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NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

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In the Matter of

LONG ISLAND LIGHTING COMPANY

(Shoreham Nuclear Power Station,
Unit 1)

Docket No. 50-322-OL-3

(Emergency Planning)

TESTIMONY OF DEPUTY INSPECTOR PETER F. COSGROVE,
LIEUTENANT JOHN L. FAKLER AND PROFESSOR MICHAEL LIPSKY
IN SUPPORT OF EMERGENCY PLANNING CONTENTIONS
39, 40, 41, 44, 98, 99 and 100 - TRAINING OF
OFFSITE EMERGENCY RESPONSE WORKERS

I. Introduction

Q. Please state your names and occupations.

A. My name is Peter F. Cosgrove. I am a Deputy
Inspector in the Suffolk County Police Department and hold the
position of Executive Officer of the Third Precinct. Until
January 15 of this year, I was the Commanding Officer of the
Suffolk County Police Academy.

My name is John L. Fakler. I am a Lieutenant in the
Suffolk County Police Department and hold the position of
Commanding Officer of Media Services.

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My name is Michael Lipsky. I am a Professor in the Department of Political Science, Massachusetts Institute of Technology.

Q. Deputy Inspector Cosgrove, please summarize your professional qualifications.

A. (Cosgrove) I have been employed by the Suffolk County Police Department since May, 1966. From February 1979 to October 1981 I was the Commanding Officer of the Department's Personnel Section responsible for, among other things, recruitment and selection, job descriptions and affirmative action. I have had a long association with the Suffolk County Police Academy, having been a lecturer at the Academy since 1972, and Commanding Officer of the Academy from October, 1981 until January 15, 1984. From December, 1972 until September, 1975, while holding the rank of Sergeant, I was assigned to the Academy's Basic Recruit Training program. As Commanding Officer of the Police Academy, I had general administrative responsibility for the operations of that facility and directed 33 full-time trainers. I also gave final approval to all curricula, certified satisfactory completion of courses to the State of New York, determined training needs, and ensured that all training programs met their objectives.

The Police Academy provides a broad range of training to 22 police agencies and several related law enforcement agencies. Included among the training programs offered by the Police Academy are New York State certified courses in criminal investigation, instructor development, radar operations, firearms training and emergency vehicle operations. The Police Academy also offers New York State certified programs in basic police training, supervisory training and in-service training. These programs include, among other things, training in the subject areas of traffic direction and control, community relations and crowd control, radio usage, and first aid.

I have been certified by the New York State Bureau for Municipal Police as a Police Instructor, and since September, 1972, I have been an Assistant Professor of Criminal Justice at Suffolk County Community College. I give training classes for the Suffolk County Sheriff's Department, the Suffolk County Health Department and the Suffolk County Department of Social Services in the subject of interaction with members of the public. I have also conducted police training classes for the New York State Bureau for Municipal Police, the City of Kingston Police Department, the City of Yonkers Police Department, Westchester County Sheriff's Office and the City of Syracuse Police Department.

I am an active member of the New York State Law Enforcement Training Directors Association and one of 13 New York Training Zone Coordinators responsible for Nassau and Suffolk Counties. I am a member of the Training Committee of the New York State Association of Chiefs of Police and have been nominated to become a member of the six member Police Examination Review Committee of the New York State Civil Service Commission. I also serve on the Occupational Education Advisory Council of Suffolk County Community College. My qualifications are further set forth in my resume, which is Attachment 1 to this testimony.

Q. Lieutenant Fakler, please summarize your professional qualifications.

A. (Fakler) I have been a member of the Suffolk County Police Department for 21 years, and have worked for the last 16 years as a supervisor and manager of training. I am a New York State certified Police Instructor.

Until March, 1984 I held the position of Administrator of Recruit Training and Media Services at the Police Academy. In that position I supervised the planning and execution of instruction given to entry level personnel, including instruction in the areas of traffic control, crowd control,

radio usage, first aid, and instruction designed to prepare the trainee to respond effectively in dangerous and stress-filled situations. In addition to supervising the training of recruits, I also oversaw the evaluation of students' performance after training. In my immediate past and present positions, I have been and continue to be responsible for managing the production, distribution and evaluation of instructional television programs for recruit and continuous training programs. I manage a staff of 10 individuals. My qualifications are set forth more fully in my resume, which is Attachment 2 to this testimony.

Q. Professor Lipsky, please summarize your professional qualifications.

A. (Lipsky) I am Professor of Political Science at the Massachusetts Institute of Technology, where I have taught since 1969. I have conducted research and written extensively on public policy, public service workers, and the nature of public service work involving interaction with the public. In addition to my theoretical work in this area, my research and writing have focused among other things on the characteristics of public service work involving stress and quick decision making. My writings on public service workers such as police

officers, teachers, social workers and legal services lawyers have appeared in such journals as the Harvard Educational Review, the Social Services Review, the Urban Affairs Quarterly, and Public Welfare. My book, Street Level Bureaucracy: Dilemmas of the Individual in Public Services, was awarded the Gladys E. Kammerer award of the American Political Science Association for the best book on national policy published in 1980 (co-winner). It was also awarded the C. Wright Mills award of the Society for the Study of Social Problems in 1981. My resume is Attachment 3 hereto.

II. Purposes and Conclusions

Q. What is the purpose of this testimony?

A. The purpose of this testimony is to address the concerns raised in Emergency Planning Contentions 39, 40, 41, 44, 98, 99 and 100. Unless otherwise indicated, the testimony is jointly sponsored by all of us.

Q. Please summarize your conclusions.

A. The LILCO offsite training program is seriously inadequate in a number of crucial respects, which we detail in the testimony which follows.

LILCO lacks adequate provisions for training non-LILCO personnel on whose assistance LILCO would rely in the event of an emergency at Shoreham. Consequently, there is no assurance either that those individuals would realize that LILCO has assigned them emergency roles, or that they would understand and know how to perform those roles properly or effectively.

The LILCO training program, including classroom sessions, drills, and exercises, does not, and in our opinion cannot, compensate for the LILCO workers' lack of experience. Because LILCO's training program is not well designed, it almost certainly does not compensate for the significant lack of pre-training experience among LILCO's emergency workers. The LILCO training program, including drills and exercises, almost certainly does not impart the information or develop the skills necessary for inexperienced LILCO personnel to perform their assigned emergency roles. Moreover, in our opinion it is very unlikely that if LILCO's training program had been well designed and properly implemented it could adequately train or prepare LILCO's emergency personnel for an emergency at Shoreham, because, as a group, LILCO's workers do not have and will not have the post-training experience needed for an effective response to an emergency. For these reasons there is no assurance that the jobs assigned to these personnel would be

performed properly or effectively in the event of a radiological accident.

In addition, the LILCO training program does not instruct emergency personnel in the proper use of emergency equipment, including communications equipment. In fact, the training of LILCO's personnel in the use of communications equipment almost certainly has been so deficient that it is unlikely that they would be able to communicate effectively during an emergency. As a result, the emergency personnel relied upon in the LILCO Plan would not and could not respond to an emergency at Shoreham in the coordinated manner necessary to protect the public.

Finally, the LILCO program does not effectively deal with the problem of attrition among either the LILCO employees or the non-LILCO personnel relied upon for implementation of the LILCO Plan. Every organization with a significant number of workers typically experiences attrition; workers leave for any number of reasons. Indeed, LILCO's recent austerity measures apparently have already resulted in serious attrition among the LILCO employees assigned to LERO. Because the LILCO training program does not offset the effects of attrition, there is no assurance that in the event of an emergency at the Shoreham

plant a sufficient number of trained personnel would be available to implement necessary protective actions.

The foregoing flaws in the LILCO training program lead us to conclude that there is no assurance that the protective measures contemplated under the LILCO Plan could or would be implemented in the event of an emergency at Shoreham.

III. Contention 98 - Inadequate Arrangements
for Training Non-LILCO Personnel

Q. Are you familiar with Contention 98?

A. Yes. The Preamble to the training contentions, and Contention 98 read as follows:

Preamble to Training Contentions. 10 CFR Section 50.47(b)(15) requires that radio-logical emergency response training be provided to those who may be called on to assist in an emergency. In addition, 10 CFR Section 50.47(b)(14) requires that periodic exercises be conducted to evaluate major portions of emergency response capabilities, periodic drills be conducted to develop and maintain key skills, and that deficiencies identified as a result of exercises or drills be corrected. See also, 10 CFR Part 50, Appendix E, Section IV.F.

Under the LILCO Plan, in order to provide training "to those who may be called on to assist in an emergency," LILCO must ensure that both its own personnel and the personnel of non-LILCO emergency response organizations are adequately trained, and that they participate in drills and exercises

that meet the requirements of the regulations. See NUREG 0654, Sections II.N. and O. Intervenors allege in Contentions 35 - 44 that LILCO's Plan fails to demonstrate that adequate training can and will be provided to emergency response personnel.

Contention 98. The LILCO Plan states that emergency response training and periodic retraining "will be offered" to organizations, such as schools, hospitals, nursing homes, adult homes and other special facilities, which may be called upon to "take actions during an incident" at the Shoreham plant (see Plan, at 5.1-6). However, the Plan fails to demonstrate that such training and retraining will, in fact, be provided, nor is there any description of the training that "will be offered." Further, the Plan fails to demonstrate that training and/or periodic retraining will be provided to the personnel of emergency response organizations which are relied upon by LILCO to provide essential support services during an emergency, including the U.S. Coast Guard, DOE-RAP, the American Red Cross, and ambulance personnel. Therefore, the LILCO Plan does not comply with 10 CFR §50.47(b)(15), 10 CFR Part 50, Appendix E, Section IV.F, and NUREG 0654, Section II.O. Because the Plan provides no assurance that the persons necessary to implement the LILCO Plan will be timely and adequately trained, there can be no assurance that the protective measures described in the Plan can or will be taken in the event of an emergency, in violation of 10 CFR §50.47(a)(1).

Q. Do you agree with Contention 98?

A. Yes. It is our understanding that the LILCO Plan relies on the personnel of schools, hospitals, nursing and adult homes and other special facilities to implement LILCO protective action recommendations concerning school children and the patients and residents of special facilities. (Appendix A at II-19 to 21, IV-169 to 178). In addition, LILCO expects personnel of the Department of Energy ("DOE") to perform radiological accident and dose assessment functions. (Plan at 2.2-3). And, LILCO relies on American Red Cross ("ARC") personnel to operate relocation centers. (Plan at 2.2-1). However, despite the expectation that these individuals would assist LILCO in implementing its offsite response, LILCO has not arranged to provide offsite emergency response training to these groups. Instead, the LILCO Plan merely states that training "will be offered" to organizations such as schools, hospitals and nursing homes (Plan at 5.1-6), and that annual training, as indicated in Figure 5.1.1, will be provided to those groups LILCO considers to be "support" organizations. (Id.) Figure 5.1.1 does not list personnel of either DOE or the ARC as among the non-LILCO personnel to whom training will be provided. Apparently LILCO does not intend to offer training to those non-LILCO individuals.

Under the LILCO Plan, personnel of schools and special facilities are expected to perform tasks, which, we understand, are not within the scope of their normal activities, and they are expected to perform those tasks according to the schemes established in the LILCO Plan. Unless these non-LILCO individuals receive training concerning both the tasks LILCO expects them to perform and the manner in which LILCO expects the tasks to be performed in the context of a radiological emergency and the LILCO Plan, there is no assurance that these non-LILCO personnel will fulfill the roles assigned them by LILCO. First, the fact that LILCO states in its Plan that it expects the employees of schools and special facilities to perform certain tasks, does not assure that those employees know about or understand LILCO's expectations. That is, some of them may not realize that they have emergency roles. Moreover, unless the staffs of schools and special facilities as well as ARC and DOE personnel receive such training, even if these non-LILCO individuals were to respond to a Shoreham accident, there would be no assurance that they would respond in a manner compatible with the provisions of the LILCO Plan. In short, unless training actually is provided (not just "offered") to the individuals in these groups, there is no assurance that those portions of the LILCO Plan that rely on the participation of non-LILCO personnel would or could be implemented.

IV. Contentions 40, 44.E, 44.F, 99 and 100 - Inadequate Training and Experience

A. Introduction

Q. Please state those portions of Contentions 40, 44.E 44.F, 99 and 100 that have been admitted by the Licensing Board for litigation.

A. Contention 40 states:

Contention 40. There is no assurance that LILCO personnel can adequately perform the emergency functions and duties they are assigned under the LILCO Plan. The Plan calls upon LILCO personnel to perform emergency functions which, in most instances, are unrelated to their LILCO job functions. For example, LILCO meter readers are to serve as Traffic Guides (OPIP 2.1.1, at 30), Customer Relations personnel are to serve as Evacuation Route Spotters (id., at 37), LILCO maintenance foremen and mechanics are to serve as Radiological Monitoring Personnel (id., at 18), and various designers, planners and analysts are to serve as Security Personnel (id., at 61-64). There is no assurance that LILCO training will compensate for this lack of job-related experience, especially when the tasks to be performed may be accompanied by high levels of stress and fatigue involving life-threatening situations. Training alone cannot prepare people for the actual stress and trauma that accompany emergency conditions. Experience is also essential.*/ Moreover, training that is not regularly applied or used will be ineffective. Thus, even if their initial training were adequate, LILCO personnel will forget what was learned during that training. Following their training, LILCO personnel will be expected to perform their

regular job functions, which have no relation to their emergency roles, rather than applying or using their emergency training. This will minimize any benefits gained through the emergency training, especially since general classroom training, exercises, and almost all drills are only repeated on an annual basis, job-specific classroom training is only repeated on a semi-annual basis, and there are no incentives for LILCO personnel to learn or to retain the emergency training provided to them. Accordingly, LILCO cannot demonstrate compliance with 10 CFR Section 50.47(b)(15), or that the emergency functions and duties assigned to LILCO personnel under the Plan can or will be implemented, as required by 10 CFR Section 50.47(a)(1).

*/ For example, doctors and police officers are required to intern as residents and to serve as rookie police officers before their training is completed.

Contentions 44.E and F read as follows:

Contention 44. The LILCO Plan fails to demonstrate that drills and exercises will adequately test the training of emergency response personnel so as to ensure that personnel are familiar with, and capable of performing, their duties under the Plan as required by 10 CFR Section 50.47(b)(14), 10 CFR Part 50, Appendix E, Section IV.F, and NUREG 0654, Section II.N. Specifically:

E. The Plan fails to describe how exercises and drills are to be carried out to allow "free play for decisionmaking." NUREG 0654, Section II.N.3. (See FEMA Report, at 14).

F. Although the LILCO Plan asserts that "official observers from Federal, State or local governments will be on hand to evaluate and critique [an] annual

exercise," (Plan at 5.2-4), there is no indication in the Plan that any such entities have agreed to send observers as required by NUREG 0654, Section II.N.4. (See FEMA Report, at 14). In addition, although the Plan describes a proposed procedure for evaluating observer and participant comments, post-exercise/drill critiques will be performed primarily by LILCO, and evaluation of critiques and decisions as to necessary actions will be made by LILCO personnel. (Plan, at 5.2-4; OPIP 5.1.1, at 10c-10h). LILCO, however, will not be able to critique adequately its own Plan, including the exercises or drills conducted under the Plan, or to evaluate and/or act upon such critiques due to its lack of expertise and objectivity. Thus, deficiencies in the LILCO Plan and implementing procedures may not be identified or corrected.

Contention 99 states:

Contention 99. In violation of 10 CFR §50.47(b)(15), 10 CFR Part 50, Appendix E, Section IV.F, and NUREG 0654, Section II.O, the training provided by LILCO to emergency response personnel (both LILCO and non-LILCO) is inadequate and, as a result, in the event of a radiological emergency such personnel will neither understand nor be able to perform properly the functions assigned to them under the LILCO Plan. There is, therefore, no assurance that adequate protective measures can and will be taken in the event of a radiological emergency at Shoreham, as required by 10 CFR §50.47(a)(1). The specific deficiencies in LILCO's training program, each of which contributes to the overall inadequacy of the training proposed by LILCO, are set forth below.

C. LILCO's classroom training sessions have been conducted by individuals who are neither experienced in, nor

knowledgeable about, the subject areas they are assigned to teach. In addition, the teachers are not experienced or trained in teaching methods.

G. The LILCO training program provides insufficient information concerning how trainees are to perform the specific duties and responsibilities assigned to them under the LILCO Plan. Instead, the "training" consists primarily of descriptive statements of job titles, job duties, and chains of command.

Contention 100 states:

Contention 100. In violation of 10 CFR §50.47(b)(15), 10 CFR Part 50, Appendix E, Section IV.F, and NUREG 0654, Section II.0, the LILCO drill and exercise programs are inadequate and do not prepare or train LERO personnel to perform properly or effectively their assigned functions under the LILCO Plan. As a result, there is no assurance that adequate protective measures can and will be implemented in the event of a radiological accident at Shoreham, in violation of 10 CFR §50.47(a)(1). The specific deficiencies in LILCO's drill and exercise programs are as follows:

B. During drills, LERO field personnel trainees are not accompanied to their posts by instructors. Therefore, whatever activities they may have performed during the so-called "drill" have not been supervised, observed, evaluated, graded, or critiqued. This renders the "field drills" meaningless as "training."

D. Contrary to the requirements of 10 CFR Part 50, Appendix A, Section IV.F and NUREG 0654, Section II.0.2, most LERO trainees are not required to perform their LERO jobs during training drills. For example, traffic guides did not direct traffic, and bus drivers did not drive buses

over bus routes. Thus, LILCO's drill program has not provided LERO personnel with an opportunity to practice their emergency duties and responsibilities.

G. The LILCO drills contain no terminal performance standards, and, consequently, there are no objective, observable criteria to be used by instructors in evaluating the performance of individual trainees.

We agree with these Contentions. Most of the emergency response jobs assigned to LILCO personnel cannot be performed properly without extensive experience. First, either a newcomer to such a job must bring pre-training experience to the job, or he must receive training that teaches him enough knowledge and develops sufficient skills to compensate for his lack of initial experience. Second, once the formal training is complete, the new worker must receive extensive real world experience in order both to develop fully needed skills and to retain the knowledge provided in the training.

The LILCO personnel assigned to LERO have been given the job of responding to a radiological emergency. That will be a difficult job, requiring those individuals to work under crisis conditions. They will have to deal with anxious evacuees. They will have to cope with unpredictable events, exercising independent judgment perhaps without the benefit of directives from superiors. These are not the kinds of jobs that can be

performed by beginners. However, they are the types of jobs which experience is essential. Nonetheless, very few LILCO personnel have experience relevant to the emergency functions and duties they are assigned under the LILCO Plan. With few exceptions, the day-to-day jobs of LILCO personnel are unrelated to their assigned LERO emergency functions and LILCO workers were selected for LERO in a manner that almost certainly did not identify individuals with relevant experience, aptitudes or skills. Further, the LILCO training classes and drills are unlikely to provide them with the experience necessary to enable them to perform their emergency functions. Moreover, once their training is complete, the LILCO workers in LERO are not given any of the on-the-job, inservice training that we believe to be necessary. Indeed, in our opinion, LILCO's training program did not and cannot provide necessary job-related experience. LILCO's proposal to train individuals who have no relevant experience and turn them into effective emergency response personnel is unrealistic. LILCO's proposed training program, standing alone, is not sufficient to train inexperienced workers for crisis situations. These deficiencies lead us to conclude that most LILCO emergency workers probably will not understand or be able to perform properly or effectively the emergency functions and duties they are assigned under the LILCO Plan.

B. The Need For Experience

Q. Why is experience important to emergency response functions?

A. An important portion of mastering tasks with any complexity must come from performing those tasks on a regular basis. Whatever the classroom instruction or practice in drills, a worker is not fully or finally trained unless he has applied that instruction and practice in a field setting. That is why occupations as varied as police officers, teachers, doctors, and plumbers all undergo a period of apprenticeship before they are regarded as full professionals.

