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July 20, 2000

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of )  
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CAROLINA POWER & LIGHT )  
(Shearon Harris Nuclear )  
Power Plant) )

Docket No. 50-400 -LA  
ASLBP No. 99-762-02-LA

**ORANGE COUNTY'S COMMENTS ON RELEVANCE OF  
JUNE 20, 2000, ACRS LETTER WITH RESPECT TO  
PENDING ENVIRONMENTAL CONTENTIONS**

**Introduction**

Pursuant to the Board's Memorandum and Order (Granting Motion for Leave to Comment) (July 13, 2000), Orange County hereby submits its views regarding the relevance to its pending environmental contentions of a June 20, 2000 letter from Dana A. Powers, Chairman of the Advisory Committee on Reactor Safeguards ("ACRS"), to Richard A. Meserve, Chairman of the Nuclear Regulatory Commission ("NRC" or "Commission") (hereinafter "June 20 ACRS Letter"). As discussed below, the June 20 ACRS Letter further reinforces the County's previously stated view that a recent NRC Staff study of spent fuel pool accident risks at decommissioning nuclear reactors is relevant to the risk of spent fuel pool accidents at operating reactors, and that the NRC Staff does not properly understand the potential for exothermic reactions in spent fuel pools.

**Background**

The June 20 Letter is the third in a succession of documents on which the parties to this proceeding have commented regarding relevance to Orange County's environmental contentions. On March 29, 2000, the parties commented on the NRC Staff's Draft Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants (noticed at 65 Fed. Reg. 8,752

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(February 22, 2000)) (hereinafter "Draft Technical Study"). While noting that the Draft Technical Study's relevance to the pending contentions was limited, Orange County commented that the Draft Technical Study confirms the County's position in several key respects, *i.e.*, the potentially catastrophic consequences of a spent fuel pool accident, the existence of significant aspects of spent fuel pool accident behavior that have yet to be adequately investigated, and the recognition that dry cask storage would completely avoid the risk of a fuel pool accident. Orange County's Response to Board's Information Request (March 29, 2000). Both CP&L and the NRC Staff claimed that the Draft Technical Study is not relevant to Orange County's contentions. Applicant's Response to Board's Request Regarding Relevance of Staff's Draft Final Technical Study . . . (March 29, 2000); NRC Staff Response to the Atomic Safety and Licensing Board's Request for Additional Information (March 29, 2000).

The parties subsequently commented on an April 13, letter from Dana A. Powers, ACRS Chairman, to Richard A. Meserve, NRC Chairman, regarding the Draft Technical Study (hereinafter "April 13 ACRS Letter"). As summarized in Orange County's comments, the ACRS identified a number of deficiencies in the Draft Technical Study's evaluation of the source term for a spent fuel pool accident at a decommissioning reactor, and criticized the study's failure to perform uncertainty analyses for accident scenarios involving human error or earthquake. Orange County's Response to May 5, 2000, Memorandum and Order (Requesting Additional Information at 2-3 (May 15, 2000) (hereinafter "Orange County's May 15 Comments"). Orange County commented that taken together with the other deficiencies noted in the County's comments on the Draft Technical Study, and the deficiencies acknowledged in the Draft Technical Study itself, these problems fatally undermine any reliance on the Draft Technical Study, and raise fundamental questions about the reliability of the Staff's analytical approach to the entire question of the risks of

spent fuel storage, at both decommissioning and operating nuclear plants. Orange County's May 15 Comments at 3. Once again, CP&L and the Staff denied the relevance of either the Draft Technical Study or the ACRS letter. Applicant's Response to Board's Request Regarding Relevance of ACRS Letter . . . (May 15, 2000); NRC Staff Response to the Atomic Safety and Licensing Board's Second Request for Additional Information (May 15, 2000).

