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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

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

Docket Nos. 50-400 OL
50-401 OL

NRC STAFF/FEMA RESPONSE IN SUPPORT OF APPLICANTS' MOTIONS FOR
SUMMARY DISPOSITION OF EDDLEMAN CONTENTION 215(3)
WILSON CONTENTIONS 12(b)(2), AND 12(b)(3) AND EPJ CONTENTION 2

I. INTRODUCTION

On January 14, 1985, Applicants filed motions for summary disposition of Eddleman Contention 215(3), Wilson Contentions 12(b)(2) and 12(b)(3), and EPJ Contention 2. "Applicants' Motion for Summary Disposition of Eddleman 215(3)", [hereinafter Applicants' Motion 215(3)], "Applicants' Motion for Summary Disposition of Wilson 12(b)(2)", [hereinafter Applicants' Motion 12(b)(2)]; "Applicants' Motion for Summary Disposition of Wilson 12(b)(3) and EPJ-2" [hereinafter Applicants' Motion 12(b)(3)]. All of these contentions relate at least in part to the evacuation time estimate study performed for Applicants by HMM Associates. Therefore, the Staff's responses to Applicants' Motions regarding these contentions are set forth below. The Staff supports Applicants' Motions for Summary Disposition of each of these contentions on the grounds that Applicants have demonstrated that there are no

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genuine issues of material fact to be heard, and Applicants are entitled to a favorable decision as a matter of law.

II. BACKGROUND

Eddleman Contention 215 was originally admitted by the Board in its Order of June 14, 1984. "Further Rulings on Admissibility of Offsite Emergency Planning Contentions Submitted by Intervenor Eddleman" at 24. At that time the Board directed Mr. Eddleman to Specify the conservatisms in the evacuation time estimate study of concern to him. Id. Mr. Eddleman did so, and the Board admitted Contention 215(3). "Wells Eddleman's Response to Board Order Requiring Additional Specification of Contention #215." (June 19, 1984). "Rulings on Specification of Eddleman Offsite Emergency Planning Contention 215 and on the Admissibility of Eddleman Contentions On the Public Information Brochure" (October 4, 1984), at 3. Eddleman Contention 215(3) as admitted states:

In violation of 10 C.F.R. 50.47(b)(10) CP&L's evacuation time study does not conform to NUREG-0654 Appendix 4 and will not provide accurate and useful guidelines for the choice of protective actions during an emergency because the study contains numerous so-called "conservatisms" including those referring to recreational populations and vehicle capacity factors (see e.g. sections 3-3 and 3-6) which may force evacuation time estimates upwards and provide inaccurate estimates for decisionmakers during an emergency, in the opinion of expert Paul Holmbeck. Potential hazards of such "conservatisms" are discussed in the 1984 Byron partial initial decision under emergency planning. [These conservatisms include:]

The apparent assumption that those households without vehicles will automatically evacuate with neighbors (or can) at the rate of one vehicle per household.

Applicants have correctly described the history of the discovery related to this contention, and, therefore, it will not be repeated here. Applicants' Motion 215(3) at 3-5.

Wilson Contention 12(b)(2) was admitted by the Board in its Order of August 3, 1984. "Final Set of Rulings on Admissibility of Offsite Emergency Planning Contentions, Ruling on Petition for Waiver of Need for Power Rule, and Notice of Upcoming Telephone Conference Call," LBP-84-29B, 20 N.R.C. 389, 423. This contention as admitted states:

The evacuation time study itself is deficient because the 1 evacuating car/family assumption is too low--many families would take 2 cars.

Applicants have correctly set forth the history of discovery concerning this contention, and it is not, therefore, repeated here. Applicants' Motion 12(b)(2) at 2-3.

Wilson Contention 12(b)(3) was admitted as a contention in the proceeding in the Board's August 3, 1984 Order. LBP-84-29B, supra 20 N.R.C. 389, 423. This contention as admitted states:

The evacuation time study itself is deficient because: The 240 family [sic] without transportation is too low -- there are more without cars and many whose only car would be out of the EPZ at work. Many have cars that are not in working order.

Applicants have detailed the history of discovery on this contention, and it is not repeated here. Applicants' Motion 12(b)(3) at 2-3.

