LILCO, March 30, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

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

LILCO TESTIMONY ON
CONTENTION 11 (CONFLICT OF INTEREST)

PURPOSE

Contention 11 alleges that LERO, which is composed mostly of LILCO employees and officials, might not give an appropriate protective action recommendation promptly in a radiological emergency because LILCO employees would find that their loyalty to the utility interfered with their duty to protect the public. This testimony shows that the contention is wrong, for several reasons:

1. This alleged "conflict of interest" could in theory affect any decisionmaker charged with protecting the public, whether he be an elected official or an employee of a private company.

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2. Boiled down to its essence, Contention 11 says nothing more than that the Nuclear Regulatory Commission should not trust an electric utility to make safety decisions. In fact, virtually every aspect of the regulation of nuclear power plants depends upon utility personnel providing information and utility personnel making decisions. There is no reason to believe LILCO would be any less responsible about disclosing safety information than any other utility. Nor is there any reason to believe that LILCO would be less conscientious about making protective action recommendations than about making other decisions, or reporting other information, in connection with the operation of Shoreham.

3. Contention 11 alleges that "LILCO has failed to institute appropriate measures to ensure the independence of LERO personnel." This is incorrect. As this testimony shows, the LERO organizational structure has several features designed to ensure independence. For example, LERO personnel are not associated with the operation of the Shoreham plant in their everyday jobs, and LERO personnel in the Emergency Operations Center are of equal or superior rank in their regular jobs at LILCO to the site response personnel at the EOF. Moreover, protective action recommendations are governed by strict procedures, and LILCO has taken pains to be sure that appropriate governmental authorities and the press are kept informed about events as an emergency progresses. Logs are kept of important decisions and other steps along the way during an emergency, and everyone in

LERO is aware that any accident at a nuclear power plant will be closely scrutinized afterward. Accordingly, there is every incentive to take the actions most appropriate to the public interest.

4. Also, various other entities besides LILCO would be involved in an emergency response. The Department of Energy would have a role in making dose projections and a representative in the EOC. The press would be provided for. The NRC would be present. And, if County and State officials are worried about a conflict of interest, they can also take part; LILCO has provided for that contingency as well.

5. Finally, it is simply not true that there is a "conflict" between protecting LILCO and protecting the public. As this testimony shows, it is in LILCO's corporate interest to make the best possible decisions in behalf of the public.

Attachment 1 - OPIP 3.6.1 (pp. 1-3)

Attachment 2 - OPIP 3.5.2 (pp. 1-20)

Attachment 3 - OPIP 3.5.1 (pp. 1-9)

Attachment 4 - OPIP 3.3.4

Attachment 5 - OPIP 3.8.1 (pp. 1-4)

Attachment 6 - OPIP 3.8.2 (pp. 1-7)

Attachment 7 - OPIP 4.1.2

Attachment 8 - Lesson Plan #1

Attachment 9 - Training Workbook Module No. 17

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1. Q. Please state your names and business addresses.

A. [Cordaro] My name is Matthew C. Cordaro; my address is Long Island Lighting Company, 175 East Old Country Road, Hicksville, New York, 11801

[Mileti] My name is Dennis S. Mileti; my address is Department of Sociology, Colorado State University, Fort Collins, Colorado, 80523.

[Weismantle] My name is John A. Weismantle; my address is Long Island Lighting Company, 100 East Old Country Road, Hicksville, New York, 11801.

[Wofford] My name is Andrew W. Wofford; my business address is Long Island Lighting Company, 175 East Old Country Road, Hicksville, New York, 11801.

2. Q. Please state your professional qualifications.

A. [Cordaro] I am Vice President, Engineering, for LILCO. I am on this panel to provide the LILCO management perspective on emergency planning, and to answer any questions pertinent to management. My role in emergency planning for Shoreham is to ensure that the needs and requirements of emergency planning are being met and that the technical direction and content of emergency planning are being conveyed to corporate management. I accomplish this by supervising the development and implementation of the offsite emergency response plan for Shoreham; the Manager of the Local Emergency Response Implementing Organization (LERIO) reports directly to me.

[Mileti] I am Associate Professor of Sociology and Director of the Hazards Assessment Laboratory at Colorado State University.

[Weismantle] I am employed by LILCO as Manager of the Local Emergency Response Implementing Organization (LERIO). I am responsible for developing and implementing the offsite emergency response plan for Shoreham.

[Wofford] I am employed by LILCO as Vice President - Purchasing and Stores, and in an emergency I am one of those designated to become Director of Local Response.

[All witnesses] Statements of our professional qualifications are being separately offered into evidence as part of the document entitled "Professional Qualifications of LILCO Witnesses."

3. Q. What is Contention 11?

A. [All witnesses] Contention 11 reads as follows:

> Preamble to Contentions 11-14. 10 CFR Part 50, Appendix E, Section IV.A requires emergency plans to describe the organization for coping with radiological emergencies, including definition of authorities, responsibilities, and duties of individuals assigned to the licensee's emergency organization and identification of the State and/or local officials responsible for planning for, ordering, and controlling appropriate protective actions, including evacuations. In the LILCO Transition Plan, in place of "State and/or local officials," LILCO employees (including in the case of the "Radiation Health Coordinator," an unidentified LILCO "Contractor" which, for purposes of these contentions is included in the term "LILCO employees") are identified as being responsible for planning for, ordering, and controlling the entire offsite emergency response. Thus, all the command and control functions, as well as all management and coordination of the entire emergency response, are to be performed by various LILCO employees. (Plan, at 3.1-1; OPIPs 2.1.1, 3.1.1,

3.6.1). Accordingly, the "offsite authorities responsible for coordinating and implementing offsite emergency measures," with whom the LILCO onsite emergency coordinator must exchange information (see 10 CFR Part 50, Appendix E, Section IV.A.2.c), are fellow LILCO employees.

In Contentions 11-14 below, the Intervenors contend that there cannot and will not be offsite emergency preparedness that provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency at Shoreham because LILCO employees are not able to exercise effectively the command and control responsibilities necessary to plan for, order, manage, coordinate and control appropriate protective actions. Each of the deficiencies identified in Contentions 11-14 results in noncompliance with 10 CFR Sections 50.47(a)(1), 50.47(b)(1), 50.47(b)(3), Part 50 Appendix E, Section IV, and NUREG 0654 Section II.A.

Contention 11. The LILCO employees in command and control positions under the LILCO Plan may experience a conflict between LILCO's financial and institutional interest and the public's interest, which may substantially hamper their ability to perform the functions assigned to them in a manner that will result in adequate protection of the public. The intervenors contend that LILCO employees will have a strong incentive to minimize the public's perception of the potential or actual danger involved in a radiological emergency in order to avoid engendering public or LILCO shareholder disapproval of LILCO, or anti-Shoreham sentiment. Thus, for example, they may not recommend an appropriate protective action in a prompt manner because to do so would be contrary to LILCO's financial interest in maintaining a public perception that Shoreham is not a source of danger. LILCO has failed to institute appropriate measures to ensure the

independence of LERO personnel. Accordingly, there is no assurance that correct and appropriate command and control decisions will be made by LILCO employees.

