

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

Glenn O. Bright
Dr. James H. Carpenter
James L. Kelley, Chairman

809-84
DOCKETED
USNRC

'84 AGO 13 AIO:51

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

In the Matter of

CAROLINA POWER AND LIGHT CO. et al.
(Shearon Harris Nuclear Power Plant,
Unit 1)

Docket 50-400 OL

ASLBP No. 82-472-03
OL

Wells Eddleman's Interrogatories to NRC Staff and FEMA
(Set)

and FEMA

Wells Eddleman hereby requests the NRC Staff to answer the following interrogatories before July 14, 1984 or such other date as counsel for the Staff, FEMA and I agree on. These interrogatories are submitted under 10 CFR 2.720(h)(ii) and inquire into the studies, information, and knowledge of NRC staff with respect to my contentions on which discovery is now open. Since I cannot read the minds of the staff, and this information is not contained in documents which the staff has provided to me, I am unable to obtain this information by other means. Where the information is contained in a document I can obtain from NRC (Public Document Room, etc), I still need the identification of the document in order to obtain the information. The staff has resources and information which exceed what I have, and as a party, their position and information are necessary to making my case in this proceeding. These interrogatories are continuing in nature and should be supplemented when answers change.

GENERAL INTERROGATORIES

In all interrogatories herein, "you" or "Staff" means NRC Staff or FEMA. Eddleman contentions 30,

For each of contentions

57-C-3, 57-C-10, 57-C-13, 213,

please provide the following information by answering each of these questions.

1. What is ^[FEMA's or] NRC Staff's ^{reviewer's or Affiant's} understanding of the subject matter of this contention?
2. Has ^{FEMA or} NRC Staff made any 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?

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.

4. For all responses to parts of (2) above for which NRC staff's answer is other than affirmative, please state (a) whether NRC staff plans to perform any AISI on this contention, (b) whether anyone on NRC Staff has stated that AISI of any kind is warranted for this contention (even though it has not been made) (c) whether NRC 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 NRC staff will undertake on this contention (f) what AISI NRC 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 NRC staff with respect to this contention are.

FEMP or

OR FEMA'S

OR FEMP

OR FEMP'S

5. Identify all documents the 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.

OR FEMA

FEMA OR 910

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.

7. Identify by name, personal or business address, NRC staff position or title (if any), and telephone number (if known) each person on NRC staff or consultant to NRC staff or known to NRC Staff or consulted by NRC 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.

FEMP OR

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

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

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

11. Will NRC 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 PRDR?

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

FEMA OR

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

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.

15. Has ^{FEMA or} NRC Staff, any witness identified in response to interrogatory 12, or anyone acting in behalf of the Staff or such a 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?

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.

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

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.

19. Will ^{FEMA or} NRC 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?

20. Identify each person, including telephone number, address, and field of expertise and qualifications (complete) (if any) ~~in~~ 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.

21. Identify all documents which the ^{FEMA or} 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 it is to be used in cross-examination of), and identifying for each the particular pages or chapters to be used as exhibits.

22. Identify all documents which ^{FEMA or} NRC 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 NRC staff relied or which NRC staff used in answering such 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.

24. Will ^{FEMA or} NRC 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?

25. Identify any other information or source of information not identified in response to the the above interrogatories 1 thru 24 ^{on} ^{which} upon which any member of NRC 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).

26 (a) Does the Staff ^{or FEMA} now agree with the contention? (b) Does the Staff now agree with any part of the contention?

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

57-C-3-3(a) Is any consideration of temperature given in night-time notification of residents or transients within the EPZ (i) at all (ii) as regards turning off heating devices on cold nights, if sheltering is recommended (iii) as regards turning off air conditioners on warm or hot nights, if sheltering is recommended? (b) Have you (i) conducted any tests (ii) collected any information (iii) known any information, concerning the ability of each notification method you will use for Harris accidents at night, especially between 1 am and 6 am, to awaken persons within the EPZ? (c) If so, please identify all such information and all documents containing such information. (d) Does the emergency planning account for any delay in sleeping persons (asleep at the time of notification) receiving the information that a Harris accident is in progress? (e) If so, please explain all such sources of delay (e.g. delay due to awakening, delay due to sleepiness, grogginess or drowsiness, delay in preparing to evacuate, delay in travel due to tired or sleepy drivers, etc) and how each or any of them is taken into account in the planning for emergency conditions (nuclear accidents) at the Harris nuclear plant. (f) Please identify all documents concerning the matters inquired about in parts (a), (d), or (e) (or any subparts) above, which have not been previously identified, stating for each such document what specific interrogatory part(s) or subpart(s) it relates to.

