

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
CAROLINA POWER & LIGHT COMPANY)
and NORTH CAROLINA EASTERN) Docket Nos. 50-400 OL
MUNICIPAL POWER AGENCY) 50-401 OL
)
(Shearon Harris Nuclear Power)
Plant, Units 1 and 2))

AFFIDAVIT OF THOMAS I. HAWKINS IN SUPPORT
OF APPLICANTS' MOTION FOR SUMMARY DISPOSITION
OF CONTENTIONS EPJ-3, EPJ-4(a) and EPJ-4(b)

County of Fulton)
) ss.
State of Georgia)

Thomas I. Hawkins, being duly sworn, deposes and says:

1. My present position is Emergency Management Program Specialist for the Federal Emergency Management Agency. Included among my responsibilities is the radiological emergency planning liaison function between FEMA Region IV and the States of North and South Carolina. In this position, I am responsible for the review of radiological plans and preparedness for the State of North Carolina and the State of South Carolina and for the local governments within those States.

I have held this position since December 1981. I have been employed by FEMA since July 1978. A current statement of my

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professional qualifications is attached hereto. My business address is 1371 Peachtree Street, NE - Suite 736 - Atlanta, Georgia, 30309.

I have personal knowledge of the matters discussed herein and believe them to be true and correct. I make this affidavit in response to Contentions EPJ-3, EPJ-4(a) and EPJ-4(b).

2. Contention EPJ-3 contends:

The number of volunteer workers -- such as members of volunteer police, rescue, and fire departments -- who would respond to an alert is extremely questionable; plans should be based on a response rate of no greater than 50% in organizations in which no attention has been given to composition which would avoid conflict between organizational and family responsibilities.

Similarly, present planning assumes that teachers will leave their cars and families in the area and supervise students on the bus and in the shelters. This is an unreasonable and unrealistic demand on teachers.

3. Contention EPJ-4(a) contends:

Section E4d of State Procedures (p. 47) is deficient because --

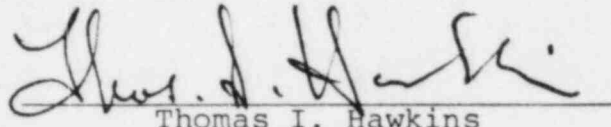
Fifty percent of school bus drivers are high school juniors and seniors (as young as 16½ years). They should not be expected to perform as emergency personnel without explicit and specific authorization from their parents. Even with such authorization they should not be trusted to perform in emergency situations.

4. Contention EPJ-4(b) contends:

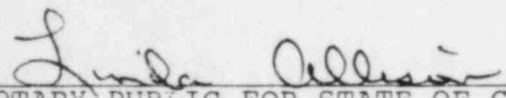
Section E4d of State Procedures (p. 47) is deficient because --

Adult bus drivers have minimal education and are paid very low wages. They cannot be trusted to put their jobs above family obligations or to perform adequately in emergency situations.

Contention EPJ-3, EPJ-4(a), and EPJ-4(b) all purport to raise as issues the fact that workers in an emergency will not perform their assigned tasks. The contentions include volunteer workers such as police and rescue units and school bus drivers. I have reviewed the Applicants' motions for summary disposition of these contentions and find that I am in close agreement with their position. FEMA Region IV has observed or participated in numerous disaster operations including two recently declared disasters in North Carolina. We have learned from these experiences that volunteer workers do show up and faithfully perform their designated functions. The Affidavit dated January 11, 1985 of Dennis S. Mileti submitted by the Applicants in support of their motions for summary disposition agrees with our view. Literature by experts in the field agrees with our position. See, for example, Evacuation Risks - An Evaluation EPA-52016-74-002 (EPA 520) at pages 43-51 and the references cited on pages 55-59 which are attached. I know of no special demographic characteristics of the population within the plume exposure pathway EPZ for the Harris site that would lead to the conclusion that these people would act differently than those whom we have observed in disasters, or different than those characterized by Dr. Mileti or in EPA-520. The FEMA and NRC regulations, and NUREG 0654 do not establish requirements in terms of numbers or qualifications for volunteers or school bus drivers. It is our view that the present N.C. Emergency Plan in regard to volunteer workers and school bus drivers is adequate and that Contentions EPJ-3, EPJ-4(a) and EPJ-4(b) do not raise issues or disputes.