### **Discussion**

A question that has been debated throughout this commenting process is whether the Staff's evaluation of spent fuel pool accident risks at decommissioning reactors has relevance to operating nuclear plants. The ACRS demonstrates that it considers the Draft Technical Study to be relevant to spent fuel pool accident risks at operating reactors, by recommending that the Staff should defer closing out Generic Safety Issue – 173A, "Spent Fuel Storage Pool for Operating Facilities," "until the re-evaluation associated with spent fuel pool (SFP) accidents for decommissioning plants has been completed." June 20 ACRS Letter at 1. Generic Safety Issue-173A is principally concerned with the potential for a sustained loss of spent fuel pool cooling capability and a potential for a substantial loss of spent fuel pool coolant inventory at operating plants. Although the ACRS does not provide a detailed description of the considerations that led it to make this broad recommendation, one may reasonably infer that the same concerns raised in the April 13 ACRS Letter are applicable to the Staff's analysis of spent fuel pool risks at operating plants. Thus, one may infer that the ACRS's concern that the Staff has not performed uncertainty analyses for accident scenarios involving human error or earthquake (*see* April 13 ACRS Letter at 4-5) applies equally to the Staff's analysis of fuel pool accident risks at operating plants.

The June 20 ACRS Letter also supports the County's position with respect to the significant potential consequences of pool accidents, and their distinct characteristics in comparison to reactor

accidents. In the June 20 Letter, the ACRS recommends that the Staff should develop screening criteria for regulatory analyses that are appropriate for spent fuel pool accidents at operating reactors. *Id.* at 1. The letter contains a lengthy discussion of this issue, expanding on a number of problems that it previously raised in its April 13 letter. These problems involve the differences in source terms between a reactor accident and a spent fuel pool accident, such as the likelihood that far more ruthenium would be released in a spent fuel pool accident. *See also* Orange County's summary of concerns raised in April 13 ACRS Letter, Orange County's May 15 Comments at 2-3. By calling on the Staff to evaluate spent fuel pool accident characteristics in the context of an operating plant, the ACRS further supports Orange County's position that the consequences of a reactor accident leading to a release from the Harris spent fuel pools may be especially significant, given the radiological inventory of the pools and the characteristics of a pool release.

Accordingly, in addition to the Draft Technical Study and the April 13 ACRS Letter, the June 20 ACRS Letter adds further support to the admissibility of Orange County's environmental contentions.<sup>1</sup>

Respectfully submitted,



Diane Curran  
 Harmon, Curran, Spielberg, & Eisenberg, L.L.P.  
 1726 M Street N.W., Suite 600  
 Washington, D.C. 20036  
 202/328-3500  
 e-mail: [Dcurran@harmoncurran.com](mailto:Dcurran@harmoncurran.com)

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<sup>1</sup> The County notes that the June 20 ACRS Letter does not make any attempt to address the causal relationship between reactor accidents and spent fuel pool accidents. Like the April 13 ACRS letter, the June 20 letter sheds no light on whether a degraded-core reactor accident with containment failure or bypass will, as the County claims, almost certainly cause adjacent pools to lose water by evaporation.

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**Frederick J. Shon**  
**Atomic Safety and Licensing Board**  
**Mail Stop T 3F-23**  
**U.S. Nuclear Regulatory Commission**  
**Washington, D.C. 20555**  
**E-mail: [fjs@nrc.gov](mailto:fjs@nrc.gov)**

John H. O'Neill, Jr., Esq.  
William R. Hollaway, Esq.  
Shaw, Pittman, Potts & Trowbridge  
2300 N Street N.W.  
Washington, D.C. 20037-1128  
E-mail: john\_o'neill@shawpittman.com,  
william.hollaway@shawpittman.com

G. Paul Bollwerk, III, Chairman  
Atomic Safety and Licensing Board  
Mail Stop T 3F-23  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555  
E-mail: gpb@nrc.gov

A handwritten signature in black ink, appearing to read "Diane Curran", written over a horizontal line.

Diane Curran