Experience is especially important to emergency response jobs. First, no matter how well an instructor describes what it is like to perform tasks such as crowd control or traffic control under emergency conditions, the trainee cannot fully appreciate and understand what is entailed in performing those tasks under those conditions until he really performs them. Moreover, proper performance of emergency response jobs is often dependent upon skills being applied routinely or out of habit, thus permitting the emergency worker to make decisions quickly and confidently, leaving him free to deal with the contingencies that invariably arise under emergency conditions, without undue anxiety or agonizing.^{1/}

^{1/} For example, to perform his job properly a LERO traffic guide will have to be able to direct traffic out of habit

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Experience is also necessary to proper performance of emergency jobs, because emergency workers must often perform their jobs under great pressure and anxiety. That is the nature of emergency jobs. The first time an emergency worker faces danger or has to perform in an actual emergency situation, his performance may well suffer. Frequently, what has been learned in a controlled environment such as a classroom is simply forgotten or becomes difficult to apply in an emotionally-charged situation. Indeed, some inexperienced individuals may even attempt to avoid the danger or anxiety through flight when they are first encountered on the job. With others, the pressures and anxiety that accompany emergency conditions may result in lowering the quality of performance to an unacceptable level. With most people, however, the more they are exposed to the pressures of actually performing in emergency conditions through real experience, the more they become accustomed to such conditions and the better they perform.

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while dealing with distractions such as drivers who stop to ask questions or to seek directions. If such a driver were to stop in the intersection next to the traffic guide and impede traffic, the traffic guide could not simply ignore the driver. But if the traffic guide cannot direct traffic out of habit, he might have to stop directing traffic to answer the driver's questions, thereby possibly causing a traffic tie-up.

In addition, experience is important to effective job performance, because continuous exposure to actual work situations permits new emergency workers to learn from more experienced workers through observation and specific "coaching" about ways to handle difficult situations. Thus, the only way to learn to perform an emergency response job competently and effectively is through working at comparable jobs under emergency conditions on a regular basis. At first the worker may not do well, but with experience he will learn to work to the limits of his capabilities despite the emergency conditions. To a great extent, this is because the worker becomes more familiar with both his own abilities under pressured or stressful conditions and the requirements of his job. LILCO workers, however, will not have this necessary experience. Because they will not have had experience in performing their LERO emergency response roles prior to being called on to respond to a real emergency, large numbers of LILCO's workers are likely to perform badly in such an emergency, and as a result, to cause harm to members of the public.

In addition to the skills required to work under actual emergency conditions, emergency workers also need experience in order to develop the necessary skills specifically related to their emergency functions and duties. Some of the jobs

demanding of LILCO personnel under the LILCO Plan will not be easy jobs to perform. Tasks such as directing traffic, using specialized equipment (such as communications equipment) and controlling crowds, all of which LERO workers are expected to perform, require specialized skills.

For example, to control crowds such as those that may exist during an evacuation at important traffic intersections, relocation centers and transfer points, the LERO workers must be able to deal calmly with people in tense situations; they must be able to spot the individuals in a crowd whose neutralization will neutralize the crowd; they must understand the psychological factors that govern crowds, including especially an understanding of how to prevent the spread of panic; and they must be able to exert physical control over panicking or distraught individuals (whose actions threaten harm to others) by using techniques that minimize injury to the aggressor as well as to the controller. Similarly, in order to direct traffic, the LERO workers must be able to execute proper hand signals and position themselves correctly, while in the middle of active traffic; they must be able to remain calm and communicate courteously, even when confronted by angry drivers; and they must be able to deal with accidents and stalled cars without losing control of the traffic flow.

An individual can only master the skills needed to perform such emergency tasks through experience. He must routinely practice such skills under controlled learning situations, and he must have the opportunity to perform those tasks under real conditions so that he can learn from his experience. Skills needed for jobs such as those assigned to many LILCO personnel under the LILCO Plan cannot be mastered by listening to lectures or watching videotapes, or even by participating in the LILCO drills. Rather, these skills can only be learned effectively if, in addition to training, there are regular, real life opportunities actually to use those skills.

C. The LILCO Emergency Workers' Lack of Pre-Training Experience

Q. Do LILCO's emergency workers bring to their training the experience necessary for the proper performance of their LERO jobs?

A. As a group, no. Under the LILCO Plan, LILCO personnel are assigned emergency functions which, in most instances, are unrelated to their day-to-day LILCO jobs. For example, under the LILCO Plan, the three individuals designated as ambulance coordinators are a "LILCO Systems Designer-Information Systems," a "LILCO Interchange Residence Coordinator," and a "LILCO Junior Plant Records Examiner-Hicksville Accounting."

Among the LILCO personnel designated as traffic guides are meter readers, customer order representatives, and a senior resource energy specialist. One of the LERO home coordinators, expected to coordinate the evacuation of the handicapped at home, is an industrial gas engineer. And, among LERO security personnel are systems analysts, information processing forms supervisors, insurance analysts and an auditor. (See OPIP 2.1.1). Because their day-to-day LILCO jobs are so unrelated to their LERO jobs, most LILCO employees assigned to LERO do not have the experience essential to enable them to perform their LERO functions.

Q. Some LILCO employees are members of LILCO's emergency restoration organization. Would their experience in that organization help them perform the emergency functions required by the LILCO Plan?

A. Almost certainly not. Despite LILCO's repeated assertions to the contrary, LILCO workers who are members of the emergency restoration organization are unlikely to have gained enough relevant emergency experience through their work with that organization to enable them to perform their LERO jobs.

Q. What is LILCO's restoration organization?

A. It is our understanding that LILCO has within its workforce an organization that it activates when adverse weather, such as an ice storm, extensively disrupts utility service.

Q. Why would experience in the restoration organization not help LILCO employees perform their LERO roles?

A. It is our understanding that LILCO's restoration organization consists primarily of three types of workers. First, there are workers who travel along electrical lines and look up at the lines and related equipment in order to locate damage. Second, there are workers who take telephone calls from the customers who call in to report storm damage. And, third, there are workers who repair the equipment that has been damaged by the storm. (Deposition of Arthur C. Seale, October 13, 1983 ("Seale Deposition", at 25-26, 30-31, 34-36.) Simply put, these jobs -- looking at or repairing electrical equipment and recording customer complaints -- are completely irrelevant to the sort of work that LERO members would have to perform during a radiological emergency. Almost all LERO jobs require skills that are not at all involved in restoration-related work.

Furthermore, it is our understanding that most of the restoration organization members who were selected for positions in LERO are in sections of the restoration organization that, to our knowledge, have not been mobilized to respond to an emergency since January, 1978. (See Seale Deposition at 71-73; Tr. at 867). Thus, even if membership in the restoration group were somehow relevant to the emergency response positions under the LILCO Plan, that membership would not provide any significant experience, because personnel are called out for emergency duty so infrequently.

D. LILCO's Training Program Does Not Compensate for the LILCO Emergency Workers' Lack of Experience

1. Introduction

Q. Is the lack of experience of LILCO's emergency personnel you have just discussed counterbalanced or offset by the training provided to LILCO's personnel under the LILCO training program?

A. No. As we stated before, a worker can possess the experience necessary to perform a difficult job by two means: he can bring experience to the job, or he can acquire experience after his training. As we have just described, LILCO's emergency workers as a group have brought almost no relevant

experience to their LERO jobs. We will discuss later in this testimony why LILCO's training program does not provide necessary post-training experience.

Generally speaking, a formal training program -- that is, a program of classes and extensive practice under controlled conditions -- if it is good, can compensate to some extent for a lack of initial experience. Even a good program, however, cannot overcome a complete absence of post-training experience.

A good training program consists of three elements. First, a good training program begins with selection, through which candidates who possess the talents and abilities necessary to learn the jobs are identified. Second, there is the formal training provided in classes and practice sessions such as drills. And, third, there is post-training experience, in which the new worker learns to apply his learning in real world situations.

LILCO's training program, however, is not a good training program. In fact, based upon our review of the LILCO training program, we believe that there are significant problems with that program with respect to each of these three elements. As a result, LILCO's training program does not overcome the substantial lack of emergency experience among LILCO's personnel.

2. LILCO's Selection Process Does Not Identify
Candidates Who Are Likely to be Able to
Overcome Their Lack of Experience

Our concerns begin with LILCO's process for selecting LILCO personnel to serve in LERO. Any training program, to have a realistic chance of success, must begin with a pool of trainees who have the talents and motivation necessary to learn the subject(s) being taught. The recruitment process really is an essential element of any training program. That is why almost all schools and training programs have entrance requirements. Like any production process, one cannot expect success unless one can control the "raw materials" with which one must work. The subjects of LILCO's training instruction are those people who under the LILCO Plan would be responsible for performance of emergency response functions and duties necessary to protect the public health and safety. Because of the importance of these individuals' roles, LILCO should have exercised care in selecting LILCO personnel for LERO. LILCO, however, did not do this.

Q. But doesn't the fact that LILCO's LERO workers volunteer for membership in LERO mean that they have the necessary motivation to perform emergency response work?

A. Even if these individuals did volunteer, they are not necessarily motivated to learn emergency response work, because they could have volunteered for reasons unrelated to the desire to be emergency workers. For example, they may have volunteered out of a desire to help LILCO survive, to please their bosses, or because of peer pressure. Indeed, because, as we will discuss in more detail below, LILCO has told its LERO workers repeatedly that it is highly unlikely that LERO would ever be activated, some may have volunteered because they thought membership in LERO would not require much of them, but would be viewed favorably by their superiors.

LILCO employees are assigned emergency response jobs based primarily on what LILCO has described as an attempt to match the skills each individual is assumed to have because of his regular LILCO job with the skills assumed to be necessary for his LERO job. (See Deposition of John Weismantle, September 7, 1983 ("Weismantle Deposition"), at 66). That would seem to indicate that LILCO too has recognized the value of prior experience. However, LILCO's purported attempt to match LILCO and LERO job positions that share common skills is unsuccessful. As we discussed above, with few exceptions, LILCO personnel are assigned emergency response jobs in LERO that are unrelated to their LILCO job functions. Indeed, during his deposition, Mr.

Weismantle, the Manager of the Local Emergency Response Implementing Organization, was asked to explain why information processing systems designers were designated to be security personnel under the LILCO Plan. His response was that the job of security personnel does not have "a particular skill requirement." In fact, according to this high-ranking LILCO manager, "[m]any of the jobs in LERO simply require somebody who can think and can learn and [there are] many, many different types of people to perform them adequately." (See Weismantle Deposition, at 80).

We find this response to be starkly revealing of an uninformed attitude toward the importance of careful selection and assignment of LILCO personnel to emergency response positions in LERO. There are skills and aptitudes needed for most of the emergency positions described in the LILCO Plan, including security. A certain temperament and certain physical abilities are required to perform adequately the security functions required under the LILCO Plan. Security personnel, for example, may have to maintain order, and to do that they must be forceful, confident and physically able to impress and confront people. Many people who can think and learn cannot restrain an upset evacuee who refuses to leave the rest of his family in order to be decontaminated; therefore, because the

abilities to "think and learn" apparently are the primary criteria used to select security personnel, it is quite likely that many of LILCO's security personnel do not have the skills and abilities necessary to perform their jobs.

Similarly, some traffic guides have been selected, because they have LILCO jobs that require them to work outside offices and to "go out into the communities." (Weismantle Deposition, at 75.) First, as we discuss below, it is unlikely that many LILCO employees in LERO are familiar with the area relevant to their LERO jobs, the 10-mile EPZ. Moreover, there is more to directing traffic than familiarity with roads. For example, physical coordination and command presence are both necessary. Nevertheless, LILCO's selection process apparently does not look for individuals with these characteristics.

In addition, LILCO's so-called skill matching process appears to have ignored the fact that many of the emergency response positions under the LILCO Plan require the exercise of good judgment under pressure. This is true, for example, of traffic guides, security personnel, evacuation route spotters, road crews, ambulance coordinators, bus coordinators and staging area coordinators. Traffic guides may have to respond

to questions from angry drivers or may have to react quickly to driving behavior that snarls an intersection. Ambulance coordinators may have to allocate judiciously a limited number of vehicles to achieve a safe evacuation of homebound individuals and health care facilities. In the case of the traffic guide, bad judgment could result in a traffic jam that would stall the evacuation of large numbers of people. In the case of the ambulance coordinator, bad judgment could result in patients and homebound individuals being stranded without transportation out of the EPZ. Potential scenarios of this sort which could disrupt implementation of the LILCO Plan are possible for many of the emergency positions under the Plan.

We are not suggesting that LILCO employees do not have good judgment. But even assuming that most LILCO employees are intelligent and therefore can "think and learn," many people do not have the ability to make decisions and take actions under stressful conditions. Some people function better under pressure than others.

(Cosgrove and Fakler) We have seen police recruits and probationary officers who were able to learn most of the knowledge they needed to be police officers and thus did very well in training situations but who nevertheless failed to

become police officers because they were unable to demonstrate good judgment under actual emergency conditions.

(All witnesses) Despite the importance of being able to cope with decision making under pressure, however, LILCO apparently made no attempt to identify potential LERO members who will be able to make the right decision in emergency conditions.

In short, in our opinion LILCO is mistaken in its apparent view that almost anybody can learn and perform the emergency functions and duties described in the LILCO Plan. LILCO's inadequate selection process has resulted in at least three adverse consequences. First, as discussed above, many emergency positions have been filled by LILCO employees with no previous experience relevant to their emergency functions and duties under the LILCO Plan. Without such experience, LILCO's personnel would be able to perform their LERO jobs properly and effectively only if they receive adequate training and subsequent on-the-job experience. Second, the LILCO selection process apparently does not identify and exclude individuals who are unable to learn either what their emergency response jobs are or how to perform them. As a result, it is even more unlikely that the LILCO training program could compensate for the lack

of relevant emergency experience among LILCO personnel. Third, the selection process does not permit assessment of whether any specific individuals might be potentially ill-suited for emergency work. These deficiencies are interrelated, and are very serious with respect to a training program like LILCO's that has no post-training testing or evaluation.

3. The LILCO Formal Training Program Does Not
Compensate for LERO Members Lack of Experience

Q. You have discussed the first element of a training program, the need for a selection process that finds candidates with the necessary abilities. To focus on the second element, does the LILCO formal training program compensate for the lack of experience among LERO members?

A. No, there are serious deficiencies in both LILCO's classroom and drill sessions. As we have said, if well designed and properly implemented, a formal training program could compensate for an absence of previous experience. But LILCO's program is not such a program, and therefore we believe that few LERO workers will learn their assigned emergency jobs to a satisfactory level of competence, and their inexperience will not be overcome.

Q. Please describe LILCO's training program.

A. LILCO's training program consists of classroom sessions and drills. Emergency response workers attend classes covering general topics, such as notification of emergency workers and the health consequences of radiation, as well as classes concerning specific emergency positions within LERO. LILCO has organized its classroom instruction into subject area "modules," each of which consists of a workbook or a videotape or both. At each classroom session, the instructors hand out a "workbook" and allow the students to read the workbooks and complete, in open book fashion, the self-review exercises contained in the workbooks. The instructors also show videotapes, if a videotape accompanies a classroom session, and attempt to answer trainees' questions. (See Deposition of Ronald A. Varley, October 4, 1983 ("Varley Deposition"), at 82-84.)

It is our understanding that after the classroom program is completed, LILCO holds training drills. Emergency response personnel attend those drills relevant to their emergency response positions. In addition, some trainees attend seminar sessions labelled "tabletop drills" in which they discuss their emergency roles or work through paper problems. It is our

understanding that training exercises may also be held after the drills have been evaluated by LILCO.

a. LILCO's Classroom Program is Deficient

Q. How is LILCO's classroom training program deficient?

A. To begin with, the proper performance of many LERO jobs depends on the development of skills. For example, LERO communicators and monitoring personnel must know how to use their equipment; and decontamination workers must learn complicated routines for cleaning both evacuees and vehicles. However, the LILCO classroom program does not teach emergency response workers the skills necessary to their particular emergency positions in LERO; therefore, because as a group they lack relevant experience, they almost certainly will not fully understand or know how to fulfill their emergency response jobs:

At LILCO classroom sessions, the training instructor distributes a workbook, shows a videotape, lets the students read the workbooks and answer the review questions in open book fashion, and then attempts to answer questions that came up while the students were reading. (See Varley Deposition, at 82-84). Skills simply cannot be developed by watching

videotapes or reading workbooks. Skills can only be developed through instruction, hands-on practice and experience.

Moreover, there are serious flaws in the LILCO classroom program related to the instructors and the materials themselves. As asserted in Contention 99.C, it is unlikely that LILCO personnel would learn enough in their classroom sessions to enable them to perform their emergency response roles properly or effectively, because most of LILCO's classroom instructors are not experienced in or knowledgeable about most of the LERO jobs they attempt to teach. Very few of the LILCO instructors appear to have prior experience in areas such as security, traffic control, crowd control, command and control, or communications.^{2/}

^{2/} LILCO has apparently recognized and attempted to correct this defect, because LILCO has informed the County that it also employed two former police instructors, Howard Krieger and Harry Babb, to teach courses on traffic direction. However, this instruction does not allay our concerns. First, to our knowledge these instructors taught no other classes, and therefore only a limited portion of LILCO's emergency workers were exposed to their instruction. Second, traffic control, as we discuss elsewhere in this testimony, is not something that can be taught in a classroom. Indeed even controlled practices are of only limited value. To learn to do it right, almost all trainees need experience on real streets under real conditions.

Because LILCO's instructors lack knowledge and experience in the jobs they attempt to teach, it is doubtful that they are capable of teaching the LILCO workers how to perform those jobs properly. First, it is unlikely that a LILCO instructor who had never performed a particular job, such as performing security functions, could teach someone else how to perform that job. To teach a job such as that effectively, an instructor should be able to draw from his own experience to provide examples of actions relevant to the job. Students' perception of an instructor's credibility is strengthened if he speaks from experience. Also, an instructor is better able to respond to trainees' questions if he can cite examples from his experience to clarify a point.

Further, LILCO's training program does very little to offset the lack of job-specific knowledge and experience among its instructors. Apparently, the instructors' preparation for their teaching duties is limited to a review of lesson plans and the same training materials given to the trainees. (See Varley Deposition, at 96).

First, it is a fundamental of good instruction that the instructor must know and always seek to achieve his teaching objectives, that is, the things that the students should learn

by the end of the lesson. Unless the instructor knows specifically what items of knowledge he is expected to impart or skills he is expected to develop in his students, the lesson is likely to be directionless and unfocused. Without clearly stated goals, that include indications of the level of proficiency the trainees are expected to obtain, the instructor will not know how much time or emphasis to devote to any particular point. Nevertheless, LILCO instructors are not provided objective, observable teaching goals.

It is also important to effective training that an instructor be viewed as an authority on his subject. A student is much more likely to pay close attention to an instructor, if the student believes the instructor knows the job he is attempting to teach. An instructor can acquire necessary authority through his own personal experience in the job and through access to and familiarity with pertinent resource materials. An instructor can draw on either to respond to questions and problems that go beyond the content of the materials given to the students. For example, if a student challenges the instructor and says that he is sure the instructor is mistaken, the instructor can draw on his experience or refer to listed reference materials as the authority on which he bases his view. Or, if a question is asked to which the instructor does

not know the answer, he can direct the student to reference materials in which the answer can be found. Because, as we discussed before, most of LILCO's instructors lack experience in the jobs they attempt to teach, references to resource materials would be especially important to them. But the LILCO training program does not include such information for instructors. Neither lesson plans nor the other training materials contain references to authority.

Similarly, review by LILCO's training instructors of the training materials provided to trainees does little to overcome the instructors' lack of job-specific knowledge and experience. It does permit them to become familiar with the material they are expected to teach, but that is not enough. Since the instructors are not trained or experienced in the emergency jobs they teach, and because they are given no extra materials except inadequate lesson plans, they really know nothing more than the trainees. As a result, LILCO's training classes are really examples of the blind leading the blind.

Q. What is the basis for your agreement with Contention 99.G?

A. As asserted in Contention 99.G, LILCO's training workbooks and videotapes do not contain enough information to

teach workers how to perform LERO jobs. Many of the job-specific modules, both workbooks and tapes, display indifference to the kinds of problems likely to be encountered by the workers in the field. Instead, they concentrate on orienting personnel to the outlines of organizational hierarchy and technical details associated with various tasks. This may be appropriate for some simple jobs, but it is an ineffective way of teaching complex jobs such as those involved in traffic control and coordinating the evacuation of special facilities.