Thomas I. Hawkins

Sworn to and subscribed before me
this 22nd day of February, 1985.


NOTARY PUBLIC FOR STATE OF GEORGIA

My Commission Expires: Notary Public, Georgia, State at Large
My Commission Expires Nov. 12, 1985

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
- Completed Radiological Accident Assessment Course, National Emergency Training Center, Emmitsburg, Maryland, August 1984

EVACUATION RISKS-AN EVALUATION



Joseph M. Hans, Jr.

Thomas C. Sell

June 1974

U. S. ENVIRONMENTAL PROTECTION AGENCY
Office of Radiation Programs
National Environmental Research Center - Las Vegas
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Panic or hysteria associated with catastrophes

It appears that to the unknowing, a catastrophe often conjures a vision of mass confusion, panic, and a complete breakdown of private and public services. Normal processes are completely disrupted to a point that the functioning and inter-relationships which exist between mankind, its society, and human values are disregarded and chaos exists. In this situation, people are unable to rationalize, follow directions, or relate to one another. The image, fostered by television, movies, and the press, is that people react to a calamity by panic and hysteria.

Numerous studies, both in other countries and in the United States (39,40), which have investigated the reactions of people in many types of emergency situations, have essentially dispelled the so-called "myths of panic." The Disaster Research Center of The Ohio State University, which is the only group in the United States now devoted solely to research on disasters and associated problems, had carried out 202 different field studies as of July 1972. These have included many investigations of peoples' reactions to various crises due to man-made or natural disasters.

In a recent publication entitled "Images of Disaster Behavior: Myths and Consequences" (40) the authors enumerate the following popular, but incorrect, images of disaster behavior:

1. People when faced with great threat or danger will panic. This takes the form of either wild flight or hysterical breakdowns. Even if the response is not intrinsically self destructive, it will generally involve giving little consideration to the welfare and safety of others. Persons cannot be depended upon to react intelligently and non-selfishly in situations of great personal danger.
2. Those who do not act irrationally are often immobilized by major emergencies. Thus, disaster impacts leave large numbers of persons dazed, shocked and unable to cope with the new realities of the situation, the longer run personal effects are rather severe emotional scars and mental health disturbances. Paralyzing shock is followed by numbing symptoms of personal trauma.

3. Partly because of widespread individual pathological reactions and partly because of the overwhelming damage to the resources of disaster-affected communities, the ability of local organizations to perform effectively in handling emergency tasks is severely limited. Not only do such organizations have to cope with the irrationality of others, but their own personnel are so immobilized by threat and damage that they cannot fulfill their necessary occupational tasks. Therefore, local organizations are ineffective agents to handle local emergency problems.
4. The social disorganization of the community which is a product of disaster impact provides the conditions for the surfacing of anti-social behavior. Since social control is weak or absent, deviant behavior emerges and the dazed victims in the disaster area become easy targets for looting and other forms of criminal activity. Crime rates rise and exploitative behavior spreads as Mr. Hyde takes over from Dr. Jekyll.
5. Community morale is very low in disaster stricken areas. Since impact localities are filled with irrational, disorganized and helpless persons and immobilized groups, the future of such communities appears bleak and problematical. Residents, even those not directly impacted, prepare to leave and there is a reluctance to reopen and rebuild shattered businesses and industries.
6. A descent into total personal and social chaos is possible in such stricken communities. Immediate and firm and unequivocal measures are necessary to prevent such a deterioration. But in general local and established community officials lack the resources and are so shaken by the disaster that they cannot take the drastic steps required.

The paper then explains why these "truths" prevail and the negative impact and implications they may have on policy and emergency planning.

The greater portion of the paper is devoted, based on the extensive work done by the Disaster Research Center, to demonstrate that these popular images are, in fact, myths and

completely unrelated to actual fact. A generalization that can be made is that peoples' reactions and behavior under adverse, abnormal situations are diametrically contrary to popular myths.

