

AS.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD

DOCKETED
USNRC

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Before Administrative Judges:
James L. Kelley, Chairman
Dr. James H. Carpenter
Glenn O. Bright

OFFICE OF SECRETARY
REGULATORY SERVICES

SERVED JUN 15 1984

In the Matter of
CAROLINA POWER & LIGHT COMPANY
and
NORTH CAROLINA EASTERN MUNICIPAL
POWER AGENCY

(Shearon Harris Nuclear Plant
Units 1 and 2)

Docket Nos. 50-400
50-401

ASLBP No. 82-472-03 OL

June 14, 1984

FURTHER RULINGS ON ADMISSIBILITY OF OFFSITE EMERGENCY
PLANNING CONTENTIONS SUBMITTED BY INTERVENOR EDDLEMAN

Introduction

During the prehearing conference on May 2 and May 3, 1984, there was no time to discuss Mr. Eddleman's offsite emergency planning contentions. In lieu of the discussion we had hoped to have then, we asked Mr. Eddleman to say something more, in writing, about certain of his contentions, including both those on which we wanted some clarification, and those which he considered to be the most important. Tr. 822, 1105, 1099-1101. We asked him to write keeping in mind the Responses of Applicants and the Staff, and the discussions of other

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intervenors' contentions during the prehearing conference. Mr. Eddleman filed his comments on May 10, 1984.

We now rule on 56 of Mr. Eddleman's 100 offsite emergency planning contentions. We will rule on the other 44 in a later order to issue soon. That order will also contain deferred rulings on certain emergency planning contentions filed by other intervenors, and the texts of the joint contentions. Discovery on the contentions admitted in this Order begins now.

We have adopted, with some modification, the Applicants' reordering of these contentions by subject while keeping their old numbers. As the Applicants did in their response, we include here an index which permits the reader to use a contention number to locate the text of the contention and our ruling on it. The index also indicates the ten contentions we have either deferred ruling on or admitted in some form.

INDEX

<u>Contention</u>	<u>Eddleman Document and Page</u>	<u>Ruling Page</u>
2	4/12/84, p. 1	8
2A	" , p. 2	10
29D	5/14/82, p. 93	19
30, admitted in part	4/12/84, p. 1	19
30A	" , p. 2	19
57-C	" , p. 4	6
57-C-2	" , p. 4	6
57-C-3, admitted	" , p. 5	14
57-C-4 consolidated with EPJ-1	" , p. 5	33
57-C-5	" , p. 6	33
57-C-6	" , p. 6	10
57-C-9	" , p. 7	12
57-C-10, admitted in part	" , p. 7	16
57-C-11	" , p. 7	19
57-C-12	" , p. 8	19
57-C-13, admitted in part	" , p. 8	16
57-C-15	" , p. 9	6
57-C-16	" , p. 9	7
57-C-17	" , p. 9	6
57-C-19	" , p. 10	11
57-C-20	" , p. 10	23

INDEX
(con't.)

<u>Contention</u>	<u>Eddleman Document and Page</u>	<u>Ruling Page</u>
57-D-1	4/12/84, p. 4	22
57-D-2	" , p. 5	22
57-D-3	" , p. 5	11
97	5/14/84, p. 204	7
117	4/12/84, p. 12	33
117A	" , p. 12	33
118	5/14/84, p. 227	33
121	4/12/84, p. 13	7
201	4/03/84, p. 3	6
202	" , p. 3	6
203	" , p. 3	12
205	" , p. 3	33
207	4/12/84, p. 6	7
213, admitted	" , p. 13	14
214	" , p. 14	16
215, admitted	" , p. 14	24
216	" , p. 14	24
217	" , p. 15	26
218	" , p. 15	27
219, deferred in part	" , p. 15	30
220	" , p. 16	31

INDEX
(con't.)

<u>Contention</u>	<u>Eddleman Document and Page</u>	<u>Ruling Page</u>
221	4/12/84, p. 16	31
222, deferred in part	" , p. 16	27
223	" , p. 17	27
224, admitted in part	" , p. 17	26
225	" , p. 17	13
226	" , p. 18	13
231	" , p. 19	14
232	" , p. 20	14
233	" , p. 20	8
234	" , p. 20	8
236C	" , p. 21	19
238	" , p. 22	19
239	" , p. 22	19
244	" , p. 23	13

Plume EPZ: Contentions 201, 202, 57-C,
57-C-2, 57-C-15, and 57-C-17

Six of Mr. Eddleman's contentions allege, directly or indirectly, that the plume EPZ should be much larger than the "area about 10 miles in radius" required by 10 C.F.R. § 50.47(c)(2). Contention 201 alleges that the Shearon Harris plume EPZ is "falsely based . . . on the assumption that in the worst core melt sequences, immediate life threatening doses would not occur outside the 10-mile zone." April 3, 1984 filing at 2. Contention 202 alleges that since evacuation to 25 miles could reduce early fatalities significantly, the limit on evacuation should not be set at 10 miles. Contentions 57-C and 57-C-2 call, in particular, for expansion of the plume EPZ to 25 miles toward Cary, Raleigh, and the Research Triangle Park, in part because the winds most frequent in the area tend toward those places. Contention 57-C-15 faults the Emergency Response Plans (ERP) for not at least providing for removal to more outlying areas of people already evacuated from the plume EPZ. Last, Contention 57-C-17 asserts that, as things stand, the ERPs make "no prepared and clear provisions for protection actions beyond 10 miles." April 12, 1984 at 9.