Finally, EPJ Contention 2 was admitted during the prehearing conference held May 1-2, 1984. Tr. 989. Contention EPJ-2 as admitted states:

Section IV.E.4.e of the State plan (at 47) is deficient because it provides no estimate of the number of people without transportation (Applicants' estimate of 240 families in evacuation time study (p. 3-2) seems far too low), no suggestion as to how people without transportation would get to pickup points, and no criteria for determining when and where they would be "established as required."

Applicants have also adequately discussed the history of discovery on this contention, and it is not repeated here. Applicants' Motion 12(b)(3) at 4-5.

III. ARGUMENT

A. Standards For Summary Disposition

Summary disposition is appropriate pursuant to the Commission's regulations if, based on a motion, the attached statements of the parties in affidavits, and other filings in the proceeding, it is shown that there is no genuine issue of material fact and the moving party is entitled to judgment as a matter of law. 10 C.F.R. § 2.749(d). The Commission's rules governing summary disposition are analogous to Rule 56 of the Federal Rules of Civil Procedure. Alabama Power Company (Joseph M. Farley Nuclear Plant, Units 1 and 2), ALAB-182, 7 AEC 210, 217 (1974); Dairyland Power Cooperative (LaCrosse Boiling Water Reactor), LBP-82-58, 16 NRC 512, 520 (1982). Therefore, decisions concerning the interpretation of Rule 56 may be used by the Commission's adjudicatory Boards as guidance in applying the provisions of 10 C.F.R. § 2.749. Id.

A hearing on the questions raised by an intervenor is not inevitable. See Philadelphia Electric Co. (Peach Bottom Atomic Power Station, Units 2 and 3), ALAB-654, 14 NRC 632, 635 (1981). The purpose of summary disposition is to avoid hearings, unnecessary testimony and cross-examination in areas where there are not material issues to be tried. The Supreme Court has very clearly stated that there is no right to a trial except so far as there are issues of fact in dispute to be determined. Ex parte Peterson, 253 U.S. 300, 310 (1920). Under the Federal Rules the motion is designed to pierce the allegations of fact in the pleadings and to obtain summary relief where facts set forth in detail in affidavits, depositions, interrogatories, or other material of evidentiary value show that there are no genuine issues of material fact

to be tried. 6 J. Moore, Moore's Federal Practice ¶ 56.04[1] (2d ed. 1976). Mere allegations in the pleadings will not create an issue as against a motion for summary disposition supported by affidavits. 10 C.F.R. § 2.749(b); Fed. R. Civ. P. 56(c).

A party seeking summary disposition has the burden of demonstrating the absence of any genuine issue of material fact. Cleveland Electric Illuminating Co. et al. (Perry Nuclear Power Plant, Units 1 and 2), ALAB-443, 6 NRC 741, 753 (1977). In determining whether a motion for summary disposition should be granted, the record must be viewed in the light most favorable to the opponent of such a motion. Poller v. Columbia Broadcasting System, Inc., 368 U.S. 464, 473 (1962); Dairyland Power Cooperative (LaCrosse Boiling Water Reactor), LBP-82-58, 16 NRC 512, 519 (1982).

To draw on federal practice, the Supreme Court has pointed out that Rule 56 of the Federal Rules of Civil Procedure does not permit plaintiffs to get to a trial on the basis of the allegations in the complaints coupled with the hope that something can be developed at trial in the way of evidence to support the allegations. First National Bank of Arizona v. Cities Service Co., 391, U.S. 253, 289-90 (1968), rehearing den., 393 U.S. 901 (1968). Similarly, a plaintiff may not defeat a motion for summary judgment on the hope that on cross-examination the defendants will contradict their respective affidavits. To permit trial on such a basis would nullify the purpose of Rule 56 which permits the elimination of unnecessary and costly litigation where no genuine issues of material fact exist. See Orvis v. Brickman, 95 F. Supp 605, 607 (1951), aff'd 196 F.2d 762 (D.C. Cir. 1952), cited with approval in Gulf

States Utilities Co. (River Bend Station, Units 1 and 2), 1 NRC 246, 248 (1975).

To defeat summary disposition an opposing party must present material and substantial facts to show that an issue exists. Conclusions alone will not suffice. River Bend, LBP-75-10, supra at 248; Perry, ALAB-443, supra at 754.