57-C-3-4(a) Referring to your answer to 57-C-3-2, do any of the entities listed (including "other authorities") have any automatic telephone notification or dialing systems at all? (b) If so, please answer 57-C-3-2(b) with respect to the capabilities of each such system. (c) Do you have any opinion as to whether persons awakened by sirens in the Harris EPZ might use the telephone (i) to ask authorities what is going on (ii) to notify friends or relatives or others of the accident (iii) for other reasons? (iv) which, if any, of your opinions expressed re the questions (i), (ii) or (iii) above, would change if the awakening occurs during normal sleeping hours, e.g. from 1 am to 6 am? Please detail how each such opinion would change if the awakening occurred during people's normal sleeping hours. (d) Do you have any information concerning the response of persons to (i) siren (ii) telephone (iii) broadcast (iv) loudspeaker/sound truck (v) personal contact (e.g. door-knocking) notification of severe accidents where evacuation or sheltering may be necessary? (e) Please identify all information you have concerning the matters asked about in (d) above, telling for each what documents if any contain the information, and what subpart(s) the information relates to. (f) Is it your opinion that evacuation of the Harris EPZ could occur as rapidly during normal sleeping hours (e.g. between 1 am and 6 am) as it could during daytime hours, all weather or other conditions being equal? Please state all reasons and information supporting your opinion. (g) Is it your opinion that evacuation of the Harris EPZ could occur as rapidly during normal sleeping hours (1 am to 6 am) as it could under evening conditions, all weather or other conditions being equal? Please state all reasons and information supporting your opinion. (h) Is it your opinion that evacuation of the Harris EPZ would be more or less rapid during normal sleeping hours (1 am to 6 am) as it would be under (i) daytime conditions, similar weather (ii) evening conditions, up to about 10 pm, with similar weather? Please state all reasons and information supporting your opinion. Please identify all documents which contain information re answers to parts (f) (g) and (h) (including all sub-parts).

57-C-3-5(a) Is there any difference in rapidity of evacuation during normal sleeping hours (e.g. 1 am to 6 am) as compared to evacuation at other times? (b) please explain each such difference (c) are there differences in evacuation conditions during normal sleeping hours, and conditions for evacuation during other hours, that would tend to offset or cancel each other? (d) what are these differences, and how ~~do~~ do they act to offset each other? (e) Please identify all documents concerning differences in (i) evacuation conditions (ii) rapidity of evacuation (iii) evacuation times, for normal sleeping hours compared to other times. (f) are there any differences in evacuation conditions (see (c) above, e.g.) between sleeping hours (1 am -6 am) and other hours which would affect or could affect evacuation times? (g) What are these differences and how does (or could) each affect evacuation times? (h) Is there any actual experience with night-time evacuations which indicates differences in evacuation times under sleeping hours conditions? (j) Is there any consideration of increased likelihood of fog or precipitation during normal sleeping hours (1 am to 6 am) in the emergency planning for the Harris nuclear plant? (k) If so, what consideration, and how does it affect evacuation ~~time~~ time estimates? What amount of increase or decrease in the evacuation times due to these conditions is possible? Why? Why not more? Why not less?

(l) Does the State of NC, CP&L or any other responsible emergency preparedness agency intend to test (i) communications (ii) notification (iii) sheltering (iv) evacuation (v) other emergency response plan elements, during normal sleeping hours (1 am to 6 am or any time between these hours, i.e. between 1 am and 6 am)?

(m) If so, what tests will be done, by whom, and on about what dates (e.g. before fullscale plan test, during that test, before Jan.1, 1985, quarterly, once a year, etc)?

57-C-3-6(a) Does NUREG-0654, FEMA 43, or other applicable guidance (please identify all documents containing other applicable guidance) for the Harris offsite emergency plan require (i) both an alert signal and an informational or instructional message to the population on an arena wide basis throughout the 10 mile EPZ, within 15 minutes? (ii) initial notification system assuring direct coverage of essentially 100% of the population within 5 miles of the site? (iii) special arrangements to assure 100% coverage within 45 minutes of the population who may not have received the initial notification within the entire plume exposure EPZ?

