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Barth/Moore/Karney  
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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

RELATED CORRESPONDENCE

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

DOCKETED  
USNRC

'84 AGO 17 A11:33

\_\_\_\_\_ )  
 In the Matter of )  
 )  
 CAROLINA POWER & LIGHT COMPANY )  
 AND NORTH CAROLINA EASTERN )  
 MUNICIPAL POWER AGENCY )  
 )  
 (Shearon Harris Nuclear Power )  
 Plant, Units 1 and 2) )  
 \_\_\_\_\_ )

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH  
Docket 50-400 OL

FEMA STAFF RESPONSE TO INTERROGATORIES PROPOUNDED  
BY INTERVENOR WELLS EDDLEMAN

GENERAL INTERROGATORIES

INTERROGATORY 1.

What is FEMA staff's understanding of the subject matter of conten-  
tions 30, 57-C-3, 57-C-10, 57-C-13, 213, 215, 224?

ANSWER:

30: NUREG 0654 does not require that specific quantities of KI be  
listed in the plan. Plans state that the Division of Health Services  
(DHS) of the Department of Human Resources (DHR) will establish a  
program to insure that a sufficient number of potassium iodide units  
are well-located in the vicinity of Plant Harris. DHS's program will  
include a running inventory of quantities of KI on-hand and on-order  
and where these quantities are located. Since these quantities  
fluctuate, it would be misleading and/or cumbersome (because of  
necessary updating) to include those figures in the North Carolina  
Emergency Response Plan document itself.

57-C-3: FEMA guidelines do not require plan provisions for evacua-  
tion at night or automatic phone-dialing equipment.

57-C-10: FEMA guidelines do not require estimates of the protection  
afforded by potential shelters. We agree that a PF survey of typical  
residential units has not been made, but do not think such a survey  
would be meaningful. The bases for the choice of recommended pro-  
tective actions is stated in the State plan (page 50); therefore,  
NUREG 0654 requirement J.10.m. is met.

57-C-13: FEMA guidelines do not require that the PF's of hospitals and nursing homes be determined.

213: This contention is valid and should be addressed. -

215: The Evacuation Time Estimates (ETE) study appears to comply with NUREG 0654 guidelines. (FEMA staff has, since the May 15-16 Harris Plan review, received a copy of the ETE study and informally reviewed it; however, the RAC/FEMA review of the study, the information brochures and the operations maps will not be completed until about October 1984, as indicated under Interrogatory 3. below.)

224: We agree that the ETE study has not identified the adverse weather frequency used. This should be done to comply with stipulations of NUREG 0654, Appendix 4.

INTERROGATORY 2.

Has FEMA staff made any analysis, inquiry, study or investigation into, (a) this contention (b) the subject matter of this contention (c) the allegation(s) in this contention (d) the basis of this contention (e) the information relied upon by intervenor(s) in support of this contention?

ANSWER:

FEMA regional staff has made no independent analysis, inquiry, study or investigation (AISI) into 30, 57-C-3, 57-C-10, 57-C-13, 213, 215, 224 contentions or, (b) the subject matter of these contentions or, (c) the allegations in these contentions, or (d) the basis of these contentions, or (e) the information relied upon by intervenors in support of these contentions; however, FEMA regional staff has reviewed the plan document and the contentions, and evaluated their subject matter.

INTERROGATORY 3.

For all parts of your response to Interrogatory 2. above for which your answer is affirmative, please provide the following information: who made the analysis, inquiry, study or investigation; what was being considered in such analysis, inquiry, study or investigation ("AISI"); the content of the AISI, the results of the AISI, whether the AISI has been completed, whether a date for completing the AISI has been established if it is not complete, what that date is, all documents used in the AISI, all persons consulted in the course of the AISI, all documents containing information discovered or analysis or study or information developed during or as a result of the AISI (identify each such document and state what information or results it contains), whether staff believes additional analysis is warranted, or further AISI needs or may need to be undertaken on this contention, and whether any

persons participating in the AISI are to be called as witnesses for the staff in this case, and what questions the staff AISI is intended to answer and what information it seeks to develop if it is not complete.

ANSWER:

The Regional Assistance Committee (RAC) and the FEMA regional staff completed a "Harris Plan Review" on May 15-16, 1984, which contains comments on specific NUREG item inadequacies or omissions. This informal review was accomplished before the completion of the ETE, the public information brochure, and the operation maps. When these items are submitted to FEMA, a more complete review of the Plant Harris plans will be made by the RAC and FEMA staff. It is estimated that these items will be submitted to FEMA by September 1984, and that the second report containing the FEMA/RAC review comments on these items may be available in November 1984.

Two, and possibly three, staff persons who participated in the Harris Plan review, and who will participate in further review, are tentatively scheduled to be called as witnesses in this case. The staff AISI is not intended to answer specific questions. No additional analysis beyond the above mentioned AISI is contemplated.

Another AISI, in the form of a Radiological Emergency Planning (REP) exercise, is planned for Plant Harris during the week of December 3, 1984. The evaluation report of this full-participation exercise should be completed and available in early 1985.

Some of the remaining portions of this interrogatory, e.g., "--who made the analysis, inquiry, study or investigation--" is either obvious, known to the intervenors or equally available to the intervenors. Other remaining portions of this interrogatory, e.g., "--all persons consulted in the course of the AISI--", are either impossible to answer or require an unwarranted amount of research into an area which appears to be irrelevant or tangential to the stated contentions.