We must reject all six contentions as impermissible attacks on 10 C.F.R. § 50.47(c)(2), the Commission's regulation on the size of the plume EPZ. Mr. Eddleman's frequent citations to the analyses of accident consequences in NUREG/CR-2239, "Technical Guidance for Siting Criteria" (December 1982), do not change the regulation, to which we must adhere. However, even if Section 50.47(c)(2) permitted the

expansion Mr. Eddleman seeks, he has not explained the need for expansion. Instead, despite the abundant cautions in NUREG/CR-2239 (see the Foreword), he has rather summarily applied some of the results of that study to Shearon Harris.

Accident Bases: Contentions 121, 57-C-16, 97, 207

Four of Mr. Eddleman's contentions allege that the ERP does not set out appropriate actions for dealing with certain kinds of accidents. Contention 121 alleges that the ERPs "have been formulated without sufficient reference to the Harris DES & FES" and thus do not set out appropriate actions for dealing with severe accidents. Contention 57-C-16 also alleges that the plans do not deal adequately with severe accidents, but goes on to assert that no plan which "leaves a reasonable chance of killing people" can comply with the regulations. April 10, 1984 at 5.

Contentions 97 and 207 are more particular. 97, literally construed as something other than a late-filed onsite emergency planning contention, alleges that the ERPs do not take sufficient account of accidents which very rapidly build to the general emergency level. Cf. Contention 203, discussed infra at 12. Contention 207 alleges, correctly, that the plans contain no provisions for dealing with accidents involving nuclear wastes in transit to or from the plant.

We reject all four of these contentions. As to the first three, clearly the plans are developed to deal with severe accidents. They do

not contain a special sub-plan for each severe accident, but neither NRC regulations nor guidance call for detailed accident-specific planning. The rule-makers have adopted a largely generic approach to emergency planning for severe accidents, and thus we are not called upon to use litigation to tailor the plans to fit particular accidents.

Last, Contention 207 is inadmissible because 10 C.F.R. § 50.47 requires ERPs to deal, for the most part, only with radiological accidents involving reactors, certainly not transportation accidents. It is the responsibility of a State to take control of the scene of an accident involving nuclear waste in transit in order to protect the health and safety of the public. See 49 F.R. 12,335, 12,336 (March 29, 1984).

Protective Action Decision-Making:
Contentions 2, 233, and 234

These three contentions together allege that under the ERPs, the need for sheltering and evacuation will be assessed later than Commission guidance recommends. Contention 2 alleges that although the guidance in NUREG-0654, Appendix 1 calls for the State authorities to "continuously assess information from licensee and offsite monitoring with regard to changes to protective actions already initiated for public and mobilizing evacuation resources" (the Appendix at 1-12), the State plan "does not begin to study evacuation feasibility until a general emergency." April 12, 1984 filing at 1. See State ERP,

IV.A.4.c, at 32. Contention 233 alleges, analogously, that although NUREG-0654, Appendix 1 calls for local authorities to assess at the site emergency level the need for sheltering (at 1-12), the County plans defer this assessment until the general emergency stage. Mr. Eddleman cites, inter alia, the Chatham plan at 34. Contention 234 merely adds that the deferment alleged in 233 "shows a callous disregard for the public health and safety in violation of" various statutes and regulations.

None of these three contentions is admissible, for Mr. Eddleman has overlooked certain decisive passages in both the plans and Commission guidance. It is true that the State plan, and the County plans, for that matter, do not call for assessment of the need for evacuation until the general emergency stage. However, this is completely in accord with NUREG-0654, Appendix 1, at 1-16, which, in item 3 under "State and/or Local . . . Actions" at the general emergency level, says what is not said for any earlier emergency level, "Consider advisability of evacuation."

However, it is not true that any of the plans defer assessment of the need for sheltering until the general emergency level. The plan for Chatham County is typical. Figure 7, at 34, which Mr. Eddleman uses as the factual basis of Contention 233, calls for sheltering at the general emergency level, not merely assessment of sheltering, as Mr. Eddleman claims. As befits what purports to be no more than a general summary (see 33), Fig. 7 is silent about sheltering at the site emergency level. But Chatham's plan is otherwise clear that the choice of protective actions, including sheltering for the public, is to be based on EPA,

HHS, and FDA guidance. See Chatham ERP, IV.E.4-5, at 29. This wholly accords with NRC planning standard 10 C.F.R. § 50.47(b)(10), and Evaluation Criteria 9 under that standard, in NUREG-0654, II.J.9, at 61.

Radiological Monitoring:
Contentions 2A and 57-C-6

These contentions allege that certain radiological monitoring systems will come into operation too late. Contention 2A alleges that because the State's RPS may take up to an hour to begin functioning (State ERP, IV.C.5.b, at 39), the plans do not conform to the guidance in NUREG-0654, Appendix 1, at 1-12, which recommends that, at the site emergency level, State and local governments "provide offsite monitoring results to licensee" and others, and "continuously assess information from licensee and offsite monitoring." 2A also calls for fixed monitoring not managed by the licensees. Contention 57-C-6 alleges that the four-hour estimated maximum response time of the support radiological laboratories listed in Fig. 14 in the State plan, at 65, is too long, that a radiation release could go tens of miles before any of these labs responded.