The federal courts have clearly held that a party opposing a motion for summary judgment is not entitled to hold back evidence, if any, until the time of trial. Lipschutz v. Gordon Jewelry Corp., 367 F. Supp. 1086, 1095 (SD Texas 1973); the opponent must come forth with evidentiary facts to show that there is an outstanding unresolved material issue to be tried. Stansifer v. Chrysler Motors Corp., 487 F.2d 59, 63 (9th Cir. 1973), and Franks v. Thompson, 59 FRD 142, 145 (M.D. Alabama 1973). Summary disposition cannot be defeated by the possibility that Intervenor might think of something new to say at hearing O'Brien v. McDonald's Corp., 48 FRD 370, 374 (N.D. Ill. 1979); nor can the Applicants' motion be defeated on the hope that Intervenor could possibly uncover something at hearing. Hurley v. Northwest Publications, Inc., 273 F. Supp. 967, 974 (Minn. 1967). Now, in opposition to the Applicants' motions, is the time for Intervenor to come forth with material of evidentiary value to contravene the Applicants' and Staff's affidavits and to show the existence of a material fact to be resolved at an evidentiary hearing.

The Commission's regulations permit responses both in support of and in opposition to motions for summary disposition. 10 C.F.R. § 2.749(a). Such responses may be filed with or without supporting affidavits. Id.

However, if the motion is properly supported, the opponent of such a motion may not rest simply on allegations or denials of the contents of the motion. Virginia Electric and Power Co. (North Anna Nuclear Power Station, Units 1 and 2), ALAB-584, 11 NRC 451, 453 (1980). In addition, any facts not controverted by the opponent of a motion are deemed to be admitted. 10 C.F.R. § 2.749(b). The Appeal Board noted recently that a hearing on each issue raised "is not inevitable," but "wholly depends upon the ability of the intervenors to demonstrate the existence of a genuine issue of material fact" Philadelphia Electric Co. (Peach Bottom Atomic Power Station, Units 2 and 3), supra 632, 635 which is in accord with Budget Dress Corp. v. Joint Board (SD NY 1961) 198 F. Supp. 4, aff'd (CA2d, 1962) 299 F.2d 936, cert den (1962) 371 US 815.

Both the Appeal Board and the Commission have encouraged the use of the Commission's summary disposition procedure. Statement of Policy on Conduct of Licensing Proceedings, CLI-81-8, 13 NRC 452, 457 (1981). See, Northern States Power Co. (Prairie Island Nuclear Generating Plant, Units 1 and 2), CLI-73-12, 6 AEC 241 (1973), aff'd sub nom BPI v. Atomic Energy Commission, 502 F.2d 424 (D.C. Cir. 1974); Houston Lighting and Power Co. (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542, 550-51 (1980); Mississippi Power & Light Co. (Grand Gulf Nuclear Station, Units 1 and 2), ALAB-130, 6 AEC 423, 424-25 (1973); Duquesne Light Co. (Beaver Valley Power Station, Unit 1), ALAB-109, 6 AEC 243, 245 (1973). The Commission has stated that:

" . . . Boards should encourage the parties to invoke the summary disposition procedures on the issues of material fact so that evidentiary hearing time is not unnecessarily devoted to such issues."

CLI-81-8, supra, 13 NRC 452, 457. The Commission's summary disposition procedures "provide . . . an efficacious means of avoiding unnecessary and possibly time-consuming hearings on demonstrably insubstantial issues." Allens Creek, supra, 11 NRC at 550. Applicants have met these standards with regard to their motions for summary disposition concerning Eddleman Contention 215(3), Wilson Contentions 12(b)(2), and 12(b)(3) and EPJ Contention 2.

B. There Are No Genuine Issues of Material Fact to be Heard with Respect to Eddleman Contention 215(3), and Applicants are Entitled to a Favorable Decision on this Contention as a Matter of Law

The Commission's emergency planning regulations require each Applicant for an operating license to perform an analysis of the time it would take to evacuate the population from the plume exposure pathway emergency planning zone. 10 C.F.R. Part 50, Appendix E, Section IV. 50.47(b)(10) requires that:

A range of protective actions have been developed for the plume exposure pathway EPZ for emergency workers and the public. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.

The specific criteria for the evaluation of the adequacy of emergency plans are contained in NUREG-0654, "Criteria For Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness In Support of Nuclear Power Plants" (NUREG-0654, FEMA-REP-1/Rev. 1), November 1980). [hereinafter NUREG-0654] Criterion J.10.1. requires that:

1. Time estimates for evacuation of various sectors and distances based on a dynamic analysis (time-motion study under various conditions) for the plume exposure pathway emergency planning zone (See Appendix 4).