4. Q. Who are the "LILCO employees in command-and-control positions under the LILCO Plan"?

A. [Cordaro, Weismantle] The LILCO employees designated to fill the LERO command-and-control position, Director of Local Response, are the following:

LERO TITLE	LILCO TITLES
Director of Local Response	Vice President - Transmission & Distribution Vice President - Employee Relations Vice President - Purchasing and Stores

5. Q. Mr. Wofford, are you one of those people?

A. [Wofford] Yes. I am designated to be Director of Local Response in an emergency. I am one of the people who are alleged to be subject to a "conflict of interest."

6. Q. Would you let LILCO's corporate interests interfere with your duty to protect the public?

A. [Wofford] No. I have been an employee of public utility companies since leaving the military service in 1947. The tradition of public service and responsibility to the public safety and convenience has been one of the major objectives of these utility companies throughout this period, and to the best of my knowledge this dedication began when the industry was in its infancy. As has been demonstrated many times as a result of hurricanes, ice storms, and other disasters that disrupted service and had the potential for causing loss of power or unsafe conditions, the effort to keep the lights and power on for the benefit of the public has outweighed any concern about cost or convenience to the utility or its employees.

Unlike a conventional industry or business, the utility cannot pick up its poles, distribution and transmission lines, and power plants and move to another area. Our relationship with a community, by necessity, is a long-term relationship, and thus each of our decisions must recognize the reality of living with that decision for a long time. In a true sense, there is no conflict between the best possible advice and instructions to the public and the best interests of LILCO.

In addition, I have considerable pride in my professional career, dealing with public officials, police officers, contractors, major companies, the public, fellow employees, and neighbors. I cannot conceive of making a decision at this late stage of my career which would damage my reputation or pride.

7. Q. Dr. Mileti, have there been cases where the people who delayed telling the public about an emergency were the same people who had caused or contributed to the emergency?

A. [Mileti] Yes. There have been cases in which the people or organization responsible for causing or contributing to an emergency were open about it and shared the information with others, and other cases where this may not have been the case.

8. Q. Is this phenomenon limited to technological emergencies?

A. [Mileti] No, "conflict of interest" is not a phenomenon that is limited to emergencies caused by technologies; it has also occurred in emergencies caused by natural events. That is, there have been cases in which people have delayed giving out

public information (or downplayed the threat) about natural disasters as well as technological emergencies.

9. Q. Can you give some illustrations?

A. [Mileti] There is at least one case of which I am aware in which information about an impending disaster was shared by the owners of the faulty technology with public officials, who in turn decided not to share the information with the public. Sometime during the 1970's it was discovered that a new high-rise building in New York City could easily be blown over by a very strong wind. The building was still under construction when this flaw in its design was discovered. Officials were immediately alerted, as were disaster response groups like the American Red Cross. Work was intense to fix the structure because the hurricane season was rapidly approaching.

In 1972, the South Dakota School of Mines conducted a weather modification experiment, seeding clouds to see if it could increase rainfall. The wind stopped, the seeded clouds remained stationary, and a catastrophic flood ensued in which over 230 people lost their lives. (Days after the flood,

scientific studies concluded that the experiment had not contributed to the rainfall that caused the flood, but this was not known at the time of the flood.) Flood warnings in Rapid City were inadequate for a variety of reasons. (For example, initial messages downplayed the threat.) In this case, sharing information about the "experiment" with the National Weather Service and others involved in the public warning function would have been useful.

10. Q. Have there also been cases where people responsible for an emergency reported the emergency promptly?

A. [Mileti] Yes, there have been cases in which those responsible for or associated with the cause of a problem did not delay in sharing accurate information about an emergency with responsible officials and the public. In the late 1960's a serious crack was discovered in a dam above the community of Baldwin Hills in Los Angeles. The owners of the dam immediately notified officials, and the public was subsequently notified, even before it was clear that the dam would eventually give way. As the threat became real, people were evacuated. The public in Los Angeles viewed most of the affair on television.

More recently, in the early 1980's, the Pacific Gas & Electric Company learned that one of its natural gas pipelines had broken and was leaking near the Embarcadero Center in downtown San Francisco. The company and officials immediately made the news public, and an evacuation of the high-rise structures at risk was quickly and effectively accomplished. Company employees assisted in the evacuation.

11. Q. What is the significance of these examples?

A. [Mileti] Obviously there are emergency-related examples in history where private companies with an interest resisted the urge to cover-up, and cases where openness was less than it could have been; there are also examples of both sorts involving public officials. What is important, however, is not that there have been emergency-related cases in which downplaying the risk has happened and cases where it has not, but rather that we have knowledge about why it happens. This knowledge allows us to address the phenomenon in emergency plans and to develop plans that minimize the chance it will happen in the future, should the plans ever be activated. Delays in issuing public warnings or

otherwise sharing threat information, downplaying the threat in the information that is shared, and other manifestations of "conflict of interest" can be minimized in plans so as to help ensure the transmittal of timely and accurate threat information.

12. Q. How do you design a plan to minimize this problem?

A. [Mileti] This goal can be accomplished if a plan provides for the removal of the effects of individuals' personalities, fears, biases, beliefs, notions, and so on, both from the decisions and from the process that links discovering the threat to seeing information about the threat conveyed to other responsible officials and to the public.

13. Q. Can you be more specific?

A. [Mileti] The possibility of "conflict of interest" hindering an emergency response can be minimized if (1) key decisions and transmittal instructions in reference to threat information are formalized (for example: "given event x at probability p, call y and say z"); (2) the substance, process, and spacing of public information are formalized in advance (for example: given A, read message B to

person C and then to the public every D minutes); (3) participants in the system know that they are expected to carry out these tasks in the specified manner; and (4) they know that there will be a post-event audit by some review group that will hold them accountable if they do not.

14. Q. Where did these recommendations come from?

A. [Mileti] This list of recommendations rests on, in part, the findings of sociological research over the years that has investigated the sharing of "risk" information among organizations and, then, with the public, as well as post-event audits (done by, for example, federal agencies) of emergencies in which this sharing of information was addressed.

15. Q. But you can't reduce an emergency plan to a series of formulas, can you?

A. [Mileti] At the same time the emergency planner addresses the recommendations I have just made, he must realize that too much formalization of procedure and performance in any part of any emergency plan can be counterproductive. Some room must remain for allowing professionals to make professional judgments on the basis of the particular

circumstances that define the actual emergency situation. Otherwise, one of the principal elements of a good emergency plan -- flexibility -- will be lost.

