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UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION '87 SEP 17 A8:16

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)	
LONG ISLAND LIGHTING COMPANY	2	Docket No. 50-322-OL-3 (Emergency Planning)
(Shoreham Nuclear Power Station,)	

REBUTTAL TESTIMONY OF DR. THOMAS URBANIK II ON BEHALF OF THE NRC STAFF ON CAPACITY ANALYSIS IN . THE VICINITY OF RECEPTION CENTERS

Q.1. State your name and occupation.

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A.1. My name is Thomas Urbanik II. I am an Associate Research Engineer associated with the Texas Transportation Institute of the Texas A&M University System, College Station, Texas. A copy of my professional qualifications was previously submitted as an attachment to my direct written testimony filed on April 13, 1987.

Q.2. What is the purpose of this rebuttal tastimony?

A.2. The purpose of this rebuttal testimony is to address new issues raised in the direct testimony of David T. Hartgen and Robert C. Millspaugh on behalf of the State of New York regarding LILCO's Reception Centers, which was filed on April 13, 1987.

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Q.3. What is the CARS system used by Roger Creighton Associates, Incorporated on behalf of the New York State Department of Transportation?

A.3. CARS is an acronym for the Comprehensive Assignment and Retting System developed by Roger Creighton and Associates Incorporated of Delmar, N.Y. The computer software was released in January, 1987, so there is little reported experience with the program. However, the documentation suggests it is largely a traditional transportation planning model implemented on a microcomputer. The purpose of transportation planning models is to assess land use impacts of proposed developments. Traffic assignment models in general and CARS in particular is NOT a traffic operational tool. Traffic assignment algorithms can be used to identify alternatives at a broad scale, but they can NOT accurately predict driver behavior on a link specific basis, although they are often misused in that manner. The minimum path algorithms used in transportation planning models do NOT have a good history of predicting route specific behavior. Furthermore, the commute to work situation which occurs daily during the work year is NOT analogous to an evacuation. Drivers commuting to work can adjust routes to work based on experience. Evacuees 40 miles from home are unlikely to have experience with local roadways in the vicinity of reception centers. To suggest that traffic assignment can accurately predict route choice better than manual techniques is NOT correct. Furthermore, to suggest that traffic assignment algorithms will perform better under evacuation conditions is not supportable.

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Q.4. The New York State Department of Transportation analysis indicates that many roadways have volume to capacity ratios (V/C Ratio) over 1, indicating unacceptable delay and gridlock. Do you agree with this assessment?

A.4. I agree that congestion will be extensive and that delays are substantial. However, gridlock is unlikely and the whole notion of level of service is largely irrelevant. The Level of Service on the Long Island Expressway every day is F (i.e., V/C ratios over 1. See Hartgen/Millspaugh testimony, p.40) in many places for substantial periods. I have personally heard the Long Island Expressway described as the world's longest parking lot. Nevertheless, tens of thousands of people use it every day. Jevel of service F only means we wish it was better, but massive numbers of people nevertheless make it to work everyday.

Q.5. Are the New York State Department of Transportation four levels of analysis consistent with the FEMA guidance concerning EPZ population for planning at reception centers?

A.5. No. Three of the levels exceed the FEMA planning guidance concerning EPZ population to be accommodated at reception centers by 250 to 500 percent. The fourth level is the same as LILCO's which exceeds the FEMA guidance by 50 percent.

Q.8. Does the New York State Department of Transportation Analysis differ in other ways?

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A.6. Yes. The New York State Department of Transportation analysis in all but one case also includes Evacuation Shadow traffic of 26 percent and 50 percent of Suffolk County non-EPZ traffic evacuating.

Q.7. Do any of the New York State Department of Transportation analyses have similar assumptions to the LILCO analysis?

A.7. No. All except one of the analyses have significantly higher traffic volumes than the LILCo analysis. One analysis had less traffic and essentially showed no problems.

Q.8. Does the New York State Department of Transportation's analysis change your conclusions regarding the KLD analysis?

A.8. No. The KLD analysis represents a rational approach to the analysis of the capacity of roadways to accommodate reception center traffic that is consistent with FEMA planning guidance.

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