Based on the Disaster Research Center report, "Images of Disaster Behavior," peoples' behavior during an emergency is characterized by:

1. The idea that people will panic in the face of great threat or danger is very widespread. However, it is not borne out in reality. Insofar as wild flight is concerned, the opposite behavioral pattern in most disaster is far more likely. People will often stay in a potentially threatening situation rather than move out of it. This really should be expected. Human beings have very strong tendencies to continue on-going lines of behavior in preference to initiating new courses of action.
2. Just as the panic image of disaster behavior is generally incorrect, so is the view that disasters leave victims dazed and disoriented both at time of impact and in the recovery period. Those who experienced disasters are not immobilized by even the most catastrophic of events. They are neither devoid of initiative nor passively dependent or expectant that others, especially relief and welfare workers, will take care of them and their disaster created needs. In fact, disaster victims sometimes insist on acting on their own even contrary to the expressed advice of the public authorities and formal agencies.
3. The assumption that local organizations are unable to cope with disasters is based both on the notion that these organizations and the communities in which they are located are overwhelmed by disaster impact, and also by the fear that the employees of these organizations are so affected by disaster impact that their efficiency is reduced. Neither of these notions stand up well under close observation.
4. The idea that disaster aftermath creates the conditions for the development of anti-social behavior is widespread. In particular, there is the assumption that widespread looting takes place. The term looting has military roots, implying invading

armies take property by force, generally when the rightful owner cannot protect it. During disasters, according to common belief, invading armies of opportunists take property left unguarded when the rightful owner is forced out by disaster. Because of the expectation that looting will occur, one does find that there is, within disaster-impacted communities, anxiety about the possibilities of looting and also reports of looting which confirm the initial expectation. On the other hand, those who have done disaster research have found it difficult to cite many authenticated cases of actual looting.

5. Contrary to popular image, morale in disaster-impacted communities is not destroyed. Partly as a result of the generation of altruism and the reaffirmation of equality . . . the result over time is an increase in collective morale. Such an increase may seem implausible since disasters create to a greater or lesser degree those who have immediate personal losses -- the death of a family member, injury to themselves or damage to their property. Victims, however, are always outnumbered by non-victims. Even in a community with a large number of "victims," their losses do not necessarily have a cumulative effect in lowering morale. Individual suffering is always experienced in reference to the plight of others. Suffering in the disaster context is not an isolated experience and, therefore, it does not become an isolating experience.
6. Patterns of leadership and of authority in disaster-impacted communities are very complex. Their complexity, however, is usually misinterpreted as confusion and the panacea of "strong leadership" is frequently offered as a solution without understanding the nature of the problem. Perhaps the beginning of understanding is to start with the observation that communities are not organized to cope with disasters. This is true even in communities with extensive pre-disaster planning since there is a considerable difference in anticipating problems and facing them. What disasters

do is to create a series of new problems for the community and in doing this, they necessitate new relationships among its parts. Disasters force the development of a new structure which reflects the current involvement of various parts of the community which, in turn, can make decisions "for" the community.

Although the studies done by the Disaster Research Center and others (17,40) have dispelled the myths associated with peoples' behavior during a disaster, if the causative agent of the incident were radiation, would peoples' reactions be substantially different? The conclusion drawn by many is that because radiation is largely an unknown quantity, imperceptible to the ordinary senses, inherently, the fear of the unknown and its consequences would cause a different behavior pattern--perhaps similar to popular notions. This would, in turn, have a dramatic effect on evacuation involving a release of radioactivity.

Dr. Russell R. Dynes (41), Co-Director of the Disaster Research Center, was asked if he thought people would react differently--panic--because of a radiation threat. Dr. Dynes' reply was that there has been an overemphasis placed on the qualitative difference between radiation and other threats by both public officials and anti-nuclear groups, "What was assumed was that the nuclear advent represented some new juncture in human history and, therefore, it would evoke and demand a quite different level of human behavior." Dr. Dynes continued, "As I read history, there is not reason to suggest that because of the presence of a new 'order' of threat that human behavior would disintegrate into 'uncivilized' behavior."

The summation of Dr. Dynes' reply is that there is not reason to expect that people will react any differently because the disaster agent is radiation than they would for a flood, fire, or any other type of causative agent. This "normal" behavior is amply documented (37,39) and does not include panic.