The fact of the matter is that a plan must be constructed so as to allow judgments to be made in times of emergency (thus making the plan flexible), and yet still provide clear guidance to decisionmakers, which helps to prevent their judgments from being adversely influenced by consideration of things like "corporate image," whether they will get reelected, "conflict of interest," or their personal perceptions about the world.

16. Q. Has LILCO done the four things Dr. Mileti recommends above? For example, have you formalized the decisions and transmittal instructions as he recommends?

A. [Cordaro, Weismantle] Yes. The information on which protective action recommendations are based is stipulated by the New York State radiological emergency data form. Most of the radiological and meteorological data on this form are taken off instruments that have recorded outputs and can be checked subsequent to the emergency for accuracy.

The emergency classification is based upon NRC NUREG-0654 plant initiating conditions. Shoreham has developed plant-specific emergency action levels (EAL's). These EAL's, which have been reviewed by the NRC, detail actual gauge and meter readings that when exceeded mandate the declaration of the emergency at a particular level -- that is, Unusual Event through General Emergency. Because these data are nondiscretionary, there is no opportunity for "conflict of interest" to arise.

Also, the procedure for making protective action recommendations is quite precise. Under OPIP 3.6.1 (Attachment 1) the Radiation Health Coordinator, who is not a LILCO employee but rather a consultant, is responsible for advising on protective action determinations based on recommendations provided by the onsite staff at the Shoreham Station and, if time permits, on an independent development of protective action recommendations based on dose projections or offsite radiological monitoring survey data. See OPIP 3.6.1 Section 2.0.

Among other things, OPIP 3.6.1 contains a procedure to make an independent assessment of the appropriate protective action by the use of a

Hewlett-Packard 85 computer, which is programmed to "walk" the user step-by-step through the calculation. Sample output sheets are contained in OPIP 3.6.1. The final result will be a listing of recommended protective actions for the affected zones.

17. Q. Then one piece of information used by the Radiation Health Coordinator is the onsite recommendation?

A. [Cordaro, Weismantle] Yes. The Radiation Health Coordinator receives a recommendation from the onsite Response Manager, which is not at issue here because it is a "Phase I" (onsite plan) matter.

18. Q. And who gives the Radiation Health Coordinator the information besides the onsite staff?

A. [Cordaro, Weismantle] The Radiation Health Coordinator takes dose projections completed in accordance with OPIP 3.5.2 or offsite dose levels measured by survey teams in accordance with OPIP 3.5.1 (or procedural equivalents). The required information for OPIP 3.5.2 (Attachment 2) is the responsibility of the DOE RAP Team Captain. See OPIP 3.5.2 Step 2.2. The offsite survey teams that collect the data under 3.5.1 (Attachment 3) are likewise provided by DOE.

19. Q. If the Radiation Health Coordinator is not a LILCO employee and his information comes from the onsite emergency plan or from DOE, where does the "conflict of interest" alleged by Contention 11 come in?

A. [Cordaro, Weismantle] Well, in reality it doesn't. But what the contention appears to claim is that the Director of Local Response might ignore the recommendation from his Radiation Health Coordinator, or delay passing the recommendation on to the public, or ignore or downplay information from DOE, because of his desire to protect LILCO.

This is totally implausible. The information from DOE will be recorded, as will the recommendation from onsite. Likewise the Radiation Health Coordinator's recommendation to the Director will be put into writing. Under these circumstances no Director could hope to disregard the recommendation or delay action without it becoming known, even assuming (unrealistically) that he wanted to.

20. Q. Is the Radiation Health Coordinator in a "command and control position" in the LERO organization?

A. [Cordaro, Weismantle] No.

21. Q. Might the Radiation Health Coordinator let some "conflict of interest" interfere with his duties?

A. [Cordaro, Weismantle] Not in our judgment. He is a trained professional. He undergoes LERO training. He knows that the significant decisions in an emergency and the data underlying those decisions are recorded for later inspection. And he knows that his job in an emergency is to contribute to sound protective action decisions, not to protect some hypothetical corporate or financial interest of LILCO.

22. Q. Getting back to Dr. Mileti's first recommendation, have you formalized the process of getting information to the public?

A. [Cordaro, Weismantle] Yes. Responsibilities for specific decisions, actions, and transmittal instructions are set out in three implementing procedures in the LILCO Transition Plan that deal specifically with communications to the public (OPIP 3.3.4, 3.8.1, and 3.8.2, Attachments 4, 5, and 6). An important example is that the activation of the emergency broadcast system and transmittal of

emergency messages is directly determined by the emergency classification and the protective action recommendation.

As provided in OPIP 3.8.2, whenever an Alert (when schools are in session), Site Area, or General Emergency has been declared, the EBS system will be activated. There is no discretion on the part of any LERO member as to whether to activate the EBS stations once a decision to recommend a protective action has been made.

23. Q. What about Dr. Mileti's second recommendation? Have you formalized the substance, process, and spacing of public information?

A. [Cordaro, Weismantle] Yes. While the actual message released, of course, will depend on what protective actions are recommended, the substance of the emergency broadcast messages has been predetermined as much as possible by the development of the sample messages in OPIP 3.8.2. These messages serve two purposes. First, they include all the stylistic and informational elements identified by Dr. Mileti as being necessary for effective emergency notification. Second, they provide a well-developed basis upon which messages specific to the

emergency situation can be developed rapidly for transmission to the participating EBS stations.

As for spacing, the EBS messages will be repeated every 15 minutes.

24. Q. And Dr. Mileti's third recommendation? Have you made sure that participants in all parts of the information system know that they are expected to carry out their emergency tasks in the specified manner?

A. [Cordaro, Weismantle, Wofford] Yes. All personnel associated with the development, review, and transmission of the EBS messages have been trained and have participated in drills and exercises. The radio station personnel are experienced in their own station procedures and will participate in a simulated manner during an exercise.

25. Q. How about Dr. Mileti's fourth point? Do the participants know that there would be a post-event audit in which they would be held accountable?

A. [Cordaro, Weismantle, Wofford] Yes. The procedures used by LERO strongly emphasize the necessity of maintaining emergency logs. OPIP 4.1.2, Step 5.4.1 (Attachment 7), identifies the following personnel as maintaining logs:

Director of Local Response
Manager of Local Response
Health Services Coordinator
Evacuation Coordinator
Support Services Coordinator
Coordinator of Public Infor

Because LERIO is an offsite organization, it would not be required to file an incident report as the onsite organization would. This does not mean, however, that there would not be post-emergency scrutiny. Due to media coverage, such as at TMI and Ginna, there would be extensive analysis of the emergency response. In addition, government investigations such as reported in the Kemeny Report after the TMI event and the NRC Report (NUREG-0909) after the Ginna event would undoubtedly analyze the offsite emergency response efforts. As a result, all senior members of LERIO are well aware of the significance of their positions and the public scrutiny that they would be under.

