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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)	
)	
LONG ISLAND LIGHTING COMPANY)	Docket No. 50-322-OL-3
)	(Emergency Planning)
(Shoreham Nuclear Power Station,)	
Unit 1))	

NRC STAFF RESPONSE TO LILCO'S MOTION FOR SUMMARY
DISPOSITION OF CONTENTIONS 1, 2, AND 9 - IMMATERIALITY

I. INTRODUCTION

On December 18, 1987 Applicant filed "LILCO's Motion for Summary Disposition of Contentions 1, 2, and 9 - Immateriality" ("Motion"). In its Motion Applicant argues that the facts demonstrate that the functions set forth in the subject contentions, which Applicant is precluded from performing due to its lack of legal authority, are not material in complying with regulatory requirements. For the reasons discussed below, the Staff supports Applicant's Motion.

II. BACKGROUND

In CLI-86-13, 24 NRC 22, 32 (1986), the Commission remanded LILCO's arguments that it was immaterial that LILCO lacked authority to implement certain features of its emergency plan, including traffic control. LILCO argued that traffic actions are not required by regulation and that it is immaterial that LILCO might lack legal authority to

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implement them. ^{1/} In remanding these arguments, the Commission recognized that some of these measures although not particularly mentioned in regulation might be necessary for reasonable assurance of adequate protection of the public. Id. It concluded that "LILCO's materiality argument presents issues that are primarily factual rather than legal", and that they should be determined as a factual matter upon remand. Id. The Commission further concluded that the protection afforded under this argument should be measured against a standard "that would require protective measures that are generally comparable to what might be accomplished with governmental cooperation." Id. Although speaking in the context of LILCO's realism arguments which were also remanded at that time, the Commission instructed the Board to use the existing record "to the maximum extent possible." Id. ^{2/}

In the instant Motion, LILCO asks for summary disposition of Contentions 1, 2 and 9 on the basis of the record already compiled in this proceeding, which demonstrates that the functions at issue are immaterial. It argues that the tasks set out in the subject contentions are not required by regulation, and that adequate protective measures, generally comparable to that which might be accomplished with governmental cooperation, can be taken without legal authority to perform the acts set

^{1/} The Commission had under review, inter alia, the Licensing Board decision on immateriality, LBP-85-12, 21 NRC 644, 913-919 (1985), and the Appeal Board's affirmance of that decision, ALAB-818, 22 NRC 651, 676-78 (1985).

^{2/} The Commission thereafter reaffirmed (and clarified) CLI-86-13 in its amendment to 10 C.F.R. § 50.47(c). 52 Fed. Reg. 42078 (November 3, 1987).

out in the subject contentions. Contention 1 deals with the inability of LILCO to carry out its emergency plan because it could not direct traffic under New York State law. 21 NRC at 958. Contention 2 deals with the prohibitions under New York State law to LILCO blocking traffic, setting up roadway barriers and channelling traffic as provided for in the LILCO plan. Id. at 959. And Contention 9 deals with prohibitions in New York law preventing LILCO from dispensing fuel at roadside as provided in the LILCO plan. Id. at 962. ^{3/} For the reasons hereinafter set forth, the Staff supports the subject Motion as LILCO's ability to perform the tasks detailed in Contentions 1, 2 and 9 is immaterial. The actions set out in these contentions are not required by regulation, and protective measures generally comparable to what might be accomplished with government cooperation can be taken without legal authority to perform the acts set out in Contentions 1, 2 and 9.

III. DISCUSSION

A. Contentions 1 and 2

Contentions 1 and 2 deal with LILCO's ability to guide traffic and control roadways in the event an evacuation is recommended as a result of a radiological accident. It has been established that NRC regulations do not explicitly call for the guidance or the control of roadways should an evacuation be necessary in event of a radiological emergency. See

^{3/} By order of September 17, 1987, the Licensing Board denied a motion for summary disposition of these contentions. By order of December 28, 1987, the Board set times for responding to the renewed motions to summarily dispose of Contentions 1-10.