Telling someone what to do does not teach him how to do it. We could tell you that as part of your job you are going to speak French, but that would not teach you how to speak French. Similarly, our simply telling you that you are to direct traffic does not prepare you for that job. There are three basic steps to teaching anyone a job. The trainee first must be given the knowledge necessary to perform the job. Next he must be led to appreciate or develop the proper attitude toward the information, and then he must be allowed, through practice, to learn how to apply that knowledge.^{3/} Classroom training can be very useful for the first step imparting the

^{3/} These three stages are described as cognitive, affective and psychomotor.

needed knowledge. However, many of LILCO's classroom materials do not impart such job-specific knowledge.

For example, Module 12, Traffic Control, (the workbook portion of which is Attachment 4 hereto) is the job specific module given to traffic guides and road crews. But it does not impart necessary information about how to direct traffic or how to remove obstructions from the middle of crowded roadways. Module 16, Security, (the workbook portion of which is Attachment 5 hereto), contains no information about how to control crowds or neutralize disruptive individuals who threaten the safety of others. Moreover, neither the videotape or workbook portions of this module instructs the trainees about how far they can or should go in using force to restrain people who disregard their directions. For example, the module does tell the trainees to keep news reporters out of the EOC, but it does not tell them how to give such orders so that they are likely to be obeyed, nor does it tell them what to do if the orders are not obeyed.

LILCO's training program appears to be based on a misunderstanding of the instructional needs of LERO workers. Apparently, some of LILCO's instructors have in the past been involved in training offsite emergency workers such as police and

bus drivers in connection with other nuclear plants. In those situations, however, unlike Shoreham, the police and bus drivers already knew how to perform their jobs, and they only needed to be trained in how they were expected to fit into the overall plan.^{4/} LILCO's situation is very different. LILCO's offsite emergency workers do not already know how to perform their response jobs. Therefore, they must be taught both how to perform their jobs and how their roles fit into the LILCO Plan. However, it is clear from our review of the LILCO classroom materials that primarily the LILCO training program only attempts to teach the workers how they fit into the overall Plan. The LILCO classroom training program does not compensate for the fact that LILCO's workers do not have experience performing the jobs assigned to them under the LILCO Plan.

But even in the effort to teach the trainees about the content of the Plan, LILCO's classroom materials are inadequate, because most classroom modules were designed to teach

^{4/} A simple analogy that illustrates the type of training needed for offsite workers at other nuclear plants where utility employees are not relied upon for almost all offsite roles, is the following. When the police mount a large operation, they develop an operation plan and brief the participants on their roles under the Plan; the participants do not need to be taught how to conduct surveillance or make arrests.

too many job functions or emergency positions. For example, the module regarding traffic control, Module 12, was intended for 15 different job categories. Module 12 was the only task-specific module for nine different job functions within LERO. But because the module was designed for too many job groups, it was not specific enough about any one job. For example, traffic guides had to listen to material about the notification and mobilization of road crews, and the road crew members had to listen to the procedures by which the evacuation route spotters would make sure their equipment was complete. In fact, Module 12 even described the reporting scheme of the portion of LERO responsible for special facility evacuations, although none of the LERO workers involved in special facility evacuations even received Module 12. A traffic guide does not need to know that the Home Coordinator is supposed to report to the Special Facilities Evacuation Coordinator. Giving trainees too much irrelevant information leads to inattention, which increases the likelihood that they will miss information that they really do need.

Similarly, the module for special evacuations, Module 13, was intended for 17 different job categories. In that module, bus dispatchers and bus drivers had to listen to the notification and mobilization process of the Director and Manager of

LERO, and descriptions of how the Health Facilities Coordinator would contact and interact with hospitals, and nursing and adult homes. That information will not help the dispatchers or drivers perform their specific jobs.

The point is that because LILCO attempts to teach too many jobs with some of its modules, those modules do not give enough specific attention to any of the individual jobs covered by those modules. This is true with respect to both the attempt to teach trainees how to perform their jobs and the attempt to teach trainees their roles under the LILCO Plan. The result is that LILCO's trainees are unlikely to receive job-specific knowledge that they will need in order to perform those jobs and to know how they fit into the overall Plan. Perhaps with experienced emergency workers, such inadequate preparation would not be a fatal flaw to a training program. But with inexperienced workers, it just is not enough.

In addition, some of LILCO's training materials undermine what little job-specific instructional value they do contain by presenting inaccurate or contradictory information. For example, the videotape for Module 16, Security, instructs EOC security personnel to establish a post in the lobby of the Brentwood EOC, but the same videotape shows a post established

outside the building. Likewise, Videotape 14, "Transportation Coordination," instructs the trainees that they will be supplied with hand-held radios, and clearly shows a hand held radio among the equipment to be supplied to bus drivers. However, LILCO will not supply its bus drivers with any radios. Moreover, other videotapes show LERO workers using hand-held radios. However, LILCO has informed the County through discovery that LERO workers will not use hand-held radios. Similarly, Videotape 12 on "Traffic Control," depicted only unrealistic traffic conditions (only a handful of cars drove through the portrayed traffic control point), and showed at length what traffic guides are to do when the Suffolk County Police arrive to assume the task of directing traffic, despite the fact that Suffolk County personnel are, by law, prohibited from implementing the LILCO Plan. The contradictory and misleading information contained in these videotapes constitutes a serious deficiency in the LILCO training program.

Q. Contention 40 states that there are no incentives for LILCO personnel to learn or to retain the emergency training provided to them. Do you agree?

A. Yes. LILCO's training materials frequently downplay the importance of the training or the need to retain the

material being taught. For example, in LILCO's videotapes the statement "In the unlikely event of an accident at Shoreham..." is repeated over and over. Similarly, the traffic guides are told:

"A recent study shows that [the population of the EPZ], plus half the residents outside the 10-mile radius, could evacuate the area in under 10 hours with no traffic flow assistance at all.... A traffic guide will be just that -- a guide. An employee filling this role would not have police authority and would only function to help drivers. Residents may or may not choose to follow the advice that is given. Again, the success of evacuation will not depend on residents obeying LILCO traffic guides."

(See Local Emergency Response Organization, Employee Information, at 4.)

In a videotape entitled "LILCO - W. Uhl, 5/16/83" that was shown to all LILCO employees, LILCO President Wilfred Uhl stated that it was possible that the Nuclear Regulatory Commission might eliminate the requirement of planning for an evacuation, "in light of recent scientific information that indicates that nuclear accidents would not produce nearly the serious consequences that we always assumed they would." Further, he repeatedly suggested that LERO would probably never be activated with statements such as the following: "Now, you know that it is extremely improbable that anything like that

[evacuating the 10-mile EPZ] would ever have to be done." And: "[i]n a severe accident of a type that has never happened in the history of nuclear power and has a very remote possibility of ever occurring there might be significant amounts of airborne radiation which would be released from the plant vent over a period of time." Mr. Uhl also said: "Now in a real accident I think Suffolk County would really become involved and would really help. I certainly think, for example, that policemen would do their jobs as they do their jobs under all sort of trying conditions." When trainees are in effect told that their "training" is a pro forma exercise essentially for show, and that they will never really have to perform the job they are supposed to learn, those trainees have no reason to take the training seriously or to retain the information they are provided. Such statements are certainly likely to reduce the attention given by trainees to the instruction. The frequent suggestions that they will never have to respond, or really do anything serious even if they do respond, likely result in many trainee's actually learning very little about how to perform their emergency jobs. The training program provides little if any motivation for substantive learning because the students are told, in essence, that the training likely will never need to be put to use.^{5/}

^{5/} Indeed, as we discuss below, they are not even given the motivation of having to demonstrate their learning through testing.

The results are apparent and predictable. For example, it is our understanding that when Suffolk County deposed three randomly selected LILCO workers in LERO, those individuals had a hard time recalling the substance of the training they had received. For example, two of them could not even recall that they had received certain modules. (See Deposition of John Barrows, September 22, 1983 ("Barrows Deposition"), at 66; deposition of Ronald Brady, September 22, 1983 ("Brady Deposition"), at 27). Similarly, one of these workers did not know the locations of the EOC, the Shoreham Plant, or the Staging Areas. (Barrows Deposition, at 63, 71, 76.) Another did not know whether his pager would make a noise when activated. (See Deposition of James Biggers, September 22, 1983, at 28.) Thus, there appear to be serious retention problems among LILCO's trainees.

Q. What about the practical demonstrations described in the LILCO Plan? Are these practical demonstrations able to mitigate the lack of experience among LILCO's personnel?

A. No. First, it should be noted that LILCO has informed the County that although the Plan at 5.1-5, 5.1-6 refers to individual training materials called "Practical Demonstrations," no such separate training materials exist. (See

letter dated February 2, 1984 from J. Monaghan to J. Birkenheier.) Moreover, the type of practical demonstrations described in the LILCO Plan -- video presentations, pen and paper exercises, and procedure walk-throughs -- are not sufficient to develop the skills needed for emergency response jobs and cannot compensate for the lack of emergency experience among LILCO's personnel. Videotapes alone are not good practical demonstrations, because although they show things to the trainees, they do not give the trainees the chance to practice. Similarly, "paper exercises" are only valuable if the skills being developed are "paper" skills, such as those of an accountant. A "paper exercise" cannot develop skills needed to communicate on a radio or direct traffic.

Similarly, the scenarios for LILCO's so-called "tabletop drills," show that rather than being drills, these are really "seminar type sessions." (See Long Island Lighting Company Local Emergency Response Organization Communications Tabletop Drill, at 2.) In seminars trainees might talk about procedures or describe how they would react to posited problems. But talking is not doing. The tabletop drills were really informal reviews of procedures with feedback to trainees. This sort of session could help to teach the Plan to trainees, but it could not teach job performance.

Similarly, LILCO's equipment "demonstrations" appear to afford little opportunity to practice skills. First, those demonstrations are limited primarily to personnel dosimetry and radiological monitoring equipment. Thus, most trainees do not receive practical demonstrations for equipment necessary to the performance of their emergency response assignments. In addition, it is not enough for the instructor to show the trainees some equipment and let some trainees take turns handling it. If a particular job is dependent on the use of equipment, the workers must practice the use of that equipment over and over again. Handling it once in a class is not enough.

An additional significant problem with the LILCO training materials is the absence of evaluation of the trainees' performance. In order for the classroom sessions to give trainees simulated experience, there should be testing in which the trainees' performance is evaluated against objective, observable standards. In this way, the trainees would have to perform and show that they are learning what is supposedly being taught. The students would gain at least a slight amount of simulated experience through performing, and the instructors would be able to evaluate the abilities of each trainee. Further, there would be some way to gauge whether further

instruction in a given area were necessary. The need for testing is especially important with regard to the LILCO training program, because the LILCO workers come into the training program with little relevant experience, and there was no selection process that screened out individuals unlikely to succeed. Testing would identify those people who had failed to overcome their great lack of experience and learn their jobs. Despite these requisites of effective training, however, there is no real testing of trainees included in the LILCO classroom training program.

The training workbooks do contain self-review exercises, but these exercises are not utilized by LILCO as a testing technique. (See Varley Deposition, at 111-12.) Instead, the trainees are allowed to work through these exercises in open book fashion, the instructors review the trainees answers while the trainees complete the exercises, and the exercises are never graded. (See Varley Deposition, at 109, 111-112.)

Even if the review exercises were used as tests, however, they would be ineffective, because many of these exercises do not even reflect the learning objectives listed at the beginning of the workbooks. For example, one of the stated objectives of the workbook for Module 13, Special Evacuations,

is that the trainees should "have an understanding of the actions outlined in OPIP 3.6.5." Question 10 of the review exercise for Module 13 is the only question in that review that deals with OPIP 3.6.5. But question 10 is a true/false question that asks whether OPIP 3.6.5 contains a list of persons who would need assistance. That is, there are no questions in the review exercise for Module 13 that test whether the trainee has learned anything about the actions outlined in OPIP 3.6.5, even though imparting that knowledge is a stated object of the module. Likewise, the workbook for Module 5, LERO Notification, states that one of its objectives is that the trainee "be able to demonstrate this understanding by . . . identifying what response or actions he/she will take upon notification." However, the review exercise does not ask the trainee what actions he or she will take upon notification. In workbook 6, Public Notification, there are no review questions related to any of the stated objectives. Workbook 9, Section I contains only a table of contents, not objectives, and Workbook 14, Transportation Coordination, contains no objectives at all, only a review exercise. Without observable objectives, a review is meaningless, because there is no achievement for a review to measure.

Moreover, it is impossible for a trainee to fail out of the LILCO training program, (see Varley Deposition, at 111-12), and therefore, trainees who fail to learn anything about their jobs will remain in LERO and will be relied upon by LILCO to protect the public in the event of a Shoreham emergency. Without any accountability, it is possible that LILCO emergency workers will not learn enough to perform their jobs, but LILCO has no way of knowing who those people are.

In any event, because trainees are not tested on classroom training, because they are given almost no opportunity to practice the skills they need to develop, and because the classroom instructors never evaluate the abilities of trainees to perform their emergency jobs, it is unlikely that LILCO's classroom training program could or would overcome the general lack of relevant experience of LILCO's personnel. In fact without testing and evaluation, it is impossible for LILCO to provide any assurance about the capabilities of its emergency workers. LILCO does not know what those capabilities are.

b. LILCO's Drill Program is Deficient

Q. So far you have addressed the LILCO classroom training program. Do the drills proposed by LILCO compensate for the lack of relevant experience among LILCO personnel or for the deficiencies in classroom training?

A. No. LILCO's drills do not compensate for the lack of experience among LILCO's personnel. Even under the best of circumstances, no drill program can fully compensate for the significant lack of experience that exists among LILCO's personnel. Simulated experience is helpful, but is not sufficient to prepare emergency response workers for their jobs. That is why police and fire agencies require field training.

For example, when a police recruit in Suffolk County graduates from the Police Academy, he spends the next three months working exclusively with experienced field training officers. Virtually every working minute, that new cadet is being observed and evaluated under real conditions. Moreover, during this time the training officer can correct errors made by the new cadet and advise him about how to improve his performance. The point is that rookie police officers are assigned to a normal routine and perform real police work out in the community, under close supervision and scrutiny by an experienced police instructor. They are being trained while they work. This arrangement is typical of police departments and reflects the fact that an emergency worker cannot learn to perform his job well without real experience.

Thus, even if LILCO were to develop a good drill program for emergency response workers relied upon by the LILCO Plan, it would not be sufficient. Moreover, with respect to reducing the adverse effects of inexperience, LILCO's drills are neither well designed nor adequately implemented. Consequently, they are not helpful in providing emergency experience to LILCO's personnel.

Q. Please explain.

A. In connection with Contention 99 we noted the three basic steps involved in teaching a job: imparting information, developing an appreciation of it, and allowing the trainee to practice applying the information necessary to the performance of the job. This last step can be accomplished in part by drills. As we discussed above, we doubt very much that the LILCO classroom program imparts enough job-specific information to allow LILCO emergency workers to perform their jobs properly and effectively especially in light of the inadequate selection process, the trainees' lack of experience, and the repeated suggestion that the training will never have to be put to use. Moreover, we do not believe that the LILCO drills provide the trainees an adequate opportunity to learn how to apply what little knowledge they may have learned.

To begin with, LILCO has made it impossible for many trainees to learn their jobs in drills because, as asserted in Contention 100.D, during those drills many trainees do not get to practice the skills they will need to perform their emergency functions and duties. For example, although directing traffic is a skilled job which can be learned only through practice and experience, LILCO's traffic guides do not direct traffic, even under simulated conditions, during either the traffic guidance drills or the staging area drills. Instead each traffic guide is deployed at a traffic control point, reports in by radio and returns to the staging areas. (See Varley Deposition, at 156, 157); Long Island Lighting Company Local Emergency Response Organization Traffic Guidance Drill, at 7; Long Island Lighting Company Local Emergency Response Organization EOC/ENC/Port Jefferson Staging Area Drill at 10, 13.)

LILCO's bus drivers face a similar problem. According to LILCO, these personnel were selected because they were familiar with driving large vehicles. (See Weismantle Deposition, at 66). However, familiarity with driving a large vehicle is only one aspect of the job of driving an evacuation bus. The driver must not only know how to drive the vehicle, he must be able to deal with passengers who will likely be anxious and worried

about their personal safety. LILCO's bus drivers are given no opportunity to learn or to practice their jobs under conditions like those that would probably occur during an emergency. Instead, during LILCO's drills they simply drive over one or two routes. (See Long Island Lighting Company Local Emergency Response Organization Transportation Coordination Drill, at 2, 5, 6; Long Island Lighting Company Local Emergency Response Organization EOC/ENC/Port Jefferson Staging Area Drill, at 13.) Similarly, during LILCO's drills road crews do not move stalled vehicles or other road blockages in the middle of heavy traffic, and evacuation route spotters do not locate trouble spots in traffic congestion.

The above examples highlight our concerns with the fact that LILCO personnel, including bus drivers, traffic guides, road crews and route spotters, will never have adequately practiced, let alone performed, their actual emergency jobs before they are called on to respond to a real emergency. Under these circumstances, it is unrealistic in our opinion to expect LILCO's personnel to understand or to perform their jobs properly.

Moreover, as asserted in Contention 100.B, even if trainees were given an opportunity to practice their skills

during LILCO's training drills, that opportunity would be of little value because LILCO's training instructors do not accompany LILCO field workers, such as traffic guides, during their drills. (See Varley Deposition, at 157.) Apparently, the "observers" of LILCO's drills are located only at facilities such as the EOC and staging areas. Apparently, there are none in the field where traffic guides and other field workers are allegedly being "drilled." When a trainee is first learning a job, practice without observation is valueless. Without the presence of an instructor, there is no one to correct mistakes or suggest improvements. Thus, for example, the trainee could do something wrong, and neither the trainee nor the instructor would ever know. The result would be that when the trainee later has to perform under real circumstances, he will not know how to perform properly.

Related to the facts that many trainees do not perform their jobs during drills, and that instructors do not accompany the trainees into the field, is the fact that, as is asserted in Contention 100.G, the drills contain no performance standards. (See Varley Deposition, at 142.) That is, it is impossible for a trainee to fail out of the program because of inability to perform his job, no matter how bad his performance is. Of course, given the structure of the LILCO drill program,

drill performance standards would be meaningless, because many trainees do not perform their jobs during drills, and because no instructors are present to observe them or evaluate their performance in any event.

But in either case, LILCO's drill program is fatally flawed. In any group of trainees there are individuals who, because of laziness, inability, or any number of reasons, do not learn to perform their jobs properly despite training. Such individuals are especially likely to be present in LILCO's trainee pool, because there was no pretraining screening of candidates. As a result, it is likely that many members of LERO will never overcome their lack of experience and will not learn to perform their response jobs. However, because LILCO has no pass/fail testing, LILCO does not know how many workers cannot perform their jobs or who those workers are. Therefore, it is impossible for LILCO to provide reasonable assurance that protective actions that depend on the performance of LERO personnel could or would ever be taken. LILCO has no idea whether individual trainees learn how to perform their emergency response jobs or their roles under the LILCO Plan, and therefore LILCO has nothing on which to base any opinion about LERO worker capabilities.

Q. Do you have any other concerns with the LILCO drills?

A. Yes. The key deficiency with LILCO's drills, and indeed with its classroom training too, is that they involve far too little realism. When training individuals for complex, difficult jobs such as many of the jobs in LERO, instructors must prepare the trainees to deal with all the problems that could confront them while doing their jobs. It is not sufficient preparation to prepare the trainees only for ideal situations. Good instruction stresses things that could go wrong. Such preparation is especially important for a number of LERO job categories, because they likely would face some serious problems in the event of an accident at Shoreham.