(b) How does the Harris offsite emergency plan notification procedure meet each notification requirement of FEMA 43 (Including (i), (ii) and (iii) of (a) above if applicable) during normal sleeping hours (e.g. 1 am to 6 am)? Please specify your answer in detail, describing the alerting systems used, the design report on each alerting means to be used, the ability to provide an informational or instructional message to persons who are asleep at the time of the alert/notification beginning; please specify all documents, opinions of experts, or other information you rely on in making your answer. Please answer separately for each requirement or criterion for notification in NUREG-0654 or FEMA 43, or other applicable guidance (as indicated in your answer to (a) above).

57-C-3-7(a) What, in your view, are the merits and /or negative aspects of the use of tone alert radios to notify sleeping persons of an accident at the Harris plant? (b) Isn't it true that FEMA 43

section E.6.2.4 that tone alert radios are one of the methods of alerting not included in "special alerting methods"?

(c) Have you made any investigation as to the cost, effectiveness, or other aspects of tone alert radios for the Harris EPZ? (d) Please provide details of any investigation re tone alert radios that you have made, either for the Harris EPZ, or otherwise, identifying all documents containing information about the scope, plan, authorization, method of inquiry, results, or information obtained or developed in such investigation. (e) Are there any other sources of information re tone alert radios which you are aware of? Please identify each such. (f) Do you consider tone alert radios to be an alternative to (i) siren notification (ii) loudspeaker notification (iii) automatic ringdown telephone notification, for notification of Harris plant emergencies and/or providing informational or instructional messages to persons within the Harris plume exposure EPZ, during normal sleeping hours, e.g. 1 am to 6 am? (g) Please give all reasons for your answer(s) to each subpart of (f) above.

57-C-3-8(a) Does FEMA encourage the use or development of special alerting methods such as automatic telephone dialers or switching equipment where it is cost effective? (b) Please provide all basis for your answer to (a), identifying all documents or expert opinions you used in making that answer. (c) Have you made any study of the cost-effectiveness of any special alerting methods for the Harris EPZ during normal sleeping hours (e.g. 1 am to 6 am)? (d) Please identify all documents concerning, or used in, or identified during, any such study as inquired about in part (c) above. (e) Have you made any study of simultaneous dialing systems, e.g. those mentioned in section E.6.2.4.4 of FEMA 43, for use in the Harris EPZ, for notification during normal sleeping hours or for notification or delivery of instructional or informational messages? ~~generally~~ (f) Please provide details of any such study as inquired about in part (e) above, including identification of all documents related to such study, particularly any about the capability of simultaneous-dialing or simultaneous-ringing telephone equipment. (g) Was the message-delivering capability of simultaneous-ringing or dialing telephone equipment considered in any of ~~xxx~~ your studies? In which, and how? (h) What is your opinion concerning the usefulness of (i) simultaneous dialing (ii) automatic ringdown dialing telephone equipment for notification of persons within the Harris EPZ during normal sleeping hours? Please give all basis for your ~~opinion~~ opinion, identifying all documents used in ~~xxx~~ preparing or supporting your opinion. (j) (there is no part (i) since that is used for subparts, as (i),(ii)) What role did provisions for (i) calling back busy lines (ii) preventing subscriber overloading of the telephone system during use of telephone notification to Harris EPZ residents/transients play in your analysis or study of telephone notification within the Harris EPZ? (k) Would telephone system overloading by subscribers be less, more of, or about the same of a ~~problem~~ problem for telephone notification during normal sleeping hours? (l) Have you made, or collected, any other studies or reports or inquiries concerning notification systems or methods for people ~~xxx~~ (i) who are asleep at the time of notification (ii) whose whole households are asleep at the time of notification, for emergency planning/response purposes or other purposes? (m) Please describe in detail any studies/information asked about in (l) above.