26. Q. Might governmental officials and not just utility employees and officers experience a "conflict of interest"?

A. [Mileti] Yes. "Conflict of interest" is as applicable to the public sector as it is to the private sector. For example, it has sometimes happened

that public officials have delayed giving out threat information (or downplayed it) because of uncertainty in the scientific information about the severity or probability of the event. Also, public officials have sometimes been reluctant to "cry wolf," fearing, for example, that there might be some political backlash if the event did not happen or was less severe than anticipated. For the same reasons, public warnings have sometimes been "soft-peddled"; that is, the threat may be downplayed in the information given to the public. Delays or the downplaying of the threat in public warnings, or both, have also been the result of misplaced and unfounded fears in the minds of public officials, for example, that the public would "panic" once they heard the news about the threat.

I might add that what the County is alleging in Contention 11 is simply another application of "role conflict" between different kinds of roles from those that have previously been discussed in this proceeding. Lewis Killian's 1952 article, for example, addressed a type of conflict of loyalties between the loyalty of employees to "the company" as an organization and to fellow employees as friends and human beings. Killian says this:

> The most common, almost universal, reaction was to think of the men first and the plant later.

One plant official, active in rescue work in spite of a broken arm and numerous lacerations, described his reaction to the sudden, dramatic conflict between loyalty to the company and loyalty to the workers as follows:

> Property! Nobody gave a damn for property! All that was important was life. I've often wondered just how it would be to walk off and let a plant burn up. That was the way it was. We didn't even consider fighting the fire.

There were exceptions. One man, who scarcely knew his workers, described his first reaction in terms that suggested he was most concerned about the company's property. (It is not at all clear from Killian's article, however, that this man was actually faced with a choice between saving people and saving property; he was simply asked by an assistant superintendent what the superintendent should do.) But this reaction was, as Killian says, "exceptional."

[All witnesses] Anyone, including any public official, could in theory be afraid of bringing

discredit on himself or his organization by making the wrong decision and advising the public to do the wrong thing. This could be a problem no matter which decision is made, and no matter what person is making it.

Take, first, the decision itself. The contention is that LERO decisionmakers might err in the direction of not advising evacuation, because to start an evacuation is to subject the community to the costs and disruption of relocating large numbers of people. But with at least equally forceful logic the contention could be made that LERO would err in the direction of advising evacuation too readily, because the risk of not starting the evacuation would be to subject the community to radiation. In the assessment of risks, it is safe to say that the damage to LERO's, and LILCO's, interests is greater if LERO errs and people are exposed to radiation than if LERO errs and people needlessly leave their homes.

Now consider the decisionmaker rather than the decision. The contention is that his judgments may be affected by the knowledge that if he makes a mistake he or his organization will be criticized.

This of course is something that could be true of any decisionmaker in any organization. If a utility company official may fear that he will make his company look bad, it is at least as likely that an elected official will fear to make himself look bad and get turned out of office by enraged voters at the next election. In fact, there are examples of this very phenomenon. There is simply nothing peculiar about utility companies that makes their officials especially susceptible to this sort of pressure. It is just as real for public officials in emergencies.

27. Q. Would LILCO be peculiarly susceptible to "conflict of interest" because it would have "caused" the emergency?

A. [Mileti] Several observations suggest that this concern is unfounded. First, most people would have to conclude that the Three Mile Island accident was the most studied and scrutinized emergency in the history of our nation, and that another emergency at a nuclear power plant would likely also be the object of extensive and detailed post-audits. This image of accountability is most likely higher for utilities in communities like Suffolk

County, where local opposition seems to be great and where post-emergency accountability would, consequently, almost certainly be great also. This suggests, therefore, that "conflict of interest" -- to the extent that it might operate in an emergency at a nuclear power plant -- would less negatively impact response to an emergency at Shoreham than it might somewhere else.

Second, the nuclear power industry is subject to many regulations and guidelines. It is almost impossible to imagine a scenario in which substantial radiation were released from a plant without anyone finding out. There seems, therefore, nothing to be gained and everything to be lost if "conflict of interest" kept a utility from being frank and timely about an accident and the public safety.

Third, LILCO is no more "peculiarly susceptible" to "conflict of interest" because it would have "caused" the emergency than other utilities which operate nuclear power plants.

Susceptibility to "conflict of interest" is no more an issue for some persons than others in an emergency. It is simply a problem that can constrain good emergency public information in any sort of

emergency, regardless of the actions involved, if not taken into account in plans; the means do exist, however, to remove it as a constraint to good information through emergency planning.

[Cordaro, Weismantle] We might add that all radiological emergency plans for commercial nuclear power plants are dependent on information from the utility that operates the plant. If "conflict of interest" by utilities were really a serious problem, then no commercial nuclear plant, and no emergency plan, could be trusted anywhere.

28. Q. But the contention seems to say that LILCO's proprietary interest in the plant is what makes the difference. The charge is that LILCO people will suppress information tending to make Shoreham seem unsafe or its operators unskillful. What do you say to that?

A. [Mileti] The reason why proprietary interests might lead to "conflict of interest" for a nuclear power plant does not seem different from the owners of a pipeline system in San Francisco, a building in New York City, or a dam in Los Angeles, for example, as discussed in the answer to questions 10 and 11 above. At the same time, why "conflict of

interest" could occur and what is the basis for it (for example, a proprietary versus a political interest) do not alter the steps that plans should take to ensure that it does not detract from the transmittal of sound and timely information during an emergency.

29. Q. What is LILCO's real "interest" if a radiological emergency threatens? Is it in LILCO's interest to delay telling people to take protective actions?

A. [Cordaro, Weismantle] No. It is obviously in LILCO's best interest, from a public relations standpoint if nothing else, to recommend the appropriate protective actions as quickly as possible. As mentioned above, LILCO will not be able to conceal the presence and quantity of radiation. It is true that the effect of a radiological disaster on LILCO's corporate interests would be severe; but the effect of having attempted to "cover up" such a disaster would be far worse.

In any event, the knowledge that severe NRC penalties would be imposed for covering up or disregarding safety information would induce anyone with LILCO's interests at heart to act responsibly. Indeed, the charge that utility employees might fail

to disclose safety information because to disclose it would put a nuclear plant or the nuclear industry in a bad light could be leveled at any aspect of operating a nuclear plant. But there is no evidence that LILCO employees would conceal, disregard, or misuse safety information any more than employees of any other NRC licensee would. Nor is there anything to suggest that LILCO employees in LERO would fail to disclose safety information in an emergency with offsite consequences, any more than there is anything to suggest that LILCO employees would fail to disclose more routine safety information about the plant.

30. Q. How does the LERO organizational structure help ensure independence of command-and-control personnel?

A. [Cordaro, Weismantle, Wofford] The following aspects of the LERO organization help to ensure independence:

1. No LERO personnel are associated with the Shoreham plant in their every day jobs.

2. LERO personnel in the EOC are of equal or superior rank in their regular jobs at LILCO to the site response personnel at the EOF.

