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## UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of

LONG ISLAND LIGHTING COMPANY

(Shoreham Nuclear Power Plant, Unit 1) Docket No. 50-322-OL-3 (Emergency Planning)

DIRECT TESTIMONY OF ASSISTANT CHIEF INSPECTOR JOSEPH L. MONTEITH, DEPUTY CHIEF INSPECTOR RICHARD C. ROBERTS, DEPUTY INSPECTOR PHILIP MCGUIRE, DEPUTY INSPECTOR MICHAEL J. TURANO, JR., AND CAPTAIN EDWIN J. MICHEL

ON BEHALF OF SUFFOLK COUNTY

#### REGARDING

EMERGENCY PLANNING CONTENTION 66 -REMOVAL OF OBSTACLES FROM THE ROADWAY AND PROVISIONS FOR FUEL

Q. Please state your names, occupations and professional backgrounds.

A. My name is Joseph L. Monteith. I am an Assistant Chief Inspector assigned to the Office of the Chief of District, County of Suffolk Polic Department.

My name is Richard C. Roberts. I am a Deputy Chief Inspector assigned to the Office of the Chief of District, County of Suffolk Police Department.



My name is Philip McGuire. I hold the rank of Deputy Inspector in the County of Suffolk Police Department and am assigned to the Office of the Chief Inspector.

My name is Michael J. Turano, Jr. I am the Executive Officer of the Sixth Precinct, County of Suffolk Police Department. I hold the rank of Deputy Inspector in the Police Department.

My name is Edwin J. Michel. I am a Captain assigned as Commanding Officer, Communications Section, County of Suffolk Police Department. I was formerly assigned to the Chief Inspector's Office and The Highway Patrol Bureau of the Department.

A statement of our qualifications and experience, as well as the structure of the Suffolk County Police Department, is included in our direct testimony regarding Contention 65 --Evacuation Time Estimates.

Q. What is the purpose of this testimony?

A. The purpose of this testimony is to address Emergency Planning Contention 66 which reads as follows:

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# Contention 66: Removal of Obstacles from the Roadway and

Provisions for Fuel

Contention 66. NUREG 0654 Section II.J.10.k requires that an offsite plan provide "[i]dentification of and means for dealing with potential impediments . . . to use of evacuation routes, and contingency measures."

In the event of a radiological emergency at Shoreham and subsequent evacuation (recommended and/or voluntary), it is likely that there will be many instances of automobile accidents and vehicle breakdowns caused by the large number of vehicles on the road, stop-and-go conditions, overheating while idling in queues, driver inattention, failure to obey the rules of the road and other such conditions. In addition, it is likely that many evacuees will not begin the evacuation with a full tank of gas. Many cars may run out of gas, both inside and outside the EPZ, as a result of extended operation times due to congestion, stop-and-go conditions and time spent sitting in queues. Such occurrences, along with abandonment of vehicles and construction which may be in progress at the time an evacuation is ordered, will result in obstructions and blockages on roadways in use during the evacuation. Taking such occurrences into account would cause evacuation time estimates to increase. (See Contention 65). In addition, it is essential that such obstacles be removed in a timely manner so that evacuation times will not increase even more due to substantial periods of reduced roadway capacity. Under the LILCO Plan, removal of obstacles will be performed by LILCO road cr ws using 12 LILCO tow trucks and line trucks. Gesoline will be provided by LILCO fuel trucks which are to be dispatched to seven specific locations. (See Plan at 4.4-3; Appendix A at IV-176; OPIP 3.6.3 at 46a-46b).

Intervenors contend that the LILCO Plan fails to comply with 10 CFR Sections 50.47(a)(1), 50.47(b)(10) and NUREG 0654, Section II.J, because LILCO will be unable to provide for obstacles to be removed from the

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roads, or to provide adequate fuel supplies for evacuees for the following reasons:

A. LILCO does not have an adequate number of tow trucks to enable LILCO personnel to remove all potential road obstructions. (See FEMA Report at 11, citing non-compliance with NUREG 0654, Section II.J.10.k).

