UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
DUKE POWER COMPANY, et al.	)	Docket Nos. 50-413
	)	50-414
(Catawba Nuclear Station,	)	
Units 1 and 2	)	

APPLICANTS' FOLLOW-UP INTERROGATORIES TO
PALMETTO ALLIANCE AND CAROLINA
ENVIRONMENTAL STUDY GROUP ON
DES CONTENTIONS 11, 17 AND 19

Pursuant to 10 C.F.R. §2.740b, Duke Power Company, et al. ("Applicants") submit the following interrogatories on DES contentions 11, 17 and 19 to intervenors Palmetto Alliance and Carolina Environmental Study Group ("CESG"). In accordance with the Licensing Board's April 1, 1983 Memorandum and Order (p. 2), these interrogatories are being filed within 10 working days of Applicants' receipt of "Palmetto Alliance and Carolina Environmental Study Group Responses to Applicant's Interrogatories and Requests to Produce Regarding DES Contentions 11, 17 and 19," which Applicants received on May 4, 1983.

Each interrogatory shall be answered separately and fully in writing under oath or affirmation, and shall include all pertinent information known to Palmetto Alliance and CESG, their officers, directors, members, employees, advisors, representatives or counsel, based upon the personal knowledge of the person answering. Identify each individual involved in answering each interrogatory.

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Palmetto Alliance and CESG are requested to produce each document identified in response to these interrogatories. By such request for production of documents, Applicants seek to inspect and copy pertinent documents which are in the possession, custody, or control of either CESG or Palmetto Alliance, their officers, directors, members, employees, advisors, representatives or counsel. As used herein, the term "documents" shall include any writings, drawings, graphs, charts, and schedules, however produced; photographs or other pictorial representations; recordings and tapes, whether sound or visual; and data compilations of whatever form.

In addition, Palmetto Alliance and CESG are herein requested, pursuant to 10 CFR §2.740(e), to supplement these responses as necessary with respect to the identity of each person expected to be called as an expert witness at the hearing in this proceeding, the subject matter on which he or she is expected to testify, and the substance of such testimony. Similarly, intervenors are requested to amend their responses if Palmetto Alliance and CESG subsequently learn that any response made to the interrogatories herein was incorrect when made, or that the response though correct when made is no longer correct.

DES Contention 11

1. Identify the precise section of the "NEPA authority" referred to in your response to Applicants' original interrogatory 18 which you contend requires the NRC Staff to consider "McGuire

risks" in assessing the environmental impact of Catawba, and explain the reasons for your assertion that these particular provisions impose such a requirement.

2. Identify the precise sections of the "CEQ Guidelines" and the particular "other NEPA authority" which you contend "make clear" that the NRC must consider the "interdependent, cumulative, direct and indirect effects of the narrow action under consideration," explaining in particular why you contend that these regulations require an assessment of "Catawba risks" and providing the bases for your response.

3. Explain specifically why you contend (in your response to interrogatory 10) that "the effects of a severe accident at McGuire" should be considered in assessing the environmental effects of operating the Catawba plant, and provide the specific bases for your answer.

4. Are you aware of any instances in which the NRC's environmental impact statement for one nuclear reactor power plant has specifically addressed the incremental environmental effects of another nuclear reactor power plant? If so, specify the FES(s) and the plants involved.

5. In your interrogatory responses you have indicated that you contend that the DES/FES's assessment of the environmental impacts associated with the operation of Catawba is inadequate in the "risk numbers" and the "wind sectors" assumed. Explain fully and specifically to which "risk numbers" and "wind sectors"

you are referring (providing page references to the DES/FES), exactly why you believe that the assumed risk figures and wind sectors are erroneous, and the bases for your response.

6. Specify the particular aspects of the "McGuire risk" which should in your opinion have been considered in the DES/FES and explain the type of consideration these elements should receive in calculating the risk of operating Catawba. In your response, please amplify and clarify your previous answer to this question, which stated: "Calculation made was superficial, does not consider weather conditions, population distribution, etc." by indicating which calculation was "superficial;" whether any factors other than weather and population distribution should be considered, and if so, what emphasis they should receive; and any other particular errors on the part of the Staff. Provide the bases for your response.