3. Department of Energy personnel, knowledgeable about radiation, are an integral part of LERO and will be represented at the EOC.

4. All procedures and protective actions are prepared in advance to the extent possible.

31. Q. How are LERO command and control personnel made conscious of the need to protect the public first and foremost?

A. The training program makes it clear that protection of the public is the purpose of offsite preparedness. See attached Transcript of Lesson Plan #1 (Attachment 8) and Training Workbook Module No. 17 (Attachment 9).

32. Q. Does the LILCO Transition Plan call for the notification of State and local government officials early in an accident?

A. [Cordaro, Weismantle] Yes. Notification from the site to LERO is through the Radiological Emergency Communications System (RECS). Both New York State and Suffolk County are part of this system. The emergency phones located at the State and County facilities will ring any time the site is making an emergency notification.

33. Q. If Suffolk County officials wanted to serve as a check on LILCO's offsite decisionmaking in a real emergency, does the emergency plan permit them to do so?

A. [Cordaro, Weismantle] Yes, Suffolk County could participate in the implementation of protective actions. Page 1.4-1 of the LILCO Transition Plan states that "should Suffolk County, New York State or Federal governments choose to implement actions consistent with their respective legal authorities to protect the health and safety of the public, those actions will take precedence over LERO actions." It would be difficult for Suffolk County officials to take part in the decisionmaking process without training, but they could certainly keep an eye on what other decisonmakers were doing, if they wanted to. Certainly no one from LILCO would prevent them from being in the EOC.

34. Q. Apart from Suffolk County officials and personnel, what other outside agencies, independent of LILCO, would be involved in the decision to advise the public to take protective actions?

A. [Cordaro, Weismantle] New York State would receive over the Radiological Emergency Communications System line the information necessary to do dose assessment and protective action calculations. In addition, the NRC would be receiving information direct from the Control Room by means of a

dedicated phone called the HPN (Health Physics Network). The NRC would use this information to assess the situation until its own Region I personnel could arrive from King of Prussia, Pennsylvania.

As is stated on pages 84911-12 of the Federal Register of December 23, 1980, the interim National Radiological Emergency Preparedness/Response Plan for Commercial Nuclear Power Plant Accidents (Master Plan) provides in section III.A.1 as follows:

> 1. Technical Support. Federal technical support is a combination of the on- and off-site radiological monitoring and assessment activities and an evaluation of the conditions of the nuclear power plant. DOE will coordinate all off-site radiological monitoring, evaluation, assessment and reporting activities of participating Federal agencies. DOE will be responsible for supplying this information to the NRC's Director of Site Operations (DSO), other appropriate Federal agencies and to the appropriate State/local agency. Radiological data collected by the licensee for the NRC will be furnished to DOE's Off-Site Technical Director to be included in his evaluation of off-site radiological conditions.
>
> The NRC will integrate the off-site radiological data and evaluation provided by DOE with their evaluation of the on-site situation into an overall assessment of the accident. The NRC, in coordination with FEMA, will report this assessment to the Governor or the agency designated in the State plan. Included in this

assessment will be any recommendations regarding protective measures required of the populace.

35. Q. Can you summarize why you feel that the LILCO employees in command-and-control positions would not let their loyalty to LILCO's interests interfere with making the appropriate protective action decisions?

A. [Cordaro, Weismantle] There are independent outsiders involved in the emergency response. Projected dose rates from the onsite staff are independently recalculated by personnel from the Department of Energy, who are represented at the EOC. DOE also makes independent protective action recommendations. Furthermore, in the case of an actual release of radiation, Department of Energy personnel in the field would monitor it and report the results to DOE. It would therefore be impossible for LILCO personnel to conceal the presence of radiation or to avoid making appropriate protective action decisions.

Also, all the calculations, recommendations, etc. during an emergency are recorded, leaving a "paper trail" that will allow events to be reconstructed after the fact from log books, message forms, press

ATTACHMENT 1

EPC _____

Approved: _____

Effective Date _____

OPIP 3.6.1 PLUME EXPOSURE PATHWAY PROTECTIVE ACTION RECOMMENDATIONS

1.0 PURPOSE

This procedure provides guidance for making protective action decisions to mitigate the consequences of a radiological release in the plume exposure pathway.

The resulting guidance derived by using this procedure is intended to assist the Director of Local Response in making a protective action decision. It is intended that sound judgment along with a personal assessment of the progress of events will be supplemented with the guidance found in this procedure.

2.0 RESPONSIBILITY

2.1 The Radiation Health Coordinator is responsible for advising on Protective Action Determinations based upon recommendations provided by SNPS and if time permits, an independent development of Protective Action Recommendations based upon dose projections or offsite radiological monitoring survey data.

2.2 The Radiation Health Coordinator is responsible for relaying Protective Action Recommendations from the DOE-RAP Team to the Director of Local Response following an independent and final review.

2.3 The DOE-RAP Team is responsible for performing protective action calculations and determining protective action recommendations using the procedures and worksheets contained in this OPIP or equivalent.

3.0 PRECAUTIONS

3.1 The dose-saving effectiveness of protective actions can be influenced by many variable factors such as expected duration of releases, involved population, weather conditions, projected evacuation times, and plant conditions. Whenever possible, these factors should all be considered prior to the recommendation of protective actions.

3.2 Sheltering is the preferred protective action if sufficient protection is offered by sheltering, or if no additional benefit is gained by evacuation. The evacuation of hospitals and nursing facilities should be sought as a last means since sheltering is the least disruptive to the patients.

4.0 PREREQUISITES

4.1 The Shoreham Nuclear Power Station has declared a General Emergency.

4.2 Dose projections have been completed in accordance with IRDAM, OPIP 3.5.2--Assessment and Dose Projection, or offsite dose levels have been measured in accordance with OPIP 3.5.1, Downwind Surveying, or with procedural equivalents.

5.0 ACTIONS

AIRBORNE RELEASE	- HP-85 OPERATIONAL - SECTION 5.1
AIRBORNE RELEASE	- HP-85 INOPERATIVE, MANUAL METHOD WITH TI-59 - SECTION 5.2
AIRBORNE RELEASE	- PROTECTIVE ACTIONS FOR SPECIAL FACILITIES - SECTION 5.3
WATERBORNE RELEASE	- SECTION 5.4

5.1 Airborne Release - HP-85 Operational

5.1.1 If the HP-85 has been set up, proceed to Step 5.1.2. Otherwise, perform the following steps:

a. Connect power cord to HP-85 and plug into outlet. Insert cassette into front slot and turn it on. (Power switch is located on the rear of the machine on the right hand side.) The system will load programs into memory and then respond with the following display:

```
SNPS - OFFSITE DOSE ASSESSMENT
PROGRAM Autost ***LILCO/ENTECH

K1:INFO   = PROVIDE COPY OF GENERAL
            INFORMATION AND COMMENTS
K2:CONTIN = CONTINUE

(SELECT OPTION - PRESS KEY)
 ----------------------------------
INFO      CONTIN
```

ATTACHMENT 2

EPC _____

Approved: _____

Effective Date _____

OPIP 3.5.2 ASSESSMENT AND DOSE PROJECTION

1.0 PURPOSE

To describe the procedure used for assessing the radiological consequence of an emergency at SNPS and predicting offsite dose commitments from actual or projected releases of airborne and/or waterborne radioactive materials.