B. The tow truck deployment points proposed by LILCO are not located so as to allow rapid dispatch of the tow trucks to the aid of disabled vehicles. In addition, once they have been dispatched to an obstruction location, the tow trucks and other LILCO equipment will only be able to move as fast as the traffic flow, which will be extremely slow. Therefore, they will be unable to respond to the site of an obstruction in an expeditious manner.

C. LILCO's Plan makes no provision for the evacuation of persons whose cars break down or are in accidents.

D. The LILCO Plan does not provide for snow removal. (See FEMA Report at 11, citing non-compliance with NUREG 0654, Section II.J.10.k). Rather, the Plan assumes that "snow removal will be provided by local organizations in their normal fashion during an emergency." (Plan at 2.2-5). This assumption is unwarranted. LILCO has no agreements with local jurisdictions or other entities within and around the EPZ to provide snow removal services during an emergency, nor can it assure that local personnel assigned to snow removal duties will perform those functions during an emergency, for the reasons cited in Contentions 15, 25 and 27.

E. The seven fixed sites chosen for fuel distribution will be able to service only a small portion of the evacuating population. Therefore, the fuel needs of many evacuees will be unmet. Furthermore, no provisions have been made to handle queues at fuel allocation sites which may back up into evacuating traffic, thus causing further congestion and delays.

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Q. Do you concur with the conclusions stated in Contention 66?

A. Yes. As stated in the County's previous testimony regarding Contention 65 (Evacuation Time Estimates), an evacuation from the 10-mile EPZ is likely to result in a large number of accidents, many of which could result in delays or even complete blockage of traffic upstream of the accident. (Testimony of SCPD Witnesses on Contention 65 at 63-65; <u>see also</u>, Testimony of Peter A. Polk on Contention 65 at 10-12; Testimony of Philip B. Herr on Contention 65 at 34-42).

Further roadway obstructions will occur during an evacuation as a result of automobiles running out of gas. (See Testimony of SCPD Witnesses on Contention 65 at 57; Testimony of Peter A. Polk on Contention 65 at 12-15). It cannot be assumed that all evacuees will start their evacuation trips with sufficient gas to leave the EPZ, nor is it reasonable to assume that private service station operators within the FPZ will remain open during a radiological emergency to provide gas to evacuees. It has been our experience that people run out of gas even when their trips are voluntary and have been planned. For this reason, Suffolk County Police Department patrol vehicles on the Long Island Expressway carry empty gas cans to assist many of the 10,000 disabled vehicles to which the Department responds each year on the Long Island Expressway alone.

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As NUREG 0654 explicitly requires, an effective radiological emergency response plan must be capable of detecting roadway obstructions and removing them promptly. (NUREG 0654 Section II.J.10.k.). Failure to do so during an evacuation will likely cause decreased traffic flows and roadway capacities, thus lengthening evacuation times. Likewise, an effective plan for evacuation must provide the means to distribute gasoline promptly and effectively, particularly when it is known in advance that evacuation times will be of several hours duration, thus requiring vehicles to be operated for extended periods of time. The LILCO Plan explicitly recognizes the need to deal with both road obstructions and fuel demands. However, in our opinion, the LILCO Plan fails to deal effectively with either problem. It does not provide for prompt and effective removal of obstacles, nor does it provide adequately for gasoline distribution to the public. Therefore, one can expect that in the event of a radiological emergency at Shoreham, roadway congestion caused by disabled vehicles will raise evacuation times higher than those set forth in Appendix A .

#### Tow Trucks

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Q. Does the LILCO Plan provide for a sufficient number of tow trucks to remove obstacles from evacuation routes?