Both contentions are inadmissible, for they lack legal bases and overlook important parts of the ERPs. Neither NRC regulation nor guidance requires faster response times by the organizations named in these contentions. Beyond this, not only does the State plan foresee that the State RPS will initially be dependent on the licensees' monitoring (see the State ERP, IV.C.5.f.(1), at 40); the NRC planning

standard in 10 C.F.R. § 50.47(b)(4) requires that state and local plans call for this dependence. The existence of this regulation also indicates that the four-hour estimated maximum response times of certain support labs is not inadequate. They are, after all, support labs, not the primary monitoring systems on which the choices of initial protective actions would depend. Last, no regulation or guidance calls for the fixed monitoring Mr. Eddleman wants. At the construction permit phase of the Shearon Harris proceedings, a similar system was rejected, in part because it would respond more slowly than the licensee's system would. See LBP-78-4, 7 NRC 92, 125-127 (1978).

Meteorology: Contentions 57-D-3 and 57-C-19

Contention 57-D-3 alleges that the State ERP makes no provision for keeping track of a plume under conditions of shifting winds. 57-C-19 alleges that the same plan takes no account of rainfall distribution and, therefore, makes no provision for protective actions appropriate to a washout of a plume by rainfall.

Both contentions fail to address the plan and are therefore inadmissible. The mobile radiological monitoring system, on the face of the plan capable of taking into account wind and rainfall, is described in the State plan, IV.C.5-6, at 39-42, especially IV.C.6.g, at 42. Neither contention makes any attempt to say why this mobile system is not adequate. The Applicants' own meteorological instrumentation, which has the capacity to monitor wind speed and direction and is linked to

the National Weather Service, is described in Section 3.9.5 of the onsite plan. Of course, contentions addressing the onsite plan would be late-filed now. Last, Contention 57-C-19 makes no attempt to say why none of the protective actions set out in the State plan are appropriate under conditions of rainfall. Why, for instance, is sheltering not appropriate?

Command/Control: Contentions 57-C-9 and 203

Taken together, these two contentions allege that because it might take two hours to establish the SERT facility, and an estimated seven to nine hours to complete activation of the field command post, the State will not be able to make a timely response to radiation releases, and the plan will not be adequate to deal with unexpected, or rapidly developing, accidents. The contentions imply that no adequate protective actions can be taken unless SERT is functioning.

These contentions do not address the plan and therefore must be rejected. Much happens before SERT takes command. During the initial phase of an emergency, it is the responsibility of local governments, acting on data and recommendations from the licensees, to protect health and safety. See the State ERP, II.B and Figure 2, at 3-6, and IV.E of each County ERP. Even during this time, "necessary actions of state government (e.g., declaration of a State of Disaster . . .) will be completed." State ERP, I.B.6, at 4. For instance, some RPS teams will be activated within an hour of notification of an accident. See State

ERP, IV.C.5.b, at 39. (As we noted in discussing Contention 2A, supra at 10, under 10 C.F.R. § 50.47(b)(4), the licensee is responsible for initial monitoring.) These two contentions do not even attempt to say why the plans' provisions for action before SERT takes command are inadequate.

Communications: Contentions 225, 226, and 244

Contention 225 alleges, somewhat vaguely, that the provisions in the County plans for communications among emergency response organizations are inadequate because they "rely" -- not exclusively, we take the contention to mean -- on commercial telephone. April 12, 1984 filing at 17. 226 alleges further, also somewhat vaguely, that in the County plans, "other means of communication [those listed in the plans, we take it, are meant] have not been analyzed to show they can handle the traffic . . . among . . . the emergency response organizations if phone lines are tied up" Id. at 18.

We reject both of these contentions, for neither addresses the rather full descriptions in both the State and the County plans of the diverse and redundant system for communications among the emergency response organizations. See the State ERP, VI.A-K and Fig. 17, at 74-79; and Section VI in each of the County plans. We note too that NRC guidance contemplates the use of telephone. See NUREG-0654, II.F.1.a, which is more on point than the item Contention 225 cites: NUREG-0654, II.F.1.1.

Contention 244 alleges that "the Harris emergency response plan" is inadequate because "phones will get tied up." April 12, 1984 filing at 23. If, by "Harris ERP," Mr. Eddleman intends the onsite plan, this contention is late-filed. If he intends the off-site plan, the contention is redundant. Contention 244 is not admissible.

Notification of the Public: Contentions 57-C-3,
213, 231, and 232

These four contentions allege that the plans do not provide for adequate emergency notification under certain conditions of time, place, or intended recipient groups. We reject all but Contention 213 and part of 57-C-3.

Contention 57-C-3, not entirely about notification, alleges that the ERPs make no provision for evacuation at night, nor assure that at night members of the public would be awakened in time to take appropriate action. For example, on a summer night, under conditions calling for prompt sheltering, would people be wakened in time to close windows or turn off air conditioning promptly? The contention proposes that the public be notified through an automatic dialing system.

We admit that part of 57-C-3 which concerns nighttime notification. However, the contention otherwise lacks bases and specificity, since it does not address the Plans' provisions for evacuation.

Contention 231 alleges that there are not adequate provisions for notifying schools, nor for communications to coordinate evacuation of the schools. 231 also alleges that school buses should have two-way radios, in case evacuation is announced while the buses are engaged in

normal operations, or in case, while engaged in evacuation, the buses need to change routes to avoid a plume. 232 adds that communications with schools would not be adequate when evacuation had to be called for after a period of sheltering, that the schools' phone lines would be jammed. These contentions do not address the plans. They do not begin to show why the particular provisions of Annex C on notification of the public would not be adequate to the contingencies outlined in the contentions. Also, there is no basis in NRC regulation or guidance for requiring that school buses have two-way radios.