Dr. Dynes further states:

If your concern is primarily with evacuation, there is good reason to suggest that the problem in evacuation is not one of panic flight but the problem of getting people to move at all. The question of the perception of threat is a very complicated one and is not as obvious as many people assume it to be.

Based upon Dr. Dynes' response to the specific question of behavior to radiation versus other threats, corroborated by the research (40) that reveals the true behavior of people during a disaster as opposed to the panic conception, there is no reason to believe or assume that the risk of injury or death should be any higher due to an evacuation than the normal accident or injury rate.

" . . . one fact is borne out by various data of past disasters: the freedom to escape from threat of death or injury has a calming effect on the population." (37)

Motivation to evacuate

In many cases, even when presented with a grave threat, people refuse to evacuate (16,23,28,40). Many reasons have been given both by persons who have not evacuated (17,23), and persons conducting the evacuation as to this reluctance to leave. To some degree, it is the individual's impressions and interpretation of the seriousness of the situation based on the official or unofficial information he/she receives. An individual evaluation is made and a positive or negative action elicited. It cannot be taken for granted that an official order to evacuate will be followed, even if it is a mandatory rather than a voluntary order. Results of this study indicate that approximately six percent of the total population refused to evacuate. Other reports indicate this figure can run higher than 50 percent (23).

There is no reason to believe that because the disaster agent is radiation rather than some other agent, that is, in itself, will provide sufficient motivation to leave. Rather, the opposite viewpoint should be taken--people will be hesitant to leave. Cognizance should be given in the planning stage to this problem and appropriate thought given to its remedy.

Warning systems and communication systems between evacuee-evacuator, evacuator-evacuator, and evacuator-news media-population play a significant role in the emergency and/or evacuation process (17,42,43). It is not only important that pretested, workable systems be available, but that an understanding of peoples' response and behavior to warning systems be recognized and be advantageously used.

Emergency plans

There have been many documents published on emergency and disaster planning (44-48), some of which are listed in the bibliography. It was not the intent of this report to go into

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this aspect; however, a number of thoughts and suggestions were expressed by individuals contacted concerning emergency plans that are most appropriate for evacuations.

Some of these thoughts and suggestions follow:

1. To keep it workable in practice, an emergency plan should be kept as simple as possible for the particular situation under study. The language should be kept on a level commensurate with the training and experience of those who must execute it.
2. Scheduled periodical reviews of the plan are needed in order to correct it for changing conditions, technology, and personnel.
3. Continual testing of the plan, as authentically as possible, is needed to determine whether it will work practically and to determine needed adjustments.
4. Many times emergency plans are written by individuals who have no real experience in emergencies and little or no knowledge of how people behave during an emergency. Consequently, plans are written that are contrary to peoples' behavior patterns. As an example, people will not evacuate an area, regardless of the danger, if their family group is separated, unless they know that members of their family are safe, accounted for, and that arrangements have been made for them to evacuate.
5. Some plans are written delegating responsibilities to persons or organizations that have not been informed of these responsibilities. In some cases, responsibilities are not transferred to new personnel involved in normal turnovers and position changes.
6. Two instances in the literature (16,22) are reported where delegated responsibilities were given to personnel, who, for various reasons, were not available during the disasters. Other studies do not cite this as a problem (39). Serious consideration, however, should be given to the selection of personnel who would be responsible for an evacuation. Pre-disaster arrangements should be made for the families of those responsible for the evacuation such that they are assured that their families are safe and they can devote full time to the emergency without concern for the safety of their families.

7. It is important that all personnel who will be involved in the evacuation have adequate training commensurate with their responsibilities during an incident. Training in radiological health and protection is especially important for the ancillary personnel needed to help with the evacuation, but who will not be doing actual health physics work. Their familiarity with the subject will assist them in their communications with the evacuees and will help them understand the situation themselves.

Problems encountered in various evacuations

Some of the problems encountered in the evacuations which were investigated, which may or may not be typical, are worthy of mention since they demonstrate situations that have occurred and will probably occur again.

It was mentioned by the Illinois Civil Defense (21) that one of the problems that they seem to routinely encounter in emergencies and subsequent evacuations is premature childbirth. In Illinois prior arrangements are made in evacuation plans for this problem.