2.0 RESPONSIBILITY

2.1 The Radiation Health Coordinator (RHC) is responsible for assuring that this procedure or its technical equivalent is implemented and keeping the Health Services Coordinator and the Director of Local Response informed of the assessment of the radiological emergency.

2.2 The RAP Team Captain is responsible for collecting the required information for assessment and dose projection and providing Protective Action Recommendations (OPIP 3.6.1) to the Radiation Health Coordinator (RHC).

2.3 The Dose Assessment Function is responsible for the calculation of the projected dose (whole body and thyroid).

3.0 PRECAUTIONS

3.1 Dose projection calculations resulting from the implementation of this procedure are predictions and should be verified by actual field measurements as time permits.

3.2 Airborne dose projections are dependent on weather conditions and source term. Therefore, a change in any parameter requires a review and probable recomputation of the dose projections.

4.0 PREREQUISITES

4.1 An airborne or waterborne release of radioactive material is in progress or is imminent.

5.0 ACTIONS

5.1 Discussion

5.1.1 Upon arrival at the Local EOC, the RAP Team Captain performs the following functions:

a. Obtain and review the available information on the Radiological Emergency Data Form, Attachment 1.

b. Hold a brief discussion with the Director of Local Response or Manager of Local Response, if either is available.

c. Determine the number of Dose Assessment Function available.

d. As the situation permits:

1. Conduct a briefing for the Dose Assessment Function and Environmental Survey Function (ESF).

2. Make ready the dose assessment computer.

3. Establish contact with the SNPS Dose Assessment respresentative at the EOF.

e. Initiate the following procedures in conjunction with this procedure:

1. OPIP 3.5.1, Downwind Surveying
2. OPIP 3.6.1, Protective Action Recommendation

5.1.2 The dose calculations are based upon finite cloud analyses and/or water analyses. The RAP Team Captain can have several different people doing this calculation for different distances simultaneously. The RAP Team Captain will coordinate the Assessment Staff's manpower assignments to perform this procedure in an efficient and timely manner.

5.1.3 Topics covered in this procedure:

5.2 Airborne Release - Manual Method with Programmable Calculator (TI-59)

5.3 Airborne Release - Manual Method

5.4 Waterborne Release

5.5 Thyroid Dose Commitment - Manual Method with Programmable Calculator (TI-59)

5.6 Thyroid Dose Commitment - Manual Method

5.2 Airborne Release - Manual Method with Programmable Calculator (TI-59)

5.2.1 Dose Assessment Function will obtain a copy of Part I, II, III of the Radiological Emergency Data Form from the RAP Team Captain, see Attachment 1, and the Dose Projection Worksheet, Attachment 2.

5.5.2 Using the Dose Projection Worksheet, Attachment 2, record the name of preparer, current date, and time.

5.2.3 Obtain wind speed and wind direction for both 150 ft. and 33 ft. tower levels from Part III - Plant Parameters, Attachment 1. Convert wind speed to appropriate units (item 1 and 2, respectively).

5.2.4 Determine affected downwind sector, item 2, by referring to the following table:

Indicated Wind Direction	Affected Downwind Sector
348.75 to 11.25	S
11.25 to 33.75	SSW
33.75 to 56.25	SW
56.25 to 78.75	WSW
78.75 to 101.25	W
101.25 to 123.75	WNW
123.75 to 146.25	NW
146.25 to 168.75	NNW
168.75 to 191.25	N
191.25 to 213.75	NNE
213.75 to 236.25	NE
236.25 to 258.75	ENE
258.75 to 281.25	E
281.25 to 303.75	ESE
303.75 to 326.25	SE
326.25 to 348.75	SSE
348.75 to 11.25	S

5.2.5 Obtain atmospheric stability class from Part I - General Information, item 11c, on Attachment 1, and circle the appropriate letter in item 3, on the Dose Projection Worksheet, Attachment 2.

5.2.6 Obtain the type of release (ground-level or elevated) from Part III - Plant Parameters, Attachment 1. Circle the release type, item 4, on the Dose Projection Worksheet, Attachment 2.

5.2.7 Determine the distance to downwind receptor, item 5.

NOTE: Use judgment when picking receptor points at which to perform dose projection. Take into account factors such as wind speed, stability class, affected areas, and population density. Dose projection can only be done for distance given in Attachment 3. Several calculations can be performed simultaneously at different distances.

For ground release, proceed directly to Section 5.2.11.

5.2.8 Determine receptor elevation, item 6, above mean sea level (MSL) by using Attachment 3 along with the downwind sector at the 150 ft. level, item 2, and distance to downwind receptor, item 5.

5.2.9 Obtain the plume rise, item 7, from Part III - Plant Parameters, Attachment 1.

5.2.10 Calculate the effective plume height above receptor, item 8, and then choose the tabulated plume height, item 9, closest to this value.

5.2.11 Determine the type of exposure, item 10, by circling the system affected, see Part III - Plant Parameters, Attachment 1, for the affected system (station vent or RBSVS).

NOTE: If release occurs from both station vent and RBSVS, determine doses from each system and add doses together. Use two Dose Projection Worksheets, Attachment 2.

5.2.12 Determine the atmospheric dispersion factor for type of exposure (whole body gamma and/or thyroid) as follows:

a. Select the gaussian puff gamma Xu/Q tables, Attachment 6, for the whole body exposure or plume centerline concentration Xu/Q tables, Attachment 7, for thyroid exposure.

b. From type of release, item 4, and tabulated plume height, item 9, choose the proper table for whole body and/or thyroid exposure.

c. Find the proper Xu/Q value using the stability class, item 3, and distance to downwind receptor, item 5. Record the Xu/Q value, item 11, on the Projected Dose Worksheet, Attachment 2.

5.2.13 Obtain the radiation monitor reading, item 12, for the affected station system (station vent or RBSVS) from Part III - Plant Parameters, Attachment 1.

NOTE: If the radiation monitor reading is not given, use Xe-133 and I-131, Dose Equivalents from Part III - Plant Parameters, Attachment 1. If not available, contact the communicator to obtain from SNPS the radiation monitor reading or Dose Equivalents.

a. If monitor reading is not available, convert the Xe-133 and I-131 dose equivalents (uCi/cc) to dose equivalent release rates (uCi/sec) using item 12d.