7. Indicate whether you are prepared to specify the statistical values which you contend the DES/FES should reflect for incremental accident risks which result from the operation of McGuire, and, if you are not, explain how you intend to demonstrate that the present treatment of such "McGuire risks" is "inadequate." Provide the bases for your answer.

8. Explain specifically why you contend that the probabilities and projected radiation doses in the DES/FES should be doubled in order to accurately reflect the risk of concurrent operation of McGuire and Catawba, and give the bases for your response,

making reference to the specific pages of any documents to which you refer.

9. Explain why you reject the NRC Staff's definition of risk as "probability times consequences," and indicate the bases for your answer.

10. Explain how you contend that "risk" should be defined, and indicate the bases for your answer.

11. Identify and explain the elements which you contend should be included in a "realistic assessment" of "Catawba impacts," including in your answer a specific discussion of how the DES/FES would have to be modified in order to adequately reflect the risk created by McGuire. Provide the bases for your response, making reference to any documents, graphs, calculations or other data relied upon.

12. Do you intend to establish during the upcoming hearing that the DES/FES does not "realistically assess" the environmental impacts of operating the Catawba Nuclear Station because it relies upon faulty "risk numbers" and "wind sectors"? If so, indicate specifically how you propose to demonstrate that the DES/FES's analysis is inadequate, and provide the bases for your answer. If you are not now prepared to do so, indicate when you will be prepared to so specify.

13. Explain fully and specifically how, in your opinion, the NRC Staff's analysis "minimizes the costs of its licensing actions." Provide the bases for your answer.

DES CONTENTION 17

1. What are the bases for your belief that the extreme meteorological conditions of "inversion and very slow air movement" (i.e., Pasquill G conditions) have not already been considered in the DES/FES in arriving at the average meteorological values relied upon in estimating the radiological consequences of design-basis accidents?

2. In your previous interrogatory responses you have indicated that while you do not contend that the average meteorological values reflected in the DES/FES entirely fail to take into account the possible effects of "inversion and very slow air movement," these average values "do not adequately represent the extreme." Explain specifically what you contend would constitute adequate emphasis upon extreme meteorological conditions in the DES/FES, how such treatment differs from the DES/FES's present approach, and what the bases for your answer are.

3. What specific sections of NEPA and what specific CEQ/NRC implementing regulations do you contend require the NRC Staff to consider "the extreme condition of inversion and very slow air movement" in calculating the radioactive doses associated with design-basis accidents? State the bases for your answer.

4. Do you contend that any factors (including calculations and/or data) other than ER Tables 2.3.0-2 and 2.3.0-3 used in the DES/FES are incorrect and/or render the DES/FES incorrect? Provide the bases for your answer, making reference to any documents, graphs, calculations or other data relied upon.

5. What is the basis for your definition of risk (in your response to interrogatory 2) as "possible consequences"?

6. In addition to the "realistic" doses shown in Table 5.9, the NRC Staff is also conducting a safety evaluation of design-basis accidents to estimate the potential upper limits of individual exposure in the event of the initiating events listed in Table 5.9. These calculations assume "very poor meteorological dispersion conditions" (DES/FES, p. 5-35), and result in estimated doses at the Exclusion Area Boundary which "would not be exceeded more than 5% of the time because of other meteorological conditions at the site" (FES, p. 9-12). Explain whether or not you agree that the "other meteorological conditions at the site" referred to above as occurring no more than 5% of the time represent extreme meteorological conditions, and whether you agree that the NRC Staff has (in making these calculations) considered extreme meteorological conditions.

7. Does your dissatisfaction with the Staff analysis referred to in the preceding interrogatory stem from the fact that the calculations used therein are not included in the DES/FES?