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A. No. The LILCO Plan provides for only twelve LILCO-owned tow trucks to be available in the event of an evacuation of the 10-mile EPZ. (OPIP 3.6.3 at 46a). The 10-mile EPZ covers roughly 200 square miles of territory. This area is simply too large for only twelve tow trucks to cover. This is particularly so in light of the fact that, even by LILCO's own calculations, during an evacuation of the 10-mile EPZ roughly 50,000 automobiles will be traveling at least 304,000 vehicle-miles.1/

Moreover, LILCO does not even have twelve tow trucks available to be deployed in a prompt manner. For instance, during an emergency some may not be in operating condition or may be under repair. More importantly, however, most of the LILCO tow trucks are located at substantial distances from the EPZ. The inadequacies of this part of the LILCO Plan are enormous, particularly given LILCO's procedures for acquiring the tow trucks. According to the LILCO Plan, the LILCO employees assigned to LERO road crews, who will be operating the twelve tow trucks, must first report to one of three staging areas after they have been notified of a emergency. This will

1/ Joint Attachments For The Testimony Of Matthew C. Cordaro, John A. Weismantle And Edward B. Lieberman On Behalf Of Long Island Lighting Company On Phase II Emergency Planning Contentions 65 and 23.C., D., and H., Attachment 11 at 25 (November 18, 1983). Note that these figures are unrealistically low since KLD Associates did not take into account the evacuation shadow phenomenon in estimating the number of evacuating vehicles or vehicle-miles.

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take a substantial amount of time since notification of these personnel will be time-consuming and since many road crew personnel live quite far away from the staging areas. (See Testimony of SCPD witnesses on Contention 26 -- Notification of Emergency Response Personnel Testimony of SCPD witnesses on Contention 27 -- Mobilization. After being briefed and obtaining equipment (such as radios, "emergency kits", etc.) and dosimeters, the road crews must drive to the locations where the LILCO tow trucks are stored. (OPIP 3.6.3 at 12). Upon obtaining the tow trucks from the LILCO storage locations, the road crews must drive them to pre-designated locations within the EPZ. (OPIP 3.6.3 at 42). Once deployed, it appears that the road crews are to be directed to the scene of disabled vehicles by radio. (See OPIP 3.6.3 at 12).

This procedure will take several hours to implement, however, at least in part because of the great distances which LILCO's road crew personnel must travel in order to obtain the tow trucks and bring them back into the ZPZ. Six of LILCO's twelve tow trucks are located in <u>Nassau County</u>, in the LILCO towns of Hewlett, Hicksville and Roslyn. The LILCO tow truck storage facilities in those towns are 50.9, 33.9 and 39.3 miles, respectively, from their closest LERO staging areas. Another of the twelve LILCO tow trucks is located in Bridgehampton which is 37 miles to the east of the closest LERO

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staging area at Riverhead. Yet another tow truck is located in the western Suffolk town of Huntington which is 34.6 miles from the closest staging area at Port Jefferson. In fact, only two LILCO tow trucks are located at the LILCO facilities which are also to be used as staging areas during a radiological emergency.

As discussed in greater detail in our testimony on Contention 27 -- Mobilization, it could take hours for the individuals assigned to be members of road crews to assemble at LERO staging areas, then drive to LILCO's tow truck storage locations and then travel to the EPZ to their assigned deployment locations. Table I, drawn from our testimony on Contention 27 but repeated here for convenience, shows the <u>one-way</u> travel times between LILCO's tow truck storage locations and the closest staging area. Our contention 27 testimony explains the derivation of the data in the table.

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	Tow Trucks	Gasoline Tank Trucks	"One-Way" Time to Nearest Staging Area
LILCO General Office Building 600 Stewart Avenue Garden City, NY		1	1:01
Greenlawn-LILCO Lake and Pulaski Road Huntington, NY	1	1	0:34
Hewlett Operations Center 455 Mill Road Hewlett, NY	2	2	1:17
Hicksville Operations Center 175 E. Old Country Road Hicksville, NY	2	2	0:48
Patchogue Operations Center 448 East Main Street Patchogue, NY	1	1	
Riverhead Operations Center Doctor's Path Riverhead, NY	l	1	
Roslyn Operations Center 250 Willis Avenue Poslyn, NY	1	1	0:54
Bellmore Operations Center 2400 Sunrise Highway Bellmore, NY	1	1	0:58
Bridgehampton District Office Montauk Highway Bridgehampton, NY	1	1	0:44
Brentwood Operations Center 1650 Islip Avenue Brentwood, NY	2	2	0:25
Total	12	13	