Last, Contention 213, which we admit, alleges that the plant reservoir is not covered in the Wake County plan by any boater notification provision. Of course, a County plan is not the place to look for the details of public notification procedures. These are set out in the Annexes, boater notification in Annex G. But G covers only Lake Jordon. Essentially, 213 alleges that there should be analogous provisions for the reservoir. The Applicants and the Staff claim that notification for the reservoir is covered in the onsite plan, Section 4.5.3. Both Lake Jordon and the reservoir are mentioned there, but as being the responsibility of government. Is the lake being overlooked? The Staff claims that the sirens will cover the reservoir, but the same is true of Jordon. Should only Jordon be the object of special provisions? 213 is admitted.

Sheltering: Contentions 57-C-10, 57-C-13 and 214

Each of these three contentions alleges, in one way or another, that the plans do not provide adequate means for considering sheltering in choosing protective actions during an emergency. They are thus related to CCNC's distinct claim -- in its Contention 2, admitted at Tr. 995-96 -- that, given the typical rural house in the area around SHNPP, sheltering cannot be an adequate protective measure. Contentions 57-C-10 and 214 allege that the ERPs, both state and local, do not conform to Evaluation Criterion J.10.m, in NUREG-0654, which calls for inclusion in the plans of "expected local protection afforded in residential units or other shelter for direct and inhalation exposure" 57-C-10 also alleges that the plans do not take adequate account of plumes which are either released at ground level or come quickly to rest there. As an example of such a plume, the contention cites the plume released by the steam generator tube rupture at the R. E. Ginna Nuclear Power Plant in January 1982. Contention 57-C-13 alleges that although each of the County plans says that if sheltering is chosen as the best protective measure for hospital and nursing home patients, they should be relocated "to the best protection factor (PF) in the building," none of the plans says either what these protection factors are, or how they are to be determined. See IV.E.6.c in each County ERP. 57-C-13 also claims that the highest PF areas should be determined in advance.

We reject that part of Contention 57-C-10 which concerns ground plumes. The contention says nothing about how the ERPs would be inadequate to deal with ground plumes. We also note that the NRC report on the accident at Ginna says that with one minor exception, offsite radiation monitoring detected no radiation levels above background. NUREG-0909, at 1-20 (1982). However, we admit that part of 57-C-10 which concerns inclusion in the State plan of expected local sheltering protection. Neither NRC regulation nor guidance requires such analysis in the County plans. See NUREG-0654, II.J.10.m. Partly for this reason, we reject Contention 214, which was directed solely at the County plans. But evaluation criterion J.10.m does, on its face, call for inclusion of such analysis in the State plan. The plan "shall include" "[t]he bases for the choice of recommended protective actions . . . This shall include expected local protection factors afforded in residential units or other shelter for direct and inhalation exposure." The State plan is content to cite certain federal documents as setting out the bases for choosing between sheltering and evacuation (see State ERP, IV.E.10). J.10.m does say that the documents cited by the plan "may be considered in determining protection afforded" (NUREG-0654, at 64n.2), but it is not clear from the State ERP that the protection spoken of has, in fact, been determined. Nor does it appear that the cited documents would be readily usable during an emergency. Either J.10.m is to be met, or, since it is not a regulation, it must be shown that the way sheltering factors are treated in the State ERP provides a basis for the findings requisite to issuance of a license. See Pacific

Gas and Electric Co. (Diablo Canyon, Units 1 and 2), ALAB-644, 13 NRC 903, 937 (1981). We assume that what II.J.10.m and 57-C-10, in turn, call for is not a determination of the protection afforded by each potential shelter in the SHNPP plume EPZ. Nothing we see in II.J.10.m or the documents it cites for use in determining local protection suggests such an approach. Rather what would appear to be needed are sound estimates of the protection afforded by potential shelters typical of the SHNPP plume EPZ. We note that it is the documents II.J.10.m cites which are to be consulted, not the IAEA document cited by Contention 214.

A principal aim of 57-C-10 as admitted is to assure that sheltering effectiveness is determined in the State ERP, not left to determination during an emergency. The presence of such information in the plan would, of course, help focus the litigation of CCNC's claim that sheltering would not be an adequate option around SHNPP.

We also admit Contention 57-C-13, insofar as it calls for the best PFs in each hospital and nursing home to be determined "in advance," which we construe to mean "before the emergency preparedness exercises." We reject the rest of 57-C-13. Nothing in NRC regulations or guidance calls for County ERPs to contain analyses of sheltering effectiveness. Apart from that, it would not be reasonable to require the same information in State and County plans.

Respiratory Protection: Contention 57-C-12

This contention alleges that, of all the plans, only one County plan includes such elementary measures as breathing through a filtering material. This contention has no basis, and we therefore reject it. Section IV.E.5.f of each of the County plans specifically sets out breathing through a handkerchief as a protective action. Message A, Option D of Annex D does also. Both Section IV.E of each County plan and Message A list other such elementary measures.