Q. Can you be more specific?

A. Yes. Crowds of evacuees will congregate on buses, and at transfer points, key intersections, and relocation centers. Serious problems that LERO workers would have to deal with could arise at any of these locations. For example, if an inadequate number of buses were available so that the situation arose at a given transfer point that there was more than one bus load of evacuees but only one bus, a disturbance would be very possible as the evacuees attempted to grapple with the problem of there not being enough room on the bus. Similarly,

if an accident blocked an intersection so that traffic became stalled, it is possible that the other drivers would attempt to solve the problem themselves, or that the driver of the stalled car might resist efforts by LILCO road crews to move his car. Likewise, at relocation centers, evacuees are expected to surrender their cars to LILCO employees, and according to Videotape 10, Monitoring and Decontamination, contaminated evacuees are expected to strip naked, surrender their clothes and personal effects to LILCO employees, and then submit to being scanned, while naked, by still other LILCO employees. It is unrealistic to expect evacuees to surrender their property and their dignity to strangers without some of them becoming upset and creating disturbances.

Because of possibilities such as these, traffic guides, bus drivers, monitoring and decontamination workers, and security personnel must be prepared to deal with these problems. With real emergency workers, their experience would prepare them for these difficulties. LILCO's drills, however, fail even to simulate such experience.

Moreover, too many of LILCO's emergency workers are not required to solve problems of any sort during drills. The traffic guides, bus drivers, road crews and route spotters

basically just practice reporting for duty. This compounds the problem caused by the fact that many of the LILCO training materials deal with ideal conditions. In Videotapes 10, Monitoring and Decontamination, and 16, Security, all the evacuees and other non-LILCO personnel at relocation centers and the EOC are portrayed as cooperating with all the instructions given by LILCO employees. This is unrealistic. It simply cannot be said that the drills provide simulated experience if the scenarios are all unrealistic.

Trainees should be trained to handle surprises. In addition, as Contention 44.E alleges, training drills should be designed to allow "free play for decision making." For example, in police training, extensive use is made of role playing and simulated situations to provide trainees with the opportunity to develop the ability to make quick decisions. In these role-play exercises, recruits are confronted by experienced training officers realistically playing the roles of civilians, to present the recruit with unexpected difficulties, and the recruit is graded on his or her ability to resolve the surprise problems. Of course, training can accomplish only so much in this regard, and learning to react well to the unexpected is another skill that, to a great extent, must be learned through on-the-job experience. Nonetheless, a good training program

should do as much as possible to prepare workers for such problems. LILCO's training program fails to do so.

Road crews and traffic guides in heavy evacuation traffic, and monitoring, decontamination and security personnel at crowded relocation centers will all have to deal with evacuees in pressure-filled situations and make quick decisions on which the safety of members of the public will depend. Consequently, LILCO's failure to include in its training program sufficient situations like these which would give its personnel at least some experience in dealing with such situations, is a serious defect.

A related shortcoming of the LILCO drills is that LILCO's personnel are not subjected to pressure during the drills. (See Varley Deposition, at 142-143). As previously noted, LILCO's emergency workers cannot be expected to perform adequately in a real emergency if they are not required to deal beforehand with the anxiety likely to be present in a real emergency. LILCO's drills do not provide trainees experience in dealing with simulated pressure or stress. In fact, Mr. Varley, the person who supervised the drafting of LILCO's training materials, testified that he does not know of any method that can be used to subject an individual to stress

during a drill. (See Varley Deposition, at 143). This is incorrect. Trainees can be forced to perform in front of their peers, or they can be forced to perform tasks in limited amounts of time. Devices such as these impose pressure on the trainee. It is simulated stress, but it is an effective teaching device nonetheless. LILCO's emergency response workers may never have performed emergency jobs under stress until the first time they respond to a real emergency. At that time, because they will not be accustomed to pressure, their performance will likely be substantially impaired.

The LILCO drills also fail to provide LILCO's personnel with an opportunity to become familiar with the specific environments and geographic areas in which they will have to work. Ordinarily, people with jobs similar to LILCO's bus drivers, route spotters, road crews, and traffic guides are familiar, through their day-to-day jobs, with the areas where they might have to work during an emergency. Familiarity with the area, including local roadways, is important to many of the emergency functions and duties assigned to LILCO's personnel. LILCO itself has acknowledged this fact.

For example, it is our understanding that LILCO's meter readers were assigned the job of traffic guides because LILCO

believed that they would be generally familiar with local roadways. (See Weismantle Deposition, at 74-75). Information provided to the County by LILCO, however, indicates that most of these meter readers live and work in areas outside the 10-mile EPZ. In fact, only 56 of the approximately 1500 LILCO employees who are members of LERO live in the 10-mile EPZ. Further, none of the LILCO workers in LERO are assigned to work locations in the 10-mile EPZ as part of their regular duties. (See LERO - EOF/SCH - ENC - Employee Listing, October 27, 1983, provided to Suffolk County in discovery, which provides limited data concerning LILCO employees in LERO.) Therefore, it is fair to conclude that few LILCO employees serving in LERO will be intimately familiar with the 10-mile EPZ either through their work or because they reside within that area.

LILCO's drills, however, do not provide LILCO's workers with an opportunity to familiarize themselves with the EPZ. For example, in the LILCO drills traffic guides are not given the opportunity of going to all the traffic control points to which they might be assigned. Similarly, bus drivers, route spotters, and road crews do not drive all the routes they might have to drive during an emergency. Decontamination and monitoring workers and security personnel are not even taken to the relocation centers where they will work during an emergency.

Traffic guides should not be expected to direct traffic at intersections which they have never seen before. Bus drivers should not be expected to find their ways along possibly poorly marked routes they have not seen before. Also, it is unrealistic to expect security, monitoring or decontamination personnel to arrive at relocation centers to set up and operate facilities for handling evacuees without any prior familiarity with the facilities. In our opinion, this deficiency of the LILCO drill program will result in many LILCO personnel being unprepared for their emergency response roles.

Indeed, the LILCO drills do not appear to be training mechanisms at all. Instead, they seem to be devices for attempting to test portions of the Plan. This is all the more apparent when one looks at the changes LILCO made in Revision 3 allegedly as a result of drills. These changes are all organizational. For example, personnel were added to the staging area staffs, and the communications system was restructured. Thus, it appears that during drills that have been conducted LILCO examined the written structure of its Plan, rather than focusing on individual trainees, requiring them to perform their emergency jobs against measurable, objective standards, and determining whether those trainees should be rejected, or passed, or given more training. This fits exactly what we have

discussed above, namely that LILCO's entire training program really was designed to show trainees how to fit into the Plan, but not how to perform their emergency jobs. LILCO's proposed drills do little to train LILCO's workers.

3. LILCO's Training Program Does Not Provide Necessary Post-Training Experience.

Q. Do you have any other concerns with respect to LILCO's training program?

A. Yes. LILCO's program completely lacks the third essential element of a training program: post-training experience. As a result, there is no assurance that in the event of an accident at Shoreham LILCO's emergency workers would be able to perform their emergency response roles.

First, when teaching adults, it is essential to give them the opportunity to apply continuously what they have learned. Adults quickly forget knowledge and skills that they do not use frequently. Thus, even if some of LILCO's workers may learn needed information or skills during classroom training or even drills, because they are given no opportunity to apply what they have learned, they are going to forget it.

Second, as we explained before, a trainee can only learn a job involving any complexity by applying what he has learned in

classes and practiced in drills, in real situations and under the watchful eyes of field trainers or experienced co-workers. LILCO workers do not receive this type of experience, and therefore we doubt that many of them will ever really learn their emergency jobs.

4. Summary

Q. Please summarize your conclusions with respect to the lack of experience among LILCO's emergency response personnel.

A. Training individuals to perform difficult jobs such as those in LERO requires extensive experience. Either the trainee must bring the needed experience to the job, or it must be provided through a combination of classroom and drill sessions, field training, and post-training experience.

LILCO's emergency response personnel are not experienced in dealing with emergency conditions. Indeed, LILCO's personnel as a group have almost no prior experience relevant to their emergency functions in LERO, since their normal jobs are unrelated to their emergency roles.

However, LILCO's training program does nothing to offset the lack of experience. Classroom sessions are almost exclusively lectures, taught by non-experts, with no testing or

evaluation, very few practical demonstrations, and insufficient opportunity to practice necessary skills. The LILCO drills are no better. They do not include simulated interaction with the public, subject trainees to stress, require trainees to solve unexpected problems under realistic conditions, or permit trainees to practice their emergency jobs.

So long as problems likely to be encountered are routine and straight-forward, training for them is not difficult. Training personnel to perform emergency functions, however, is difficult. The complexity and unexpectedness of events cannot be anticipated, nor can the pressures of emergency situations and the multiplicity of demands be adequately communicated in the classroom. Simulations or drills can partly meet the need to give trainees experience in applying what is learned in the classroom, but they cannot fully meet this need, and they can satisfy it in part only if they take place frequently enough and if they are realistic enough.

LILCO's training program involves neither field training nor post-training experience. Because LILCO's employees will have almost no opportunity to apply in the field whatever they may learn, they will not have a clear understanding of their emergency roles and they will not be able to perform those

have almost no opportunity to apply in the field whatever they may learn, they will not have a clear understanding of their emergency roles and they will not be able to perform those roles adequately or effectively in the event of an emergency at the Shoreham plant.

V. Contentions 41 and 44.D - Communications Training

Q. What is your opinion concerning the communications training provided to emergency personnel?

A. (Cosgrove and Fakler) Contention 41 states:

All necessary emergency personnel must be trained adequately in the proper use of the communications equipment relied upon in the LILCO Plan. Such training must include instruction in the proper use of radio frequencies, the range of coverage available for each frequency, and proper radio discipline. The LILCO Plan, however, does not provide such training. The Plan provides for a "communications drill" that is designed primarily to test equipment. (Plan at 5.2-1; OPIP 3.4.1). Only persons in those selected LERO positions designated as "communicators" will participate in this drill. (Plan at 5.2-2, 5.2-2a). In addition, it is clear from the Plan and drill scenarios that other than the workers assigned to remain at the EOC, ENC, and staging areas, LERO workers will receive essentially no practical communications training, and that even the workers assigned to the EOC, ENC, and staging areas will not receive enough. Thus, there is no assurance that LILCO's Plan satisfies the requirements of 10 CFR Section 50.47(b)(15)

or that emergency response personnel will be prepared and adequately trained to initiate and receive communications, as required by 10 CFR Section 50.47(b)(6) and NUREG 0654, Section II.F.

Contention 44.D states:

The provisions of the Plan for quarterly testing of communications with Federal emergency response organizations and States within the ingestion pathway do not provide for testing whether the content of messages is understood by emergency response personnel. NUREG 0654, Section II.N.2.a. (See FEMA Report, at 13.)

We agree that the LILCO Plan provides no assurance that emergency personnel will be adequately prepared and trained in the use of the communications equipment relied upon in the LILCO Plan.

Q. Why must workers be trained in the use of communications equipment?

A. (Cosgrove and Fakler) Emergency workers do not typically use their communications equipment under the best of conditions. For example, during emergency conditions, radio operators typically are under stress, and there are often conflicting demands for their attention. Anxiety on the part of a radio user often leads him to talk too fast to be understood. Further, in emergencies there is often confusion among the personnel attempting to use the radio frequencies, and heavy radio

traffic taxes the system of the response organization.

Emergency workers must know how to maintain effective communications under such conditions, and in our experience that is not something that most people can do naturally. Rather, it is a skill that can only be learned through training and experience.

Similarly, it is unrealistic to expect people to know how to use unfamiliar equipment without sufficient instruction and practice. For example, even under calm, non-emergency conditions, inexperienced police officers improperly use communications equipment resulting in garbled messages or failures to communicate. For example, they often forget to release the key, that is, the button that must be depressed to transmit, after they finish transmitting their message. It is also common for persons just beginning to use radio equipment to switch to the wrong frequency. Beginners also frequently fail to adjust the "squelch control" which controls the range of reception and reduces background noise, and they often forget to use only the phonetic alphabet, that is, for example, "Alpha" and "Bravo," instead of the letters "a" and "b".

Q. Why is LILCO's communications training not sufficient to prepare LILCO emergency workers to use their communications equipment adequately in an emergency?

A. (Cosgrove and Fakler) The primary defect is that LILCO's communications training contains almost no real life experience or hands-on practice. Instead, the bulk of LILCO's communications training consists of two classroom sessions, which are lecture and videotape sessions, like all the other classroom sessions. A trainee cannot learn to use a radio properly from a workbook or from watching a videotape. Instead he must have the opportunity for extensive practice. Furthermore, LILCO's proposed communications drill is apparently intended to test the equipment, not the ability of emergency personnel who will have to operate communications equipment. (See OPIP 3.4.1) While some of LILCO's other drills may provide trainees with limited opportunities to operate radios, those drills do not afford enough opportunity to actually use the equipment, and thus do not allow the development of necessary communications skills.

Q. What are the two communications classroom sessions?

A. (Cosgrove and Fakler) The first is Module 5, "LERO Notification." Module 5 suffers from all the shortcomings we discussed with respect to the LILCO training program in general in connection with Contentions 98 and 99, and we will not repeat them in detail here. In addition, Module 5 attempted to

teach all trainees how every emergency worker is notified. Although a short, general overview along these lines would have been helpful, the typical emergency worker does not need to know anything more than how he is notified, and what he is supposed to do when notified. Unneeded information does nothing more than cause attention to lapse.

Q. What is the second communications training module?

A. (Cosgrove and Fakler) The second training module is Module 8, which deals with LILCO's communications system. For the reasons stated above in connection with Contentions 40 and 99, flaws in Module 8 make it likely that many trainees will not learn how to use their communications equipment.

In addition, Module 8 contains little information directed at the LILCO employees who need to know a great deal about certain aspects of the LILCO communications systems. Figure 2.1.1 of the Plan indicates that a number of workers are assigned jobs as "communicators." Presumably, these people will have to operate the radio base stations at facilities such as the EOC. However, in the LILCO training program they receive no specialized communications training. The LILCO training program does not include a job-specific module for communicators, covering how to operate the radio equipment on

which their performance will depend. As a result, it is doubtful that these emergency workers will be able to perform properly or adequately essential communications functions during an actual emergency.

Moreover, much of the communications-related information provided to trainees is confusing. As we discussed above, many of LILCO's videotapes incorrectly inform or suggest to the trainees that they will use hand-held radios.

The most serious problem with LILCO's program as it relates to communications, however, is that the LILCO drills do not include enough practical exercises during which trainees are given the opportunity to operate the radios they will use in an emergency. In particular, there are no radio exercises with individualized supervision that simulate fast-paced emergency conditions. Thus, for example, LILCO's traffic guides apparently are given an opportunity to make only a few radio transmissions during their drills. This is essentially no experience at all.^{6/} As a result, LILCO workers are not taught

^{6/} By way of contrast, after receiving a two-hour classroom session on the use of police radios, including demonstration, recruits use a mobile radio, instead of telephones, as their primary means of indirect communications with the instruction staff. A radio is set up outside the recruit classroom with a station in the staff office. It is with this radio that recruits make appointments, ask for infor-

(Footnote cont'd next page)

properly when to transmit, how long to listen, how not to cut off others, or how to keep messages short. These things can be learned only through repeated use of radios in emergency situations.

Q. What are your conclusions about LILCO's communications training?

A. (Cosgrove and Fakler) Because most of LILCO's emergency workers are inexperienced at responding to emergencies, it is likely that they are inexperienced in the use of communications equipment during emergencies. As we noted before, many of LILCO's "communicators" apparently do not work with radios in their regular jobs. Moreover, it does not matter that some of LILCO's employees use radios as part of their normal work. First, one mistake can disrupt the entire communications system, and therefore all LILCO emergency workers must be experienced. Second, radio experience in nonemergency situations

(Footnote cont'd from previous page)

mation, and the like. In addition, the radio is used in simulated role play situations. This hands-on use and dependence upon the radio continues for approximately 17 weeks. And even then, recruits need field experience before they become proficient at using communications equipment such as radios.

is irrelevant because the volume of traffic is so much lower. This lack of experience probably will prevent LILCO's communications system from operating effectively. Notwithstanding this obvious problem, LILCO's training program does not overcome this lack of experience. The classroom sessions were inadequate because of all the flaws that afflict LILCO's classroom training in general as discussed in connection with Contentions 40 and 99. Moreover, LILCO's communications training materials did not even attempt to impart much of this needed information. Furthermore, LILCO's drill program does not give trainees an adequate opportunity to gain necessary experience in using radios. Therefore, there is no assurance that personnel trained by LILCO will be able to communicate effectively during an emergency.

VI. Contention 39 - Attrition

Q. What are your concerns regarding attrition among the emergency personnel relied upon by LILCO?

A. (All witnesses) We believe that many emergency response positions identified as necessary in the LILCO Plan are likely either to be filled by inadequately trained individuals, or not filled at all because the Plan does not compensate adequately for attrition. As a result, it is unlikely that the

LILCO Plan could be implemented. Our concerns are set forth in Contention 39, which reads as follows:

LILCO's Plan fails to deal effectively with the problem of attrition. As a result, LILCO cannot demonstrate that adequate numbers of trained support organization personnel will be available to respond to an emergency at Shoreham and thus cannot demonstrate compliance with 10 CFR Sections 50.47(a)(1) and 50.47(b)(15), 10 CFR Part 50, Appendix E, Section IV.F and NUREG 0654, Section II.O.1.

A. With respect to LILCO personnel, the Plan relies on quarterly general training and semi-annual job-specific training to qualify new LERO members for positions opened through attrition. (Plan at 5.1-7, 5.1-8; OPIP 5.1.1 at 6-7.) Such training for new members is insufficient, because it does not assure that trained LILCO employees will be available to fill positions in LERO as the need arises. As a result, there is no assurance that LERO will be fully staffed with trained personnel on a continuous basis. To ensure compliance with 10 CFR Section 50.47(b)(15), 10 CFR Part 50, Appendix E, Section IV.F and NUREG 0654, Section II.O.1, LILCO must demonstrate that all personnel are trained in their designated emergency response organization positions. Thus, LILCO should make satisfactory completion of its emergency response training program a prerequisite to the hiring of personnel who will be assigned emergency response duties.

B. With respect to all non-LILCO personnel, except Coast Guard and ambulance personnel, the Plan ignores the issue of attrition. (OPIP 5.1.1, Section 5.1.3.2 and Attachment 1.) And, with respect to the Coast Guard and ambulance companies, LILCO will attempt to counteract the

effects of attrition only if notified by one of these groups that understaffing exists. (Plan at 5.1-6; OPIP 5.1.1, Section 5.1.3.3.) However, the Coast Guard and ambulance companies are under no obligation to maintain necessary staffing for LERO, to notify LILCO of "understaffing," or otherwise to assure LILCO's compliance with 10 CFR §50.47(b)(15), 10 CFR Part 50, Appendix E, Section IV.F and NUREG 0654, Section II.0.1. Therefore, there is no assurance that LILCO will know whether personnel in any non-LILCO emergency response support organizations who might have been trained at one time by LILCO remain with their respective organizations, and thus remain available to respond to an emergency at Shoreham. Thus, there is no assurance that any non-LILCO support organizations will be sufficiently staffed with adequately trained emergency response personnel.

Q. What is meant by attrition in Contention 39?

A. In the context of Contention 39, attrition refers to the fact that people who are employed by LILCO or by the non-LILCO organizations relied upon by LILCO for implementation of its Plan, who are expected to perform emergency response functions under the Plan, will, over time, leave the employ of LILCO or these organizations and thus will become unavailable for emergency response duties.

Q. How do you know attrition will occur among the workers relied upon by LILCO?

A. First, we understand that as part of its recent austerity program, LILCO has laid off approximately 20 percent of its labor force or over 800 of its 6000 employees, in terminations announced on March 7 and March 30, 1983. Between approximately 10 and 20 percent of the LILCO employees assigned LERO positions are no longer with the company, including Andrew W. Wofford, one of the Directors of LERO.^{7/} Clearly, this represents a large attrition problem which is already a reality for LILCO.