INTERROGATORY 4.

For all responses to parts of (2) above for which FEMA staff's answer is other than affirmative, please state (a) whether FEMA staff plans to perform any AISI on this contention, (b) whether anyone on FEMA staff has stated that AISI of any kind is warranted for this contention (even though it has not been made) (c) whether FEMA staff plans for AISI on this contention include a date for beginning or for ending such AISI, (d) those dates, for all affirmative answers to (c) above, (e) what AISI FEMA staff will undertake on this contention (f) what AISI FEMA staff desires to undertake on this contention (g) all reasons why no AISI is planned on this contention if none is planned (h) all reasons why no AISI has been done yet on this contention if none has been done (i) what the responsibilities of FEMA staff with respect to this contention are.

ANSWER:

(a) Plans for performing AISIs are stated under "3." above.  
(b) No FEMA staff person has made such a statement. (c) Not applicable. (d) Not applicable. (e) None (f) None (g) Not needed. (h) Not necessary (i) to evaluate.

INTERROGATORY 5.

Identify all documents the FEMA staff relied on in opposing the admission of this contention, and any specific facts not stated in the staff's opposition to admission of such contention (already filed in this case) upon which staff relied in making such opposition.

ANSWER:

None.

INTERROGATORY 6.

Identify all documents not identified in staff's interrogatories to Wells Eddleman or to Joint Intervenors (to present -- a continuing interrogatory) upon which the staff relied in making each such interrogatory.

ANSWER:

Not applicable.

INTERROGATORY 7.

Identify by name, personal or business address, FEMA staff position or title (if any), and telephone number (if known) of each person on FEMA staff or consultant to FEMA staff or known to FEMA staff or consulted by FEMA staff in the staff's analysis of the subject matter of this contention prior to (a) its filing (b) its admission; state for each such person what analysis was performed by that person.

ANSWER:

Not applicable.

INTERROGATORY 8.

State all professional qualifications of each person identified in response to interrogatories 7, 3, 4,.

ANSWER

Not applicable.

INTERROGATORY 9.

Provide any statement of the analysis made by persons identified in response to interrogatories 3, 4, or 7 above, and identify all documents containing such information or statements not previously identified.

ANSWER:

Not applicable.

INTERROGATORY 10.

Give the identifier number, date, source, and title of all documents identified in response to interrogatories above, which are available through NRC PDR (Public Document Room).

ANSWER:

Unknown.

INTERROGATORY 11.

Will FEMA staff make available copies of documents identified in response to the above interrogatories to Wells Eddleman for inspection and copying, for documents not available through NRC's PDR?

ANSWER:

Yes, FEMA will make copies of any unclassified documents available to intervenors upon request.

INTERROGATORY 12.

Identify by name, FEMA staff position if any, address and telephone number of each person whom FEMA staff intends to use or call as a witness in this proceeding.

ANSWER:

Thomas L. Hawkins, Emergency Management Program Specialist  
FEMA, Region IV  
1371 Peachtree St., N.E., Suite 736  
Atlanta, Georgia 30309  
(404) 881-7073

John C. Heard, Jr., Chief, Technological Hazards Branch  
FEMA, Region IV  
1371 Peachtree St., N.E., Suite 736  
Atlanta, Georgia 30309  
(404) 881-7079



INTERROGATORY 13.

State fully the professional qualifications of each person identified in response to interrogatory 12 above.

ANSWER:

Attached.

INTERROGATORY 14.

Summarize the position (or planned testimony) with respect to each contention on which such person is expected to testify, for each person identified in response to interrogatory 12 above.

ANSWER:

Position summarized above under interrogatory 1.

INTERROGATORY 15.

Has FEMA staff, any witness identified in response to interrogatory 12, or anyone acting in behalf of the staff or such witness or at their direction, made any calculation or analysis (not identified in response to interrogatories 1 through 4 above) with respect to this contention?

ANSWER:

No.

INTERROGATORY 16.

If the answer to interrogatory 15 above is yes in any case, provide the name, business or personal address, telephone number and professional qualifications of each person who has made such calculation or analysis, stating for each what contention it relates to, what person (or staff) it was made for or at the direction of, and identifying all documents containing such calculation or analysis and all documents used in making such calculation or analysis or relied upon in it or supplying information used in it.

ANSWER:

Not applicable.

INTERROGATORY 17.

Provide a summary of each AISI, calculation or analysis for which the answer to interrogatory 15, or interrogatory 2 above, is yes.

ANSWER:

Not applicable.

INTERROGATORY 18.

Please give the accession number, date and originator of each document identified in response to interrogatory 16, which is available at the NRC PDR.

ANSWER:

Not applicable.

INTERROGATORY 19.

Will FEMA staff make available to Wells Eddleman for inspection and copying all documents identified in response to interrogatory 16 above which are not available through the PDR?

ANSWER:

Not applicable.

INTERROGATORY 20.

Identify each person, including telephone number, address, and field of expertise and qualifications (complete) (if any) who answered interrogatories with respect to this contention; if more than one person contributed to an answer, identify each such person providing the information requested above in this interrogatory for each such person, and state what each such person's contribution to the answer was, for each answer.

ANSWER:

Thomas I. Hawkins, John C. Heard, Jr. (See interrogatory 12. above.) Both staff members reviewed, evaluated and discussed each contention and interrogatories pertaining thereunto and arrived at the joint answers given in this response.

