

November 2, 1984

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSIONBEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
CAROLINA POWER & LIGHT COMPANY)
and NORTH CAROLINA EASTERN) Docket No. 50-400 OL
MUNICIPAL POWER AGENCY)
)
(Shearon Harris Nuclear Power)
Plant))

APPLICANTS' STATEMENT OF MATERIAL FACTS
AS TO WHICH THERE IS NO GENUINE ISSUE
TO BE HEARD ON EDDLEMAN 57-C-3

Pursuant to 10 C.F.R. § 2.749(a), Applicants state, in support of their Motion for Summary Disposition of Eddleman 57-C-3, that there is no genuine issue to be heard with respect to the following material facts:

1. Carolina Power & Light Company contracted with Acoustic Technology, Inc. ("ATI") to analyze and evaluate the acoustic coverage of the siren notification system designed to be installed within the Harris EPZ, and to prepare a report which documents the analysis of the warning system design to meet the guidance set forth in FEMA and NRC regulations and regulatory guidance. Bassiouni Affidavit, ¶12.
2. NUREG-0654 and FEMA-43 are the basic guidelines for the design of a prompt notification system for alerting the public within the EPZ. These guidelines address the

licensee's option for methods of alerting, such as outdoor warning sirens, tone alert radios, and automatic telephone dialers. Bassiouni Affidavit, ¶3.

3. Federal guidance does not require redundant notification systems for the general public (i.e., siren systems to alert the public when it is outdoors, combined with tone alert radios or automatic telephone dialers to alert the public when it is indoors). Bassiouni Affidavit, ¶3.

4. The federal guidance does not specify criteria for nighttime alerting. However, it does establish design criteria for public alert systems based on population density and ambient background noise -- specified as the average measured outdoor daytime (period between 7 am and 10 pm) ambient sound levels. (One reason that daytime ambient is specified rather than nighttime ambient is because the ambient noise level during the daytime is substantially higher than the level at nighttime). Bassiouni Affidavit, ¶4.

5. According to the federal guidance, a siren system may be designed so that the siren sound level either provides 60/70 dBC acoustic alert coverage (depending on the population density of the area) or provides 10 dBC above the average outdoor daytime ambient sound level. Bassiouni Affidavit, ¶4.

6. The siren system design within the Harris EPZ consists of 62 high-power electromechanical sirens (rated 125

dB at 100 feet) strategically placed throughout the EPZ to provide optimal alert coverage to inhabited areas.

Bassiouni Affidavit, ¶5.

7. Evaluation of the acoustic coverage for the siren system was accomplished by using a computer model developed by ATI, and field measurements of the ambient sound levels. The acoustic coverage of the siren system design was predicted for daytime summer average meteorological conditions, as specified by FEMA-43. The computer model analysis demonstrates that the siren system has been designed to provide the required 60 and 70 dBC public alert coverage for most inhabited areas within the EPZ. Apex and Fuquay-Varina are covered by 70 dBC contours. Bassiouni Affidavit, ¶6.

8. Apex and Fuquay-Varina are the only areas of EPZ with more than 2,000 persons per square mile. Pugh Affidavit, ¶7 n. 1.

9. An ambient background noise survey was conducted within the Harris EPZ in July 1984, in accordance with FEMA-43, to document the average measured outdoor ambient sound level in areas located outside the 60 dBC contours, in order to assess the siren system's ability to meet the 10 dB above ambient criterion in areas not covered by 60/70 dBC coverage. Bassiouni Affidavit, ¶7.

10. Outdoor daytime ambient sound levels were measured in the range of 24 dB to 39 dB. Therefore, the average measured outdoor daytime ambient sound level for regions

outside the 60 dBC coverage was conservatively established as 40 dB, and the 50 dBC acoustic coverage of the sirens was computed. Bassiouni Affidavit, ¶7.

11. This analysis of the acoustic coverage of the sirens clearly demonstrated that the entire Harris EPZ is covered by a 50 dBC siren contour. Accordingly, all areas outside the 60 dBC contours meet the 10 dB above ambient criterion. Bassiouni Affidavit, ¶7.

12. The siren system design complies with the NUREG-0654 and FEMA-43 guidelines (and the applicable federal regulations) to alert essentially 100% of the population within the plume EPZ in 15 minutes. Bassiouni Affidavit, ¶8.