Second, in addition to LILCO's employee terminations, every organization experiences attrition among its employees in the normal course of its operations. People leave their jobs, voluntarily or involuntarily, all the time. Attrition is simply a fact of life for most employers, including LILCO, the Coast Guard, ambulance companies, and the other organizations relied upon in the LILCO Plan. Indeed, although LILCO only identified the LILCO employees who would be assigned to emergency response jobs in LERO in May, 1983, only five months later, by October, it had already begun to experience

^{7/} See Letter dated March 23, 1984, from Donald P. Irwin to Karla J. Letsche, and New York Times, March 31, 1984, p. 46. Mr. Irwin's letter states that as of March 23, 1984, LILCO did not yet know the identities or LERO positions of the union member employees who had been terminated, and that additional LERO members were being recruited.

attrition. (See Weismantle Deposition, at 104; Seale Deposition, at 139).

Q. Why is attrition a problem for an emergency response organization?

A. Attrition is a problem for any organization that depends on trained and experienced members. Whenever an experienced worker leaves, that person takes with him all his training and experience. The replacement rarely has an equal level of experience and familiarity with the procedures of the organization. The resulting loss of experience impairs the capabilities of the organization, even if only temporarily.

Attrition is an especially acute problem for emergency response organizations, because, as discussed above, their workers need high levels of training and experience to perform their tasks. The jobs that these workers do, such as traffic and crowd control, cannot be performed by amateurs. In addition, an emergency response worker is likely to need substantial training and experience before he is capable of performing his job properly, if at all, under the pressure and fatigue that are involved in emergency response activities.

Because of the importance of both training and experience, an untrained, inexperienced person simply cannot "replace" a veteran emergency worker who has left the organization. Therefore, if an emergency response organization is to be continuously ready to respond to emergencies, it must have in place an effective training program that ensures that adequately trained and prepared replacements are available at all times to staff all positions within the organization.

Q. In your opinion, will LILCO's proposals for dealing with attrition among LILCO employees in LERO offset the effects of attrition sufficiently to allow LERO to be continuously staffed with trained personnel?

A. No. LILCO proposes to offer classes on a quarterly basis that will repeat the general training materials contained in the "generic" modules, such as the "General Overview" and "Site Specific Overview" modules. Classroom materials that relate to specific jobs will be offered by LILCO on a semi-annual basis. (Plan, at 5.1-7 and 5.1-8). Thus, the LILCO Plan relies on quarterly general training and semi-annual job-specific training to "qualify" new LERO members for positions opened through attrition. Drills and exercises will be repeated annually. (Plan at 5.2-1). Under the LILCO Plan, as

the need for adding new personnel to LERO is identified by the LILCO Personnel Department, the Emergency Planning Coordinator is required to identify the training sessions the new personnel must attend (based on Figure 5.1.1) and the "required completion date necessary to maintain the LERO organization adequately staffed at all times." (Plan at 5.1-8). Only if what LILCO considers to be a key position in LERO, such as the Director of Local Response or Manager of Local Response, becomes understaffed might a "special" accelerated training program perhaps be initiated by the Emergency Planning Coordinator so that the vacancy could be filled more rapidly than would otherwise be accomplished. (Plan, at 5.1-8).

Thus, under the LILCO Plan, it is not clear whether positions in LERO will remain unfilled until replacement personnel have attended assigned classes, or whether replacement personnel will be assigned to LERO and then attend the next available training classes. In either case, however, there is no assurance that LERO will be fully staffed with trained LILCO personnel on a continuous basis. Either LERO positions will remain open for up to six months until replacements have attended designated training classes, or, for up to six months at a time, replacements will fill LERO positions without having received training. The only exception under LILCO's proposal is that

training for personnel replacing a few "key" emergency personnel "may" be accelerated.

In our opinion, LILCO's quarterly general training and semi-annual job-specific training are far too infrequent and provide no assurance that trained LILCO employees will be available to fill positions in LERO as the need arises. Some organizations may be able to function properly with such a system, but not an emergency response organization, because emergencies, by their very nature, can occur at any time. They do not adhere to predesigned schedules, and therefore an emergency response organization cannot train its replacements only every six months. Because LILCO intends to do so, LERO will not be fully staffed with trained personnel.

Q. Will attrition among non-LILCO personnel be a problem?

A. Yes. Under the LILCO Plan, non-LILCO personnel perform many essential emergency functions. (See our discussion of Contention 98 above.) As with LILCO employees in LERO, LILCO cannot depend on non-LILCO individuals to perform their roles under the LILCO Plan, unless they have been taught what those roles are and how to perform them during a radiological emergency in the context of the LILCO Plan. However, under the

LILCO Plan, there is no assurance that non-LILCO organizations relied upon by LILCO to perform emergency support functions will be sufficiently staffed with adequately trained emergency response personnel.

Despite the importance of non-LILCO support organizations to successful implementation of the LILCO Plan, LILCO has made only token plans to counteract attrition among non-LILCO personnel. In the Plan, LILCO divides non-LILCO organizations into two groups for purposes of training. The first of these two groups consists of "those organizations supporting a response by LERO" (Plan, at 5.1-6), which, apparently, LILCO considers to be limited to the U.S. Coast Guard and ambulance companies. (See Plan, Figure 5.1.1). According to LILCO, these "support" organizations will receive training, including training to offset the consequences of attrition. (Plan, at 5.1-6, 5.1-7). The second group of non-LILCO organizations consists of entities such as schools, hospitals and nursing homes inside the EPZ. LILCO describes these organizations as those "which must take actions during an incident at SNPS," to which LILCO intends to "offer" training at some point in the future. (Plan, at 5.1-6)

The first deficiency of the LILCO proposals for non-LILCO organizations is that stated with respect to Contention 98. Simply put, there is no assurance that these groups will receive any training at all, including training designed to offset the effects of attrition. To our knowledge, LILCO has not made arrangements for either initial training or retraining of the personnel in organizations expected to "take actions" during an incident at Shoreham, and LILCO does not even intend to attempt to arrange for retraining until sometime in the future. Second, LILCO apparently does not intend to provide initial or attrition-related training to personnel from the Department of Energy or the American Red Cross. (See Plan, Figure 5.1.1). Third, the training that LILCO apparently intends to provide to personnel of the Coast Guard and ambulance companies will do very little to overcome the consequences of attrition. For example, while the Plan purports to provide for annual training of the personnel of the Coast Guard and ambulance companies (See Plan, at 5.1-6; Figure 5.1.1), the Coast Guard letter, which LILCO refers to as an agreement (Plan at APP-B-8), mentions only retraining concerning dosimetry and personal safety. Similarly, the agreements that LILCO has obtained from ambulance companies do not mention retraining.

Furthermore, even if LILCO had made arrangements for adequate training, attrition would still not be offset, because for the reasons we discuss above annual training is inadequate to compensate for attrition. It is simply poor planning to assume that over the course of a year, only insignificant personnel changes will occur in non-LILCO support organizations. And, there is no assurance that LILCO's proposal, for providing more frequent training if an organization notifies LILCO that it has experienced significant attrition would work, because it places responsibility for ensuring that non-LILCO organizations maintain an adequate number of trained individuals on staff at all times on the organizations themselves. Thus, under the Plan, the organizations are expected to identify to LILCO's Emergency Planning Coordinator any understaffing which may result in insufficient personnel to fulfill LILCO's expectations in the event of an emergency at Shoreham. (Plan, at 5.1-6, 5.1-7).

LILCO cannot depend on prompt notification of staffing problems from the non-LILCO support organizations. It is our understanding that the support organizations relied upon by LILCO have no obligation to maintain adequate staffing for LERO or to notify LILCO of understaffing. Neither the Coast Guard letter to LILCO nor the contracts that LILCO has signed with

ambulance companies say anything about an obligation to notify LILCO of personnel changes, and LILCO has no training agreements at all to our knowledge with the DOE and ARC. Without appropriate agreements, there is no assurance that LILCO will have up-to-date information about the staffing of non-LILCO support organizations. However, even if LILCO did receive updated staffing information on a timely basis, LILCO's proposal would still probably fail to ensure that adequate numbers of trained support organization personnel will be available to respond to an emergency at Shoreham.

Q. Why?

A. First, LILCO's proposed system will not provide attrition-related training until after attrition has resulted in inadequate staffing. That is, there necessarily will be periods during which the Coast Guard and private ambulance companies will be staffed by people who have not received training specifically related to LERO. In our opinion, this is a grave deficiency under the LILCO Plan. An emergency can occur at any time, and, therefore, LILCO's emergency response organization must be adequately staffed with trained personnel at all times.

Moreover, under the LILCO Plan, the adverse effects of attrition may be aggravated by the fact that lapses in adequate staffing will last for a substantial period of time. This is because LILCO will have no real authority over either the non-LILCO organizations or their personnel. Thus, even after a staffing problem is identified, LILCO may not be able to set a specific schedule for the needed training.

In summary, under LILCO's proposed scheme, LILCO will not know if serious understaffing exists among non-LILCO response organizations. Moreover, even if LILCO does eventually learn of the need for additional training, LILCO will have too little authority to administer effective training.

Q. What are your conclusions about attrition in both LILCO and non-LILCO organizations?

A. In our opinion, LILCO's offsite training program does not compensate for attrition among LILCO employees who are members of LERO or among the non-LILCO organizations relied upon by LILCO under the LILCO Plan. LILCO's proposed retraining program will cause positions in LERO either to remain open or to be filled by untrained individuals for substantial periods of time. Some non-LILCO organizations will receive attrition-related training only when they ask for it,

and other non-LILCO organizations may not receive any training to compensate for attrition, except for annual, informational training which will occur only if LILCO succeeds in arranging for it in the future.

As a result, not all the emergency workers on whom LILCO relies will know and understand their emergency response roles; nor will they all know how to perform those roles. Indeed many of them, especially in non-LILCO organizations, may not even know that they have a response role. Consequently, neither LILCO's own employees nor the personnel of non-LILCO organizations relied upon by LILCO can be expected to perform their emergency response functions and duties.

Q. Does that conclude your testimony?

A. Yes.

ATTACHMENT 1

Personal Resume
Captain Peter F. Cosgrove
Suffolk County Police Department

Police Experience:

October, 1981 - Present	Commanding Officer, Police Academy Section
May, 1980	Promoted to Captain
February, 1979 - October, 1981	Commanding Officer, Personnel Section
September, 1977 - February, 1979	Commanding Officer, Employee Relations Unit
January, 1977 - September, 1977	Assigned to Chief of Detectives Office to develop performance evaluation program
September, 1975	Promoted to Lieutenant
September, 1975 - January, 1977	Assigned to Sixth Precinct, Patrol Supervisor
December, 1972 - September, 1975	Assigned to Police Academy Section, Recruit Training Unit
October, 1971	Promoted to Sergeant
October, 1971 - December, 1972	Assigned to Fourth Precinct as Patrol Supervisor
July, 1966 - October, 1971	Assigned to Sixth Precinct, patrol duties
May, 1966	Appointed to Suffolk County Police Department

Formal Education:

1982	Completed course work for Master of Public Administration, C.W. Post College, L.I. University
1974	B.S. Behavioral Science, N.Y. Institute of Technology

Formal Education: (cont.)

1970	A.A.S. Police Science, Suffolk County Community College
------	--

Related Training & Education:

1983	F.B.I. National Academy, 132nd Session (11 weeks)
1974	Ethical Awareness Instructors Workshop N.Y.S. Bureau for Municipal Police (1 week)
1974	Police Performance Appraisal Workshop Northwest Traffic Institute (1 week)
1973	Basic Instructors School, Internal Revenue Service (2 weeks)

Related Experience:

1972 - Present	Lecturer, Suffolk County Police Academy
1972 - Present	Adjunct Asst. Prof., Suffolk County Community College
1973 - 1976	Training Instructor, N.Y.S. Bureau for Municipal Police
1975 - Present	Training Instructor, Suffolk County Department of Health
1979 - Present	Lecturer, Suffolk County Sheriff's Department

Certificates & Memberships:

Certified New York State Police Instructor

New York State Training Zone #1 Coordinator

New York State Association of Chiefs of Police (member of training
committee)

National Academy Associates

New York State Law Enforcement Training Directors Association

Certificates & Memberships: (cont.)

American Academy for Professional Law Enforcement

Suffolk County Community College Occupational Education Advisory
Council

ATTACHMENT 2

John L. Fakler, Lieutenant
Suffolk County Police Academy
Old Country Road
Westhampton, New York 11977
(516) 286-5000

GENERAL BACKGROUND

Twenty years of law enforcement experience, the last fifteen years in training supervisory and management positions.

EDUCATION

Accumulated 55 college credits relating to Communications and Law Enforcement.

Graduate of F.B.I. National Academy - March, 1974

Have completed a host of seminars and workshops relating to Instructional Design & Evaluation, Television Production Methods, and management related topics.

EXPERIENCE

- 1981 to Present - Commanding Officer of Recruit Training and Media Services (Lieutenant)
- 1971 to 1981 - Commanding Officer of Audio Visual/ Research (Lieutenant)
- 1968 to 1971 - Supervisor of Recruit Training (Sergeant)
- 1963 to 1968 - Various assignments in Patrol, Tactical, and Detective Units

AFFILIATIONS

Regional Vice President, International Television Association
1982 to 1984

Past President, Law Enforcement Training Directors of New York State - 1980

Second Vice President, Police Association of Suffolk County
1983

Consultant and Lecturer for the International Association of Chiefs of Police since 1980

ARTICLES PUBLISHED

- "Drunk Drivers: It's Your Choice"
Law Enforcement Communications - April, 1982
- "Instructional Television for Police Entry-Level Training"
The Police Chief - February, 1981
- "An Efficient Training System for Police Officers"
Educational & Industrial Television - December, 1979
- "Television: A Versatile Tool at Large Demonstrations"
F.B.I. Law Enforcement Bulletin - December, 1979
- "TV Role-Playing for Training"
Law & Order - February, 1970

OTHER CAREER ACTIVITIES

Authored and directed 3 federally funded projects that were designed to explore television applications for law enforcement

1. Project "Teletraining, 1971
2. Project "D.I.I.T." (Decentralized, Individualized In-Service Training)
3. Project "T.O.D." (Television for Observation at Disturbances)

Have been a guest speaker at:

- . Canadian Association of Chiefs of Police Convention, Edmonton, Alberta, Canada
- . First International Video Symposium for Law Enforcement Kent, England

ATTACHMENT 3

BIOGRAPHICAL SUMMARY OF MICHAEL LIPSKY

November, 1983

ADDRESS: 42 Brington Road
Brookline, MA 02146

TELEPHONE: (617) 731-5137

NATIONALITY: U.S.A.

DATE OF BIRTH: April 13, 1940

PLACE OF BIRTH: New York, NY

MARITAL STATUS: Married

CHILDREN: Two

EDUCATION:

Oberlin College, B.A., 1961; Woodrow Wilson School of Public and International Affairs, Princeton University, M.P.A., 1964; Princeton University, M.A. (Politics), 1964; Ph.D. (Politics), 1967.

PROFESSIONAL EXPERIENCE:

Current: Professor, Department of Political Science, Massachusetts Institute of Technology.

Previous Teaching: Assistant Professor, Department of Political Science, University of Wisconsin-Madison, 1966-1969.

Other: Assistant, Public Affairs Program, The Ford Foundation, Summer, 1965.

Brookings Institution Predoctoral Research Fellow, 1965-1966.

Consultant to Upward Bound, Office of Education, H.E.W., previously Office of Economic Opportunity, 1966-1972.

Special Assistant to the Chancellor for Equal Opportunity Programs, University of Wisconsin (Madison Campus), July, 1968-June, 1969.

Staff Associate, Institute for Research on Poverty, University of Wisconsin, 1966-1969.

Consultant on evaluation and urban policy, ACTION, Washington, D.C., 1977-1978.

Member, Law and Government Study Group, National Institute of Education, 1979-1982.

Director of Policy Studies, Legal Service Institute, Jamaica Plain, MA, 1979-1981.

Member, Board of Trustees, Justice Resource Institute, 1978-.

Consultant, Massachusetts Department of Public Welfare, 1983-.

PUBLICATIONS - BOOKS:

Protest in City Politics: Rent Strikes, Housing and the Power of the Poor (Chicago: Rand McNally, 1970).

Law and Order: Police Encounters, 2nd edition, edited with an Introduction (New Brunswick, N.J.: Transaction Books, 1973).

Theoretical Perspectives on Urban Politics, edited with an Introduction (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1976) (with Willis Hawley).

Commission Politics: The Processing of Racial Crisis in America (New Brunswick, N.J.: Transaction Books, 1977) (with David J. Olson).

Street-Level Bureaucracy: Dilemmas of the Individual in Public Services (New York: Russell Sage, 1980).

In August, 1981, Street-Level Bureaucracy was named the 1981 recipient of the C. Wright Mills Award of the Society for the Study of Social Problems.

In September, 1981, the American Political Science Association presented Street-Level Bureaucracy with its Gladys E. Kammerer Award as the best publication on national policy published in 1980 (co-winner).

PUBLICATIONS - ARTICLES:

"Outputs, Structure and Power: An Assessment of Changes in the Study of State and Local Politics," Journal of Politics 30 (May, 1968), pp. 220-248 (with Herbert Jacob).*

"Protest as a Political Resource," American Political Science Review, LXII (December, 1968), pp. 1144-1158.*

"Rent-Strikes--Poor Man's Weapon," Transaction, February, 1969, pp. 10-15.*

"Riot Commission Politics," Transaction, July-August, 1969, pp. 9-19 (with David J. Olson).*

"Landlord-tenant Law in the United States and West Germany: A Comparison of Legal Approaches," Tulane Law Review, XLIV (December), 1969, pp. 36-66 (with Carl Neumann).

"Review Symposium" (on the Supplemental Studies for the National Advisory Commission on Civil Disorders), American Political Science Review, LXIII (December, 1969), pp. 1278-1281.

(*Indicates article reprinted in journal or anthology.)

"Radical Decentralization: A Response to American Planning Dilemmas." Paper presented to the Second International Symposium on Regional Development, sponsored by the Japan Center for Area Development Research, September 17-19, 1968, Tokyo, Japan. Published in the proceedings of the Symposium (Tokyo, Japan: Japan Center for Area Development Research, 1969), pp. 102-110.*

"Social Scientists and the Riot Commission," The Annals of the American Academy of Political and Social Science, 384 (March), 1971, pp. 72-83.

"Street-level Bureaucracy and the Analysis of Urban Reform," Urban Affairs Quarterly, 6 (June, 1971), pp. 391-409.*

"Citizen Participation in Federal Housing Policies." Paper submitted to Subcommittee on Housing Panels on Housing Production, Housing Demand, and Developing a Suitable Living Environment, Committee on Banking and Currency, House of Representatives, 92nd Congress, First Session, June, 1971, pp. 895-925 (with Donald Dickson, John Mollenkopf, and Jon Fynoes).

"Street-level Bureaucracy and the Study of Educational Politics," in Michael Kirst, ed., The State, School and Politics: Research Directions (Lexington, Mass.: D.C. Heath and Company, 1972), pp. 205-212.

"Community Organization as a Political Resource," People and Politics in Urban Society, Urban Affairs Annual Review, Vol. 6, Harlan Hahn, ed. (Beverly Hills, California: Sage, 1972), pp. 175-199 (with Margaret Levi).

"Civil Disorder and the American Political Process: The Meaning of Recent Urban Riots," in David Perry and Herbert Hirsch, eds., Violence as Politics (New York: Harper, 1973), pp. 161-186 (with David J. Olson).

"Views on the American Experience with Social Experimentation," Social Research and Public Policies. Proceedings of the O.E.C.D Seminar on Social Research and Public Policy, Hanover, N.H., September 13-15, 1974.

"Toward a Theory of Street-level Bureaucracy," in Willis Hawley and Michael Lipsky, eds., Theoretical Perspectives on Urban Policy (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1976), pp. 196-213.*

"The Processing of Racial Crisis in America," Politics and Society, Vol. 6 (1976), pp. 79-103 (with David J. Olson).

"Citizen Participation and Health Care: Problems of Government Induced Participation," Journal of Health Politics, Policy and Law, 1 (Spring, 1976), pp. 88-111 (with Morris Lounds).