As this Licensing Board and other Boards have observed, these evacuation time estimates may contain "conservatism", if they are identified as such and quantified. "Rulings On Specification of Eddleman Offsite Emergency Planning Contention 215 and on the Admissibility of Eddleman Contentions on the Public Information Brochure" (October 4, 1984), supra at 4; Commonwealth Edison Company (Byron Nuclear Power Station, Units 1 and 2), LBP-84-2, 19 NRC 36, 263 (1984).

In the evacuation time estimate study performed for Applicants by HMM Associates, "Evacuation Time Estimates for the Plume Exposure Pathway Emergency Planning Zone Shearon Harris Nuclear Power Plant" (October 1983), HMM estimated the number of vehicles to be used during evacuation of the Harris Plume Exposure pathway EPZ by assuming the use of one vehicle per household whether or not the household owned a vehicle. Applicants' Motion 215(3) at 8. This contention challenges the use of the assumption of one vehicle per household for those households without vehicles as a conservatism which reduces the usefulness of the evacuation time estimates. In their Motion Applicants argue, among other things, that this is not a conservatism which would result in an overestimate of evacuation times for the Harris EPZ. Applicants argue that the assumption is a practical means of simulating the traffic which would be generated in the EPZ by provision of transportation assistance during the evacuation. Applicants' Motion 215(3) at 9.

Dr. Urbanik, a subcontractor for Battelle Pacific Northwest Laboratories, has reviewed the evacuation time estimate study performed for Applicants to determine its consistency with Appendix 4 of NUREG-0654. Dr. Urbanik indicates that the evacuation time estimate study must account for all vehicles used in an evacuation including the

vehicles used to transport persons in households without autos.

"Affidavit of Thomas Urbanik II In Support Of NRC Staff Response To Applicants' Motions For Summary Disposition Of Eddleman Contention 215(3), Wilson 12(b)(2), Wilson 12(b)(3) and EPZ-2" at ¶ 6. ^{1/} As Dr. Urbanik points out, the maximum number of vehicles involved in an evacuation would result if members of every household without a vehicle were transported in a taxi-type service. This would result in the assumption of one vehicle per household. Id. at ¶4. Dr. Urbanik explains that this is not the most realistic assumption which could be employed, since some persons will more than likely be transported by buses, vans or by other households. Id. However, given the small number of households involved, whether it be 410 or 655, the assumption of one vehicle per household does not result in a significant overestimate of evacuation times. The impact of this assumption on these estimates would be approximately 5 or 10 minutes. Dr. Urbanik points out that the impact of this assumption on the evacuation time of five or ten minutes does not affect the usefulness of the times estimates by decisionmakers. Id. Therefore, the Staff agrees with Applicants that there are no genuine issues of material fact to be heard with respect to Contention 215(3), and that Applicants are entitled to a favorable decision on the contention as a matter of law.

C. Applicants Have Demonstrated the Absence of a Genuine Issue of Material Fact to be Heard with Respect to Wilson Contention 12(b)(2), and That They are Entitled to a Favorable Decision as a Matter of Law

In Appendix 4 to NUREG-0654, acceptance criteria are set forth for analyses of evacuation times for the plume exposure EPZ. In Appendix 4

^{1/} The Staff is filing Dr. Urbanik's unsigned affidavit with this response, due to his unavailability to sign the affidavit. A signed copy of the affidavit will be forwarded to the Board and parties as quickly as possible.

there are two methods found to be acceptable for estimating vehicle demand on the roadway network in the EPZ in the event of an evacuation.

Appendix 4 at 4-2, 4-3. These methods are:

The number of permanent residents shall be estimated using the U.S. Census data or other reliable data, adjusted as necessary, for growth. (See planning element J.10.b.). This population data shall then be translated into two subgroups: 1) those using autos and those without autos. The number of vehicles bused by permanent residents is estimated using an appropriate auto occupancy factor. A range of two to three persons per vehicle would probably be reasonable in most cases.

An alternative approach is to calculate the number of vehicles based on the number of households that own vehicles assuming one vehicle per household is used in evacuation.