The LILCO Plan does not identify which tow trucks from each LILCO storage location will go to each specific deployment location in the EPZ. However, the roundtrip times for travel from the staging areas to the LILCO tow truck storage locations and back to deployment locations will be at least double the one-way times shown in Table I since the deployment locations are inside the EPZ. Thus, the data in Table I show that after assembling at LERO staging areas it would take road crews at least another two hours to retrieve the LILCO tow trucks stored in Nassau County and to drive to deployment locations (assuming no traffic congestion or other delays in traveling the distance in both directions),  $\frac{2}{}$  and only slightly less time to retrieve the tow trucks located in Huntington and Bridgehampton. For the two LILCO tow trucks located in Hewlett, the round-trip travel time would be even longer, at well over 2 hours and thirty minutes.3/ Thus, an evacuation could be under way for

- 2/ This is probably an unrealistically low assumption given the fact that most road crew personnel are not even mobilized until the Site Area Emergency or Genera' Emergency stages. Especially at the latter stage, there will be evacuees on the roads attempting to leave the EPZ and concerned area residents will also be on the roads attempting to return to the EPZ to unite with family members. (See generally, Suffolk County Testimony on Contention 65 -- Evacuation Time Estimates). As a result, road crew personnel will likely be faced with traffic congestion both on the way to pick up the tow trucks and on the return trip.
- 3/ As noted in our testimony on Contention 27, all of the travel times between points measured by the Suffolk County Police Department reflect only non-emergency or normal

(Footnote cont'd next page)

several hours before any of LILCO's tow trucks would even be inside the EPZ and available for duty.

Q. Will traffic conditions have an effect on the usefulness and availability of LILCO's tow trucks?

A. Yes. As stated in subpart B of Contention 66, the tow trucks will, in many instances, be required to travel along evacuation routes in the direction of the evacuating traffic flow. Indeed, OPIP 3.6.3 calls for road crews to travel to their predesignated posts via the evacuation routes. (OPIP 3.6.3, Attachment 2 at 1). Under such circumstances, the LILCO tow trucks will be able to travel only as fast as evacuating traffic which will be moving very slowly, or perhaps not even moving at all. Indeed, LILCO's consultant has calculated the average speed of evacuating traffic ill be only 6.8 miles per hour. $\frac{4}{}$ 

LILCO's tow trucks will also be stuck in the traffic flow because people are unlikely to give the right-of-way to LILCO's

(Footnote cont'd from previous page)

traffic conditions. Under the congested conditions likely to prevail in a radiological emergency, the travel times are likely to be significantly higher.

4/ Testimony of Matthew C. Cordaro, John A. Weismantle and Edward B. Lieberman On Behalf Of Long Island Lighting Company On Phase II Emergency Planning Contention 65 at 85 (November 18, 1983). tow trucks since they will not be perceived as official emergency vehicles. As police officers, we have all experienced the frustration of motorists failing to yield the right-of-way to clearly marked police emergency vehicles. It is therefore reasonable to assume that LILCO's tow trucks will be accorded even less recognition and deference by the public.

In any event, congested conditions would make it nearly impossible to give LILCO's tow trucks the right-of-way. Slow moving or stopped lines of traffic offer little maneuvering room for cars to make way for emergency vehicles. It may be possible, in some cases, for LILCO's tow trucks to travel to the scene of a disabled vehicle on the shoulder of an evacuation route; however, the circumstances under which this will be possible are limited. As stated in our testimony on Contention 65, at 60, and in Attachment 10 to that testimony, many of the evacuation routes have no shoulders or have off-the-road shoulders of dirt and sand which cannot support a heavy vehicle. In other instances, the shoulders are frequently interrupted by bridges, abutments, light posts, disabled vehicles and other such structures. Where adequate shoulders do exist, it is also likely that avacuees will attempt to utilize them as extra lanes, particularly where traffic flow has been impaired. [Tr. 3325-3326). Therefore, in these cases the shoulders will likely become as congested as the other lanes.