Potassium Iodide: Contentions 29D, 30, 30A, 57-C-11, 236C, 238, 239

Taken together, these contentions, which overlap a good deal, allege that the ERPs do not say what radioprotective drugs would be distributed in a radiological emergency, in what quantities, who is to distribute them and make sure they're received, how they are to be distributed, along what routes, and to whom. The contentions also allege that there could be up to a 30-minute delay in the State's decision to distribute these drugs and that 30 minutes is too long. Two of the contentions, 29(c) and 57-C-11, call for distribution of KI to the public. Finally, Mr. Eddleman calls for predistributing the drugs and obtaining, before the ERPs go into effect, the informed consent of all who might receive the drugs during an emergency.

We reject all but part of one of these contentions for either failure to address the plans or for impermissibly attacking the

regulations. All the plans say often enough what radioprotective drug would be used, namely KI. See, e.g., Part 2, Section IV.E.6-7 of each County plan. The County plans make clear who is to distribute KI. Section IV.E.6.d of each County plan says that the County Health Department is responsible for delivering KI to hospitals and nursing homes. Section VI.7.a says, more generally, that the Health Department director is responsible for distribution. Neither NRC regulations nor guidance require predistribution of KI, perhaps because predistribution is not without its risks and problems. See Louisiana Power and Light Co. (Waterford, Unit 3), LBP-82-100, 16 NRC 1550, 1567 (1982), aff'd, ALAB-732, 17 NRC 1076 (1983).

The plans are also reasonably clear about the means of distribution. That is, they say who is responsible for distribution and where the drug is to be stored. Also, Section 2.2 of the Evacuation Time Estimates makes clear that every two-way route used for evacuation will have at least one lane open for use by emergency vehicles, which would include any distributing KI. What Mr. Eddleman calls a 30-minute "delay" in the State's decision to administer KI is the result of the planners' efforts to conform to evaluation criterion J.10.f in NUREG-0654 by spelling out, in IV.E.7.c of the State plan, the succession of calls the RPS chief is to make before the State decision on KI. Mr. Eddleman does not say how the time limits in Section IV.E.7.c fall short of any set out in the NRC's regulations or guidance. Any other matter having to do with the means of distribution, such as numbers of persons or vehicles needed, is not a suitable topic for

litigation. The plans establish the mechanisms for determining these numbers, and Staff and FEMA review can be relied on to oversee the remaining details.

Finally, the plans make clear to whom KI is to be distributed: emergency workers, hospitals, and nursing homes. See, e.g., Section IV.E.7 of the County plans. No NRC law or guidance requires that KI be given to the general public in an emergency. According to Mr. Eddleman, Evaluation Criterion J.10.e of NUREG-0654 calls for KI for all "whose evacuation may be infeasible . . .," which would include the general public under conditions of sheltering. But J.10.e speaks only of "institutionalized persons . . . whose immediate evacuation may be infeasible." Never has a State's decision not to administer KI to the general public not been ratified when made the subject of litigation in NRC hearings. See Union Electric Co. (Callaway Unit 1), ALAB-754, 18 NRC 1333 (1983). Such state decisions are based on the problems and risks of such widespread use of KI.

Last, no NRC regulation or guidance requires that the informed consent of potential recipients of KI be obtained before the ERPs become effective. Mr. Eddleman does not explain why waiting to obtain consent until an emergency would significantly delay administration of the drug.

However, we admit that part of Contention 30 which alleges that the State and County plans should include the quantities of KI stored for use in an emergency. The same allegation appears in 30A and, being redundant, is rejected. Evaluation Criterion J.10.e says, in pertinent part, that State and local plans "shall include . . . 1. provisions for

the use of radioprotective drugs, . . . including quantities" The planners apparently think this passage calls only for provisions for determining the required quantities: The plans' only reference to the quantity of KI is in Section IV.E.6 of the State ERP, which assigns to the Division of Health Services the task of determining how much KI is required. However, it's not obvious that J.10.e should not be read more literally. NUREG-0654 often calls for definite quantities to be included in the plans. Presumably, the purpose of such calls is to make sure that the quantities are determined during, not after, the planning process.

Evacuation Time Estimates: Contentions 57-D-1, 57-D-2,
57-C-20, and 215 to 224

Although these 13 contentions were submitted more than 30 days after the Evacuation Time Estimate was served, we ruled, at Tr. 990-93, for the reasons given there, that we would not treat these contentions as late-filed. We admit some and reject others.

All but the first two of these thirteen contentions allege some defect in the way the estimates were done. Generally, the last 11 contentions allege defects which, if cured, would increase the estimates, but the first two contentions, 57-D-1 and 57-D-2 allege that, even if the present estimates are accurate, evacuation will be useless because the average wind at SHNPP can make a plume travel faster than

the evacuees can (57-D-1), and none of the estimated evacuation speeds for SHNPP can match the 10 mph which, according to Mr. Eddleman, NUREG/CR-2239 reports to be the lowest speed at which evacuation can proceed without significantly increasing early health effects (57-D-2).

We reject both 57-D-1 and 57-D-2. No NRC regulation or guidance sets a time limit on evacuation. Time estimates are done not to show that certain limits can be met, but to provide "guidelines for the choice of protective actions during an emergency." See 10 C.F.R. § 50.47(b)(10). Under some conditions, evacuation may well not provide significant dose savings. There is no requirement that it do otherwise. We note that the passage Mr. Eddleman refers to in NUREG/CR-2239, at 2-46, includes assumptions which make its application to SHNPP problematic.