INTERROGATORY 21.

Identify all documents which the FEMA staff proposes or intends to use as exhibits with respect to this contention during this proceeding, including exhibits of staff witnesses (identifying the witness for each, if such a witness has been designated), and exhibits to be used during cross-examination of witnesses of any party (stating for each which witness is to be used in cross-examination of), and identifying for each the particular pages or chapters to be used as exhibits.

ANSWER:

Unknown.

INTERROGATORY 22.

Identify all documents which FEMA staff relied upon in answering interrogatories with respect to this contention, which have not been identified in response to interrogatories 1 through 21 above, stating for each which answer(s) re which contention(s) it was used for, and each specific fact and page number therein on which FEMA staff relied or which FEMA staff used in answering such interrogatory.

ANSWER:

None

INTERROGATORY 23.

Please give the accession number, date, and originator of each document identified in response to interrogatories 21 or 22 above which is available through the NRC PDR.

ANSWER:

Not applicable.

INTERROGATORY 24.

Will FEMA staff provide Wells Eddleman with copies of the documents identified in response to interrogatory 21 or 22 above which are not available at the PDR, for inspection and copying?

ANSWER:

Not applicable.

INTERROGATORY 25.

Identify any other information or source of information not identified in response to the above interrogatories 1 thru 24 upon which any member of FEMA staff relied, or which any such member of staff used, in answering each interrogatory with respect to this contention, naming the contention and response in which each such source was used, and the location of the information used or relied on in such source (e.g. page number, section, chapter, etc).

ANSWER:

None

INTERROGATORY 26.

(a) Does the staff now agree with the contention? (b) Does the staff now agree with any part of the contention?



ANSWER:

(a) Staff agrees with contention 213. (b) Staff does not agree with the other contentions or any part or parts of them. -

INTERROGATORY 27.

If answer to (b) above is affirmative, which part(s) and why?

ANSWER:

See answer to interrogatory 26.

#### SPECIFIC INTERROGATORIES

57-C-3-1(a) Do you know of any provisions for nighttime notification of residents or transients (i) within the EPZ (ii) who are asleep (iii) who are in boats or houseboats or other craft on either (iii-a) Jordan Lake, or (iii-b) the Harris plant lake? (b) What are these provisions? Please identify all documents containing such provisions and state which such documents are part of the emergency response plan (offsite) for Shearon Harris. If any such document is part of another emergency response plan, e.g. Harris on-site plan or other state or county emergency response plan or contingency plan, please identify that plan also, for each such document.

(c) What provisions, if any, are in the brochure to be sent to EPZ residents, concerning action to take if a nuclear accident occurs at night? (d) what provisions among these concern sheltering, turning off air conditioners or air-to-air heat exchangers, or closing windows? Please identify each such provision and which of the above items it relates to. (e) Do you know of any plans for telephone notification of (i) residents of the EPZ (ii) transients in motels, hotels or other lodging in the EPZ, for accidents at the Harris nuclear plant? If so, please identify each such plan and all documents concerning it. (f) Have you ever considered telephone notification of persons within the EPZ in the event of a nuclear accident? If so, please identify all documents concerning your consideration of this matter.

ANSWER:

(a) (i) no (ii) no (iii) no (iii-a) no (iii-b) no (b) Not applicable.  
(c) Brochure not available at this time. (d) Not applicable.  
(e) (i) no (ii) no (f) no

57-C-3-2(a) Are automatic telephone dialing systems available to (i) CP&L (ii) the State of NC (iii) Wake County (iv) Chatham County (v) Harnett County (vi) Lee County (vii) other authorities who would be involved in ordering sheltering in the event of a nuclear accident at Harris? (b) What are the capabilities of the automatic telephone dialing systems available to each such organization? Please include in your answer (i) number of numbers dialed per hour (ii) ability

to dial a preprogrammed set of numbers (iii) ability to have input a set of numbers to dial (iv) ability to automatically dial back if the phone is hung up before a message is completed (v) length of message the system can deliver (vi) audio quality of message the system can deliver (vii) capacity of telephone lines (e.g. number of lines) the system requires, (viii) other technical requirements of the system, e.g. for power supply, actuation, reset if errors in dialing occur (ix) whether the system can function with a backup power supply if electrical power to it is lost, and whether such backup power supply is in fact provided for it. (c) Please detail the capabilities of any automatic telephone dialing system which you have (i) considered for use (ii) plan to buy (iii) know is available for purchase.

ANSWER:

(a)(i) Unknown (ii) Unknown (iii) Unknown (iv) Unknown (v) Unknown (vi) Unknown (vii) Unknown (b) Unknown (c) Not applicable.

213-1(a) What is the specific responsibility of (i) CP&L (ii) the State of NC (iii) Wake County (iv) any other authority or agency you know of, for notifying boaters, swimmers or others on or in the Harris plant lake in the event of a nuclear accident at Harris? (b) Please list every means by which you will carry out such notification, and state which document(s) detail these means, your authority or ability to use them, and what personnel are required to operate these means (number of persons, where they work, who will notify them, how long they will take to begin operating the means of notification. (c) Please state how long each means of notification will take to notify all persons on or in the Harris lake, and for each means, what backup means of notification will be used if there is a failure of the first means. Please also describe the provisions for sheltering or evacuation which will be announced to persons on or in the Harris lake. (d) What means, if any, are provided for verifying that persons on the Harris lake have been notified of an accident at Harris? Who operates each such means? Who is responsible for each such means being used? Who will receive the reports of such verification? How will each such person receive each such report?