A Licensing Board has previously indicated the need for evacuation time estimates to be realistic in order to be most helpful to decisionmakers. Byron, Supra at 263. Applicants chose to assume one vehicle per household in computing vehicle demand for the Harris evacuation time estimates for those households owning cars. ^{2/} "Affidavit of Robert D. Klimm In Support of Applicants' Motion for Summary Disposition of Wilson Contention 12(b)(2)" at ¶ 6. [hereinafter Klimm Affidavit].

Applicants argue that the assumption of one vehicle per household owning cars is consistent with Appendix 4 to NUREG-0654, and is also consistent with previous evacuation data. Applicants Motion 12(b)(2) at 6-7. Applicants also have calculated the effect on the evacuation time estimates of employing assumptions of 1.5 and 1.75 vehicles per household as suggested by Dr. Wilson during discovery. Applicants' Motion, 12(b)(2) at 16-17; Klimm Affidavit at ¶ 12.

^{2/} As Applicants point out in their Motion, they also used the same assumption for those households not owning cars. However, that assumption is the subject of Eddleman Contention 215(3), and is treated separately in Section B, supra.

The Staff agrees with Applicants that the assumption of one vehicle per household for those households owning cars is consistent with Appendix 4 to NUREG-0654, and therefore is an acceptable method for estimating vehicle demand. In addition, the Staff agrees with Applicants that this assumption is consistent with the view that families will evacuate as a unit. Urbanik Affidavit at ¶ 8. See also "Affidavit of Thomas Urbanik, II Concerning Eddleman Contention 215(1), of Eddleman Contention 215(1).

Finally, the use of a "worst-case" assumption as advocated by Dr. Wilson would be contrary to the purposes of evacuation time estimates. "Response by Richard Wilson to Applicants Interrogatories on EPJ-5 and Wilson 12(b)(2) and Wilson 12(b)(3) (October 25, 1984) at ¶ 2). Based on the above there is no genuine issue of material fact to be heard with respect to this contention, and Applicants are entitled to a favorable decision on the contention as a matter of law.

D. Applicants Have Demonstrated That There Are No Genuine Issues of Material Fact to be Heard With Respect to Wilson 12(b)(3), and That Applicants Are Entitled to a Favorable Decision As a Matter of Law.

Appendix E to 10 C.F.R. Part 50 requires the preparation by Applicants of evacuation time estimates for the plume exposure EPZ. 10 C.F.R. Part 50, Appendix E, Section IV. The specific criteria for such evacuation time estimates are contained in Appendix 4 to NUREG-0654. Pursuant to Appendix 4, estimates must be made of the time to evacuate the permanent resident population, the transient population and the population in special facilities from the EPZ. Appendix 4 at 4-2. In estimating the number of permanent residents, use should be made of the U.S. Census data, or other reliable data, adjusted for growth. Id. The

population data should then be divided into the subgroups of those using automobiles, and those without automobiles. Id. Special attention must be given to that segment of the population which does not own a vehicle.

Id. at 4-3. Appendix 4 states:

An estimate of the time required to evacuate that segment of the non-car-owning population dependent upon public transport shall be made in a similar manner to that used for the auto-owning population. This estimate shall include consideration of any special services which might be initiated to serve this population subgroup. Such services might include fixed-route departures from designated assembly points.

Id. at 4-9.

In the evacuation time estimates study, HMM Associates used 1980 U.S. Census and other demographic data to estimate the number of permanent residents in the EPZ. ETE Section 3.1. The 1980 Census of Population and Housing, Advance Estimates of Social, Economic, and Housing Characteristics, North Carolina (1982), which reports data at the county level, was used to identify the number of permanent residents in the EPZ without access to a vehicle. Id. at 3.1.2. Applicants estimated that there would be 410 households in the EPZ without vehicles. ^{3/} Id.

^{3/} In Wilson Contention 12(b)(3), Dr. Wilson challenged the estimate of 240 families without vehicles. This estimate is the estimate of such families for Wake County. See ETE Section 3.1.2. During discovery Dr. Wilson noted that although he had only specifically analyzed the information for Wake County, he believed that a similar deficiency in the Applicants' analysis existed for the other counties as well. "Response by Richard Wilson to Applicants' Interrogatories on EPJ-5 and Wilson 12(b)(2) and Wilson 12(b)(3)" at Response 12(b)(3)-3(a) (October 25, 1984). Therefore, in their motion Applicants chose to discuss the total number of households not owning vehicles in the EPZ rather than the estimates for Wake County alone. See, "Affidavit of Kevin Twine on Wilson 12(b)(3) and EPJ-2" [hereinafter Twine affidavit].