57-C-20 alleges that evacuees will panic and cause accidents, and that there has been no analysis of the capacity of the evacuation routes. NUREG-0654, II.J.10.i recommends that the state and local plans include "projected traffic capacities of evacuation routes under emergency conditions." We reject this contention. It proffers no basis for thinking there won't be fewer accidents in an evacuation than in the normal, relatively fast, traffic on the evacuation routes. See Waterford, supra at 20, LBP-82-100, 16 NRC at 1561-62, 1576. Moreover, Section IV.E.8 of the State ERP and Section IV.E.10 of each County ERP provide for clearing the evacuation routes of accident debris. Contention 117 challenges those provisions, but we reject it, infra at 33. Finally, Mr. Eddleman has overlooked Section 9 of the Evacuation

Time Estimates, which contains a highly detailed tabular analysis of the evacuation routes, link by link. The columns marked "JAM" and "FCAP" contain measures of capacity. On their interpretation see p. 5-9 of the Estimates. On capacity, see also Section 6.3.4 of the Estimates.

Contention 215 alleges that there are "numerous" conservatisms in the estimates which may make the estimates unrealistically high and thus provide an unsound basis for the choice of protective actions.

Mr. Eddleman cites two examples of such conservatisms: recreational populations, and vehicle capacity factors. See the Estimates at 3-3, and 3-6. "Where the decisionmakers must select from more than one protective action, any deparature from realistic evacuation-time estimates could influence their decisions away from safety."

Commonwealth Edison Co., (Byron, Units 1 and 2), LBP-84-2, 19 NRC ____, slip op. at 383 (1984). We admit 215 for litigation. However, in its present form, the contention requires further specification, both to make litigation more valuable and to give the other parties fair notice of the subject of litigation. The contention names only two of what it alleges are "numerous" conservatisms. Mr. Eddleman shall serve on the Board and parties, by June 29, 1984, a list of specific conservatisms in the Estimates he wants to litigate. The other parties may file comments on such conservatisms by July 10, 1984.

Contention 216 has two parts. The first alleges that the Estimates make no "meaningful" division of the permanent population of the plume EPZ into households with automobiles and households without.

NUREG-0654, App. 4, II.A, at 4-2 to 4-3, recommends this division. The second part of the contention alleges, correctly, that the Estimates assume that households without automobiles will evacuate as if they had them, but that the Estimates give no account of how those households will get access to transportation.

We reject the first part of 216. The Estimates do divide the permanent population of the plume EPZ into households with cars and households without, by estimating the percentage of people in the plume EPZ who do not own cars. See Section 3.1.2 of the Estimates.

Mr. Eddleman does not say why this division is not "meaningful."

We reject also the second part of the contention. It is up to the ERPs, not the Estimates, to set out the arrangements for transportation for households without cars.¹ However, Mr. Eddleman may want to consider in another light the assumption that households without cars will evacuate as if they had them. The assumption evidences not neglect of arrangements for transportation for these households, but rather conservatism in the estimate of the number of vehicles needed for evacuation. See the Estimates at 3-2 to 3-3. Mr. Eddleman may want to add this conservatism to the list in Contention 215.

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We note that Mr. Eddleman's 57-C-14 and 237 allege deficiencies in those arrangements as set out in the ERPs. In our later order on the admissibility of the remaining emergency planning contentions, we will be considering 57-C-14 and 237 in connection with Wilson 9, which will be the basis of a joint contention on the subject of transportation for residents without cars.

Contention 217 and 224 are similar. 217 alleges that, contrary to NUREG-0654, App. 4 § II.A., at 4-7, the estimates do not "systematically" consider the significance of alternative assumptions about the conditions of evacuation: whether day or night, good or bad weather, peak or off-peak population. Contention 217 does not address the many large sections of the Estimates which appear to "systematically" consider the effects of just these pairs of alternative assumptions. See esp. Sections 1 and 7 of the Estimates. Therefore, we reject 217.

Contention 224 alleges that, also contrary to certain parts of Appendix 4 of NUREG-0654, the Estimates do not use area-specific weather (see App. 4 at 4-6), do not identify the frequency of the adverse weather they do use (see id.), and do not consider the impact of peak populations, "including behavioral aspects." Eddleman quoting id., at 4-10.

We reject all but one part of Contention 224. For the most part 224 does not address the Estimates. It does not say why the adverse weather considered in the Estimates is not area-specific, nor how the Estimates' considerations of peak population fall short. However, we cannot see that the Estimates have anywhere identified the adverse weather frequency used in the analysis. NUREG-0654, App. 4, at 4-6, calls for the frequency as a way "to define the sensitivity of the analysis to the selected events." Therefore, we admit 224 on this issue alone.

Contentions 218, 222, and 223 are, for the most part, concerned with estimates of time required for the evacuation of special facilities. Except for the second part of Contention 222, we reject all three contentions, mainly for not addressing relevant provisions of the Estimates.

Contention 218 alleges, in part, that the Estimates do not contain separate evacuation time estimates for each special facility, and that such separate estimates are required by certain parts of NUREG-0654, App. 4. We do not agree with Mr. Eddleman's interpretation of that Appendix. Section II.C of the Appendix says, in part, "an estimate for this special population shall usually be done on an institution-by-institution basis." However, the "estimate" referred to there is an estimate of population, not time. "The objective of this section [Section II, from which the contention quotes] is to provide an estimate of the number of people to be evacuated." At 4-2. Moreover, it would appear that the precise population figures displayed in Tables 3-5 and 3-6 in the Estimates could not have been calculated unless the guidance in Section II.C had been followed. The contention does not mention the tables.