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It is clear that the LILCO tow trucks, assuming they ever reach the EPZ at all, will be just as subject to traffic congestion as the evacuating traffic. Thus, despite LILCO's assertions that their tow trucks will remove obstacles before they become major sources of congestion, it is more likely that the trucks will be able to do little more than sit in and add to the congestion themselves, because they will be unable to reach the obstacles and remove them. In short, the LILCO Plan fails to provide any reasonable assurance that the LILCO tow trucks will be able to reach accidents or breakdowns, much less to remove them in a prompt manner.

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0. Does the LILCO Plan make any provision for transporting those evacuating persons whose cars have been involved in accidents or have otherwise broken down?

A. No. Evacuees who are stranded by automobile breakdowns or accidents will obviously be in need of transportation out of the EPZ. Yet, as subpart C of Contention 66 observes, the LILCO Plan makes no provisions for providing such transportation. Evacuees whose cars are disabled are unlikely to be picked up quickly by passing motorists because during an evacuation, most cars are likely to be filled with family members and personal possessions. Thus, there will be little room to accommodate others who have been stranded. Also, most families have a strong desire to evacuate as a family unit. (See

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Testimony of Erikson and Johnson on Contention 25 at 6.) Therefore, though stranded, family members will likely be reluctant to separate and travel in different vehicles in order to travel out of the EPZ with strangers.

# Snow Removal

Q. Do you agree with subpart D of Contention 66?

A. Yes, we do.

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Q. What provisions does the LILCO Plan make for the removal of snow from evaucation routes?

A. The Plan does not provide the means or procedures for snow removal. Rather, the Plan simply states:

It is anticipated that snow removal operations within the ten mile EPZ will be provided by local organizations in their normal fashion during an emergency.

(Plan at 2.2-5). LILCO has no apparent basis for its "anticipation" that the individuals or contractors who perform snow removal at the request of local jurisdictions under ordinary circumstances, will provide such services at LILCO's request during a radiological emergency. LILCO's Plan has no agreements with local jurisdictions or with the individuals or contractors relied upon by those jurisdictions to provide snow removal services during a radiological emergency. Indeed, there

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is no reason to believe that personnel will in fact report for snow removal duty rather than evacuate or shelter their families and themselves, during a radiological emergency. As discussed in the County's direct testimony on Contention 25, it is likely that a substantial proportion of those who normally perform snow removal duties on behalf of local jurisdictions will not report for duty during a radiological emergency because of concern for the personal safety of their families or themselves. Furthermore, those persons have not been trained to respond to a radiological emergency. Thus, LILCO has provided no assurance that there will be sufficient personnel available to man snow plows, sanders and other necessary equipment. Once again, LILCO's "anticipation" does not constitute the provision of prompt and effective snow removal or road sanding during a radiological emergency at Shoreham.

Q. What is the effect of unplowed or only partially plowed roads on traffic flow?

A. The effect is likely to reduce traffic flow substantially, or even stop it altogether. When cars drive over snow that has fallen onto the readway surface, icing often occurs resulting in accidents and greatly reduced travel speeds. A number of LILCO's designated evacuation routes are particularly affected by snow and ice. On North Country Road, especially the stretch designated by LILCO for one way treatment (between Woodhull

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Landing Road and Shore Road), consists of steep hills and sharp turns which make passage virtually impossible under adverse winter conditions. Similarly, a great many of the other roads in the vicinity of Shoreham and along the North Shore are hilly and winding and become equally impassable when snow and ice conditions occur.