ANSWER:

(a) Not applicable. (b) Not applicable. (c) Not applicable. (d) None, not applicable, not applicable, not applicable, not applicable.

213-2(a) In what respects do provisions for notification of persons (i) on (ii) in (iii) on the shores of, the Harris plant lake, differ from provisions for notification of persons in or on corresponding parts or areas near Jordan lake? (This means for notification of an accident at the Harris plant.) (b) For each such difference in provisions, do you have any reason for the difference? If so, please state in what documents your reason, or reasoning, for having this difference in notification provisions for the Harris and Jordan lake areas, is. (c) Please explain any modifications to be made in

notification provisions for the people in, on or around the Harris lake by (i) Wake County (ii) CP&L (iii) other emergency planners, including the State of NC.

ANSWER:

(a) - (c) Not applicable.

57-C-10-1(a) What study, if any, have you made of sheltering effectiveness for shelters typical of those available within the Harris EPZ? (b) Please identify all documents in which you make such study, or any analysis of sheltering effectiveness for such shelters. (c) What study, if any, do you plan to make of sheltering effectiveness for shelters typical of those to be available near Harris? When will each such study be completed? Who is doing each such study? What are their qualifications to do it? Who will receive the results of each such study?

(d) Does any study referred to in your responses to (b) or (c) above establish sheltering effectiveness for (i) houses without basements (ii) brick houses without basements (iii) cinder block basements (iv) brick-walled basements (v) basements above ground level (vi) basements sunk partly below ground level (vii) motels or individual motel rooms (viii) restaurants (ix) public buildings (x) farm buildings (xi) storm cellars (xii) wooden houses (xiii) solar or passive solar houses (xiv) any structures, in terms of typical numbers of air changes per hour (xv) any structures, in terms of measured numbers of air changes per hour (xvi) any structures, by relying on typical characteristics of such structures? (e) Please identify all documents containing data on the sheltering effectiveness, or measurements of air changes, or characteristics of shelters, which you have used or will use in addressing the effectiveness of sheltering for typical structures around the Harris plant. (f) Please explain your method for assessing sheltering effectiveness for homes, etcl, in the Harris EPZ.

ANSWER:

(a) None (b) Not applicable. (c) None (d) Not applicable. (e) Not applicable. (f) Not applicable.

57-C-10-2(a) Have you made any determination of sheltering effectiveness for any (i) school (ii) day care center (iii) church or other house of worship (iv) other structure open to the public or used by more than 10 persons (other than homes or apartments)? (b) Was your determination of sheltering effectiveness made (i) for a typical such structure (ii) for a specific structure (please identify) (iii) by any other method? (c) Please explain, identifying all documents used for data or assumptions, and identifying all calculations and methods used, how you determined the sheltering effectiveness for each type of structure inquired about in part (a) above.

ANSWER:

(a) No (b) Not applicable. (c) Not applicable.

57-C-10-3(a) Please identify all documents, methodologies, data, equations, calculations or other information you have used, or plan to use, in calculating or determining sheltering effectiveness for structures within the Harris EPZ. (b) Please identify all documents containing such information. (c) Please identify all documents you possess which describe methods of figuring, calculating, or assessing sheltering effectiveness. (d) Please state why you have adopted or used any methods, data, or calculations of sheltering effectiveness which you have used with respect to structures near Harris or in its EPZ. (e) Please state and describe in as much detail as you know, what kinds of structures you consider "typical" of those available for sheltering in the Harris EPZ. Please identify all documents or information and all opinions you rely on in considering each type of structure typical. How many types of structures have you assessed sheltering effectiveness for within the Harris EPZ?

ANSWER:

(a) Not applicable. (b) Not applicable. (c) Not applicable.  
(d) Not applicable. (e) No opinion, not applicable, none.

57-C-10-4(a) Do you possess any information on the (i) number (ii) types (iii) number of persons in (iv) times of day persons are in, structures in the Harris EPZ? (b) Did you consider stores, schools, farm buildings, theaters, medical or dental offices, public buildings, motels, day care centers, or other buildings in collecting data on types of shelter available in the Harris EPZ? (c) If so, what data do you have on each type of building inquired about in (b) above. (d) For each type of building listed in (b) above that you have no data on or did not consider, please tell why you (i) have no data on, or (ii) did not consider, that type of building. (e) Among the types of structures inquired about in this interrogatory 57-C-10-4, what structural characteristics, air-change characteristics or other characteristics do you think are appropriate to consider to determine sheltering effectiveness for each such type? (f) Please identify all documents in which data, determinations or information concerning the matters inquired about in (a) thru (e) and all subparts, inclusive, above, are contained.

ANSWER:

(a) No (b) Not applicable. (c) Not applicable. (d) Not applicable.  
(e) Not applicable. (f) Unknown

57-C-13-1(a) Have you made any determination of the best Protection Factor (PF) available in any (i) hospital (ii) nursing home within the Harris EPZ? (b) If so, how did you make that determination was an on-site survey conducted? How did you get your data about characteristics of the structure? Did you consider any data about air infiltration into the structure? Please identify all documents concerning each determination of PF you have made for any school or hospital within the Harris EPZ and how that PF was determined.