The other passage in Appendix 4 which Contention 218 claims requires a separate time estimate for each special facility is in Section IV.B and says, "Each special facility shall be treated on an individual basis." At 4-10. We do not read this to require a separate evacuation time for each special facility, and we note that the Estimates contain much which does treat special facilities individually.

See, for location, Figs. 3-3 and 3-4; for population, Section 3.3, and Tables 3-5, 3-6, 4-4, and 4-5; for evacuation time, Section 7 (e.g., 7.6, 7.7, and 7.11) and Section 6.2.5. See also Section 4 (e.g., 4.2 and 4.5). Neither the contention nor Mr. Eddleman's supplementary remarks on the contention in his May 10, 1984 filing address any of the just cited portions of the Estimates.

Contention 218 also alleges that the Estimates contain "no information on industry shutdown times consistent with [NUREG-0654, App. 4, Section IV.B, at 4-9 to 4-10]." The contention also cites, without page numbers, Commonwealth Edison Co. (Byron, Units 1 and 2), LBP-84-2, 19 NPC ____, slip op. at 370, 371-72. If the contention means simply that the Estimates contain no information at all on shutdown times, the contention overlooks Section 6.2.2. On the other hand, if the contention is to be read literally, it does not say why the information in the Estimates on shutdown times is not consistent with the cited guidance; nothing in the Byron decision requires anything more than what the SHNPP Estimates already contain.

Contention 222 alleges first that, contrary to NUREG-0654, App. 4, Section II.C, at 4-3, the Estimates contain no descriptions of the means of transportation for special facility populations, nor discussions of the availability of those means. The cited passage in Section II.C says nothing about the availability of transportation, but Sections 3.3 and 8.2 of the Estimates both describe the means of transportation for special facilities and discuss the availability of those means. The contention does not address these sections.

Contention 222 alleges second that although the Estimates discuss school evacuation at 3-5, they do not show that enough buses and drivers are available to evacuate the schools in one lift. Parts (d) and (f) of intervenor Wilson's Contention 7 share with Contention 222 a concern that there be assurance that the schools could be evacuated in one lift. We are admitting a consolidated contention on evacuation of the schools, the text of which will be based on Mr. Wilson's Contention 7 and will be set out in our later order on emergency planning contentions. Therefore, we shall rule on this second part of Contention 222 when we rule on Wilson 7.

Last, Contention 223 alleges that, contrary to NUREG-0654, Appendix 4, Section IV.B, at 4-9 to 4-10, the Estimates fail to consider "highly individualized mobilization times" for special facilities, or the effect of the time of day on evacuation of these facilities, or the impact of visiting hours on the evacuation of nursing homes. However, it would appear that these matters have been considered in the Estimates. Section 6.2.5 reports that preparation and mobilization times for special facilities were developed on the basis of discussions with local emergency preparedness officials and representatives of these facilities. At 6-4. Moreover, the estimates themselves are estimates of the total time required to evacuate all people from a given sector. The contention gives no basis for thinking that these Estimates do not take into account the time required to evacuate special facilities. To the contrary, certain of the Estimates clearly do. See, e.g., Sections 7.6 and 7.7. The contention does not address the Estimates.

Contention 219 alleges that the Estimates should not assume that those in the permanent population who own autos would evacuate from their residences (Estimates at 2-2), or that the public will evacuate along the designated evacuation routes (id. at 2-3), or that all school children will be evacuated by bus (id. at 3-5). Mr. Eddleman claims that the first assumption ignores traffic jams at work (see Contention 220), and that the third assumption ignores that "parents cannot be expected to evacuate without their children." Part (h) of intervenor Wilson's Contention 7 raises a similar concern about the evacuation of school children. As we said above, Wilson 7 will be the basis of a consolidated contention on schools. Therefore, we shall take up the third part of Contention 219 in connection with Wilson 7, in a later order.

The claim that the Estimates should not assume that evacuees will stay on evacuation routes does not address the provisions for traffic control in the Estimates (Sections 2.2 and 8.2) and the County ERPs (Section IV.E.9 and Fig. 2), and we therefore reject it. The claim that the Estimates ignore the possibility of traffic jams at work places by assuming that permanent residents will evacuate from home does not address the numerous considerations of work-place evacuation in the Estimates, and the same, just-enumerated, provisions for traffic control. Therefore, we reject this part of 219, understood as intending a concern with traffic congestion. However, it may be that some, perhaps a negligible number of, permanent residents who own autos and work in the plume EPZ are being double-counted in the Estimates. We

leave it to Mr. Eddleman to decide whether the assumption about evacuation from home is to be included in the list of conservatisms he is to submit later in connection with Contention 215. See supra at 24.

Contention 220 first repeats Contention 219's allegations about evacuation from work. We reject, as being redundant, this part of 220. Contention 220 also alleges that the Estimates, at 3-3 to 3-4, assume that enough vehicles will be available to evacuate the Boy Scout camp south of the Harris reservoir. Mr. Eddleman's account of the passage he cites makes it sound as if it evidences nothing but neglect of arrangements for evacuation of the camp. In 216, discussed supra at 24, he made a similar claim about the Estimates' treatment of households without cars. There he misread the Estimates. He does here also. It is the responsibility of the Estimates to estimate evacuation times, not to set out arrangements for evacuation of the camp. Thus, as a prelude to this estimation, the passage Mr. Eddleman cites provides a basis for estimating the number of vehicles which would be needed to evacuate the camp. See also Section 6.2.4 (evacuation time estimate for the Boy Scout camp). A proper contention on arrangements for the camp would have shown that relevant sections of the ERPs were deficient in planning for the camp. We reject this latter part of 220 also.