In support of the instant motion, Applicants have used more up-to-date census data to provide another estimate of the non-vehicle-owning households in the EPZ. This new data yielded an estimate of 655 such households. Twine Affidavit at ¶ 6. Applicants also conducted an analysis using this data and other assumptions of the number of people without transportation in the EPZ. Id. at 4.

Applicants argue that they have conducted a refined analysis of the number of persons without transportation, using more up-to-date census data, and that the refined estimates do not have a discernible impact on the evacuation time estimates. Applicants' Motion 12(b)(3) at 10 n.3. This new analysis includes both households where the members do not own cars, and households where the cars are away from home. Id. at 10.

The Staff's consultant Dr. Thomas Urbanik II reviewed Applicants' original evacuation time estimate study for consistency with Appendix 4 of MUREG-0654 and found it to be adequate. Dr. Urbanik reviewed Applicants' Motion and the supporting documents and concluded that the updated analysis performed by Applicants does not significantly increase the number of persons without transportation in the EPZ, and thus would not significantly affect the evacuation time estimates. Urbanik Affidavit at ¶ 11. Therefore, there is no reason to believe that the evacuation time estimates are deficient. Based on the above, Applicants have demonstrated that there is no genuine issue of material fact to be heard with regard to this contention, and they are entitled to a favorable decision with respect to this contention as a matter of law.

E. There is No Genuine Issue of Material Fact to be Heard With Respect to EPJ Contention 2, and Applicants are Entitled to a Favorable Decision on the Contention as a Matter of Law.

This contention contains three separate allegations. The first allegation is the same as that contained in Wilson Contention 12(b)(3). That is, the contention alleges that the estimates of the number of households without vehicles is too low. The Staff's position on this allegation is set forth in Section D, supra.

The remaining allegations concern whether people will be able to get to pickup points, and whether the plan must contain criteria for the establishment of such pickup points. With respect to these latter two allegations, Applicants argue that, contrary to Intervenor's assertions, State and local officials have conducted a sophisticated and realistic assessment of both the need for and the availability of resources for the evacuation of people without transportation, and have developed a plan for the use of available resources to evacuate this subgroup of the population from within the EPZ. Applicants' Motion at 8-9. Applicants point out that the counties have begun to identify pickup points, and that these pickup points will be announced as part of the EBS message Broadcast in the event that an evacuation is ordered. Applicants' Motion at 12-13.


FEMA and the RAC have concluded that they have no basis for questioning the validity of the ETE study data or assumption made in that study. "Affidavit of Thomas I. Hawkins In Support of Applicants' Motion for Summary Disposition of Contention Wilson 12(b)(3) and EPJ-2" at ¶ 2. FEMA guidance does not require estimates of the number of households without transportation, details of how this population segment

would get to pickup points, or criteria for determining when and where such pickup points would be established, to be included in the plan document itself. Id. FEMA believes that this information is better placed in documents such as Standard Operating Procedures. Id. FEMA believes that the development of the more detailed plans for the evacuation of the transportation dependent population as discussed in Applicants' motion and supporting affidavits satisfies the concerns implied in Contentions 12(b)(3) and EPJ-2. Id. Therefore, there is no genuine issue of material fact to be heard with respect to this contention, and Applicants are entitled to a favorable decision on the contention as a matter of law.

IV. CONCLUSION

For the reasons set forth above, Applicants' Motions for Summary Disposition of Eddleman Contention 215(3), Wilson Contention 12(b)(2), Wilson Contention 12(b)(3), and EPJ Contention 2 should be granted.

Respectfully submitted,


Janice E. Moore
Counsel for NRC Staff

Dated at Bethesda, Maryland
this 27th day of February, 1985

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

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

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) Docket Nos. 50-400 OL
) 50-401 OL
)
)

AFFIDAVIT OF THOMAS URBANIK II IN SUPPORT OF NRC STAFF RESPONSE
TO APPLICANTS' MOTIONS FOR SUMMARY DISPOSITION OF
EDDLEMAN CONTENTION 215(3), WILSON 12(b)(2), WILSON 12(b)(3) AND EPJ-2

I, Thomas Urbanik II, being duly sworn, depose and state:

1. I am Thomas Urbanik II, Associate Research Engineer and Program Manager, Texas Transportation Institute, Texas A&M University System, College Station, Texas.