When the snow is heavy or icing is bad, traffic is sometimes completely halted. Under severe conditions, such as occurred in this area during major snowstorms in the winters of 1976, 1977 and 1979, vehicles may be abandoned in the middle of the road. When vehicles are abandoned, snow plows and sanders cannot get through, thus causing the movement of traffic to degenerate further. We note that Appendix A at II-4 asserts that, under severe snow or ice conditions, sheltering is the preferred protective action "until such time as the threat of exposure is mitigated, or until an evacuation becomes a safe and feasible alternative." However, it does not necessarily take "severe" snow or ice conditions to substantially reduce travel speeds on the EPZ roadways. Even winter storms which are less than "severe" will have a substantial impact on travel times if no one is available to clear and sand the roadways. Furthermore, during severe storms, and in their aftermath, evacuation, though perhaps necessary, would never be "a safe and feasible alternative" in the absence of a snow-removing capability on the part of LILCO.

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Finally, LILCO's failure to provide prompt and effective snow removal and sanding capabilities during a radiological emergency is bound to result in greatly increased accidents and abandoned vehicles, leading to longer evacuation times.

## Fuel Allocation

Q. Subpart E of Contention 66 deals with fuel (gasoline) allocation. How does LILCO propose to distribute gasoline to evacuees during a radiological emergency?

A. LILCO asserts in its Plan that it will distribute gasoline to evacuees from LILCO tank trucks located at seven locations both inside and outside the EPZ. These locations are:

- 1. Sunrise Highway (Rte. 27), east of Rte. 112;
- 2. Rte. 25A, east of CR 83;
- Center Moriches Road, north of Long Island Expressway;
- William Floyd Parkway median, one mile south of Longwood Road;
- 5. Rte. 25, east of Coram;
- Rest area on westbound Long Island Expressway, west of Bellport Avenue;

North Country Road, east of Pipe Stave Hollow Road.
(OPIP 3.6.3 at 46b; see also, OPIP 3.6.3 at 7, 12; Plan at 4.4-3). Attachment 1 is a map which shows the location of LILCO's proposed gasoline allocation sites. Though the Plan

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does not provide sufficient information concerning how LILCO intends to accomplish its fuel distribution, it appears from the limited description in OPIP 3.6.3 that upon arrival at one of LILCC's three LERO staging areas, certain members of LILCO "road crews" will be assigned to perform gasoline allocation duties. Upon being briefed at the staging area, the assigned road crews must drive to LILCO fuel truck storage locations in order to obtain a gasoline truck and load gasoline. They must then return to the EPZ where they will be deployed at seven locations along some of the evacuation routes. (See OPIP 3.6.3 at 11-12).

Q. Will this procedure serve to provide adequate supplies of gasoline to the public during an evacuation from the Shoreham EPZ?

A. No. First, as treated in more detail in Contention 27, it will take hours for road crews to mobilize and assemble at the staging areas, travel to LILCO's fuel truck storage locations, obtain the trucks and gas, and drive to their posts in and around the EPZ. LILCO's tank trucks are located as far away as Hewlett, Garden City, Roslyn and Hicksville. Again, Table I above shows it will take from 2 to 2 hours and 30 minutes (not including any time to fill the trucks with gas) to retrieve the trucks located at these locations (under non-emergency conditions), all of which are in Nassau County. (See Testimony

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of SCPD witnesses on Contention 27). It can be expected that many cars will have run out of gas while the road crews are mobilizing and before fuel allocation sites are established.

Second, the LILCO Plan calls for only seven such locations. This is simply not enough to cover all of the evacuation routes outlined in the Plan. For instance, there are no gasoline distribution sites along such major evacuation routes as Route 112 and County Road 21, to name just two locations.

Third, some gasoline allocation sites designated in the Plan are inappropriate. At many of the sites, there is no space (or inadequate space) for vehicles to queue without disrupting traffic flow. This is true particularly at Location No. 7 (North County Road, east of Pipe Stave Hollow Road), Location No. 2 (Route 25A, east of CR 83) and Location No. 4 (William Floyd Parkway Median).5/ Attachments 1, 2 and 3 are photographs of these particular locations, which display their obvious inadequacy. The result will be even further delays in evacuation times. It should also be noted that Location No. 1 (Sunrise Highway, east of Rte. 112) is about five miles to the west of the EPZ. Therefore, it will not be useful to evacuess who may run out of gas within the EPZ.