8. Explain whether or not you have attempted to obtain the calculations used in the analysis referred to above from the NRC Staff, either through discovery requests or in your comments on the DES.

9. If your answer to the preceding interrogatory if affirmative, indicate whether the NRC Staff has made these calculations

available, has agreed to do so, has refused to make them available, or has otherwise responded to your request; and, if this information is now available to you, explain whether or not an examination of the calculations has alleviated your concerns.

10. If your answer to interrogatory 8 is negative, explain why you have not attempted to obtain these calculations.

11. Given the fact that the calculations referred to in interrogatories 6-10, above, are not set forth in the DES/FES, explain why you contend that this Staff analysis "fails to place sufficient emphasis" upon the possible effects of "inversion and very slow air movement." Provide the bases for your answer.

12. Your previous responses to interrogatories 21, 22 and 23 indicate that you are awaiting certain information from the NRC Staff in order to complete your answers. Explain what precise information you have been waiting for; and, if you have received this information, explain whether (and, if so, how) your responses now differ from those originally given. If you have not yet received this information, indicate when (to the best of your knowledge) it will be available.

13. Indicate which precise regulation, regulatory guide, policy statement or other authority you contend requires the NRC Staff to consider "extreme, but frequently encountered, weather

conditions" in calculating the radiation doses associated with serious accidents. Provide the bases for your answer.

14. Explain the bases for your assertion that the NRC Staff "should evaluate specifically the worst meteorological case reflected in the three years of observations for the site."

15. Provide the bases for your assertion that the meteorological assumptions listed in your previous response to interrogatory 28 should be considered in calculating design-basis and severe accidents.

16. What are the bases for your belief that the meteorological assumptions listed in your previous response to interrogatory 28 have not been factored into the DES/FES accident calculations?

17. Explain the bases for your refusal to accept the Staff's assumption of a "low probability of a design-basis, or severe accident," and the Staff's assumption that "the resultant risk [of accidents] is exceedingly small," making reference to any documents, calculations, graphs or other data relied upon.

18. Explain the bases for your response to interrogatory 30; and, in particular, your assertion that a "[c]ontainment breach accident under conditions of light south to southwest airflow at Pasquill G would be devastating." In particular, explain to whom this scenario would be "devastating."

DES CONTENTION 19

1. Specify which precise section of the National Environmental Policy Act and which "implementing regulations" you contend require the NRC Staff to consider "the environmental costs of operating Catawba as a storage facility for spent fuel for other Duke facilities;" and provide the bases for your answer.

2. Explain fully and specifically what you contend would constitute an adequate treatment in the DES/FES of the environmental effects which may be associated with the storage of Oconee and McGuire spent fuel at Catawba, and provide the bases for your answer.

3. Explain fully how you propose to demonstrate that the DES/FES's treatment of the environmental effects of storing Oconee and McGuire spent fuel at Catawba fails to satisfy NEPA. Provide the bases for your answer.

4. Explain what you contend would constitute adequate "detailed support" for the Catawba DES/FES's statement that "routine releases of radiation from Oconee and McGuire fuels have been considered." Provide the bases for your answer.

5. Do you contend that the DES/FES's evaluation of the environmental costs of storing Oconee and McGuire spent fuel at Catawba (which you have listed in your response to interrogatory 1) is deficient because these environmental effects present "substantially greater risks than were evaluated at the construction permit stage"? State the bases for your answer.

6. Explain fully and specifically what you mean by each of the scenarios listed in your response to interrogatory 1 (i.e., the heat load and radiation inventory of the spent fuel pool, the loss of fuel pool cooling, the possibility of cask drop damage and criticality incidents, cask mishandling accidents, and external threats), and exactly why you contend that each of these scenarios should be addressed in the DES/FES. Provide the bases for your answer.

7. Explain whether (and, if so, why) you contend that the "heat load and radiation inventory" associated with the spent fuel pools would differ depending upon whether the fuel pools were filled with Catawba spent fuel or with Oconee/McGuire spent fuel. Provide the bases for your answer.

