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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

RELATED CORRESPONDENCE

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

DOCKETED

In the Matter of)
)
CAROLINA POWER AND LIGHT COMPANY)
AND NORTH CAROLINA EASTERN)
MUNICIPAL POWER AGENCY)
)
(Shearon Harris Nuclear Power Plant))

'84 OCT 29 P1:14

Docket No. 50-400 01.

Response by Richard Wilson to Applicants
Interrogatories on EPJ-5 and
Wilson 12(b)(2) and Wilson 12(b)(3)

General Interrogatories

1. I relied on no one
2. Jan Tedder, a citizen of Apex surveyed local agencies to define the number of people who might need assistance in evacuation.
3. Undecided
4. See specific answers
5. See specific answers
6. No other sources
7. Undecided

Specific Interrogatories

12(b)(2)-1 1980 Census data (item 123 on STF-3) for the Wake County townships of Holly Springs, White Oak, Buckhorn, and Middle Creek show that the percentages of households with two or more vehicles are, respectively, 70%, 67%, 63% and 60%. In the event of an evacuation, I believe any family with more than one driver would take more than one vehicle with them to prevent contamination of the vehicle and provide the family with transportation flexibility during the time they are away from home.

12(b)(2)-2(a) The Evacuation Time Estimate should demonstrate how the evacuation times would vary if the assumption of 1-vehicle household were altered to 1.5 or 1.75 vehicles household.

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- 12(b)(2)-2(b) Applicants have never cited any empirical data to support their assumption of 1-vehicle household. Any unsupported assumption should be viewed with caution. In a traffic flow simulation, which probably has sudden non-linear behaviors as the capacities of roadways are approached, a worst-case assumption should at least be investigated. The worst-case does not have to be incorporated as the basis for planning, but it should be considered.
- 12(b)(2)-3(a) None
(b) N/A
- 12(b)(3)-1 I am aware that the ETE estimate of 240 families is for Wake County only.
- 12(b)(3)-2 The southwest corner of Wake County is more rural and has lower income than the county as a whole. Evaluation of this area using Census data broken down to the township level provides a more accurate appraisal of the number of households without vehicles. I have assumed that the EPZ includes all of Holly Springs, Buckhorn and White Oak Townships and 50% of Middle Creek Township households. My analysis is presented in Table 1.
- The first column shows data taken directly from 1980 Census STF-3 item number 121/122: "occupied housing units with no vehicle available".
- The second column gives the standard error calculated according to Chapter 6 of the 1980 Census Users Guide. This accounts for the sampling variability in surveys involving relatively small groups.
- The third column gives the upper range of the 95% confidence level (2 standard errors from the first column). A standard error adjustment factor of 1.0 was assumed. For planning purposes this conservative figure should be used to make sure that planning is adequate.
- The fourth column gives the percentage of the population of the township that should be considered, for conservative planning purposes, to own no vehicle.
- The fifth column gives the number of people corresponding to the numbers in the third column, assuming 2.7 persons/household.

TABLE 1 - POPULATION WITHOUT VEHICLES

	STF-3 Census Data	Standard Error	Upper Limit at 95% Confidence	Percent of Households	Number of People
Holly Springs	95	21.8	139	12%	375
Buckhorn	68	16.8	132	32.4%	356
White Oak	158	27	212	9.4%	572
Middle Creek	153	37.3	190	11.4%	513

12(b)(3)-3(a) I have only analyzed Wake County, but I believe that a similar deficiency in the Applicants' analysis exists for other counties as well.

(b) See (a)

12(b)(3)-4(2)&(b) See answers to 12(b)(3)-3 above.

12(b)(3)-5(a)&(b) See answers to 12(b)(3)-3 above.

12(b)(3)-6(a) I assume that 84 in this interrogatory is intended to be 204. This is not an adequate estimate for planning purposes.

12(b)(3)-6(b) For planning purposes Applicants should consider there could be 673 households which own no vehicle in the Wake County portion of the EPZ. See Table 1.

12(b)(3)-7 I have no quantitative basis for this assertion, but in my experience it is not unusual for people to miss appointments because of auto break-downs.