"The Future of the Veteran's Health Care System," Journal of Health Politics, Policy and Law, 1 (Fall, 1976), pp. 285-294 (with Lawrence McCray, Jeffrey Prottas and Harvey Sapolsky).

"Street-level Bureaucrats and Institutional Innovation: Implementing Special Education Reform in Massachusetts," Harvard Educational Review 47 (May, 1977), pp. 171-197 (with Richard Weatherly).*

"Preface," Political Language, by Murray Edelman (Chicago: Academic Press, 1977).

"The Assault on Human Services: Street-Level Bureaucrats, Accountability, and the Fiscal Crisis," in Scott Greer, et al., eds., Accountability in Urban Society (Beverly Hills, Cal.: Sage Publications, 1978), pp. 15-39.

"Standing the Study of Public Policy Implementation on its Head," in W. Dean Burnham and Martha Wagner Weinberg, eds., American Politics and Public Policy (Cambridge, Mass.: M.I.T. Press, 1978), pp. 391-402.

"Poverty and Administration: Perspectives on Research," in Vincent Covello, ed., Poverty and Public Policy: An Evaluation of Social Science Research (Boston: G.K. Hall, 1980), pp. 164-186.

"The Welfare State as Workplace," Working Papers 7 (May/June, 1980), pp. 33-38.*

"Quality Control in AFDC as an Administrative Strategy," Social Service Review, 57 (March, 1983), pp. 1-34 (with Evelyn Brodtkin).

"Bureaucratic Disentitlement in Social Welfare Programs," Social Service Review (March, 1984 forthcoming).

"Evaluation and Problems of Governance," in Langeley Keyes and Jennifer Leaning, eds., The Counterfeit Ark (Cambridge, Mass.: Ballinger, forthcoming).

PUBLICATIONS - OTHER:

Member, Subcommittee on the Planning Process and Urban Development, of the National Academy of Science's Advisory Committee to the Department of Housing and Urban Development. The Subcommittee's report: Revenue-Sharing and the Planning Process: Shifting the Locus of Responsibility for Domestic Problem-Solving (Washington, D.C.: National Academy of Sciences, 1974).

Primary Advisor, American Government Today (Del-Mar Co.: CRM Books, 1974), and author of Chapter 16, "Mass Political Participation: Mobilization, Protest, and Violence," pp. 457-477.

ATTACHMENT 4

TRAFFIC CONTROL

MODULE NO. 12

LERO personnel who should complete this workbook:

- | | |
|---------------------------------------|-------------------------------------|
| o Director of Local Response | o Road Logistics Coordinator |
| o Manager of Local Response | o Traffic Control Point Coordinator |
| o Public Information Coordinator | o Staging Area Coordinators |
| o Public Information Staff | o Traffic Guide Coordinators |
| o Evacuation Coordinator | o Traffic Guides |
| o Traffic Control Coordinator | o Road Crews |
| o Evacuation Route Coordinator | o Evacuation Route Spotters |
| o Traffic Control Group Communicators | |

Your Name _____

LERO Title _____

Company Title _____

HERO TRAINING PROGRAM

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. The Evacuation Group	2
B. The Traffic Control Group	7
- Traffic Control Coordinator	7
- Traffic Control Point Coordinator	11
- Road Logistics Coordinator	15
- Evacuation Route Coordinator	19
- Traffic Guides	22
- Road Crew	28
- Evacuation Route Spotters	32
 <u>FIGURES</u>	
1. Local Emergency Response Organization	3
2. Special Facilities Evacuation Group	4
3. Transportation Group	6
4. Traffic Control Group	9
 <u>Tables</u>	
1. Traffic Control Posts	13
2. Patrol Routes	17

TRAINING OBJECTIVES

At the conclusion of this workbook, the trainee should be able to:

- A. List the emergency classes at which Traffic Control members are notified and know when and where to report.
- B. Know how many zones are in the EPZ.
- C. State the groups within the Evacuation Group.
- D. List the people in Traffic Control who report to the Local EOC and know at what level of emergency they report.
- E. Understand the operations and activities of the three field groups and their coordinators when evacuation is ordered.
- F. State the types of dosimeters field members will use and what kinds of protection can be taken to minimize radiation exposure.
- G. List what field members do after their deployment is over.
- H. Understand the reporting chain within Traffic Control.
- I. Briefly explain what occurs at Staging Areas.
- J. Know how Traffic Control is notified and what to do when notified.
- K. State by title who has and who does not have pagers within Traffic Control.

INTRODUCTION

As you remember from the first presentation, the Nuclear Regulatory Commission has set certain standards to classify nuclear power plant emergencies. There are four emergency classes which increase in severity. They are:

- o Unusual Event
- o Alert
- o Site Area Emergency
- o General Emergency

The Unusual Event class has no radiation release. The Alert class has no or very small radiation releases. The Site Area Emergency may involve and the General Emergency will definitely involve some degree of radiation releases offsite. When there is a potential or actual release of radiation, the Director of Local Response will analyze the conditions and may recommend some form of sheltering and/or evacuation in the Emergency Planning Zone or EPZ. Sheltering will be the protection recommended in the majority of cases. However, in extremely rare cases, some evacuation may be recommended. Evacuation in any case will be most likely only for a portion of the population in the EPZ. The EPZ is divided into 19 zones where one or more complete zones may be asked to evacuate.

To help the evacuation from the Shoreham EPZ go smoothly, LERO has an Evacuation Group.

A. THE EVACUATION GROUP

Figure 1 shows the Evacuation Group with the rest of LERO.

Notice that it has three main groups:

- o The Transportation Group
- o The Special Evacuation Group
- o The Traffic Control Group

Before we get into the details of the Traffic Control Group and what they do, let's briefly describe the other two groups.

The Special Facilities Evacuation Group

The Special Facilities Evacuation Group assists in the evacuation of hospitals or nursing homes and other similar facilities or helps individuals with special needs, such as the handicapped, to evacuate. They also have a group of Route Alert Drivers who drive routes and use Public Address Systems to alert people in areas of siren malfunction. The Special Facilities Evacuation Coordinator is in charge of this group.

FIGURE 1

LOCAL EMERGENCY RESPONSE ORGANIZATION

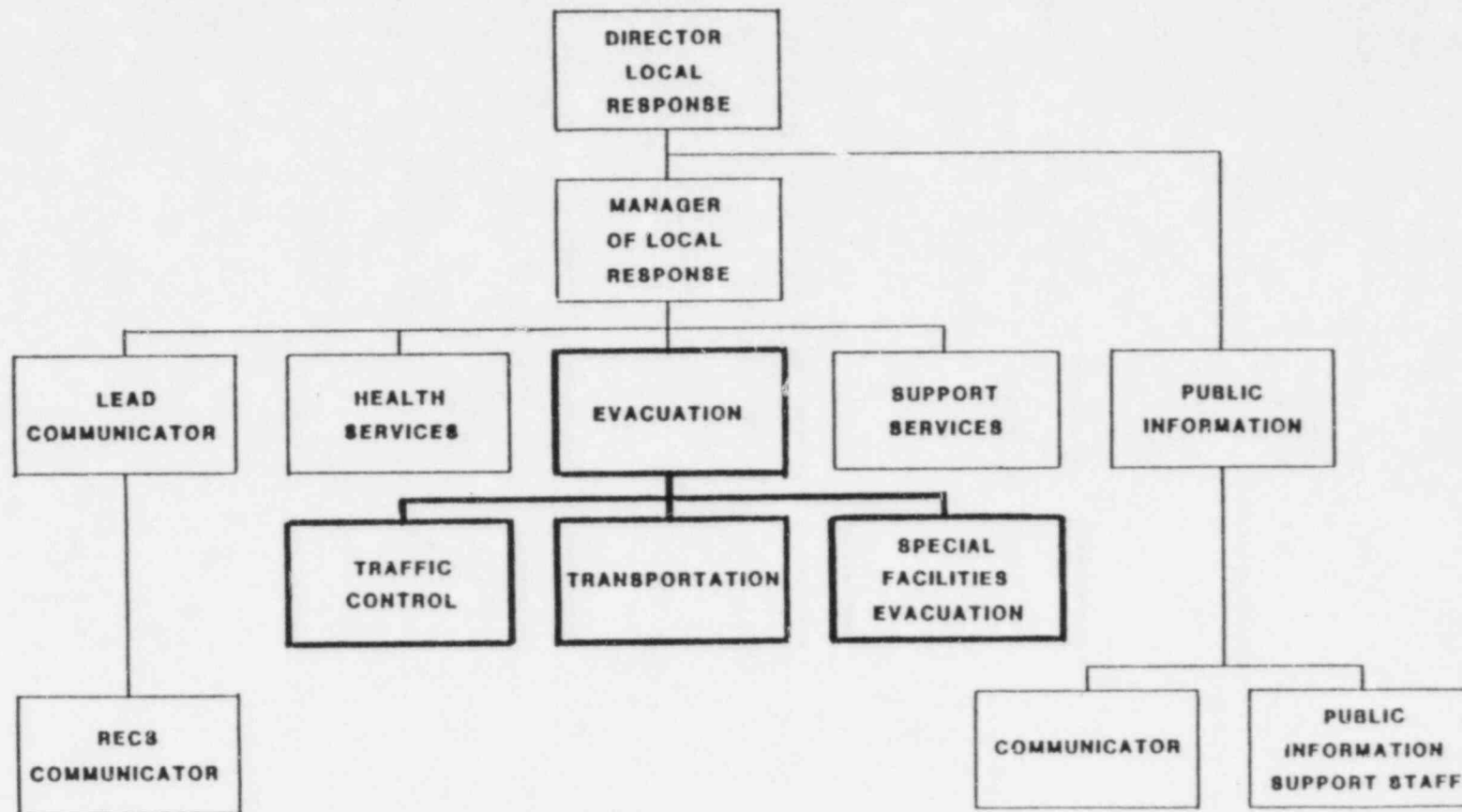
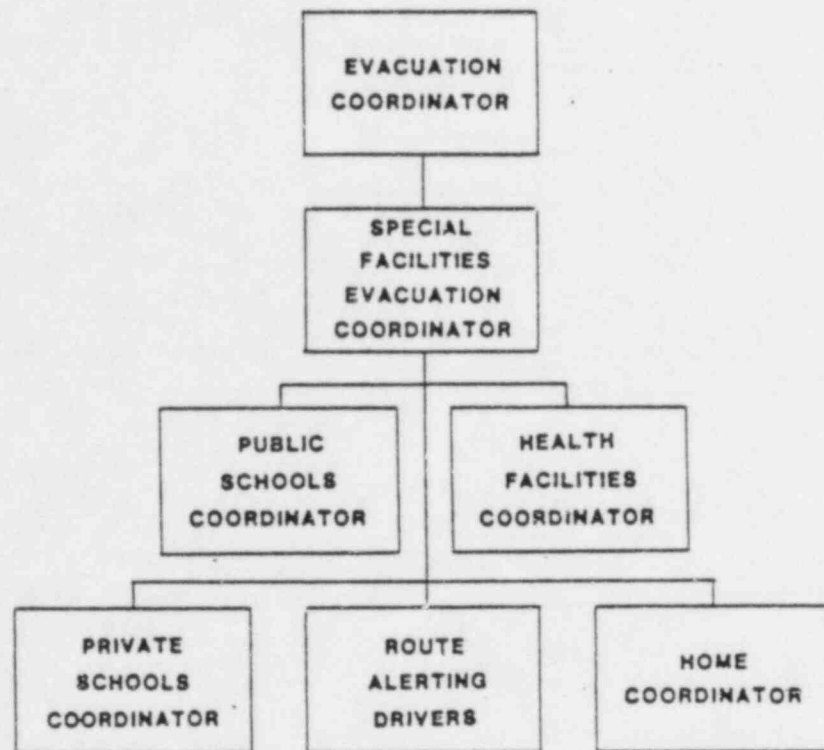


FIGURE 2

LOCAL EMERGENCY RESPONSE ORGANIZATION SPECIAL FACILITIES EVACUATION GROUP



LERO TRAINING PROGRAM

The Transportation Group

The Transportation Group is headed by the Transportation Support Coordinator. They will operate buses to pick up those people who should evacuate, but who don't have their own transportation. There are networks of bus routes to be driven by the drivers so that pick up spots are no more than 1/2 mile from any given residence. The people picked up will be brought to Relocation Centers.

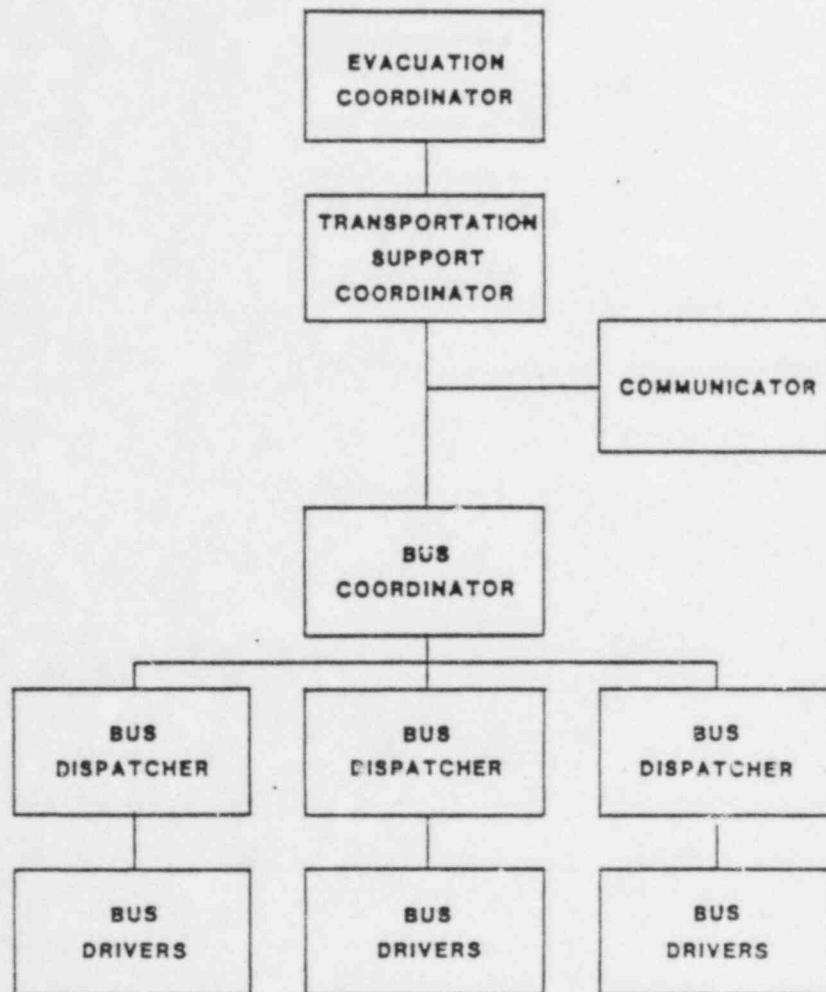
To summarize, sheltering is the most likely protective action to be taken. Evacuation is very unlikely.

Even though the entire EPZ could be evacuated, it is likely that only a few of the 19 zones would be required to evacuate.

The Evacuation Group within LERO provides busing, traffic control, route alerting and help with special evacuations.

FIGURE 3

TRANSPORTATION GROUP



B. THE TRAFFIC CONTROL GROUP

Our discussion will start at the top of the Traffic Control Group and work down. For each person or group, the discussion will start with the basic job description, then how they get notified and mobilized. Each person or group will then get a step-by-step description of what they do during an emergency. It should be remembered that even though all the coordinators and the required number of field group members will be notified and report as per procedure, a smaller group of field people may actually be mobilized. This initial notification and reporting in of large numbers of people is done to allow for the possible evacuation of the entire EPZ and all 19 zones simultaneously. In most cases, only one or a few of the 19 zones would need evacuation, thus requiring a reduced number of field personnel.

- Traffic Control Coordinator

o Job Description

The Traffic Control Coordinator is in charge of the entire Traffic Control operation. He reports to the Evacuation Coordinator and has five people reporting directly to him. They are:

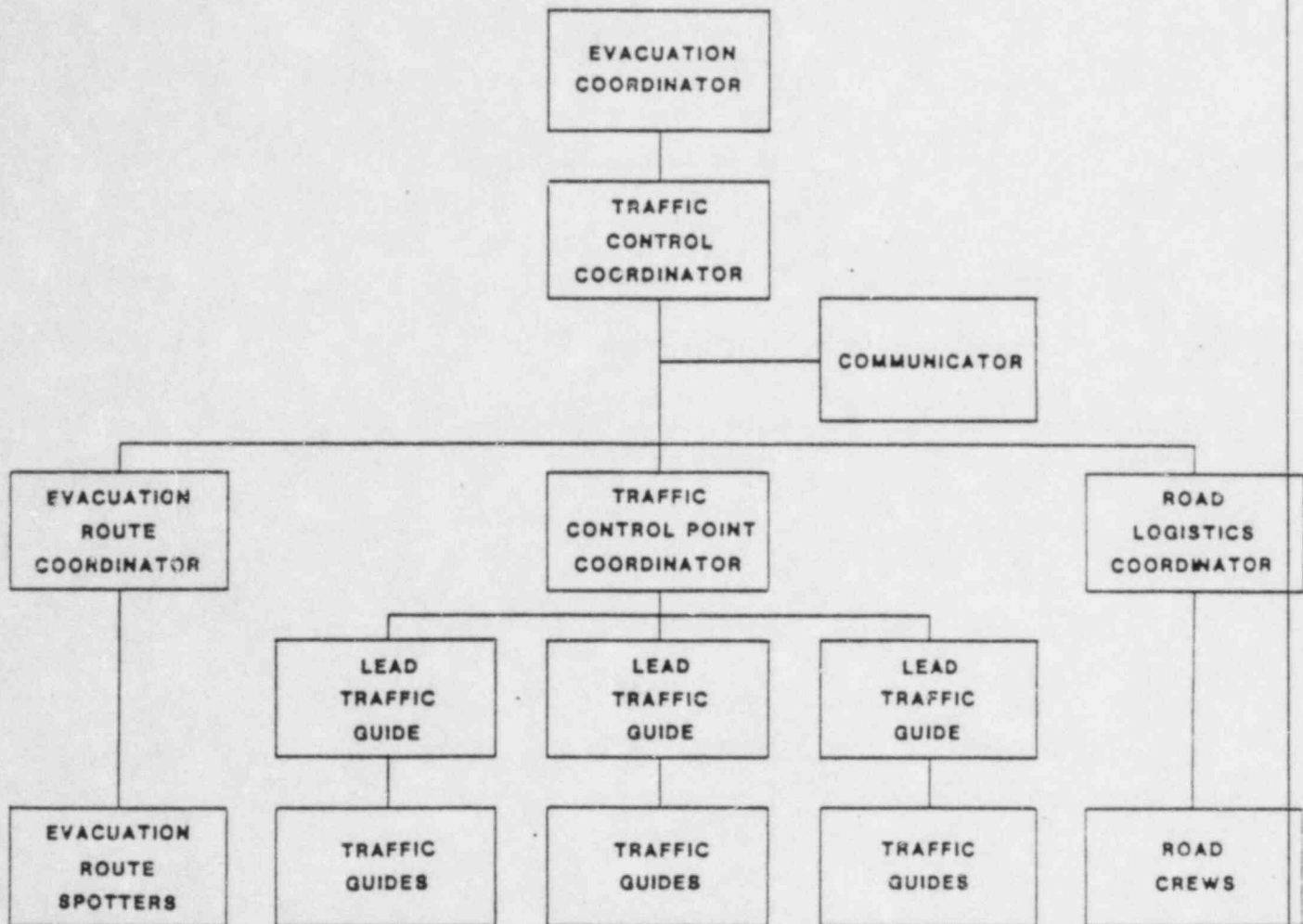
- a. The Traffic Control Point Coordinator
- b. The Road Logistics Coordinator
- c. The Evacuation Route Coordinator
- d. Two Communicators

- o Notification and Mobilization

The Traffic Control Coordinator will not be notified for an Unusual Event. He is notified for an Alert, Site Area Emergency and General Emergency and reports to the EOC when paged.