ALAB-818, 22 NRC at 677; LBP-85-12, 21 NRC at 917. The Commission has indicated that where measures, such as traffic control, are not explicitly mentioned, it is a factual issue of whether they are necessary to protect the public, and it is to be seen if "protective measures that are generally comparable to what might be accomplished with governmental cooperation" can be provided without such cooperation. CLI-86-13, 24 NRC at 32.

The guidance of NUREG-0654 for complying with the requirement of "a range of protective actions", only suggests special traffic control as an appropriate action that may be considered. Urbanik Affidavit ¶ 8. It is not necessarily a requirement that the ETEs or emergency plans include special traffic controls to enhance capacity. Id. The intent of NUREG-0654, Appendix 4, is to identify potential traffic control strategies for consideration by local authorities. Urbanik Affidavit ¶ 9. There is no intent in the guidance of NUREG-0654 to require local authorities to implement strategies they believe to be inappropriate, but rather the intent is to identify strategies which are potentially effective in aiding evacuation, and are also within the resources of local authorities. Id.

An "uncontrolled" evacuation is not an "unplanned" evacuation. Urbanik Affidavit ¶ 7. There is an evacuation plan for the Shoreham EPZ and residents are to be informed of appropriate evacuation routes. Id.; See PID, 21 NRC 781-795. This plan sets out routes and sets out the manner in which the public in the EPZ is to evacuate. Id.

The record here demonstrates that comparable protection is afforded to the public in the event of an evacuation regardless of whether LILCO has the authority to implement the traffic control measures in its

emergency plan. Evacuation time estimates for Shoreham both with and without traffic control, with their ranges of uncertainty, are in the Shoreham emergency plan and in this record. See generally, PID, 21 NRC 781-95, 805-09. The Licensing Board, after extensive litigation, determined ETEs for both controlled and uncontrolled evacuations. It found:

The results from KLD studies show that if the traffic control plans work as expected, then evacuation of the Shoreham EPZ can be accomplished in about 4 hours, 55 minutes. (The Board prefers not to overstate the precision with which this might be done. It is more realistic to think of this estimate as being approximately 5 hours with the understanding that KLD believes on a subjective basis that a real evacuation might be accomplished within about 30 minutes either way of that nominal estimate.) Cordaro et al., ff. Tr. 2337, at 62; Tr. 2749-51 (Lieberman). If the evacuation had to be done under uncontrolled conditions without traffic guides (but with route compliance), the evacuation time would increase to 6 hours, 30 minutes under normal roadway conditions and to 7 hours, 55 minutes (about 8 hours) under adverse winter weather conditions. Cordaro et al., ff. Tr. 2337, at 62, Attach. 6, cases 24, 25. Evacuation time for the entire EPZ is relatively insensitive to the assumption that evacuees will comply with the evacuation routes prescribed in the Plan. Id. at 66-73, Attach. 12. If 25% of the population fail to follow recommended evacuation routes while traffic guides were in place, there would be no affect on evacuation times. If 50% of the population deviated from recommended routes with traffic guides in place, the time to evacuate would increase by about 30 minutes (from 4 hours, 55 minutes to 5 hours, 30 minutes). Id. at 69, Attach. 6, cases 12, 31, 32. In cases where either 25% or 50% non-compliance with prescribed routes was postulated and no traffic guides were present (non-compliance -- uncontrolled cases), the evacuation time did not increase relative to the uncontrolled case. Evacuation could still be accomplished in either 6 hours, 30 minutes under normal roadway conditions or about 8 hours under adverse winter conditions. Id. at 69, Attach. 6, cases, cases 24, 33, 34. Id. at 791-92 [Emphasis added]. -

4/ The Board found that the computer model used in generating ETEs by KLD associates, Applicant's consultant, is valid and reliable for

On the basis of these quantitative results the Board characterized them as "describing the comparatively low sensitivity of evacuation time to route compliance and traffic control." Id. at 792. It further found:

Overall evacuation time is not sensitive to deviations in route compliance by drivers because tradeoffs occur with regard to alternative routes and destinations. Although details of traffic flow change with the scenarios analyzed, the tradeoffs on routes and destinations tend to cancel one another albeit not with perfect symmetry. Cordaro et al., ff. Tr. 2337, at 69-70. ^{5/} Id.