2. I was a principal author of NUREG/CR-1745 "Analysis of Techniques for Estimating Evacuation Times for Emergency Planning Zones" (November 1980). I also provided input to the development of current guidance for evacuation time estimate studies which appear in Appendix 4 to NUREG-0654, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (November, 1980). I have reviewed the initial evacuation time estimate study submittals of approximately 52 operating and near term nuclear facilities for the NRC in light of NUREG-0654, the results of which are published in NUREG/CR-1856 "An Analysis of Evacuation Time Estimates Around 52 Nuclear Power Plant Sites" (May, 1981).

3. I am a subcontractor to Battelle Pacific Northwest Laboratories which is responsible under contract to the Nuclear Regulatory Commission for reviewing evacuation time estimate studies. A statement of my professional qualifications is attached.

4. I have reviewed the Applicant's evacuation time estimate study (Evacuation Time Estimates for the Plume Exposure Pathway Emergency Planning Zone - Shearon Harris Nuclear Power Plant, HMM Associates, October 1983) against the guidance of NUREG-0654/FEMA-REP-1, Revision 1. In conducting my review, I considered various elements set forth in Appendix 4 to NUREG-0654/FEMA-REP-1, Revision 1, which the NRC and FEMA believe should be included in evacuation time studies. These considerations include: (a) an accounting for permanent, transient, and special facility populations in the plume exposure EPZ; (b) an indication of the traffic analysis method and the method of arriving at road capacities; (c) consideration of a range of evacuation scenarios generally representative of normal through adverse evacuation conditions; (d) consideration of confirmation of evacuation; (e) identification of critical links and need for traffic control; and (f) use of methodology and traffic flow modeling techniques for various time estimates, consistent with the guidance of NUREG-0654/FEMA-REP-1, Revision 1, Appendix 4.

5. I have reviewed the Applicants Motion for Summary Disposition of Eddleman 215(3). Eddleman 215(3) states in pertinent part:

In violation of 10 C.F.R. 50.47(b) (10) CP&L's evacuation time study does not conform to NUREG-0654 Appendix 4 and will not provide accurate and useful guidelines for the choice of protective actions during an emergency because the study contains numerous so-called "conservatisms" including those referring to recreational populations and vehicle capacity factors (see e.g. sections 3-3 and 3-6) which may force evacuation time estimates upwards and provide

inaccurate estimates for decisionmakers during an emergency, in the opinion of expert Paul Holmbeck. Potential hazards of such "conservatisms" are discussed in the 1984 Byron partial initial decision under emergency planning. [These conservatisms include:]

The apparent assumption that those households without vehicles will automatically evacuate with neighbors (or car) at the rate of one vehicle per household.

6. The evacuation time estimate study must account for all vehicles used in an evacuation including the vehicles used to transport persons in households without autos. The maximum number of vehicles required would result if every household without vehicles were transported in a taxi-type service (i.e. one vehicle per household). This is not the most realistic assumption given that some persons will likely be transported in buses (i.e., approximately 50 per vehicle), vans (i.e., approximately 8 per vehicle), or by other households. However, given the small number of households involved (410-655), the impact on the evacuation time estimate is not significant (i.e., 5 or 10 minutes). The resulting difference in time will not affect the usefulness of the time estimates to decisionmakers.

7. I have reviewed the Applicants Motion for Summary Disposition of Wilson 12(b)(2). Wilson 12(b)(2) states:

The evacuation time study itself is deficient because the 1 evacuating car/family assumption is too low -- many families would take 2 cars.

8. The assumption of 1 car per household is one of the alternatives suggested in NUREG-0654, Appendix 4 for estimating vehicle demand. It is also consistent with the assumption that families evacuate as a family unit (See Affidavit of Thomas Urbanik II on Eddleman 215(1)). The evacuation time study is, therefore, consistent with the guidance of NUREG-0654 Appendix 4, and with available data pertaining to evacuation of families.

9. I have reviewed the Applicants Motion for Summary Disposition of Wilson 12(b)(3) and EPJ-2. Wilson 12(b)(3) states:

The evacuation time study itself is deficient because: The 240 family [sic] without transportation is too low -- there are more without cars and many whose only car would be out of the EPZ at work. Many have cars that are not in working order.