FIGURE 4

TRAFFIC CONTROL GROUP



o What the Traffic Control Coordinator Does

- a. After arriving at the Local Emergency Operations Center (EOC), confer with the Evacuation Coordinator on the current status of the emergency. Discuss the possibilities and scope of evacuation with him and the three Traffic Control Group Coordinators (the Road Logistics Coordinator, Traffic Control Point Coordinator and Evacuation Route Coordinator).
- b. If evacuation is recommended, obtain the details such as:
 - 1. Emergency class
 - 2. Zones affected
 - 3. Duration of radiation release
 - 4. Doses expected offsite
 - 5. What route will be used for a Site Evacuation
- c. Make sure that your coordinators have all the necessary information and that it is correct.
- d. After you are sure that your coordinators are properly informed, direct them to begin Traffic Control operations for the affected zones.
- e. During the course of the emergency, communicate with your coordinators to keep them briefed and to keep yourself informed.
- f. Provide status updates on Traffic Control operations to the Evacuation Coordinator or other LERO management.

LERO TRAINING PROGRAM

- g. When Traffic Control operations are complete, conduct a briefing with your coordinators and provide a report to the Evacuation Coordinator.

- Traffic Control Point Coordinator

- o Your Job Description

The Traffic Control Point Coordinator is in charge of the Traffic Guides. He reports to the Traffic Control Coordinator and will have all the Traffic Guides reporting to him through the Lead Traffic Guides.

As mentioned in the video presentation, the Traffic Guides are stationed at pre-designated road intersections and entrance ways to assist in the flow of traffic.

- o Notification and Mobilization

The Traffic Control Point Coordinator has a pager and reports to the EOC when notified of an Alert, Site Area Emergency and General Emergency. He is not notified for an Unusual Event.

- o What the Traffic Control Point Coordinator Does

- a. After arriving at the Emergency Operations Center, obtain briefing from the Traffic Control Coordinator on the current status of the emergency.
 - b. If evacuation is recommended, verify the zones to be evacuated with the Traffic Control Coordinator.

- c. After the zones are verified, determine the number of posts to be activated. In the EOC there is a copy of OPIP 3.6.3, "Traffic Control" which has the list of posts to be manned for each zone that is evacuated. Take time now to examine the sample from this list shown on the next page.

TRAFFIC CONTROL POSTS

POST #	LOCATION	ZONE(S)	STRATEGY	NUMBER OF TRAFFIC GUIDES
7	Ridge Rd. @ Whiskey Rd.	F	PREVENT traffic from proceeding east on Whiskey Rd. DIRECT all traffic south on Ridge Rd.	1
8	CR 46 @ Whiskey Rd.	B with A	DIRECT eastbound traffic to southbound on William Floyd Pkwy. Use southbound shoulder as entrance ramp, if necessary.	1
9	Rt. 25 @ Ridge Rd.	F	DIRECT 50% of southbound traffic west and 50% south. FACILITATE westbound through movement on Rt. 25. PREVENT traffic from proceeding east on Rt. 25. Redirect eastbound traffic south down residential streets.	2
10	Rt. 25 @ Wading River Manor Rd.	C or D	DIRECT eastbound traffic on Rt. 25 southbound on Wading River Manor Rd. DIRECT southbound traffic on Wading River Manor Rd. to continue south. DIRECT northbound Wading River Manor Rd. traffic (if any) west on Rt. 25.	2

NOTE: Notice that the list has the posts numbered and gives their location. Instructions that tell how many Traffic Guides are needed are given for the Traffic Guides at each location. Each Traffic Guide sent out to a post will be given equipment, along with a copy of the Traffic Control Procedure which has this list attached.

- d. To dispatch the Traffic Guides, have a Traffic Control Communicator telephone the Staging Area nearest the zones to be evacuated. Request that the required number of Traffic Guides be deployed and relay the traffic post numbers to be activated. Then request a status report following their deployment.
- e. Maintain a status of the Traffic Guide deployment to keep yourself and the Traffic Control Coordinator informed. All Traffic Guides will relay their information to their Lead Traffic Guide, who will relay it to the EOC. All messages from the EOC for Traffic Guides will first be relayed to the Lead Traffic Guide who will radio the information to them.
- f. If the area to be evacuated increases, request additional deployment of Traffic Guides from the Lead Traffic Guide at the appropriate Staging Area.
- g. During their deployment, Traffic Guides will provide updates to the Lead Traffic Guide on traffic conditions. The Lead Traffic Guide will report this information to the EOC. If there are reports of unexpected heavy or light traffic, this could be a sign of an accident, road blockage or other

HERO TRAINING PROGRAM

difficulty. Relay the messages of traffic flow problems to the Traffic Control Coordinator. He will then direct the coordinator of the Route Spotters or Road Crew to investigate the problems.

- h. Keep the deployed Traffic Guides informed of the status of the emergency. Inform them when emergency classes change, evacuation plans alter or routes change and of Route Spotter investigations and Road Crew work.
- i. Especially keep the Lead Traffic Guides informed of radiological conditions. If it becomes known that a traffic control post lies in an area where the Traffic Guides will get 5R or more, then inform the appropriate Lead Traffic Guide to radio the Traffic Guide at that post to abandon the area. The Traffic Control Coordinator will keep you informed of the expected doses for a zone and what posts should be abandoned.
- j. When Traffic Guides complete their assignments, have them report to the Emergency Worker Decontamination Center in Brentwood for their contamination check. Then hold a briefing with them to prepare a report for the Traffic Control Coordinator.

- Road Logistics Coordinator

o Your Job Description

The Road Logistics Coordinator is in charge of the Road Crews. He reports to the Traffic Control Coordinator and

will have all the Road Crew personnel reporting to him. The Road Crews are dispatched to clear blockages to the flow of evacuation traffic.

o Notification and Mobilization

The Road Logistics Coordinator will not be notified for an Unusual Event. He will be notified for an Alert, Site Area Emergency, or a General Emergency and reports to the EOC when paged.

o What the Road Logistics Coordinator Does

- a. After arriving at the Emergency Operations Center, get briefed by the Traffic Control Coordinator on the current status of the emergency.
- b. If evacuation is ordered, verify the zones to be evacuated with the Traffic Control Coordinator and determine the priority routes for Road Crew deployment. The Traffic Control Procedure contains a two page listing of patrol routes which correspond to the affected zones. The following page has a sample from this list.
- c. To dispatch the Road Crew, have a Traffic Control Communicator telephone the Lead Traffic Guide at the Staging Area nearest the zones to be evacuated. Provide the dispatching information and request a status report following their deployment.
- d. Maintain a status of Road Crew deployment to keep yourself and the Traffic Control Coordinator informed.

PATROL ROUTES

NOTE: The following roadways represent major evacuation routes which require constant patrolling during an evacuation. The stated objective is to keep these routes clear of obstructions and report any problem encountered along a route. Where possible, disabled vehicles should be pushed clear of the travel lanes. Radio for truck or any other assistance required. (Route numbers begin with 151 to avoid confusion with traffic control post numbers.)

Route #	Roadway(s)	Patrol Section(s)	Zone(s)
151	Wading River Manor Road	From Route 25 to Route 495	C or I
152	Edwards Avenue	From Route 495 to Route 25	E or D or I or J or P
	Route 25	From Edwards Avenue to Route 495	
	Route 495	From Route 25 to Edwards Avenue	
(Note: These three roads are designed to be patrolled as a single loop by one car.)			
153A	William Floyd Parkway	From Route 25A to Route 495	A or B or C or G or H
153B		From Route 495 to Route 27	M or N
154A	CR 21	From Route 25A to Mill Road	F or G or H
154B		From Mill Road to Route 27	M

- e. If the area to be evacuated increases in size, request additional deployment of Road Crew members from the appropriate Staging Area.
- f. During the deployment of Road Crews, they will report the status of traffic and Road Crew clearing work directly to the Communicator at the EOC. Relay this information to the other Traffic Control Point Coordinator, Evacuation Route Coordinator and Traffic Control Coordinator.
- g. Keep the deployed Road Crews informed of the status of the emergency. Inform them of the status of the evacuation, emergency class changes, evacuation plan alterations and route changes.
- h. Keep the Road Crew informed of radiological conditions. If it becomes known that a Road Crew member will be in an area where he could receive a dose of 5R or more, assign the person to a different area. The Traffic Control Coordinator will keep you informed of the offsite doses that are expected.
- i. When Road Crews are done, have them report to the EOC for their contamination checks. Hold a briefing with them to prepare a report for the Traffic Control Coordinator.

- Evacuation Route Coordinator

o Your Job Description

The Evacuation Route Coordinator is in charge of the six Evacuation Route Spotters and reports to the Traffic Control Coordinator. The Route Spotters drive the evacuation routes to discover and report traffic flow problems and their causes.

o Notification and Mobilization

The Evacuation Route Coordinator is not notified for an Unusual Event. He is notified by pager for an Alert, Site Area Emergency or General Emergency and reports to the EOC when paged.

o What the Evacuation Route Coordinator Does

- a. After arriving at the Emergency Operations Center, get briefed by the Traffic Control Coordinator on the current status of the emergency.
- b. If evacuation is ordered, verify the zones to be evacuated with the Traffic Control Coordinator and by observing the status boards in the EOC.
- c. To dispatch the Route Spotters, have a Traffic Control Coordinator telephone the Lead Traffic Guide at the Staging Area nearest the zones to be evacuated. Relay the zones to be surveyed and request a status report following their deployment (see page 17 for an example

HERO TRAINING PROGRAM

of the priority route listing shown from the Traffic Control Procedure). Notice that the routes are specific for the zones that are affected.

- d. If additional zones need evacuation, contact the appropriate Staging Area and request additional spotters. Since there are only six spotters, a Lead Traffic Guide may recruit additional spotters from other groups waiting for deployment at the Staging Area. If other spotters have to be recruited, talk with the Traffic Control Coordinator first.
- e. Keep informed of the status of Route Spotters. If they report road blockages, notify the Road Logistics Coordinator who will dispatch a Road Crew to clear them. There may also be specific requests from the Road Crews or Traffic Guides to investigate traffic problems. When these requests come in, determine the closest available Route Spotter and dispatch him to the suspected trouble area to investigate. Route Spotters will communicate directly with the Traffic Control Communicator in the EOC.
- f. Keep Route Spotters informed of the status of the emergency. Especially keep them informed of radiological conditions. The Traffic Control Coordinator will inform you of zones or routes which could have high levels of radiation. If you are informed that the radiation is excessive to the emergency worker for a particular area, radio the Route Spotters to abandon the route in that area and to not return to the area unless specifically instructed to do so.

HERO TRAINING PROGRAM

- g. When a Route Spotter is done with a zone, instruct him to repeat the route or go to another route. When you are informed that Traffic Control operation is complete, call in your spotters to the EOC. Brief them there after they get their contamination checks.

Before we go on to the field groups, let's summarize the important points about the coordinators in Traffic Control.

- o The Traffic Control Coordinator is in charge of the whole Traffic Control group. He reports to the Evacuation Coordinator. He gives information and activation orders to his coordinators who activate and direct the three field groups.
- o The Traffic Control Point Coordinator directs the Traffic Guides.
- o The Road Logistics Coordinator directs the members of the Road Crew.
- o The Evacuation Route Coordinator directs the Evacuation Route Spotters.
- o Each of the three field group coordinators have certain things in common, as shown below:

- a. Notification:

All coordinators are notified by pager. None of the coordinators is notified for an Unusual Event. They are notified for an Alert, Site Area Emergency and General Emergency and report to the Local EOC when paged.

HERO TRAINING PROGRAM

b. At the EOC:

Each coordinator gets briefed by the Traffic Control Coordinator, and verifies the zones to be evacuated. To dispatch field teams, have one of the Communicators telephone the Lead Traffic Guide at the appropriate Staging Area and relay the information and direction.

c. When field teams are deployed:

Keep in constant communication on their progress and inform them of the evacuation status. Remember to inform the field members when they themselves should evacuate because of excessive radiation exposure. Traffic Guides communicate through the Lead Traffic Guide at their Staging Area. The Road Crew and the Route Spotters communicate directly with the EOC.

d. When field members are done:

Call in the field members to the EOC for their contamination checks. Then hold a briefing session.

- Traffic Guides

o Your Job Description

Of all the designated Traffic Guides, about 75% will be activated during an emergency, and the remainder will be backups. Three Traffic Guides are designated "Lead Traffic Guides" with one stationed in each Staging Area.

LERO TRAINING PROGRAM

Traffic Guides are dispatched from Staging Areas to man traffic control posts. At a post, they will direct traffic to assist the flow of vehicles at intersections and entrance ways. Traffic Guides report to the Lead Traffic Guide at a Staging Area and communicate with him when in the field.

- o Notification and Mobilization

Eighteen of the Traffic Guides (three Lead Traffic Guides and 15 others) have pagers. None of the Traffic Guides is notified for an Unusual Event. These 18 are paged for an Alert, Site Area Emergency, or General Emergency. For an Alert, the Lead Traffic Guides report to their assigned Staging Area. The 15 others with pagers just stay on standby. For a Site Area Emergency or General Emergency, the three Lead Traffic Guides report to the Staging Areas and the other 15 will notify and call in about 190 Traffic Guides. Each Traffic Guide with a pager has a list of Traffic Guides to call. Out of each list, only the first 11 or 12 Traffic Guides that are reached will be notified and called in. All the notified Traffic Guides, including the 15 with pagers will report to one of the three pre-assigned Staging Areas.

- o What a Traffic Guide Does

- a. After finishing their calls, the 15 paged Traffic Guides will report to their assigned Staging Area along with the other guides they have reached. All traffic guides will drive to the Staging Area in their own vehicles.

LERO TRAINING PROGRAM

- b. When you get to a Staging Area, a security guard will check off your name on a roster.
- c. After being checked in at the Staging Area, all personnel will be told where to pick up their dosimeters. When you get your dosimeters, immediately put them on. You will get a 0-200 mR dosimeter, a 0-5 R dosimeter and a TLD badge. Clip these to an outside shirt or coat pocket.
- d. At the Staging Area, the Lead Traffic Guide will coordinate the assembly and brief the Traffic Guides.

The six steps below discuss the job of the Lead Traffic Guide.

- 1. The Lead Traffic Guide at a staging area oversees the assembly, briefing and deployment of the Traffic Guides, Road Crew and Route Spotters.
- 2. The Lead Traffic Guide obtains the roster from security. Using the roster, he notifies the three coordinators in the EOC on the manpower status of the field groups.
- 3. He receives notification from the Coordinators in the EOC on the emergency status. If there will be an evacuation, he is told what zones and traffic control posts will be involved, what routes should be used and what deployment areas should be covered.

LERO TRAINING PROGRAM

4. After being informed, he briefs the field member on the evacuation details and assigns posts, routes and deployment areas.
 5. He distributes the equipment and emergency packets.
 6. He then remains at the staging area and keeps in contact with the EOC coordinators on the deployment status of the field groups.
 7. He will be the communication contact for receiving and sending all information to the deployed Traffic Guides and will be the contact for relaying all traffic guide information to and from the EOC.
- e. The Traffic Guides, after being assembled and briefed, will get their emergency equipment and kit. The kit has a packet which contains maps, the Traffic Control procedure (OPIP 3.6.3) and a Traffic Guide checklist. This checklist provides each Traffic Guide with a step-by-step process on what to do from the time they get their packets to the time their assignment is over.

Take the time now to read the Traffic Guide checklist shown on the next two pages.

TRAFFIC GUIDE PROCEDURE

1. Inventory emergency packets before going to the traffic control point. Equipment consists of:
 - a. Packet containing:
 - Traffic control procedure
 - Traffic control point maps
 - b. Emergency vest
 - c. Flashlight, flares
 - d. Traffic cones
 - e. Standard rain gear
2. Receive dosimetry, consisting of 1 direct-reading dosimeter (0-200 mR), 1 direct-reading dosimeter (0-5 R) and 1 thermoluminescent dosimeter (TLD). Make sure these are put on immediately.
3. Complete Part I of all dosimetry forms required, retaining a Daily Dose Record Card and a copy of a Permanent Dose Record Form.
4. Attend the Lead Traffic Guide evacuation briefing to receive direction on your assignment.
5. Pick up mobile radios and check operation of units. If radios should break down, use a commercial telephone or proceed to another radio-equipped location.
6. Upon arrival at the traffic control point, put on emergency safety vest. Make sure dosimeters are placed on clothing. Do not try to tamper with traffic signals. Leave them in their present mode.
7. Place the LERO vehicle so that its physical location will achieve the desired control strategy and avoid interference with the desired traffic flow. Use of the traffic cones will assist in this task for detouring of vehicles. Approaching emergency vehicles and buses are to be given priority right of way.
8. If County or other police arrive at your post, turn over control to them. Brief them on the strategy of the control post and any problems that have arisen during the emergency.

TRAFFIC GUIDE PROCEDURE (continued)

Remain with them throughout the duration of the assignment to provide radiological dose information and communications to the EOC. Request police accompany you to the Emergency Worker Decontamination Center at the completion of the assignment.

9. Contact the Lead Traffic Guide at the Staging Area upon the following conditions:
 - a. Upon initially establishing your control post.
 - b. If traffic flow through your intersection stalls.
 - c. If road blockage requires a Road Crew.
 - d. If there is no traffic on your assigned route.
10. Upon arrival of the LERO Evacuation Route Spotters, indicate any problems that are occurring at the traffic control point.
11. If informed by the Lead Traffic Guide that you are downwind of a release, put on your standard rain gear. Read your direct reading dosimeters at 15 minute intervals.
12. If readings go beyond the scale on the 0-200 mR dosimeter, inform the Lead Traffic Guide and read the 0-5 R dosimeter.
13. At a reading of 3.5 R, inform the Lead Traffic Guide of your dosimeter readings. Make sure traffic cones are properly set up to detour traffic correctly. Leave post when instructed or at 5 R, whichever occurs first.
 - a. Report to the Emergency Worker Decontamination Center at the Local EOC in Brentwood for monitoring and possible decontamination.
 - b. After completion of the Decontamination Center Check in, report to the Traffic Control Point Coordinator for a briefing.
14. When informed by the Lead Traffic Guide that emergency operations have ended, dismantle traffic control post and return to the Emergency Worker Decontamination Center at the Local EOC for monitoring and decontamination. Report to the Traffic Control Point Coordinator for a final briefing.

- Road Crews

o Your Job Description

All Road Crews will be deployed from the Staging Areas in company trucks to waiting points along evacuation routes. From these waiting points, they will be dispatched to clear road blockages. Road Crews report to the Lead Traffic Guide at the Staging Area and will report to and communicate with the Road Logistics Coordinator at the EOC when in the field.

o Notification and Mobilization

Three of the Road Crew members have pagers. None of the Road Crew members are notified for an Unusual Event. These three are paged for an Alert, Site Area Emergency and General Emergency. For an Alert, the three just stay on standby. But for a Site Area Emergency or General Emergency, the three Road Crew members will notify and call in about 27 additional Road Crew members. Each Road Crew member with a pager has a list of 15 Road Crew members to call. Out of each list of 15, only the first 9 that are reached will be notified and called in. All the notified Road Crew members including the three with pagers will report to one of three pre-assigned Staging Areas. One of the Road Crew members with a pager will also notify and call in three Route Spotters.

LERO TRAINING PROGRAM

o What a Road Crew Member Does

- a. The paged Road Crew members, after finishing their calls, will report to their assigned Staging Area along with the other members that they have reached. They will drive to the Staging Area in their own vehicles.
- b. When you get to a Staging Area, a security guard will check off your name on a roster.
- c. After being checked in at the Staging Area, all personnel will be told where to pick up their dosimeters. When you get your dosimeters, immediately put them on. You will get a 0-200 mR dosimeter, a 0-5 R dosimeter and a TLD. Clip these to an outside shirt or coat pocket.
- d. At the Staging Area the Lead Traffic Guide will coordinate the assembly and preparation of the Road Crew.
- e. Road Crew members, after being assembled and briefed, will be assigned a vehicle and given their emergency equipment and kit. The kit has a packet which contains maps, the Traffic Control procedure (OPIP 3.6.3) and a Road Crew checklist. This checklist provides each Road Crew with a step-by-step process on what to do from the time they get their packets to the time their assignment is over.