It was pointed out by a number of individuals contacted and in literature reviewed, that problems occur in the pre- and post-evacuation (16,22,23). In a number of instances, where an evacuation was imminent but not announced, traffic congestion and confusion existed as people rushed to gas-up and stock-up on food. This, in turn, has interfered with movement of traffic such that emergency vehicles have been impeded. Inbound traffic moving towards the impact area was diverted to relieve congestion in one situation (35,49).

Post-evacuations, depending upon location, pose problems of preventing unwanted people from coming into the impact area while permitting access to the inhabitants and emergency workers. Some personnel control was exercised by the use of passes. Residents, in some cases, became angry at roadblocks when denied access to their homes and businesses. Many persons have evacuated some distances from the impact area and the local news media where they were sheltered did not broadcast information concerning reentry advice. Therefore, the evacuees stayed away longer than necessary.

In many types of emergency situations, a convergence behavior has been amply demonstrated (41). Peoples' curiosity overrides their fear of danger. Consequently, this results in the people not leaving the area promptly or in people outside the affected area coming in to sightsee. This convergence on a

disaster interferes with the movement of people out of the area (evacuees) and interrupts and interferes with the movement of official traffic--impeding evacuation efforts.

Sightseeing from aircraft has also interfered with necessary aerial missions over an impact area. In several instances, Federal Aviation Administration Regulations were invoked to limit the airspace to air traffic associated with the incident. (50) In most evacuations, people use their private vehicles. Traffic moves in an orderly fashion, and slower, due to crowded roads. Minor accidents, mechanical problems, and lack of gasoline may cause congestion and slow the evacuation. In some of the evacuations, tow trucks and gasoline trucks were spaced along the evacuation route, along with good police patrol, to keep traffic flowing smoothly. Cars with mechanical breakdowns were pushed off the road and their occupants were absorbed in other evacuating vehicles.

In one evacuation investigated, a problem was encountered with a non-English-speaking population group. Not only was time lost in obtaining an interpreter, but the people would not evacuate to the shelter area because it was established for a different ethnic group; therefore, they had to be directed to another location (51).

The security of the area must be firmly established and people living in that area must be positively aware that, if an evacuation occurs, their property will be protected against fire, theft, and other hazards and wanton destruction. This knowledge helps persuade people to evacuate when necessary.

Looting is frequently reported during disaster situations. In the cases that have been investigated (16,40), even though extensive looting had been reported, it generally turned out that the reports were mainly rumors. In other than civil disturbances, it has been difficult to verify cases of looting (40,52). In many events, crime rates actually decrease. It is conjectured that, to some degree, the absence of looting is due to increased security of the area.

Frequently, there is an over-response of voluntary help in disaster assistance. Many volunteers from different organizations present themselves at scenes of incidents. Judicious use of their talents and equipment may help relieve some of the evacuation problems. In one instance, so many volunteers presented themselves that they actually caused logistic problems.

Shelters and evacuation centers are usually quickly established and manned; they are generally located in public buildings, especially schools. Although they are readily available, relatively few people use these centers, preferring to find their own accommodations either commercially or with friends or relatives. In a California flood, only 9,260 out of 50,000 persons evacuated registered in the 38 Red Cross shelters; during Hurricane Carla, 75 percent of the evacuees went to other than public shelters; and during Hurricane Betsy, only 20 percent requested assistance (23,40). Generally, shelter centers are used only if nothing else is available or if one cannot financially care for himself.

It is necessary, in an evacuation called due to a radiation threat, to be able to warn all citizens in the affected area and to account for them later. Accounting for people at a shelter may prove impractical since the probability is that only a small percent will use public shelters. Therefore, some other accountability systems will need to be devised.

Aside from adequate, redundant communication systems, the helicopter was mentioned as a most valuable asset in disaster situations. Not only does it make quick movement available, but, as a movable observation point, a helicopter is invaluable.

Special evacuations

In the event of a nuclear incident, some institutions, public and private, may have to be evacuated. Each institution will have its own particular characteristics and will require different procedures for handling the evacuees.