The purpose of evacuation time estimates is to provide information for protective action determinations in the event of radiological emergency. As the Appeal Board stated in Philadelphia Electric Co. (Limerick Generating Station, Units 1 and 2), ALAB-836, 23 NRC 479, 486 (1986):

The purpose of an ETE is to provide information (i.e., the time required to evacuate the EPZ and any unusual problems) so that emergency coordinators can decide what protective actions (such as sheltering or evacuation) might be necessary. The Commission's regulations, however, do not set any particular

(FOOTNOTE CONTINUED FROM PREVIOUS PAGE)

the use intended, and that KLD "is a recognized authority on traffic simulation". Id. at 783. This study further showed that a controlled evacuation in inclement weather would take 6 hours in the winter and 6 hours, 20 minutes in the summer. Cordaro et al., ff. Tr. 2337, at 62, Attach. 6, cases 19, 20.

^{5/} It was further stated that "[t]he Board is of the opinion that true evacuation times under extreme emergency circumstances are probably not predictable with more precision in any event". Id. at 724. And that "LILCO's evacuation time estimates over their full spectrum of scenarios are reasonable statements of capability and not literal predictions of how a future evacuation might play out". Id. at 808. The Board determined there was reasonable assurance "that LILCO's evacuation time estimates are reliable within the limits of uncertainty identified in the sensitivity analyses", and found that LILCO had met its burden of proof on the matter of evacuation time estimates. Id.

time limits for evacuation of the EPZ. Cincinnati Gas & Electric Co. (Wm. H. Zimmer Nuclear Power Station, Unit No. 1), ALAB-727, 17 NRC 760, 770-71 (1983).

See also PID, 21 NRC at 782. The estimates are themselves not precise, but as stated Consolidated Edison Co. of New York (Indian Point, Unit No. 2), LBP-83-68; 18 NRC 811, 970 (1983), inform protective action decisionmakers of uncertainty "by providing a range of evacuation time estimates, and the range is considerable." See also Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), LBP-84-37, 20 NRC 933, 999 (1984).

This Board, upon examining evacuation planning and the evacuation time estimates, concluded that "the [LILCO] evacuation plan is not as brittle as fine crystal but is in fact resilient and tolerant of reasonable deviations from compliance." PID, 21 NRC at 794. It recognized that full compliance by evacuees with evacuation plans may not be achieved, but found that LILCO had reasonably estimated the magnitude of uncertainty in its sensitivity analysis which included studies without traffic guides. Id. at 794-95. It therefore ordered a summary of that analysis be incorporated into the LILCO plan with a brief text "that alerts decisionmakers to the fact of the uncertainty and the bounds of uncertainty in time estimates for a range of realistic accident scenarios." Id.; Cf. Indian Point, supra. Thus, the record demonstrates that the LILCO plan accounts for any uncertainty which might be caused by the inability of LILCO to dispatch traffic guides or control roadways and that

decisionmakers will be informed of the range of evacuation time estimates without traffic guides and roadway control. ^{6/}

Based on the foregoing discussion, it is clear that the facts underlying Contentions 1 and 2 are not in dispute. The Licensing Board found that ETEs are "reasonable statements of capability and not literal predictions" and that LILCO's ETEs are reliable within the limits of uncertainty. See PID, 21 NRC at 808. An uncontrolled, but planned, evacuation would take only about 90 to 120 minutes longer than a controlled evacuation, if half of the evacuating populace did not comply with the route recommendations. ^{7/} The LILCO plan will alert decisionmakers to this fact. In view of the bounds of uncertainty in any

^{6/} Applicant has supported this motion with an affidavit from Edward B. Lieberman, of KLD Associates ("Lieberman Affidavit"). Applicant argues, on the basis of this affidavit, that revised ETEs (contained in Revision 5 to LILCO's plan) show a 35 minute time differential between controlled and uncontrolled evacuations, that such a differential is within the margin of error as determined by the Licensing Board, and that therefore the difference between controlled and uncontrolled evacuations is immaterial. Motion at 10-13.