Take time now to read the Road Crew Checklist shown on the next two pages.

ROAD CREW PROCEDURE

1. Inventory emergency packets before being deployed to designated locations along evacuation routes. Packets should contain:
 - a. Traffic control procedure
 - b. Traffic control point maps
 - c. Emergency vest
 - d. Flashlight, flares
 - e. Traffic cones
 - f. Standard rain gear
2. Receive dosimetry, consisting of 1 direct-reading dosimeter (0-200 mR), 1 direct-reading dosimeter (and 0-5 R) and 1 thermoluminescent dosimeter (TLD). Make sure these are put on immediately.
3. Complete Part I of all dosimetry forms required, retaining a Daily Dose Record Card and a copy of a Permanent Dose Record Form.
4. Attend the Lead Traffic Guide evacuation briefing to receive direction on your assignment.
5. Pick up mobile radios and check operation of units. If radios should break down, use a commercial telephone or proceed to another radio-equipped location.
6. Leave for predesignated locations along evacuation routes, watching for road impediments that have to be moved.
7. If problems arise, contact the Road Logistics Coordinator via radio at the Local EOC immediately.
8. If informed by the Road Logistics Coordinator that you are downwind of a release, put on your standard rain gear. Read your direct-reading dosimeters every 15 minutes.
9. If readings go beyond the scale on the 0-200 mR dosimeter, inform the Road Logistics Coordinator and read the 0-5 R dosimeter.

ROAD CREW PROCEDURE (continued)

10. At a reading of 3.5 R, inform the Road Logistics Coordinator of your dosimeter readings and prepare to leave your post. If directed to leave your post, or at a reading of 5 R, whichever occurs first, return to the Local EOC/Emergency Worker Decontamination Center at Brentwood for monitoring and possible decontamination.
11. When informed by the Road Logistics Coordinator that emergency operations have ended, return to the Emergency Worker Decontamination Center at the Local EOC for monitoring and decontamination. Report to the Road Logistics Coordinator for a final briefing.

- f. When a road blockage is encountered, notify the Road Logistics Coordinator in the EOC. Try to locate the driver of the blocking vehicle to inform him that you are going to move the vehicle. Offer to bring the driver to a transfer point where he may get a bus to a Relocation Center. The vehicle should be moved off the road and beyond the shoulder if possible. If the driver protests, use discretion to convince him of the importance of clearing the road. If the driver cannot be located, the vehicle should still be moved.

- Evacuation Route Spotters

- o Your Job Description

The Route Spotters are deployed from the Staging Areas to check the evacuation traffic progress and to investigate problems in the flow of traffic. Route Spotters report to the Lead Traffic Guide at the Staging Area and report to and communicate with the Evacuation Route Coordinator at the EOC when in the field.

- o Notification and Mobilization

The six Route Spotters will be notified and called in by a Road Crew member. This Road Crew member has a pager and is instructed to mobilize the Route Spotters for a Site Area Emergency, or General Emergency. This Road Crew member uses a list of Route Spotters and notifies and calls in the first six he contacts.

LERO TRAINING PROGRAM

o What a Route Spotter Does

- a. Of the six Route Spotters, two will report to each one of the Staging Areas. They drive to the Staging Areas in their own vehicles.
- b. When you get to a Staging Area, a security guard will check off your name on a roster.
- c. After being checked in at the Staging Area, all personnel will be told where to pick up their dosimeters. When you get your dosimeters, immediately put them on. You will get a 0-200 mR dosimeter, a 0-5 R dosimeter and a TLD. Clip these to an outside shirt or coat pocket.
- d. At the Staging Area, the Lead Traffic Guide will coordinate the assembly and preparation of the Route Spotters.
- e. Route Spotters, after being assembled and briefed, will be given their emergency equipment and kit. The kit has a packet which contains maps, the Traffic Control procedure (OPIP 3.6.3) and an Evacuation Route Spotter Checklist. This checklist provides each Route Spotter with a step-by-step process on what to do from the time they get their packet to the time their deployment assignment is over. Take time now to read the Evacuation Route Spotter Checklist shown on the next two pages.

EVACUATION ROUTE SPOTTER PROCEDURE

1. Inventory emergency packets before going out on the road. These packets should contain:
 - a. Evacuation route and traffic control point maps
 - b. Standard rain gear
 - c. Flashlight, flares
 - d. Traffic cones
2. Receive dosimetry, consisting of 2 direct-reading dosimeters (0-200 mR and 0-5 R) and 1 thermoluminescent dosimeter (TLD). Make sure these are put on immediately.
3. Complete Part I of all dosimetry forms required, retaining a Daily Dose Record Card and a copy of a Permanent Dose Record Form.
4. Attend the Lead Traffic Guide evacuation briefing to receive direction on your assignment.
5. Pick up mobile radios and check operation of units. If radios should break down, use a commercial telephone or proceed to another radio-equipped location.
6. Leave for the evacuation route/EPZ area and survey the zone.
7. Contact the Evacuation Route Coordinator at the Local EOC every 30 minutes via radio to keep him up-to-date on conditions in the areas that you have surveyed. If any problems are observed, contact the Evacuation Route Coordinator immediately.
8. If informed by the Evacuation Route Coordinator that you are downwind of a release, put on your standard rain gear. Read your dosimeters every 15 minutes.
9. If readings go beyond the scale on the 0-200 mR dosimeter, inform the Evacuation Route Coordinator and read the 0-5 R dosimeter.

EVACUATION ROUTE SPOTTER PROCEDURE (continued)

10. At a reading of 3.5 R, inform the Evacuation Route Coordinator of your dosimeter readings and prepare to leave your post. If directed to leave your post, or at a reading of 5 R, whichever occurs first, return to the Local EOC/Emergency Worker Decontamination Center at Brentwood for monitoring and possible decontamination.
11. When informed by the Evacuation Route Coordinator that emergency operations have ended, return to the Emergency Worker Decontamination Center at the Local EOC for monitoring and decontamination. Report to the Evacuation Route Coordinator for a final briefing.

Now, let's summarize the jobs of the field members.

The three field groups are:

- The Traffic Guides reporting to the Traffic Control Point Coordinator
 - The Road Crew reporting to the Road Logistics Coordinator
 - The Evacuation Route Spotters reporting to the Evacuation Route Coordinator
-
- o All the field members report to an assigned Staging Area for a Site Area Emergency, or General Emergency. Members having pagers will notify the other members to report using notification lists. Those members with pagers are also notified at an Alert to be on standby, except the three Lead Traffic Guides who report in to their Staging Areas during this stage. The Lead Traffic Guide at each Staging Area will assemble and brief the field members and distribute their equipment and emergency packets. The Lead Traffic Guides will be the communication contact for relaying messages to and from the deployed Traffic Guides.
 - o The Traffic Guides direct evacuating traffic at pre-assigned traffic control posts.
 - o The Road Crew clears blockages on evacuation routes.
 - o The Route Spotters scan specified evacuation routes to investigate causes of road blockages.

LERO TRAINING PROGRAM

All the field members report back to the Local EOC when called in or when their field assignment is over. At the EOC, they first go to the Emergency Worker Decontamination Center to be checked to determine if they have received any radiation exposure or are contaminated. If contaminated, they will be decontaminated. Next, all field personnel will go to a briefing with their coordinator.

By now, you have seen a video presentation on Traffic Control and have read through this workbook. OPIP (Offsite Plan Implementing Procedure) Number 3.6.3, "Traffic Control," can be read for further information.

LERO TRAINING PROGRAM

MODULE 12

TRAFFIC CONTROL

MODULE REVIEW

Name: _____

LERO Title: _____

Company Title: _____

1. Fill in a letter indicating to who the individual or group directly reports. Hint: A letter may be used more than once.

Reports to:

Route Spotter	_____	a. Evacuation Route Coordinator
Traffic Control	_____	b. Traffic Control Coordinator
Coordinator		c. Director of Local Response
Evacuation Coordinator	_____	d. Traffic Control Point
Road Crew	_____	Coordinator
Road Logistics Coordinator	_____	e. Road Logistics Coordinator
Communicator	_____	f. Evacuation Coordinator
Lead Traffic Guide	_____	
Traffic Control Point	_____	
Coordinator		
Evacuation Route	_____	
Coordinator		
Traffic Guide	_____	

LERO TRAINING PROGRAM

2. For which two emergency classes do all the field members report?

1. _____

2. _____

3. Evacuation is the more likely and preferred protection than sheltering.

True or False

4. How many zones are in the EPZ?

a. 10

b. 9

c. 6

d. 19

5. The evacuation group is made up of Traffic Control, Transportation and Special Facilities Evacuation.

True or False

6. Traffic Control will transport school children.

True or False

HERO TRAINING PROGRAM

7. List four people within Traffic Control who report to the Local EOC by title.

1. _____
2. _____
3. _____
4. _____

8. At what class of emergency do the people in question 7 report?

9. Where does the Traffic Control Point Coordinator get the list of Traffic Control posts?

10. Where does the Traffic Guide get the list of Traffic Control posts?

11. At what potential radiation dose level should field members evacuate their deployed area?

_____ R

12. What will field members be instructed to do when there is a potential low level radiation exposure. Hint: Involves doing something with an equipment item but not a dosimeter.

LERO TRAINING PROGRAM

13. Where do field members report after their field assignment?

14. What two things occur with field members after they report in to question 13's answer.

1. _____

2. _____

15. Who in Traffic Control is notified for an Unusual Event?

16. Who directly coordinates the field members at a Staging Area?

- a. Staging Area Coordinator
- b. Traffic Control Point Coordinator
- c. Communicator
- d. Lead Traffic Guide

17. What should a Traffic Guide do when the police arrive where they are deployed? Hint: Details in checklist.

- a. Provide them with direction and guidance so they may follow you.
- b. Yield to their direction first.
- c. Attempt to work jointly with them.
- d. Continue your operation until informed by the EOC to yield to their orders.

18. Match the Traffic Control group with their job.

- | | | |
|--------------------------|-------|--|
| Evacuation Route Spotter | _____ | a. Directs cars at control posts |
| Traffic Guide | | |
| Road Crew | _____ | b. Removes disabled car off roads |
| | _____ | c. Looks for road blockages and traffic problems |

19. What dosimeters do field members receive?

1. _____
2. _____
3. _____

20. How often should dosimeters be checked when in the field?

- a. Every half hour
- b. Every hour
- c. Four times
- d. Twice
- e. Every 15 minutes

21. How many Traffic Guides have pagers?

22. How many Traffic Guides does the Lead Traffic Guide notify to report in?

- a. 30
- b. 15
- c. 20
- d. None

LERO TRAINING PROGRAM

23. Lead Traffic Guides have pagers.

True or False

24. Lead Traffic Guides are on standby for an Alert.

True or False

25. Evacuation routes and zones to be evacuated may change during the course of an emergency.

True or False

26. All of the field members that are on a call list will be notified by the callers.

True or False

27. Match the communication contact with the deployed field group:

Field Group

Communication Contact

Route Spotter _____

Road Crew _____

Traffic Guide _____

a. Lead Traffic Guide

b. Road Logistics Coordinator

c. Staging Area Coordinator

d. Evacuation Route Coordinator

e. Traffic Control Point Coordinator

ATTACHMENT 5

LERO SECURITY

MODULE NO. 16

This module applies to:

- | | |
|--|---|
| <input type="radio"/> Director of Local Response | <input type="radio"/> Security Coordinator |
| <input type="radio"/> Manager of Local Response | <input type="radio"/> EOC Security |
| <input type="radio"/> Support Services Coordinator | <input type="radio"/> Security (Relocation Centers) |

Your Name _____

LERO Title _____

Company Title _____

HERO TRAINING PROGRAM

TABLE OF CONTENTS

<u>Subject</u>	<u>Page</u>
Training Objectives	ii
Introduction	1
A. Security Organization	2
B. Security Operations at the Local Emergency Operations Center	2
C. Security Operations at the Relocation Centers	3
D. Security Operations at the Emergency Worker Decontamination Facility	4
Summary	5

LERO TRAINING PROGRAM

TRAINING OBJECTIVES

At the conclusion of the LERO Security portion of the LERO Training Program, the trainee will:

- A. Be able to identify the LERO group to which Security Personnel belong
- B. Know how to identify a LERO member
- C. Know what job functions Security Personnel perform
- D. Where LERO Security Personnel are located during an emergency
- E. What protective equipment to wear during an emergency

LERO TRAINING PROGRAM

INTRODUCTION

The services which will be provided by the LERO Security Personnel are best characterized by comparing them with similar actions which take place at an airport.

At an airline terminal, traffic guides direct the arriving and departing traffic into and out of the terminal area in an orderly and efficient manner, minimizing the amount of time anyone must spend getting in and out of the terminal. Passengers arriving at the terminal may be provided assistance by airline guides or other information personnel. They also provide assistance at arrival and departure gates to people needing directions or possibly requiring medical attention.

Friends or family of the passengers may gather around the gate areas to see the passengers off. However, security guards may restrict entry to only those who hold valid airline tickets.

LERO Security Personnel will perform similar services. At the Relocation Centers and EOC, Security Personnel will assist arriving people by directing them where to park their cars and where to go to be processed into the center. At the Local Emergency Operations Center, security will assure that only authorized LERO emergency personnel and visitors gain access.

LERO TRAINING PROGRAM

A. SECURITY ORGANIZATION

LERO Security Personnel are part of the Support Services Group which is under the direction of the Support Services Coordinator. The Security Coordinator, who reports to the Support Services Coordinator, is responsible for coordinating the activities of the security staff and ensuring that sufficient manpower is available. The Security Coordinator will be located at the Local EOC.

B. SECURITY OPERATIONS AT THE LOCAL EMERGENCY OPERATIONS CENTER

Upon notification that the Emergency Operations Center (EOC) is to be activated, LILCO Brentwood Security personnel will establish and maintain a security post in the lobby at the main entrance. They will maintain the post until relieved by LERO Security. Upon the arrival of LERO Security, additional security posts will be established in accordance with the Security Procedure (OPIP 4.1.3).

Security will maintain an Emergency Personnel Log In/Log Out Form to allow properly identified personnel to be processed into the facility. Brentwood Security will maintain on file a list of all authorized EOC emergency personnel. Each of these people will be carrying LERO identification. Upon display of appropriate identification, security will provide the person with an EOC photo-identification badge and direct him/her to sign the Log In/Log Out Form. The photo-identification badge must be worn at all times while the person is in the EOC.

Legitimate visitors may arrive, who require entry to support the emergency response. In this case, the Security Coordinator will request authorization from the appropriate LERO Coordinator

LERO TRAINING PROGRAM

(dependent on the visitors reason for entry) and, upon obtaining it, will grant access to the visitor and provide him/her with a visitors photo-identification badge.

Security will be responsible for assuring that operations in the EOC are not disrupted by the news media or curiosity seekers. All inquiries for information from persons outside the emergency response organization shall be directed to the Emergency News Center.

LERO Security Personnel are to maintain order at the Local EOC. However, if a disturbance appears to be of a serious nature and threatens the security of the EOC, Security personnel should call the Suffolk County Police. A direct link to the Suffolk County Police Headquarters in Yaphank can be utilized by calling 345-5000 and asking for the duty officer.

A security post will be maintained at the entrance to the Local EOC until the facility is deactivated. Should Suffolk County Police arrive to help, LERO Security personnel should provide them with assistance as needed.

C. SECURITY OPERATIONS AT THE RELOCATION CENTERS

Public relocation centers will be opened to provide shelter for evacuees in the event that an evacuation is initiated for a zone or zones within the 10-mile Emergency Planning Zone. LERO Security Personnel will be available at the relocation centers to provide assistance to the arriving evacuees.

Several LERO Security people will be stationed in the parking lot to direct parking of the arriving vehicles. More Security Personnel will be located at the entrances to the center to

direct the evacuees to the Monitoring/Decontamination Personnel. Inside the facility, security will provide assistance as needed to the American Red Cross staff.

Upon arriving at the relocation center, Security Personnel should report to the Decontamination Leader. He will assign them to a location where assistance is needed most.

Security Personnel must receive dosimeters from the Record Keepers before reporting to their assigned location. Remember, to obtain:

- One direct-reading dosimeter (range 0-200 mR)
- One direct-reading dosimeter (range 0-5 R)
- One thermoluminescent dosimeter (TLD badge)

Security Personnel at the relocation centers must wear dosimeters since they may be exposed to radiation if any of the arriving evacuees are contaminated.

D. SECURITY OPERATIONS AT THE EMERGENCY WORKER DECONTAMINATION FACILITY

The services provided by security at the Emergency Worker Decontamination Facility are similar to those provided by security at the relocation centers. Security Personnel will direct emergency workers to the parking areas and to the monitoring/decontamination stations.

Upon arriving at the facility, Security Personnel should see the Security Coordinator for instructions. Before reporting to their assigned job location, they should obtain the following dosimeters from the Record Keepers:

LERO TRAINING PROGRAM

- One direct-reading dosimeter (range 0-200 mR)
- One direct-reading dosimeter (range 0-5 R)
- One thermoluminescent dosimeter (TLD badge)

Security Personnel must wear dosimetry since they may be exposed to radiation if any of the emergency workers arriving at the facility are contaminated.

SUMMARY

The LERO Security staff, under the direction of the Security Coordinator, are part of the Support Services Group. The Security Coordinator, located at the EOC, reports to the Security Services Coordinator.

Security Personnel located at the Local Emergency Operations Center will control access to the facility, limiting it to those who have LERO identification or are authorized visitors.

At relocation centers, security will provide assistance to evacuees by directing them to parking spaces, guiding them to monitoring/decontamination stations, providing directions within the relocation centers and assisting the American Red Cross as needed. At the Emergency Worker Decontamination Facility, Security Personnel will provide directions and assistance to arriving emergency workers.

LERO TRAINING PROGRAM

MODULE NO. 16

LERO SECURITY

MODULE REVIEW

Name: _____

LERO Title: _____

Company Title: _____

True or False

- _____ 1. LERO Security Personnel are part of the Health Services Group.
- _____ 2. The Security Staff reports to the Security Coordinator at the Emergency Operations Center.
- _____ 3. LILCO Brentwood Security will initially establish a security post in the lobby of the Local EOC.
- _____ 4. LERO Security Personnel will establish security posts at each relocation center.
- _____ 5. Only emergency personnel carrying LERO identification badges will be allowed access to the EOC.
- _____ 6. Each person entering or exiting the EOC must sign a Log In/Log Out Form.
- _____ 7. Representatives of the news media will be given free access to the Local EOC.

LERO TRAINING PROGRAM

- _____ 8. LERO Security Personnel will be providing directions and assistance to emergency workers arriving at the relocation centers.
- _____ 9. LERO Security Personnel at the relocation centers will be directing arriving evacuees to parking locations.
- _____ 10. LERO Security Personnel should report to the Decontamination Leader upon arrival at the relocation centers.
- _____ 11. LERO Security Personnel assisting arriving evacuees at the relocation centers must wear dosimetry.
- _____ 12. LERO Security Personnel will monitor arriving evacuees for contamination.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before The Atomic Safety And Licensing Board

DOCKETED
USNRC

'84 APR -4 P12:31

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

In the Matter of

LONG ISLAND LIGHTING COMPANY

(Shoreham Nuclear Power Station,
Unit 1)

Docket No. 50-322 (O.L.)
(Emergency Planning)

CERTIFICATE OF SERVICE

I hereby certify that copies of Testimony of Deputy Inspector Peter F. Cosgrove, Lieutenant John L. Fakler and Professor Michael Lipsky in Support of Emergency Planning Contentions 39, 40, 41, 44, 98, 99 and 100 - Training of Offsite Emergency Response Workers, have been served on the following this 2nd day of April, 1984 by U.S. Mail, first class, except as otherwise noted.

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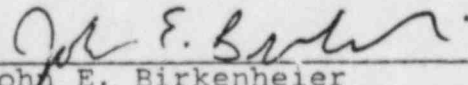
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