(c) Have the data used in your PF determination been checked by anyone? If so, by who and when? Please identify all documents concerning checking of such data. (d) How many people can fit into the area with the best PF in each (i) hospital (ii) nursing home, in the Harris EPZ? (e) What provisions for patient characteristics (e.g. ambulatory, non-ambulatory, need for special medical supplies, need for nursing access, sensitivity to heat, to cold, or to reduced oxygen and/or stuffy conditions in a closed area) were included in your determination or estimate of how many people will fit into the area of best PF in each specific (i) hospital (ii) nursing home, in the Harris EPZ? (f) What is the maximum capacity of each (i) hospital (ii) nursing home within the Harris EPZ? (g) What food supplies would be available in the area of highest protection factor in each (i) hospital (ii) nursing home, within the Harris EPZ, in the event of long-term sheltering being required? What water supplies would be available in the highest PF area within each such hospital or nursing home? (g) If all the people in the hospital or nursing home can't fit into the highest PF area, what is the PF of the next-highest PF area within such hospital or nursing home? How many people can this next-highest PF area hold? What regard of medical conditions or needs of persons to be sheltered in this area was taken in your determination or estimate of how many people would fit into this area?

ANSWER:

(a) No (b) Not applicable. (c) Not applicable. (d) Not applicable. (e) Not applicable. (f) Not applicable. (g) Not applicable.

57-C-13-2(a) Are there any means of increasing PF for hospital or nursing home areas within the Harris EPZ that you have (i) considered (ii) recommended to the operators or owners of those hospitals or nursing homes? (b) Are there any care facilities within the Harris EPZ which care for adults but which you define as being neither a hospital nor a nursing home? Please identify each such facility and state why you believe it is not included within the term "hospital or nursing home."

ANSWER:

(a) Not applicable. (b) Not applicable.

30-1(a) Has any determination of the quantity of potassium iodide (KI) to be kept at any location (e.g. county health department) for use as a radioprotective drug in an emergency at the Harris plant been made? (b) How, if at all, does each such determination take into account the "shelf life" of the KI? (c) Who made each such determination? (d) How was each such determination made? (e) Please identify each document concerning each such determination, and also all documents containing information used in making each such determination. (f) Please state what information, from what specific source (page reference please) was used in making each such determination. (g) How many persons are to be provided with KI from each location during an emergency? Please state the



numbers of emergency workers, the number of persons not mobile (e.g. in nursing homes), and numbers of other persons for whom KI is to be provided from each location where KI is stored for use in a radiological emergency at Shearon Harris nuclear plant. (h) Are there any reserve supplies of KI available within the Harris EPZ for use in an emergency? If so, who determines where these reserve supplies are and how much is in each location? (i) What dose(s) are provided per person in the KI stored for use in a radiological emergency at Harris? If no KI is now stored for this purpose, what dose(s) are planned to be provided per person?

ANSWER:

(a) thru (g) See above response to interrogatory 1. FEMA guidelines under NUREG 0654, J.10.e. and J.10.f., require that the State and local plans include provisions for the use of radioprotective drugs and the method by which decisions by the State Health Department for administering radioprotective drugs are made. The RAC and FEMA staff have determined that these requirements have been met.

30-2(a) If quantities of KI for use during a radiological emergency at Harris have not been determined yet, when is such determination to be made? Please explain how each of the matters asked about in 30-1(b) through (i) above will be addressed in such determination. (b) Please state who is making the determination of KI quantities which is going to be made. (c) Please state who will make each such determination and whether each such determination will be included in the Harris emergency response plan. (d) Please identify all points in the Harris emergency response plans where specific quantities of KI or other radioprotective drugs are mentioned.

ANSWER:

(a) thru (d) See response to interrogatory 30-1.

224-1(a) What analysis of the frequency of weather events, including fog, ice, snow, rain, heavy rain, hail or other adverse weather, have you made for the Harris EPZ? (b) What information do you have on the frequency (both (i) typical, and (ii) maximum in any recorded dat) of (aa) fog (bb) ice (cc) snow (dd) rain (ee) "heavy rain" (ff) hail (gg) rain above 1 inch per hour (hh) rain above 3 inches per hour, in or around the Harris EPZ or in areas believed to be similar in meteorology to the Harris EPZ? Please identify all documents containing such information. (c) Do you have any other information concerning frequency of adverse weather in the Harris EPZ or in areas of similar meteorology? If so, please identify all such other information and all documents containing it.

ANSWER:

(a) None (b) None (c) No

224-2(a) Please state what sensitivity analysis for frequency of adverse weather was included in the Harris evacuation time estimates. (b) If you reviewed the Harris evacuation time estimates, what analysis, if any, did you make of the sensitivity of such time estimates to the frequency of adverse weather? Please identify all documents concerning (i) your analysis of the Harris evacuation time estimates (ii) sensitivity of such estimates to adverse weather conditions (iii) sensitivity of evacuation time estimates to the frequency of adverse weather conditions. (c) Please state what further analysis of adverse weather frequency and its effect on Harris evacuation time estimates you plan to make, and when it will be done.