The Staff has examined these new ETEs. They are based on a revised network and increased population, which results in a different distribution of traffic from the previous analysis. Urbanik Affidavit ¶ 4. This new analysis indicates the EPZ roadway network is capable of handling evacuating traffic nearly as well without special traffic control measures as with those measures in place. *Id.* The Staff believes the appropriate estimate for an uncontrolled evacuation would be one that includes some degree of noncompliance with evacuation routing. *Id.*; See PID, 21 NRC at 794. Using the upper limit of noncompliance, $\frac{50\%}{3}$, the revised ETEs, which range from 5 hours, 5 minutes to 6 hours, 25 minutes, are essentially the same as the previous ETEs which ranged from 4 hours, 55 minutes to 6 hours, 30 minutes. Urbanik Affidavit ¶ 6.

^{7/} In making these projections it is presumed the "normal police traffic control to handle normal incidents such as breakdowns of vehicles or traffic signals" will be present. Urbanik Affidavit, ¶ 5.

evacuation time projections, this difference does not appear material. ^{8/} Protective measures generally comparable to what might be accomplished with governmental cooperation, can be taken regardless of whether LILCO has the legal authority to perform the tasks set out in Contentions 1 and 2. These contentions are immaterial in this proceeding.

B. Contention 9

This contention alleges that Applicant lacks the legal authority to dispense fuel from tank trucks to automobiles along roadsides. The factual basis for the assertions in Contention 9 were previously litigated as Contentions 65.D and 66.F, which concerned road blockages and fuel disbursement respectively. In the PID, the Licensing Board rejected these contentions on the merits, and also noted that there is no specific requirement for supplying gas along evacuation routes in any regulation or guideline. 21 NRC at 797-98, 816. The Board found that the number of vehicles involved in actual incidents of road blockages would be modest relative to the total evacuation traffic and that reasonable means of mitigation exist. Id. at 797. The Board pointed out that reasonable means of mitigation exist for motorists and that there are common sense

^{8/} As the attached affidavit of Thomas Urbanik states, NUREG-0654 does not require local authorities to implement strategies they believe inappropriate, but rather to identify strategies potentially effective in ordering evacuation. Urbanik Affidavit ¶ 9. The noncooperation of local governments in planning or carrying out strategies of guiding traffic or controlling roadways, of itself, forecloses these authorities from raising questions concerning the appropriateness of the need for these strategies. See CLI-86-13, 24 NRC at 33, 10 C.F.R. § 50.47(c)(1)(iii)(B); 52 Fed Reg. 42084-85 (November 3, 1987).

remedies for cars out of gas: some people will buy fuel before they evacuate; stalled cars can be pushed off the road; and drivers can coast off the road when they run out of gas. Id.; See Urbanik Affidavit ¶ 10. The Board further found that if the provision of LILCO's plan for distribution of fuel were implemented, it could provide only incremental enhancement of the evacuation. 21 NRC at 816.

Based on the factual record in this proceeding, the provision in the LILCO plan regarding disbursement of fuel is not required to meet NRC regulations, and failure to implement this provision would have minimal impact on the evacuation times.

IV. CONCLUSION

For the reasons discussed above, the Licensing Board should grant summary disposition of Contentions 1, 2 and 9.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'R. G. Bachmann', with a long horizontal flourish extending to the right.

Richard G. Bachmann
Counsel for NRC Staff

Dated at Bethesda, Maryland
this 2nd day of February 1988