EPJ-2 STATES:

Section IV.E.4.e of the State plan (at 47) is deficient because it provides no estimate of the number of people without transportation (Applicants' estimate of 240 families in evacuation time study (p. 3-2) seems far too low), no suggestions as to how people without transportation would get to pickup points, and no criteria for determining when and where they would be "established as required".

10. Wilson Contention 12(b)(3) and EPJ Contention 2 concern the correctness of the estimate of the number of households without transportation in the EPZ. The number of 240 given in the contentions apparently is the number for a portion of the EPZ. The number of transportation dependent households in the time estimate study (see p. 3-2) is 410, which is the number I considered in my review of the evacuation time estimate study. The Applicants Motion also includes updated data (see Affidavit of Kevin Twine) which indicates a total of 655 transportation dependent households in the EPZ. The Applicants' supplemental analysis also uses a different methodology than that employed in the original evacuation time estimate study. This methodology includes other factors, such as households having no car at home, and allows for persons being given rides by friends, neighbors, or relatives.

11. The original analysis was done based on the best available data and was consistent with NUREG-0654, Appendix 4. The revised analysis of the number of persons without autos used more recent data and different assumptions. The revised assumptions do not significantly affect the time estimate as the number of persons involved in either analysis is not significantly different.

12. In regard to cars not being in working order, there is no known evidence of car availability being a problem based on a review of the the evacuation literature. Many families have more than one car and a variety of options exist for anyone have car problems and only one car, such as obtaining a ride from friends or relatives.

13. The evacuation time estimate study is, therefore, consistent with the guidance of NUREG-0654 and available data. No deficiencies exist and the revised analysis does not produce estimates of the transportation dependent population which would significantly affect the evacuation time estimates, and thus does not reduce the usefulness of the evacuation time estimate study.

Thomas Urbanik II

Sworn to and subscribed before me
this day of January, 1985

Notary Public

My Commission Expires: _____

February 1984

BIOGRAPHICAL DATA

URBANIK II, THOMAS

Program Manager, Texas Transportation Institute
Lecturer, Civil Engineering Department, Texas A&M University

Education

Ph.D., Civil Engineering, Texas A&M University, 1982.
M.S., Civil Engineering, Purdue University, 1971.
B.S., Civil Engineering, Syracuse University, 1969.
B.S., Forest Engineering, State University of New York, 1968.

Experience

Program Manager, Texas Transportation Institute, Texas A&M University System, 1983-Present.
Assistant Research Engineer, Texas Transportation Institute, Texas A&M University System, 1977-1983.
Lecturer, Civil Engineering, Texas A&M University, 1982-Present.
Traffic Engineer, City of Ann Arbor, Ann Arbor, Michigan, 1972-1976.
Transportation Planning Engineer, City of Ann Arbor, Ann Arbor, Michigan, 1971-1972.
Research Assistant, Joint Highway Research Project, Purdue University, 1970-1971.

Professional Licenses

Registered Professional Engineer, Texas and Michigan

Memberships

American Society of Civil Engineers
Institute of Transportation Engineers
Sigma Xi
Chi Epsilon

SIGNIFICANT REPORTS AND PUBLICATIONS

Traffic Engineering

Speed/Volume Relationships on Texas Highways, State Department of Highways and Public Transportation, Research Report 327-2F, Austin, Texas, October 1983.
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- Evaluation of Selected Human Services Transportation Providers. State Department of Highways and Public Transportation, 1980.
- Cost-Effectiveness of Accessible Fixed-Route Buses in Texas. Technical Report 1061-1F, 1979.
- Transportation of the Elderly and Handicapped in Texas: A Case Study. State Department of Highways and Public Transportation, Technical Report 1056-2F, 1979.

Total Accessibility Versus Equivalent Mobility of the Handicapped. Institute of Transportation Engineers, Compendium of Technical Papers, 49th Annual Meeting, 1979.

Survey of Vehicles and Equipment for Elderly and Handicapped Transportation. State Department of Highways and Public Transportation, Technical Report 1056-1, 1978.

Corpus Christi Elderly and Handicapped Transportation Study. City of Corpus Christi, Texas, 1978.

Expert Witness

Presented expert testimony before the Atomic Safety and Licensing Board, U.S. Nuclear Regulatory Commission, concerning evacuation times at several nuclear power plant sites including Three-Mile Island, Diablo Canyon, Indian Point, Seabrook and Shoreham.