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USNRC

April 3, 2001

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE COMMISSION

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

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

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

**ORANGE COUNTY'S REPLY TO NRC STAFF'S AND
CP&L'S OPPOSITIONS TO PETITION FOR REVIEW
AND EMERGENCY REQUEST FOR STAY**

The Board of Commissioners of Orange County, North Carolina ("Orange County") hereby replies to the responses filed by Carolina Power & Light Company ("CP&L") and the Nuclear Regulatory Commission ("NRC" or "Commission") Staff to Orange County's Request for Emergency Stay of LBP-01-09 (March 16, 2001); and Orange County's Petition for Review of LBP-00-12, LBP-00-19, and LBP-01-09 (March 16, 2001).¹ The purpose of this reply is to correct egregious misrepresentations made by CP&L and the NRC Staff regarding factual issues in this proceeding.

1. Both the NRC Staff and CP&L continue to make unwarranted and meritless attacks on the expert qualifications of Dr. Gordon Thompson, who has submitted a Declaration in support of Orange County's Stay Motion. *See* Declaration of 16 March

¹ Carolina Power & Light Company's Answer Opposing Orange County's Request for Emergency Stay of LBP-09-10 (April 2, 2001) ("CP&L's Response to Stay Motion"); NRC Staff Opposition to Orange County's Motion for Emergency Stay of LBP-09-01 and NRC Staff Motion to Strike (April 2, 2001) ("NRC Staff Response to Stay Motion"); Carolina Power & Light Company's Answer Opposing Commission Review of LBVP-00-12, LBP-00-19, and LBP-01-09 (April 2, 2001) ("CP&L's Response to Petition for Review"); NRC Staff Opposition to Orange County's Petition for Review of LBP-00-12, LBP-00-19, and LBP-01-09 (April 2, 2001) ("NRC Staff Response to Petition for Review").

2001 by Dr. Gordon Thompson in Support of Orange County's Stay Motion of 16 March 2001 (March 16, 2001) ("Thompson Declaration"). See NRC Staff Response to Stay Motion at 4, note 1, CP&L's Response to Stay Motion at 8, CP&L's Response to Petition for Review at 8-9. In considering these attacks, the Commission should have a complete record before it. The record shows that the Staff's attack on Dr. Thompson's qualifications is grossly hypocritical, and that CP&L's attacks are based on misrepresentations and distortions of Dr. Thompson's statements.

The Staff's criticisms of Dr. Thompson's qualifications must be seen in light of the history of this proceeding. At the inception of this case, the Staff literally scoffed at Dr. Thompson's assertions regarding the behavior of spent fuel in pools.² Significantly, the Staff has now adopted Dr. Thompson's views that (a) partial drainage of a spent fuel pool (*i.e.*, adiabatic heatup conditions) is a more severe condition than complete drainage, and is reached earlier; (b) that spent fuel that has been removed from a reactor for over five years is susceptible to zircaloy/fire exothermic reaction, and (c) that the probability of a fire in aged fuel is within the same range as the probability of a severe reactor accident as predicted by NUREG-1150.³ *Id.* The Staff's institutional acceptance

² See NRC Staff Response to Intervenor's Request for Admission of Late-Filed Environmental Contentions at 21 (March 3, 2000) ("Dr Thompson's is the only opinion of which the Staff is aware that holds that fuel five years or more out of the reactor is susceptible to zircaloy/fire exothermic reaction"); *Id.* at 22 ("Dr Thompson's belief that such fuel is susceptible to exothermic reaction does not appear to be based on the scientific literature.") See also Orange County's Detailed Summary at 19-21.

³ These concessions were made by the NRC Staff in the course of a November 2, 2000, meeting of the Advisory Committee on Reactor Safeguards regarding the Staff's Draft Technical Study of Spent Fuel Accident Risk at Decommissioning Plants (noticed in the Federal Register at 65 Fed. Reg. 8,825 (February 22, 2000)). They are also reflected in the final version of the Technical Study, which was issued in October of 2000.

of Dr. Thompson's views completely undermines the credibility of the Staff's continuous attacks on his qualifications in the legal pleadings in this proceeding. The Commission should reject these attacks as a spurious attempt to shift attention away from the merits of the case.