12(b)(3)-8 Because the number of households and people that own no vehicle is quite large, the Applicants should bear the burden of demonstrating that these people can all be evacuated within the alleged 236 minutes. The locations of so-called "pick-up points" and the number of vehicles designated to go to each point should be specified in order to provide assurance that these people can be evacuated. The capacity of each vehicle and the agency supplying each vehicle should be specified. There should be some demonstration that people will be able to get to the pick-up points from their homes. The evacuation time estimate should be revised if dealing with this number of people without vehicles prolongs the time estimate for complete evacuation.

12(b)(3)-9 I know of no other changes at this time.

EPJ-5-1(a) I believe that maintaining an up-to-date list of handicapped (see FEMA Guidance Memo 24 for definition) people is an exceedingly difficult and time-consuming process. The list must be updated daily to include people recently impaired, just moved into the zone, or just discharged from the hospital. There must be a mechanism to identify people who are no longer on the active caseloads of home-health agencies but continue to be disabled, and people who have never received agency assistance. The list must be rapidly available to local officials, but at the same time privacy and security must be assured. Since emergency workers from throughout the county will be involved, the list must include directions to the dwellings, and such directions are not easy to obtain or follow for rural areas. Because this project is a major undertaking the Plan should be precise about the way that each of these goals will be achieved and exactly who (position, not just agency) will be responsible for doing so.

EPJ-5-1(b) The offsite plans do not need to contain a list, but the production of a list is the only credible demonstration that the Applicants have on effective mechanism for identifying homebound people. Therefore the Board should require that a list be generated and the capacity to keep the list up-to-date be demonstrated before they approve the off-site plan. Furthermore the list produced for demonstration purposes should be available for my inspection and verification prior to the hearing.

EPJ-5-2(a)-(f) I have developed no further information on this issue.

EPJ-5-3(a) There is no pre-arranged assignment of emergency vehicles for the evacuation of hospital, nursing homes and family care homes within the EPZ despite the obvious fact that the Apex and Fuquay Rescue Squads are too small to perform this function. Secondary notification and an emergency response at the Shearon Harris site would be a further drain on emergency vehicles. There is no evidence whatsoever in the plan that an adequate number of vehicles from whatever source can be mobilized to achieve evacuation in 236 minutes.

EPJ-5-3(b) I do not know how many will be available, but I would estimate that there are only about 30 Rescue Squad ambulances in Wake County (3 in Apex, 3 in Fuquay, 3 in Cary, 5 in Raleigh which would be the primary responders. 1 of those in the small communities and 2 in Raleigh would have to be reserved for other emergencies). There are no arrangements with private ambulance facilities.

EPJ-5-3(c) Assuming:

1. Data from table 3.5 of ETE study
2. Evacuation to be completed in 236 minutes
3. Round trip times from zones to shelter as follows:
 - a. NE sector 2-3 mile zone - 90 min.
 - b. NE sector 8-9 mile zone - 75 min.
 - c. Fuquay area - 90 min.
4. Each vehicle could make 2 round trips (combine assumptions 2 & 3)
5. 2 non-ambulatory people/vehicle

I would estimate the following requirements
Apex-New Hill Area - 10 vehicles
Fuquay Area - 30 vehicles

This provides transportation only for hospitals, nursing homes and rest homes. Homebound people would probably require several times this number of vehicles, although given the uncertainty about the number of these people and their resources this is difficult to estimate and may be many more.

See answer to (d) below.

EPJ-5-3(d) At this time I will accept the figures given in table 3.5 of the Evacuation Time Estimate study for non-ambulatory people in hospitals, nursing homes, and rest homes.

The number of people at home who will require special assistance is very difficult to estimate. From surveying some local agencies I would estimate 800 homebound mobility impaired people who might require ambulance evacuation (150-200 on active files, 400 who are off active caseloads, 200 who have never received assistance). In addition there may be 100 people with mental impairments severe enough to require specific attention to insure their evacuation was accomplished.

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EPJ-5-4 See answers to Interrogatories 12(b)(3)-8 and EPJ-5-1(a) and EPJ-5-1(b)

EPJ-5-5 At this time I know of no other actions.

R. Wilson

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CERTIFICATE OF SERVICE

I hereby certify that copies of Response by Richard Wilson to Applicants Interrogatories on EPJ-5 and Wilson 12(b)(2) and Wilson 12(b)(3) have been served this 25th day of October 1984, by deposit in the US Mail, first-class postage prepaid, upon all parties whose names are listed below, except those whose names are marked with an asterisk, for whom service was accomplished by

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