5.2.14 Based upon specific radiation monitor reading, item 12, select the proper nomograms, Attachment 7, and circle the nomograms selected on the Dose Projection Worksheet, item 13.

NOTE: If Dose Equivalent release rates are used in place of monitor reading, any on-scale nomogram will suffice.

Nomogram No.	Description
1	Station vent routine effluent monitor . noble gas release . wholebody gamma dose
2	Station vent high-range monitor . noble gas release . wholebody gamma dose
3	RBSVS low-range monitor . noble gas release . wholebody gamma dose
4	RBSVS low-range monitor . potential halogen release rate . potential thyroid dose rate
5	RBSVS intermediate-range monitor . noble gas release . wholebody gamma dose
6	RBSVS intermediate-range monitor . potential halogen release rate . potential thyroid dose rate
7	RBSVS high-range monitor . noble gas release . wholebody gamma dose
8	RBSVS high-range monitor . potential halogen release rate . potential thyroid dose rate

5.2.15 Obtain the airflow at the duct sampled or monitored, item 14, and time of reactor scram, item 15, from Part III - Plant Parameters, Attachment 1. Determine time since reactor scram.

NOTE: If reactor is not yet shut down, the time since reactor scram is zero.

5.2.16 Using the TI-59 with the printer, follow the instructions for running the nomogram program, Attachment 4. Record appropriate output information from TI-59 program on the Dose Projection Worksheet, Attachment 2.

5.2.17 Obtain the release duration, item 17, from Part II - Radiological Assessment Data, Attachment 1.

5.2.18 Complete item 19 to determine whole body and thyroid dose for the point of interest. Record them on the Dose Projection Worksheet, Attachment 2.

5.2.19 Determine airborne protective actions by initiating OPIP 3.6.1, Protective Action Recommendations, Section 5.1.

5.3 Airborne Release - Manual Method

5.3.1 Obtain a copy of Part I, II, III of the Radiological Emergency Data Form from the RAP Team Captain, see Attachment 1, and the Dose Projection Worksheet, Attachment 2.

5.3.2 Using the Dose Projection Worksheet, Attachment 2, record the name of the preparer, current date, and time.

5.3.3 Obtain wind speed and wind direction for both 150 ft. and 33 ft. tower levels from Part III - Plant Parameters, Attachment 1. Convert wind speed to appropriate units (item 1 and 2, respectively).

5.3.4 Determine affected downwind sector, item 2, by referring to the following table:

Indicated Wind Direction	Affected Downwind Sector
348.75 to 11.25	S
11.25 to 33.75	SSW
33.75 to 56.25	SW
56.25 to 78.75	WSW
78.75 to 101.25	W
101.25 to 123.75	WNW
123.75 to 146.25	NW
146.25 to 168.75	NNW
168.75 to 191.25	N
191.25 to 213.75	NNE
213.75 to 236.25	NE
236.25 to 258.75	ENE
258.75 to 281.25	E
281.25 to 303.75	ESE
303.75 to 326.25	SE
326.25 to 348.75	SSE
348.75 to 11.25	S

5.3.5 Obtain the atmospheric stability class from Part I - General Information, item 11c, on Attachment 1, and circle the appropriate letter in item 3, on the Dose Projection Worksheet, Attachment 2.

5.3.6 Obtain the type of release (ground-level or elevated) from Part III - Plant Parameters, Attachment 1. Circle the release type, item 4, on the Dose Projection Worksheet, Attachment 2.

5.3.7 Determine the distance to downwind receptor, item 5.

NOTE: Use judgment when picking reception points at which to perform dose pro- jection. Take into account factors such as wind speed, stability class, affected areas, and population density. Dose projection can only be done for distance given in Attachment 3. Several calculations can be performed simultaneously at different distances.

For ground release, proceed directly to Section 5.3.11.

5.3.8 Determine receptor elevation, item 6, above mean sea level (MSL) by using Attachment 3 along with the downwind sector at the 150 ft. level, item 2, and distance to downwind receptor, item 5.

5.3.9 Obtain plume rise, item 7, from Part III - Plant Parameters, Attachment 1.

5.3.10 Calculate the effective plume height above receptor, item 8, and then choose the tabulated plume height, item 9, closest to this value.

5.3.11 Determine the type of exposure, item 10, by circling the system affected; see Part III - Plant Parameters, Attachment 1, for the affected system (station vent or RBSVS).

NOTE: If release occurs from both station vent and RBSVS, determine doses from each system and add doses together. Use two Dose Project Worksheets, Attachment 2.

5.3.12 Determine the atmospheric dispersion factor for type of exposure (whole body gamma and/or thyroid) as follows:

a. Select the gaussian puff gamma Xu/Q tables, Attachment 6, for the whole body exposure or plume centerline concentration Xu/Q tables, Attachment 7, for thyroid exposure.

b. From type of release, item 4, and tabulated plume height, item 9; choose the proper table for whole body and/or thyroid exposure.

c. Find the proper Xu/Q value using the stability class, item 3, and distance to downwind receptor, item 5. Record the Xu/Q value, item 11, on the Dose Projection Worksheet, Attachment 2.

5.3.13 Obtain the radiation monitor reading, item 12, for the affected station system (station vent or RBSVS) from Part III - Plant Parameters, Attachment 1.

NOTE: If the radiation monitor reading is not given, use Xe-133 and I-131, Dose Equivalents from Part III - Plant Parameters, Attachment 1. If not available, contact the Communicator to obtain from SNPS the radiation monitor readings or Dose Equivalents.

a. If monitor reading is not available, convert the Xe-133 and I-131 dose equivalents (uCi/cc) to dose equivalent release rates (uCi/sec) using item 12d.

5.3.14 Based upon specific radiation monitor reading, item 12, select the proper nomograms, Attachment 7, and circle the nomograms selected on the Dose Projection Worksheet, item 13.

NOTE: If Dose Equivalent release rates are used in place of monitor readings, any on-scale nomogram will suffice.

Nomogram Number	Description
1	Station vent routine effluent monitor . noble gas release . wholebody gamma dose
2	Station vent high-range monitor . noble gas release . wholebody gamma dose
3	RBSVS low-range monitor . noble gas release . wholebody gamma dose
4	RBSVS low-range monitor . potential halogen release rate . potential thyroid dose rate
5	RBSVS intermediate-range monitor . noble gas release . wholebody gamma dose
6	RBSVS intermediate-range monitor . potential halogen release rate . potential thyroid dose rate
7	RBSVS high-range monitor . noble gas release . wholebody gamma dose
8	RBSVS high-range monitor . potential halogen release rate . potential thyroid dose rate

5.3.15 Obtain the airflow at the duct sampled or monitored, item 14, and time of reactor scram, item 15, from Part III - Plant Parameters, Attachment 1. Determine time since reactor scram.