ANSWER:

(a) None known. (b) None (c) None

215-1(a) How do recreational populations at (i) Jordan Lake (ii) the Harris plant lake (iii) other recreation sites within the Harris EPZ, vary with (aa) time of day (bb) day of week (cc) season of year? Please provide what data you have on variation of recreational populations in each recreational area in the EPZ, including numbers of overnight users of each. (b) What data provided in response to (a) is based on actual observation? (c) What basis do you have for estimates of recreational populations near Harris at various times of the day, week and year, other than observation? How realistic is such basis in your view? Do you know methods to check the realism of such estimates? What are such methods? Are you doing any checking of the realism of such estimates? If so, how? Do you plan to check the realism of estimates of recreational populations in the Harris EPZ before the plant operates? Before the evacuation plan is tested? (c) What data do you have on vehicle occupancy rates in the Harris EPZ (i) at any time or times (ii) in the early morning, e.g. 5-9 a.m. (iii) in the early evening, e.g. 5-7 p.m. (iv) between 11 a.m. and 1 p.m. or in that range (v) after 7 p.m. but before midnight? (d) Do any of your data on vehicle occupancy rates in the Harris EPZ vary by day of week or season or date in the year? If so, how does each vary? (e) Please identify all documents concerning actual occupancy rates of vehicles in the Harris EPZ which you (i) possess (ii) know of. (f) Please identify all documents concerning recreational populations in the Harris EPZ or how these populations vary at varying times. (g) Please identify all documents concerning estimation of (i) vehicle occupancy rates (ii) recreational populations, in the Harris EPZ, or basis for such estimates, or data used in such estimates.

ANSWER:

(a) Unknown (b) Not applicable. (c) Not applicable. (c) None  
(d) Not applicable. (e) Not applicable. (f) Unknown (g) Not applicable.

215-2(a) Please state if you know what numbers or percentage of the Harris EPZ population is at home (i) with transportation at home (ii) without transportation at home, at varying hours of the day or year or at any time(s) (please specify times for which you have such information). (b) Please state what investigation or analysis or data collection you (i) have made (ii) will make (iii) are making concerning numbers of persons in the Harris EPZ who are at home at any time or times of the day or year.

ANSWER:

(a) Unknown (b) None

215-3(a) Do you know how many vehicles are available to each household within the Harris EPZ (i) as owned or rented vehicles (ii) at any time of the day, e.g. during work or school hours (iii) located at or near the home of each household, at any time or times of the day or year? (b) Please detail all data you have on the numbers of vehicles available to each household in the Harris EPZ at any specific times. (c) Please detail all data, information or documents as to the number of vehicles each household (or a typical household) in the Harris EPZ will use to evacuate in the event of a nuclear accident at Harris.

ANSWER:

(a) No (b) Not applicable. (c) Not applicable.

215-4(a) Have you made any study of how many persons would evacuate from a location other than their home(s) within the EPZ in the event of an accident at the Harris nuclear plant? (b) Have you studied where people would actually evacuate from under daytime or evening conditions from the Harris EPZ at any date or season of the year? (c) Please identify all documents concerning such study or studies.

ANSWER:

(a) No (b) No (c) Not applicable.

215-5(a) Have you determined the distance from each (or any of the) non-car-owning household(s) in the Harris EPZ to each's nearest neighbor? (b) Have you determined how many non-car-owning households have telephones over which they might ask neighbors for rides in the event of an accident at Harris? (c) Do you know how many persons would evacuate from car-owning households near the non-car-owning households? (d) Do you know how many of such car-owning neighbors of non-car-owning households would have extra space to carry members of the households without transportation? (e) Why have the evacuation time estimates assumed that one car will be added per family or non-vehicle-owning evacuees in an accident at the Harris plant? (f) Have you made any analysis of the Harris evacuation time estimates' treatment of the number of vehicles evacuating as it is affected by the numbers of vehicles assumed or estimated to

be evacuating persons without transportation? (g) Please identify all documents concerning any such analysis. (h) Please state whether persons without transportation includes those who do not have their own transportation readily available, or only those who do not own cars.

ANSWER:

(a) No (b) NO (c) No (d) No (e) Unknown (f) No (g) Not applicable.  
(h) Unknown

215-6(a) Please identify any information underlying the Harris evacuation time estimates, or any other information available to you, which concerns the number of vehicles per evacuating person or per family which would be required to evacuate the Harris EPZ under realistic conditions. (b) Please identify the realistic conditions and the documents containing all such information. (c) Have you compared the number of vehicles used in the evacuation time estimates to the number of vehicles considered to be actually evacuating under realistic conditions for any evacuation condition or scenario? If so, state for which condition or scenario, and please identify the results of your comparison and all documents containing such results or information on which such results were based.

ANSWER:

(a) Unknown (b) Unknown (c) No

215-7(a) Have you performed, or do you know of, any reanalysis of the computer runs made for the Harris evacuation time estimates, incorporating any less conservative assumptions (or more realistic assumptions) concerning numbers of vehicles to be evacuated, population of recreation-area users to be evacuated, or other matters contained in Contention 215 as initially admitted or as revised? Please identify all documents containing such reanalysis, and state the evacuation times given by each such reanalysis.

ANSWER:

(a) No

215-8(a) Do you know of any data showing the actual traffic loadings on each road segment during evacuation from a Harris accident (i) as computed in any evacuation time estimate computer run (ii) as determined in any other computer run (iii) as determined in any other manner? (b) For each part of (a) above for which your answer is affirmative, please identify all documents containing such data, and state what assumptions or data about population and vehicles evacuating, road conditions, or other variables were used in deriving such data or making such computer run.