57-C-3-9(a) Referring to your answer to 57-C-3-1(f), if not previously fully answered, does any documentation or records of any kind concerning the consideration of telephone notification of persons within the EPZ that was made during the Harris emergency planning process exist? (b) If so, what documentation? Please identify it fully; please fully identify any other records of this consideration which you know of. (c) If answer to (a) is "none" or an answer to that effect, or you believe you have fully answered (a) previously, please explain why no records of this consideration exist. (d) Do you remember anything about the consideration of telephone notification of persons within the EPZ that was made during the emergency planning process? (e) If so, what do you remember? (i) Do you remember what kinds of telephone notification (aa) methods (bb) systems, were considered? (ii) do you remember any reasons why telephone notification was rejected? (iii) do you remember whether night-time (normal sleeping hours) notification was part of the consideration of telephone notification for the Harris planning process (emergency response planning)? (iv) do you remember whether alternatives to telephone notification, e.g. tone alert radios, etc., were considered? Please explain what you remember, both in general, and for every subpart for which your answer is affirmative.

213-3(a) Refer to your answer to 213-1(d): Do you agree that the job titles or names of persons responsible for verifying (in the field) and/or receiving reports verifying (in the Emergency Operations Center) that persons on the Harris Lake have been notified of an accident at the Harris nuclear plant, should be part of the plan (off-site emergency response plan)? (b) Please fully explain all reasons for your answer to (a) and identify any documents or authorities you rely on in making that answer. (c) What is the job title of the person or persons responsible for receiving reports that notification of persons on or in the Harris Lake has been accomplished? (d) what is the job title of the person or persons responsible for notifying persons on or in the Harris lake of a nuclear accident at the Harris plant? If more than one job title is involved, please give all the titles, including those of back-up personnel. (e) Who is responsible for ordering the notification of persons on or in the Harris lake of an accident at the Harris nuclear plant? Please give name or job title.

213-4(a) What are the means for giving an instructional message or an informational message to persons on or in the Harris lake in the event of a nuclear accident at the Harris plant? (b) Please describe each such means in detail, explain why it was included (or will be included) in the emergency response plan, and identify all documents concerning these means, your authority or ability to use them, what personnel are required to operate these means, how many, where they ~~work~~ work, who their backup personnel are, where the backup personnel work, how many people are required to operate each means, all backup means of notification for persons on/in the Harris lake, and the above information for each backup means of notification. (c) What is the content of the instructional message for persons on/in the Harris lake in the event sheltering is ordered? Does it provide for sheltering at or near the lake? If not, what does it provide? What will persons on/in the Harris lake be told to do, if sheltering is the overall response for the EPZ that is ordered?

57-C-10-5(a) Please refer to your supplemented answer to 57-C-10-3-d. Were any methods for assessing sheltering effectiveness for structures in the Harris EPZ used, which were NOT intended to provide emergency planners with a data base for a wartime nuclear emergency? Please identify each such method and its results for structures within the EPZ, and all documents concerning the method and/or its results for such structures or other structures.

- (b) Does "wartime nuclear emergency" mean (i) Nuclear war? (ii) nuclear weapons attack? (iii) explosion of nuclear weapons? (iv) conditions of fallout after a nuclear explosion or explosions? (v) something else? -- please specify what it means.

57-C-10-6(a) Were any differences between (i) wartime nuclear emergency conditions (ii) nuclear weapons fallout conditions, and likely ~~sheltering~~ conditions for a serious accident at the Harris nuclear plant, considered in the sheltering effectiveness estimates made for structures in the Harris EPZ? (b) Please specify each such difference and how it was considered. Please identify all documents concerning the effect of each difference on the Protection Factor (PF) or sheltering effectiveness for structures or any specific structure(s) within the Harris EPZ.

(c) What account of infiltration of (i) radioactive gases (ii) radioactive particles, with incoming air, is taken in (aa) the sheltering effectiveness or PF estimates you now possess (bb) sheltering effectiveness or PF estimates for use in connection with a nuclear accident at the Harris plant? If there is no difference, or the estimates are the same, please say so.

(d) How long is the maximum sheltering time for a nuclear accident at Harris? (e) If you don't know a maximum sheltering time that might be required due to a nuclear accident at Harris, either (i) for the EPZ as a whole, (ii) for any part of the EPZ, or (iii) for any structure(s) or areas within the EPZ, please explain all reasons why you don't know. (f) What is the maximum sheltering time that has been considered (i) for the entire EPZ (ii) for any part(s) of the EPZ -- please specify which parts (iii) for any structure(s) or specific location within the EPZ -- please specify which structure(s) or specific locations.