<sup>5/</sup> LILCO's fuel distribution site No. 5 is described only as Route 25, east of Coram. That description could cover several miles of roadway. The lack of specificity in describing this site thus makes it impossible to evaluate its adequacy.

Location No. 7 (Attachment 2) is located along the section of North County Road which the LILCO Plan contemplates will be converted to two lanes of west-bound traffic. (Appendix A at IV-18.) However, as is evident from Attachment 2, the road could not accommodate two lanes of traffic and also a queue of vehicles saiting for gasoline. This is especially true since the north edge of the roadway is wooded and the south edge has a steep berm.

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Location No. 2 (Attachment 3) is in the same vicinity as the section of Rte. 25A planned for three-lane conversion under the LILCO Plan. It is unclear exactly where LILCO intends to locate its fuel truck, but there is simply not enough width along the roadway to accommodate expected traffic and a queue of cars waiting to obtain gasoline.

Finally, Location 4 (Attachment 4) is on the grass median of the William Floyd Parkway. The problem with using the median is that it is unpaved and uneven. The Police Department has been involved with the problem of parking cars along the William Floyd Parkway median while providing traffic control for Shoreham demonstrations. The median gets muddy and soft very quickly. In inclement weather it would likely be almost impossible to use since cars would become stuck in the mud.

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Also, as stated in subpart F of Contention 66, the Plan makes no provision for security or traffic guides at the fuel allocation sites. This, we believe, is a serious omission. Drivers lined up at gasoline allocation sites are likely to be in a highly anxious state. Some may try to move ahead of the line which is certain to cause some other drivers in line to react aggressively. Also, under the LILCO Plan, fuel truck operators are instructed to give each motorist only three gallons of gasoline. (OPIP 3.6.3 at 12). Some drivers, however, will want more than the small amount allocated by LILCO. If they do not receive what they feel will be required to get them and their families out of danger, there will certainly exist a potential for aggressive behavior. Without adequate security measures to prevent and control such behavior, the result could be conflicts between drivers, or between drivers and the LILCO road crews. This type of behavior was observed during the fuel shortage of the 1970's when long lines of drivers waiting to obtain fuel at gas stations disrupted traffic and sometimes resulted in clashes between motorists and between motorists and residents of nearby homes. In some instances, it was necessary to station police officers at particular gas stations during pumping hours in order to control the situation. In several other cases police were summoned to gas stations to restore and maintain order. In an emergency situtation, such as an evacuation from the EPZ due to a radiological emergency at Shoreham,

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the stress and anxiety generated by the emergency will increase the need for effective security at fuel allocation sites.

Q. Please summarize your testimony.

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A. During an evacuation of the EPZ, it is reasonable to expect that there will be hundreds of incidents involving vehicle accidents and breakdowns. Furthermore, it is possible that a radiological emergency could occur during adverse winter conditions such as snow or ice. To be implementable and effective, an evacuation plan must exhibit the capability to remove obstacles such as snow and disabled automobiles from designated evacuation routes in order to avoid disrupting the continuous flow of evacuating traffic. If such obstacles are not removed in a timely manner, evacuation times will increase due to decreased traffic flow.

LILCO's Plan does not provide assurance that there will be an adequate number of tow trucks available for prompt deployment to remove obstacles or that the tow trucks will be able to respond quickly to those locations where their services are required. Likewise, the LILCO Plan makes no provisions for snow removal or roadway sanding, other than to speculate that individuals who normally work for local jurisdictions will perform that task at LILCO's request during a radiological emergency. Finally, LILCO's gasoline allocation system is

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inadequate in that it deploys too few tank trucks and because of the queues likely to form at some of the distribution locations which, in turn, are likely to disrupt traffic flow. Long traffic queues and the heightened stress of the radiological emergency will most likely lead to some aggressive behavior at the gasoline allocation sites, causing further delays. However, LILCO's Plan does not provide security at those sites to prevent such behavior; nor does it provide for traffic guides at those locations to accommodate vehicles entering the sites or to facilitate their reentry into the evacuation traffic flow.





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