8. Explain whether (and, if so, why) you contend that the environmental consequences of a "loss of fuel pool cooling due to loss of on-site or off-site power" would differ depending upon whether the Catawba spent fuel pools contained spent fuel from Catawba or from Oconee or McGuire. Provide the bases for your answer.

9. Explain whether (and, if so, why) you contend that the environmental effects of "cask drop damage and possible criticality incidents" will differ depending upon whether the spent

fuel pools contain only Catawba spent fuel or also Oconee and McGuire spent fuel. Provide the bases for your answer.

10. Explain whether (and, if so, why) you contend that the environmental effects of "accidents involving mishandling of casks, including inadvertent unshielded removal of cask lids" will differ depending upon whether Catawba spent fuel or Oconee or McGuire spent fuel is being handled. Provide the bases for your answer.

11. Explain whether (and, if so, why) you contend that the environmental effects of an aircraft crash into the building housing the spent fuel pools will differ depending upon whether the spent fuel pools contain Catawba spent fuel or Oconee or McGuire spent fuel. Provide the bases for your answer.

12. On p. 5-19 of the FES, the Staff states:

> No site-specific evaluation was made of the probability of a cask-drop accident at Catawba. However, using data from the Reactor Safety Study, Appendix I (NUREG-75/014), scaled to the maximum number of lifts expected, would result in 10^{-4} per year. Therefore, the staff concludes that the overall consequences of such accidents is very small.

Explain specifically why you contend that this treatment of the probability of a cask drop accident is "entirely deficient," and provide the bases for your answer.

13. Explain whether you contend that the DES/FES analysis of the possible environmental effects associated with the storage of spent fuel from Oconee and McGuire at Catawba is deficient in any respect other than the examples listed in your response

to interrogatory 1, and provide the bases for your answer.

14. Describe in detail your conception of a severe accident in the Catawba spent fuel pool, explain fully how you propose to demonstrate that a severe accident in the Catawba spent fuel pool is "credible," and provide the bases for your answer.

15. In response to an inquiry as to which environmental costs associated with the storage of Oconee and McGuire spent fuel at Catawba you contend should be considered in the DES/FES, you have indicated that your principal concern is "the health effects from large accidental releases of radiation and the economic costs to society caused by such accidents." Explain whether (and, if so, why) you contend that the environmental effects of such releases will differ depending upon whether the Catawba spent fuel pools contain Catawba spent fuel or also Oconee and McGuire spent fuel, and provide the bases (including any analyses, calculations or other sources relied upon) for your response.

16. Is there any significant characteristic attributed to Oconee and McGuire spent fuel which leads you to contend that the environmental costs of storing such fuel at Catawba differ from the environmental costs of storing only Catawba spent fuel at Catawba? If so, explain. Provide the bases for your answer.

17. Do you contend that there is any aspect of the manner in which Oconee and McGuire spent fuel would be stored at Catawba which indicates that the environmental costs of storing non-Catawba spent fuel at Catawba would differ from the costs of storing only Catawba spent fuel there?

18. The FES states at p. 9-12 and 9-13:

> Once the 5-year-old spent fuel from the Oconee and McGuire nuclear power stations is in the Catawba spent fuel pool, it will not cause any detrimental environmental impacts because the spent fuel pool has been designed to prevent the escape of the more radioactive Catawba spent fuel. Therefore, the validity of the favorable cost-benefit balance struck at the construction permit phase has not been compromised.

Explain whether or not you agree with this statement; and, if your answer is negative, explain precisely what your concerns are as to the storage of Oconee and McGuire spent fuel at Catawba. Provide the bases for your answer.

Respectfully submitted,

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May 18, 1983

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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CERTIFICATE OF SERVICE

I hereby certify that copies of "Applicants' Follow-up Interrogatories To Palmetto Alliance And Carolina Environmental Study Group On DES Contentions 11, 17 And 19" in the above captioned matter have been served upon the following by deposit in the United States mail this 18th day of May, 1983.

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