(e) Do any PF estimates for structures within the Harris EPZ assume any sealing of air pathways (i) into the structure (ii) into sheltering areas within the structure? If so, please describe what sealing is assumed, what materials are needed to do this sealing, the availability of those materials at the structure, and the additional protection assumed or calculated or believed to result from such sealing.

(f) How long can occupants of any sealed area or structure (see (e) above) stay in shelter without exhausting their air supply? Have you made any calculations or estimates for any structures within the Harris EPZ?

(g) Do you know anything about the infiltration rates of (i) air (ii) particles, including particles of the size and characteristics of radioactive particles that might be released from Harris during a nuclear accident (iii) radioactive gases, into structures within the Harris EPZ or any such structure or structures? If so, how do such infiltration rates affect the radiation doses likely to be received by persons sheltering within those structures? Please detail all basis, documentary or otherwise, for your answers.

57-C-10-7(a) Where are "protection factor categories" as used in your assessment of PFs for structures within the EPZ, defined or explained? (b) Do you have any information about the specific PFs within each category, for structures within the Harris EPZ? (c) If so, what is that information? Please identify all documents containing such information.

57-C-10-8(a) Refer to your answer to 57-c-10-3-e. Is this all the information you have about typical housing within the Harris EPZ? (b) Does section 4.5.2 of the on-site emergency plan contain some seven lines (about 4 sentences) concerning housing within the Harris EPZ? (c) Why is this information in the on-site plan, but not in the off-site plan? (d) Are the PFs reported there based on any typical house shape or characteristics? (e) Please identify all documents that concern, or explain, how the PFs in section 4.5.2 of the Harris on-site emergency plan were calculated for typical housing. Please answer 57-c-10-3-e again insofar as your answer involves any definition of a "typical" structure or structures. (f) Please explain how the PFs of section 4.5.2 of the Harris on-site emergency plan were calculated, including base data used, calculation method(s) used, and all assumptions used or made in the calculation. Please also explain who did the calculation of these PFs and why it was done. (g) Do the PFs of Harris on-site plan section 4.5.2 take into account the effects of (i) radioactive gases (ii) radioactive particles, infiltrating into the houses/apartments within the Harris EPZ with normal air infiltration? If so, exactly how do they do so? Were any particular wind conditions used in estimating infiltration of radioactive gases or particles into structures typical within the Harris EPZ (houses, apartments or other structures)? If so, please specify the assumption.

57-C-10-9(a) How much space is considered to be space for one shelteree? Is this amount of space different for small children, for babies, for the ill or infirm? If so, how does it differ for different people? (b) How long are persons assumed to be able to remain in shelteree spaces within structures in the Harris EPZ? Is food provided in buildings within the Harris EPZ that are fallout shelters? Is that food in edible condition? Is there drinking water stored in or near high-PF areas of structures in the Harris EPZ? Has it been verified to be drinkable? If so, when? (most recent date or time if known) How long can shelterees be expected to stay in high-PF areas without (i) food (ii) water? What toilet facilities are provided in high-PF areas within structures in the Harris EPZ? Do you think people might leave high PF areas where toilet facilities are not available, e.g. briefly, to use the toilet?

57-c-10-10(a) How are ventilation systems, e.g. (i) heating (ii) cooling (iii) ventilation w/o heating or cooling, considered in assessing the PF of (aa) buildings (bb) houses (cc)apartments (dd) other structures, within the Harris EPZ? How long can such systems be turned off during sheltering? (b) How long can heating systems remain off for sheltering on cold nights (e.g. freezing temperatures, with winds of 10 mph or more) before adverse effects on shelterees (i) occur (ii) may jeopardize people's willingness to stay in shelter? (c) How long could cooling systems be turned off, with persons packed into shelteree spaces, on a hot summer day (e.g. temperatures in the 90s, high humidity) before

57-C-10-10-c, continued

adverse effects on shelterees (i) occur (ii) jeopardize people's willingness to remain in shelter?

(d) How long can external ventilation be turned off during sheltering before adverse effects on shelterees occur?