CP&L uses misrepresentations and distortions to attempt to smear Dr. Thompson's qualifications. In its response to Orange County's Stay Motion, for example, CP&L argues that at the oral argument, "BCOC failed to offer any credible response [to CP&L's and the NRC Staff's evidence] and focused its argument on complaints that its expert could not understand the analyses proffered by other parties and that more time was required for more investigations." CP&L Response to Stay Motion at 3. Notably, CP&L makes not a single citation to the transcript in support of this argument.

The record shows that CP&L's characterization of the oral argument is false. Not once did counsel for Orange County represent that Dr. Thompson could not understand the information that was provided to him by CP&L. What counsel for Orange County did say, repeatedly, was that CP&L had not provided sufficient information to permit an independent reviewer to confirm the validity of its analysis. *See* Transcript of December 7, 2000, oral argument at 468-72, 482-83, 493-95, 677-682. In particular, CP&L failed to report the results of separate steps of its probability analysis, such that a reviewer could determine what probability was calculated by CP&L for each step. *Id.* In addition, CP&L failed to provide *any onsite radiation level estimates or dose calculations whatsoever* in support of its assertion that onsite doses to workers would not be excessive

in the aftermath of a degraded-core reactor accident involving containment failure or bypass. *Id.* at 679. Instead, it was CP&L's counsel who acknowledged that this information was withheld from Orange County, because *CP&L decided* that Dr. Thompson would not understand it. *Id.* at 596.

CP&L also attempts to create confusion regarding the terms under which the Licensing Board admitted Dr. Thompson's testimony. CP&L's Response to the County's Stay Motion jumbles two separate decisions: LBP-00-12, which addresses Dr. Thompson's qualifications with respect to criticality prevention, and LBP-01-09, which discusses his qualifications with respect to environmental issues. *See* CP&L Response to Stay Motion at 9. As a result, CP&L gives the mistaken impression that the reservations about Dr. Thompson's expertise on criticality prevention issues that were expressed in LBP-00-12 were actually addressed to his qualifications on environmental issues. This is incorrect. In admitting Dr. Thompson's evidence on environmental issues, the Board granted Orange County's request to re-evaluate his qualifications, in light of information previously overlooked by the Board, as well as Dr. Thompson's extensive experience in the area of probabilistic risk assessment and spent fuel storage. The Board found that although Dr. Thompson has little experience in the actual operation of a nuclear power plant or PRA preparation,

given his education and experience relating to nuclear facility and SFP design, particularly his experience with spent fuel storage issues and his previous activities with probability assessments, we cannot say that his testimony will not aid the Board in determining and/or understanding the probability of the seven step accident sequence. Therefore, we give Dr. Thompson's testimony due weight in the subject areas in which we believe he possesses knowledge and experience that can aid the Board in its determinations regarding [Contention] EC-6.

LBP-01-09, slip op. at 15. Thus, the Board expressed no such reservations in admitting Dr. Thompson's environmental testimony.

Finally, CP&L repeats, for the third time, extravagant distortions of Dr. Thompson's November 20, 2000, expert report that Orange County has previously pointed out to be false. According to CP&L, Dr. Thompson calculated "that the temperature of steam exiting a partially covered spent fuel element in the Harris spent fuel pool would be one and a half times the temperature of the surface of the sun." CP&L Response to Petition for Review at 9 (emphasis in original). This gross mischaracterization of Dr. Thompson's report was first made in CP&L's Summary of Facts, Data, and Arguments, Etc. re Contention EC-6 at 27 (November 20, 2000). At the oral argument, the falseness of the characterization was pointed out by counsel for Orange County. Tr. at 519-520. Nevertheless, CP&L repeated the same mischaracterization in its response to Orange County's petition for review of the NRC Staff's No Significant Hazards Determination. See Carolina Power & Light Company's Response to Orange County's December 22, 2000, Filing at note 14 (January 8, 2001). Again, Orange County pointed out that CP&L's assertion was false. See Declaration of 16 January 2001 by Dr. Gordon Thompson in Response to Submissions Dated 8 January 2001 by Carolina Power & Light and the NRC Staff, par. 5 (January 16, 2001). Apparently undeterred by the truth, CP&L continues to attempt to foist its false assertion on the Commission.