ANSWER:

(a) No (b) Not applicable.



215-9(a) Do you have any information as to the amount of time required for evacuating the Harris EPZ under conditions less conservative than those specified in the Harris evacuation time estimates? If so, what information do you possess or know of? (b) Please identify all assumptions that were made in deriving the time required (or effect on time required) to evacuate the Harris EPZ, for any information identified in response to (a) above. (c) Please identify all documents containing information about less conservative evacuation time estimates for the Harris EPZ you are aware of. (d) Who made estimates of Harris EPZ evacuation time, other than CP&L's contractor?

ANSWER:

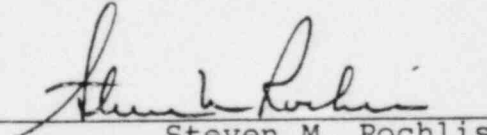
(a) No (b) Not applicable. (c) Not applicable. (d) Unknown

The below subscribed persons hereby affirm, subject to penalty of perjury, that they have answered the Interrogatories of Intervenor Wells Eddleman as identified below. The answers are true and correct to their best knowledge and belief as are also the attached statements of professional qualifications.

  
Thomas I. Hawkins 8/7/84

Objections to the Interrogatories have been made by Steven M. Rochlis, Regional Counsel for the Federal Emergency Management Agency.

None

  
Steven M. Rochlis 8-7-84

Dated at  
Atlanta, Georgia  
this 7<sup>th</sup> day of August, 1984



Thomas I Hawkins

Professional Qualifications

My present position is Emergency Management Program Specialist for the Federal Emergency Management Agency. I am assigned to the Radiological Emergency Planning liaison position between FEMA Region IV and the States of North and South Carolina. In this position, I am responsible for the review of radiological emergency plans and preparedness for the State of North Carolina and the State of South Carolina and for the local governments within these States.

I have held the position of Emergency Management Program Specialist (or its equivalent) since December 1981. I have been employed by FEMA since July 1978.

From April 1964 to January 1977 I was employed as Planning Director of Clayton County, Georgia.

My formal education is as follows:

- AB Degree, Emory University, Atlanta, GA, 1958
- Master of City Planning Degree, Georgia Tech., Atlanta, GA, 1963
- Completed Radiological Emergency Response Course at the U.S. Department of Energy's Nevada Test Site, April 1982
- Completed Radiological Defense Officer and Radiological Defense Instructor Course, Georgia Emergency Management Agency, Atlanta, GA, March 1982
- Completed Basic Management Seminar for Emergency Management Personnel, Valdosta State College, Thomasville, GA, Winter Quarter, 1980
- Completed Radiological Emergency Planning Seminar, National Emergency Training Center, Emmitsburg, Maryland, October 1982

John C. Heard, Jr.

Professional Qualifications

I joined the Federal Emergency Management Agency in July, 1979. I am presently assigned as the Chief of the Technological Hazards Branch in Region IV. In this position, I am responsible for the review of REP's, conducting exercises to test REP's and conducting public hearings. Members of my staff and I also assist State and local governments in preparing REP's and coordinating Federal assistance.

I served on the Regional Assistance Committee from December 1974 to December 1981. Since December 1981 I have provided staff support for and participated in all RAC activities.

From July 1973 to July 1979, I was Regional Director, Federal Preparedness Agency. The Federal Preparedness Agency was responsible for fixed nuclear facility off-site planning from December 1975 (Federal Register Notice) until made a part of the Federal Emergency Management Agency in July 1979. In December 1979, the President assigned off-site responsibility to the Federal Emergency Management Agency.

Prior to 1973, I was employed by the Office of Preparedness, Executive Office of the President. I was the representative on an ad hoc Regional Radiological Emergency Planning Committee December 1971 to August 1973. Committee was chaired by EPA and composed of representatives of Federal department/agencies, State radiological health officials, nuclear power industry representatives, and representatives of the academic community. Federal Register Notice January 1973, published by OEP assigned planning responsibilities to Regional Offices.

My formal education is as follows:

Attended the "Interagency Course in Radiological Emergency Response Planning in Support of Fixed Nuclear Facilities." Course conducted by RAC agencies at Staff College in Battle Creek, Michigan in June 1975.

Attended "Work Shop - Seminar on State Emergency Planning in Relation to Licensed Nuclear Facilities." Seminar conducted by Atomic Energy Commission in September 1972 at Oak Ridge, Tennessee.

Completed nine months course at the University of South Carolina from September 1963 to May 1964. Course was entitled "Radiation Protections Institute". Course co-sponsored by Atomic Energy Commission and South Carolina State Board of Health.

Completed Radiological Defense Officers course, Staff College, Battle Creek, Michigan, June 1962.

Conducted and served as Principal Instructor for Radiological Monitor Instructors Course, University of South Carolina July 1961.

Completed United States Department of Agriculture Radiological Monitors Course February 1961.

Assigned as South Carolina Radiological Defense Officer from January 1961 to July 1964. Was issued AEC By-Products Material License from June 1961 until departed State employment to accept Federal employment in May 1970.

While on active military duty, attended Atomic Weapons orientation course, Fort Bliss, Texas December 1958.

While on active military duty completed U.S. Army Command and Staff College (extension division), "Technical Considerations in Employment of Atomic Weapons", March-August 1958.