(e) Please describe any adverse effects to shelterees that may result from turning off of heating, or cooling, or ventilation systems during sheltering. Please also describe how (if at all) such effects are considered with respect to structures in which persons in the Harris EPZ might be asked to take shelter during a nuclear accident. Please identify all documents concerning (i) adverse effects of having heating, or cooling, or ventilation systems turned off during sheltering (or, in general); (ii) consideration of heating, cooling or ventilation with respect to structures in the Harris EPZ in which people might shelter; (iii) degree of adverse effects under which people may leave shelter during a nuclear power plant accident, or the difference between such conditions and the conditions under which people may leave shelters during a military nuclear emergency or nuclear war or nuclear bomb fallout situation; (iv) degree of adverse effects which would likely cause people to leave a shelter during a nuclear power plant accident.

(f) does shelter effectiveness analysis always assume ventilation is off?

57-c-10-11(a) How are construction techniques relating to the air tightness of walls, ceilings, floors, windows and doors considered in determining the sheltering effectiveness of structures within the Harris EPZ? (b) have any direct measurements of the air tightness of construction of such structures been made, e.g. with blower doors or other air-infiltration measuring equipment? (c) Please identify all documents concerning the matters inquired about in (a) and/or (b) above, particularly including estimates or measurements of the specific air-tightness of construction of structures within the Harris EPZ. (d) Why were food stores eliminated from consideration in the surveys of sheltering effectiveness of structures within the Harris EPZ? (e) Are food stores considered less safe shelters than other structures of similar construction?

57-c-10-12(a) Have any formal shelter location sketches been made for any structures within the Harris EPZ? (b) Please identify all documents containing shelter location sketches, formal or informal, for any structures within the Harris EPZ. (c) Please identify all documents showing where the highest PFs are located in structures within the Harris EPZ. Please identify any document showing such areas within any such structure.

57-C-13-3(a) Is your answer to 57-C-13-1 complete, e.g. with respect to parts (g) and (h)? If not, please provide answers. (b) what (i) medical supplies (ii) toilet facilities, are available in high-PF areas within hospitals or nursing homes within the Harris EPZ? (c) Why haven't "best" PF determinations for hospitals or nursing homes within the Harris EPZ been made? Please give all reasons. (d) What PF determinations have been made, if any, for any (i) hospital (ii) nursing home, within the Harris EPZ?

12

57-C-13-4(a) Are there any hospitals, nursing homes, or other care facilities within the Harris EPZ besides those listed in ~~the~~ Table 4-5 of the Evacuation Time Estimates (ETE) which the state or county emergency planners are aware of?

(b) Have any factors, such as increased sensitivity of ill or elderly persons to radiation exposure, been considered in PF determinations for hospitals or ~~in~~ nursing homes or other care facilities within the Harris EPZ?

30-3(a) With respect to your answer to 30-2(d), are there any places in the Harris emergency response (off-site) plan where specific quantities of KI or other radioprotective drugs are mentioned?

(b) are you aware of any reports, or recent declarations of policy or resolutions of health-profession associations, which address the ~~desired~~ desirable availability of KI or other radioprotective drugs during radiological emergencies? Please identify all documents containing or reporting on such reports, resolutions or policies.

(c) How, if at all, do the reports, declarations or policies you ~~do~~ identify in response to (b) above (or that you were asked to identify in (b) above), affect your answers to 30-2(a) and 30-1 subparts (b) thru (f)?

30-4(a) Have you made any evaluation of the Harris Emergency Response Plan's plans for distribution of KI, as far as its compliance with NUREG-0654 or other applicable guidance is concerned? (b) Please identify all documents relating to such evaluation(s), the applicable guidance, and the results of each such investigation. (c) Do you plan to make any such investigation? If so, when? When do you expect to complete this investigation?

30-5(a) Are there any applicable FEMA or NRC guides for any of the items inquired about in 30-1(b) thru (f)? If so, please specify the guidance for each item and the document or documents which identifies that guidance. Please identify all documents and page references which contain each such item of guidance.

30-6(a) Does the State of NC maintain no reserve of KI at any place for use during nuclear plant accidents?

(b) What provisions for KI use are established for (1) the Brunswick nuclear plant (2) the McGuire nuclear plant, and how do these provisions differ, if at all, from those for KI use in emergency conditions at the Harris plant?

(c) Please identify all documents concerning matters inquired about in (a) or (b) above. Please tell for each the matter(s) it relates to.

PRODUCTION OF DOCUMENTS

Wells Eddleman hereby requests that the original or best copy of each document identified in response to interrogatories above or below be produced for inspection and copying at a mutually agreeable time and place.