Schools

In most of the evacuations observed, more than 99 percent of the evacuees utilized private vehicles for the evacuations and evacuated as family units. If schools are evacuated, it may result in the separation of families. Parents are reluctant to be separated from their children and may attempt to retrieve them, causing additional congestion and, subsequently, may slow down the evacuation process. In order to minimize the congestion, plans should be developed whereby school children would be returned to their respective residences or evacuated to a specific location. The location could be schools located out of the impact area since they would present a somewhat familiar environment and generally have food service facilities and adequate supervision. The choice of either action would be dependent

upon an appraisal of the affected area. In either case, the parents should be advised of the type of action to be taken in order that appropriate family plans can be made.

Hospitals

Five hospital evacuations were recorded on the questionnaires with no injuries or deaths reported. One hospital underwent "vertical evacuation" where the patients were moved to higher floors because of a tsunami and four were evacuated to other areas. Specific data on numbers of patients moved were available for only three hospitals and involved 550 patients.

The general procedures used during the hospital evacuations were to discharge the ambulatory patients and transport the nonambulatory patients by police-escorted ambulances to other receiving hospitals. In one case, nonambulatory patients were moved to a 200-bed disaster hospital and those that were in intensive care were moved to another regular hospital.

Two problems arose during one evacuation. These were: failure to send records with patients and failure to provide at least 24 hours of medication. It was strongly emphasized, by the respondees during telephone interviews, that the hospital evacuations could not have been accomplished smoothly without injury or loss of life without detailed planning and coordination.

Penal institutions

Several penal institutions were evacuated in the incidents investigated and involved a state penitentiary, a county jail, and a city jail. The city jail underwent "vertical evacuation," while the county jail and state penitentiary inmates were evacuated by buses, designed for prisoner transfer, to other areas. The state penitentiary prisoners were evacuated to a football field, while the county prisoners were absorbed into other correctional institutions.

It appears that jails and prisons may be effectively evacuated if adequate planning and reception centers are available. If, however, evacuation is not feasible or desirable, the shielding effects provided by buildings of the institution should be determined. Dose equivalence may be set at higher levels for prisoners and guards than for the general public if the risk associated with evacuation is unacceptable.

Nursing homes

One nursing home evacuation was documented from the incidents. A special train was provided which moved and housed the occupants 50 miles from the point where a possible chlorine release could have occurred.

It appears that private and public institutions can be evacuated safely, with little risk, in the event of a nuclear incident provided adequate planning has been made and a reception or care center has been designated out of the impact area.

CONCLUSIONS

Based on the study of individual evacuations and consultation with persons having experience in managing and studying various aspects of evacuations, some general conclusions can be made:

1. Advanced planning is essential to identify potential problems that may occur in an evacuation.
2. The risk of injury or death to evacuees does not change as a function of the numbers of persons evacuated.
3. The risk of injury or death to evacuees can be approximated by the National Highway Safety Council statistics for motor vehicle accidents, although subjective information suggests that the risks will be lower.
4. Most of the evacuees utilize their own personal transportation during an evacuation.
5. Most of the evacuees assume the responsibility of acquiring food and shelter for themselves.
6. Evacuation costs are highly area-dependent and should be computed based on local demographic, economic, and geographic conditions.
7. No panic or hysteria has been observed in evacuations.

In summary, large or small population groups can be effectively evacuated from impact areas with minimal death and injury risks and, in most cases, they can take care of themselves provided adequate plans are developed and executed to minimize potential problems that may occur peculiar to the impact area. Costs would probably not be a deterrent in initiating an evacuation.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)

CAROLINA POWER AND LIGHT COMPANY AND)
NORTH CAROLINA EASTERN MUNICIPAL)
POWER AGENCY)

Docket Nos. 50-400 OL
50-401 OL

(Shearon Harris Nuclear Power Plant,)
Units 1 and 2))

I hereby certify that copies of "NRC STAFF/FEMA RESPONSE TO APPLICANTS' MOTIONS FOR SUMMARY DISPOSITION OF CONTENTIONS EPJ-3, EPJ-4(a), AND EPJ-4(b)" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, or deposit in the Nuclear Regulatory Commission's internal mail system (*), this 27th day of February, 1985:

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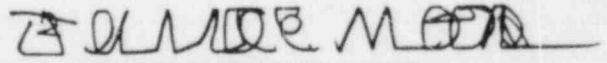
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