FILE

June 15, 1984

Mr. Jesse T. Pugh, III, Director  
Division of Emergency Management  
116 West Jones Street  
Raleigh, NC 27611

Dear Mr. Pugh:

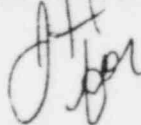
Enclosed for your review are the Regional Assistance Committee's (RAC's) informal evaluation comments on the Off-Site Radiological Emergency Response Plans for the Shearon Harris Nuclear Power Plant. These comments are submitted to your office for appropriate action.

The evaluation comments are the result of RAC meetings held on May 15-16, 1984, and represent concurring opinions of all agencies present.

When the Evacuation Time Study, public information brochure, and operation maps are submitted to this office, a more complete review of the Plant Harris plans will be accomplished.

Thomas Hawkins, of our staff, reviewed these comments in person with your staff on June 12, 1984; however, if there are further questions, please contact Mr. John Heard at 404/881-7079.

Sincerely,



Glenn C. Woodard, Jr., Chief  
Natural and Technological  
Hazards Division

Enclosure

cc: RD  
NT/THAWKINS/dc/x2391-6-15-84  
Marlow Stangler - SL-NT-TH-FO

CONCURRENCE

TH	JH			GCW
6-15	6-15-84			6-19-84

HARRIS PLAN REVIEW  
by RAC, May 15-16, 1984

NUREG Item	RAC Comment	Response by N.C.
A.1.a.	Specific identifications should be supplied on page 10, Part 1 of the independent telephone companies that are part of the overall response organization.	
A.1.c.	All the organizational charts are confusing or contradictory to the Responsibility Summary with respect to Rescue and Fire Organizations Direction and Control. Part 2, North Chatham VFD appears to provide support to Moncure VFD. Part 3, the interrelationship between rescue squads and VFDs is confused. Part 4, the primary responsibility of the Sanford Fire Dept. is not emphasized. Part 5, Fuqua-Varina rescue squad is shown with primary responsibility while p. 15 shows it with supporting responsibility.	
A.1.d.	References incomplete: Part 3, p. 12-13; Part 4, p. 12-13; Part 5, p. 11-12 are the correct references.	
A.2.a.	On p. 10, Part 1, DCCPS and DHS are both described as having primary responsibilities for off-site response. Yet the summary on p. 25 shows DCCPS as the primary organization for Direction and Control, and the figure on p. 28 shows DHS under SERT and DCCPS. The description of DHS responsibilities sounds like support to DCCPS. We would suggest a clarification of these responsibilities on p. 10, Part 1. The county plans do not list the State for assessment responsibilities.	
A.3.	Letters of Agreement (L.O.A.) needed for private agencies having emergency roles. L.O.A.'s should meet NUREG 0654 criteria. The County EM Dept. L.O.A. with "Harris Nuclear Project" contain provisions saying what the Harris plant will do but are not signed by CP&L.	



Harris Plan Review  
(continued)

NUREG Item	RAC Comment	Response by N.C.
C.1.a.	FEMA capability to coordinate Federal assistance (other than DOE) should be stated on p. 63, Part 1.	
C.1.b.	Federal resources identified on p. 64, Part 1 do not include expected arrival times at Plant Harris.	
C.4.	See comment on A.3. for L.O.A.'s for hospitals.	
E.5.	Add reference "Annex E" to cross-reference list.	
E.6.	Incorrect references: Part 3, p. 18-21; Part 5, p. 18-25 are the correct references. The backup alerting notification times appear to be inconsistent with the assumptions of the number of vehicles and number of stops; the necessary vehicle speeds and alerting times seem to be unreasonable.	
F.1.a.	Add necessary additional page references for Parts 2-4.	
F.1.b.	Incorrect references: Part 2, p. 43; Part 3, p. 39; Part 4, p. 40; Part 5, p. 46 are the correct references.	
F.1.c.	Add the following to p. 75, Part 1 after E.4.: "E.5. Notification to other Federal agencies will be made through FEMA, Region IV Director's Office (404) 881-2400. This is a 24-hour manned telephone."	
F.1.d.	Delete "Gaston County" from p. 42, Part 2, and insert "Chatham County".	
G.1.	This NUREG item inadequate pending review of public information brochure. Delete "McGuire" and insert "Harris" on p. 26, D.1., Part 2.	
H.3.	Change reference of Part 3 to pp. 35-36.	

Harris Plan Review  
(continued)

NUREG Item	RAC Comment	Response by N.C.
H.11.	No listings for protective equipment, communications equipment or emergency supplies.	
J.10.a.	No maps provided. (Telephone conversation with N.C. indicated they will be available August 1, 1984.)	
J.10.d.	There is no listing of special facilities (with number of occupants) for the mobility-impaired and institutionalized and no listing of resources to assist in the evacuation of this segment of the population. Plan also does not define "special facilities" and does not indicate that counties have identified the mobility-impaired.	
J.10.h.	Due to lack of operations maps, this element's adequacy can not be reviewed.	
J.10.i.	Traffic capacities not provided. Inadequate reference.	
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Harris Plan Review  
(continued)

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N.5.	In county plans, assignment of responsibility for, and management control of corrective actions is not adequately described. Check cross-reference.	
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Note: All references to "IRAP" in plan should be changed to "FRMAP" (Federal Radiological Monitoring and Assessment Plan). (e.g., p. 63 of State Procedures, Part 1)

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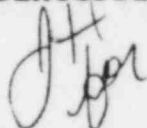
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