Contention 221, the last of the contentions on the Evacuation Time Estimates, alleges that the NETVAC II simulation of route-selection is untested, that it assumes in one respect that even the transient population is familiar with the area of the plume EPZ, and that it does

not consider the impacts stress, or the transient population's unfamiliarity with the area, could have on route selection. We reject this contention. First, the contention gives no basis for the claim that the computer model² is "untested," at least in any sense of "untested" which could sensibly apply to a model of the emergency evacuation of up to 300 square miles or more around a nuclear power plant. No regulation or guidance calls for a practice evacuation to test the model. We note that NETVAC II is being used at the Byron Plant. See Byron, supra at 28, slip op. at 374-75. Second, NETVAC does not assume that drivers have a general familiarity with the area. Rather, "driver behavior during an evacuation is assumed to be myopic in that only information regarding the immediate outbound links at each intersection is assumed to influence route selection decisions." Estimates, Section 6.3.2. Mr. Eddleman apparently thinks that transient drivers would have to be familiar with the area to know which links were outbound, but he gives no reason to think that the general flow of traffic and the many provisions for traffic control (Sections IV.E.9 and IV.E.11 of the County plans, and Section 8.2 of the Estimates) would not make clear which links were outbound.

Finally, Mr. Eddleman apparently thinks that stress will make drivers choose routes less rationally and that the model doesn't take

² Mr. Eddleman refers to the model as NETVAC II, but the Estimates refer to it merely as NETVAC. Unless someone informs us otherwise, we shall assume that the two names refer to the same model.

into account irrational route selection. However, he has given no basis for thinking that stress wouldn't make drivers choose more rationally (cf. our discussion of Contention 57-C-20, supra at 23), nor has he shown that the model assumes rational choice. See esp. Estimates at 6-8.

Impediments to Evacuation: Contentions 57-C-4, 205, 57-C-5,
117, 117-A, and 118

Each of these six contentions alleges that the ERPs are not adequate to deal with some impediment to evacuation traffic and thus do not conform to evaluation criterion J.10.k, which calls on State and local plans to identify such impediments and the means to deal with them. The ERPs clearly assign certain organizations the task of keeping the routes clear. See the State ERP, Section IV.E.8, and Section IV.E.10 of each of the County ERPs. But these contentions allege that the plans should contain more: that the numbers of equipment and personnel for removing snow and ice should be specified and shown adequate (57-C-4) and the plans shown otherwise adequate to evacuation under such conditions (205), and that the plans should include the same information and make the same showing in relation to the removal of debris (57-C-5), especially debris from accidents, including accidents involving hazardous materials (117). Contention 117A alleges that the plans should deal with blockage of evacuation routes both by train accidents and by the normal operation of trains. Last, 118 calls

for planning for dealing with blockage by hazardous materials, whether caused by accidents or not.

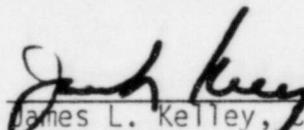
We reject all but the first of these contentions, 57-C-4. No NRC regulation or evaluation criterion would have the plans prepare for the improbabilities of accidents involving trains or hazardous materials, and Mr. Eddleman has not tried to show that either train traffic or shipments of hazardous materials threaten any of the evacuation routes around SHNPP. Neither would it be useful to litigate whether the State Department of Transportation and the analogous county organizations have the equipment and personnel necessary to remove debris from the evacuation routes. Not only are these groups well-practiced in such work, every two-way evacuation route will, as we've noted before, have at least one lane open for emergency vehicles (see Evacuation Time Estimates, Section 2.2), and because the evacuation routes interlock, traffic prevented by debris from taking one route would usually be able to take a connecting route.

However, the same set of arguments does not apply to impediment of the routes by snow and ice. These could impede all the evacuation routes and the lanes reserved for emergency vehicles, and put special burdens on equipment and personnel. We think Evaluation Criterion J.10.k might call for a more particular accounting of the means to deal with such impediments. Therefore, we do not reject Contention 57-C-4, but we are consolidating it with other intervenors' contentions on snow and ice. The text of the consolidated contention, EPJ-1, appears at Tr. 974.

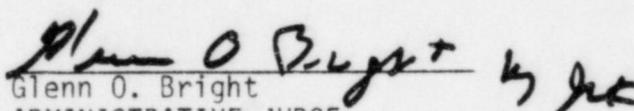
To the extent that 205 duplicates 57-C-4, it is redundant and so inadmissible. It is inadmissible otherwise also, for its allegation concerning panic in snow and ice is without factual basis, and its allegation that there would not be sufficient transport for institutionalized persons does not address the plans.

IT IS SO ORDERED.

THE ATOMIC SAFETY
AND LICENSING BOARD


James L. Kelley, Chairman
ADMINISTRATIVE JUDGE


Dr. James H. Carpenter
ADMINISTRATIVE JUDGE


Glenn O. Bright
ADMINISTRATIVE JUDGE

Bethesda, Maryland
June 14, 1984