13. The fixed siren system -- with 62 sirens located throughout the Harris plume EPZ -- will serve as the primary public alerting system in the event of an emergency at Harris. Upon activation, this siren system is designed to warn immediately all areas within the EPZ. Pugh Affidavit, ¶12.

14. In all four counties within the EPZ, vehicles with flashing lights, sirens and/or public address systems will be immediately dispatched upon the activation of the fixed sirens, to provide additional public warning by driving predesignated routes within the EPZ. Pugh Affidavit, ¶12.

15. Zones within the EPZ have been subdivided into subzones within which the road mileage has been measured.

The roads have been assigned to county agencies, and the routes planned out. Estimates have been made of the time needed for notification, and all routes are being driven to confirm these estimates. The estimates include the time needed for emergency personnel to reach their duty posts to begin the notification process, based upon actual experience. In addition, it has been determined that there are sufficient vehicles and personnel to perform the mobile alerting in a timely manner. This conclusion applies to both daytime and nighttime (1 a.m. to 6 a.m.) conditions. Pugh Affidavit, ¶¶3-16.

16. In addition to the predesignated personnel assigned to perform mobile alerting, each of the four counties has identified additional personnel (with equipment) who would be available to augment the designated mobile alerting personnel, if necessary. Pugh Affidavit, ¶17.

17. If public officials determine that only a portion of the EPZ needs to be alerted by the fixed siren system and mobile alerting, the warning times stated above could be reduced by concentrating the identified mobile alerting resources in smaller operational areas. Pugh Affidavit, ¶18.

18. The flashing lights, sirens and/or PA systems of mobile alerting vehicles passing by the homes of EPZ residents -- particularly when combined with the activity of other residents who have already received notification -- would alert most members of the public who might not have heard the fixed sirens. Pugh Affidavit, ¶19.

19. Following the initial fixed siren and mobile alerting warnings, law enforcement and other official vehicles would be in the area to ensure complete evacuation or other protective action, and to provide security. They will be instructed to check premises where no protective action activity is evident. Pugh Affidavit, ¶19.

20. Public response to emergency information and warnings of impending disasters has been a topic of investigation by social scientists for almost three decades. Many studies have been performed on the subject in a variety of emergencies, documented in a vast body of emergency literature. This research record provides evidence about a wide range of emergency warning/public response phenomena, including public notification and communication between members of the public in an area at risk. Miletic Affidavit, ¶2.

21. These general principles of emergency warning/public response -- well established through decades of research and investigation -- would be applicable in the event of an emergency at Harris. Miletic Affidavit, ¶ 8.

22. A clear conclusion of this research is that people generally seek out additional information upon receipt of an initial warning, before acting on that warning. The end result is that, historically, many people in emergencies have first learned of emergencies from other members of the public. Miletic Affidavit, ¶3.

23. The initial response of most people to a warning of an impending emergency is to seek out more information, and/or engage in additional communication with others.

Mileti Affidavit, ¶1.

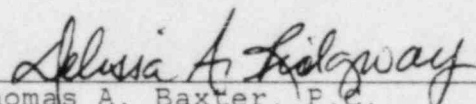
24. As people seek confirmation of warning information, they actually can and do become part of the warning dissemination effort, albeit informally, through social networking. In other words, in the event of an emergency at the Harris plant, the seeking of confirmation would lead people to contact others who might or might not as yet have learned of the emergency. Mileti Affidavit, ¶5.

25. In an emergency, neighbors, friends and family -- and even total strangers -- check on one another and offer assistance if it is needed. This also causes people to be in communication with other members of the public who might not as yet have learned of the emergency. Thus, for example, people who have been awakened in the night and received notification of an emergency at Harris generally can be expected to notify neighbors whose houses are still dark and where no one appears to be stirring. Mileti Affidavit, ¶6.

26. The high level of activity which would be associated with an emergency at Harris would have a strong "ripple effect," generally alerting members of the public to seek additional information about the events taking place, even if they had not been directly warned by either the fixed sirens, the mobile alerting system, or another member of the public. The activities of other residents who have already

received notification (turning on the lights in their homes, perhaps preparing to evacuate, or even the stream of traffic driving out of the EPZ) would awaken (if necessary) and alert most members of the public who may not yet have been warned, and cause them to seek additional information about what is going on (for example, by turning on the TV or radio, or by talking to neighbors). Miletic Affidavit, ¶7.

Respectfully submitted,



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Dated: November 2, 1984