Similarly, CP&L falsely asserts that Dr. Thompson has claimed that an approximate doubling of the number of spent fuel assemblies "instantaneously occurs

following implementation of the License Amendment.” CP&L Response to Stay Motion at 11 (emphasis in original). Nowhere does Dr. Thompson make this assertion. Again, CP&L tries to disparage Dr. Thompson’s qualifications by attributing false statements to him. The Commission should reject CP&L’s use of such false statements to attack Dr. Thompson’s qualifications and credibility.⁴

2. In assessing Orange County’s likelihood of success on the merits, CP&L also misrepresents Commission precedent. CP&L cites the Commission’s decision in *Pacific Gas and Electric Company* (Diablo Canyon Nuclear Power Plant, Units 1 and 2), CLI-86-12, 24 NRC 1, 7 (1986), for the proposition that “[w]ell over 100 license amendment applications have been reviewed and approved by the Commission to expand on-site spent fuel pool storage without requiring an EIS.” The discussion in CLI-86-12 that is cited by CP&L related to No Significant Hazards Determinations, not preparation of EIS’s. It also addressed criticality prevention issues, not severe accident issues. Finally, the decision pointed out that the *NRC Staff* (a party that is distinct from the Commission itself) had approved 96 prior amendments regarding spent fuel re-racking. *Id.* at 7. The decision does not state that the Commission itself approved all of those re-racking applications.

CP&L also errs by lumping the instant case together with every other case in

⁴ CP&L also ridicules Dr. Thompson’s assumption, in his calculations regarding radiation deposition, that radioactivity is deposited in all directions in a circumference of 200 meters. *Id.*, note 31. As Thompson explains in his November 20, 2000 Report in Appendix D and his March 16 Declaration, he used a conservative scoping analysis in the absence of the availability of a more sophisticated methodology. Neither CP&L nor the NRC Staff has addressed Dr. Thompson’s concerns that methods currently in use do not adequately account for phenomenology associated with transport and deposition of radioactive material. Thus, CP&L’s criticism of Dr. Thompson’s scoping analysis as a sign of his lack of qualifications is

which a spent fuel pool expansion proposal has been approved. The first significant difference is that in this case, the Licensing Board found that the scenario posed by Orange County was worthy of exploration in a proceeding. It cannot be compared to other cases in which the contention was thrown out in the earliest stage. It is also important to recognize that in the course of this proceeding, and indeed due to Dr. Thompson's involvement in this proceeding and his comments on related Staff reviews, the NRC Staff has been forced to address issues that it has ignored for many years. For the first time, the Staff has conceded that old fuel can burn. Both the Staff and CP&L also now concede that a severe accident (a pool fire) in one part of the plant can precipitate a pool fire at a nearby location. *See* ERIN Engineering and Research, Inc., Technical Input for Use in the Matter of Shearon Harris, etc. at 2-36, D-1 (November 20, 2000); Affidavit of Gareth Parry, et al. at paragraph 29 (November 17, 2000). Finally, for the first time, the Staff has been forced to examine the relationship between reactor accidents, which are accepted as cognizable risks under NEPA, and spent fuel pool fires. Under these circumstances, it is grossly oversimplistic for CP&L to hearken back to the Staff's previous practice, or to decisions by Licensing Boards which dismissed environmental contentions at the earliest pleading stage.

3. CP&L claims that Orange County is "utterly unable to refute the CP&L analysis that the probability of its postulated scenario is actually less with the License Amendment's implementation, which places into service a second, independent spent fuel pool cooling system for spent fuel pools C and D." CP&L Response to Stay Motion at

spurious.

10. This assertion is patently incorrect. As can be seen in Dr. Thompson's November 20, 2000, report at pages 36 to 38, Dr. Thompson performed a careful and thorough analysis of the capability of the cooling and makeup systems for pools A, B, C, and D to function during a severe accident, and found that the activation of pools C and D would not have a positive effect on the plant's ability to recover in an accident.

Respectfully submitted,



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