by an asterisk, or by deposit in U.S. Postal Service as indicated by double asterisk, with copies by electronic mail as indicated this 8<sup>TH</sup> day of September, 2000:

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Atomic Safety and Licensing Board  
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Thomas D Murphy\*  
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Dr. Peter Lam\*  
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