NOTE: If reactor is not yet shut down, the time since reactor scram is zero.

5.3.16 Use the selected nomogram(s) to compute the following information at the downwind receptor:

a. Gross Release Rates (items 16a and 16c)

Inputs

Monitor reading (item 12)
Vent flow (item 14)
Time since reactor scram (item 15)

b. Dose Equivalent Release Rates (items 16b and 16d)

Inputs

Monitor reading (item 12)
Vent flow (item 14)
Time since reactor scram (item 15)

NOTE: If Dose Equivalent is used, record item 12d in items 16b and 16d.

e. Dose Rates (items 17a and 17b)

Inputs

Monitor reading (item 12)
Vent flow (item 14)
Time since reactor scram (item 15)
Ground or elevated wind speed (item 1)
Dispersion coefficient (item 11)

5.3.17 Determine Release Rate (Gross Noble Gas or Radioiodine - items 16a and 16c).

a. Locate the monitor reading on the left-hand axis.

b. Move horizontally to the right until the slanted line corresponding to the flow rate is intercepted.

c. Move vertically down until slanted line corresponding to time after reactor shutdown is intercepted.

d. Move horizontally to the left and read off the release rate.

5.3.18 Determine Release Rate (Xe-133 or I-131 Dose Equivalents - items 16b and 16d).

a. Locate the monitor reading on the left-hand axis.

b. Move horizontally to the right until the slanted line corresponding to the flow rate is intercepted.

c. Move vertically up until slanted line corresponding to time after reactor shutdown is intercepted.

d. Move horizontally to the left and read off the release rate.

5.3.19 Determine Dose Rates (items 17a and 17b).

a. Locate the monitor reading on the left-hand axis. If monitor reading is unavailable, enter nomogram on the upper left-hand side with Xe-133 or I-131 dose equivalent and proceed with step d below.

b. Move horizontally to the right until the slanted line corresponding to the flow rate is intercepted.

c. Move vertically up until slanted line corresponding to time after reactor shutdown is intercepted.

d. Move horizontally to the right until slanted line corresponding to wind speed is intercepted.

NOTE: For elevated releases, use elevated wind speed; for ground releases, use ground wind speed.

e. Move vertically down until the slanted line corresponding to the atmospheric dispersion factor is intercepted.

f. Move horizontally to the right and read off the dose rate.

5.3.20 Obtain the release duration, item 18, from Part II - Radiological Assessment Data, Attachment 1.

5.3.21 Complete item 19 to determine whole body and thyroid dose for the point of interest. Record them on the Dose Projection Worksheet, Attachment 2.

5.3.22 Determine airborne protective actions by initiating Procedure 3.6.1, Protective Action Recommendations, Section 5.1.

5.4 Waterborne Release

5.4.1 This section will provide instruction for calculation of projected whole body (WB) and skin doses received while swimming in or boating on Long Island Sound water contaminated by a radioactive release from SNPS.

5.4.2 Dose Assessment Function will contact the RAP Team Captain and obtain a copy of Part II and Part III of the Radiological Emergency Data Form, see Attachment 1.

5.4.3 Obtain the Liquid Release Worksheet, Attachment 8, record the name of preparer, current date and time.

5.4.4 Using Part II - Radiological Assessment Data, Attachment 1, fill in the date of release, item 1, time release started, item 2, duration of release, item 3, (if duration is not given, then subtract the time of termination from the time started to obtain duration), volume of release, item 4, and the radioactive concentration, item 5, on Liquid Release Worksheet, Attachment 8.

5.4.5 Using the above items, calculate the projected whole body dose for swimming. Multiply radioactive concentration, item 5, times the duration, item 3, times a conversion faction of 96.4, enter the results into item 6. To find the Projected Dose in rems, divide item 6, by 1,000.

5.4.6 To calculate the projected skin dose for swimming, multiply radioactive concentration, item 5, times the duration, item 3, times a conversion factor 133. Enter the results into item 7. To find the Projected Dose in rems, divide item 7, by 1,000.

5.4.7 To calculate the projected whole body dose for boating, multiply radioactive concentration, item 5, times the duration, item 3, times a conversion factor 48.2. Enter the results into item 8. To find the Projected Dose in rems, divide item 8, by 1,000.

5.4.8 Using the Projected Dose, determine the protective action by initiating OPIP 3.6.1, Protective Action Recommendations, Section 5.3.

5.5 Thyroid Dose Commitment - Manual Method with TI-59

5.5.1 Dose Assessment Function will obtain the Thyroid Dose Commitment Worksheet, Attachment 9, and record the name of preparer, current date and time.

5.5.2 Obtain all data for item 1 of the Thyroid Dose Commitment Worksheet, Attachment 9, from the Environmental Survey Function (ESF).

5.5.3 Contact the RAP Team Captain and obtain a copy of Part II and Part III of the Radiological Emergency Data Form, Attachment 1. Using Attachment 1, fill in if core or fuel damage has occurred, item 6, time of reactor shutdown, item 7, time the release started, item 9, and the release duration, item 13, on Thyroid Dose Commitment Worksheet, Attach- ment 9.

NOTE: If reactor is not shut down, use time the release started as time of reactor shutdown.

5.5.4 When the above items have been obtained, calculate the remaining items on the worksheet:

a. Subtract sample collection end time, item 1f, from sample collection start time, item 1e. Enter the result, called sample collection interval, as item 2.

b. Add the starting flow rate, item 1g, and the ending flow rate, item 1n, then divide by 2. Enter the result called air sample flow rate as item 3.

c. Subtract bare canister reading, item 1m, from the background reading, item 1j. Enter the results called net bare canister reading as item 4.

d. Subtract filter canister reading, item 1k, from bare canister reading, item 1m. Enter the result, called net filter absorber reading, as item 5.

e. Subtract time of reactor shutdown, item 7, from time of air sample measurement, item 1n. Enter the result, called time between shutdown and measurement, as item 8.

f. Divide distance from reactor to sample site, item 1c, by ground or elevated wind speed (mph) from Attachment 1. Enter the result, called plume travel time, as item 10.

g. Add time release started, item 9, to plume travel time, item 10. Enter the result, called time exposure started, as item 11.

h. Subtract time exposure started, item 11, from time of reactor shutdown, item 7. Enter the result, called time after shutdown exposure started, as item 12.

5.5.5 Using the TI-59 with the printer, follow the instructions for calculating the thyroid dose using the Thyroid Dose Commitment Program, Attachment 10. Record the thyroid dose commitment, item 15, on the Thyroid Dose Commitment Worksheet, Attachment 9.

5.5.6 Utilize results of data for input to OPIP 3.6.1, Plume Exposure Pathway Protective Action Recommendation, Section 5.1.1h.

5.6 Thyroid Dose Commitment - Manual Method

5.6.1 Dose Assessment Function will obtain the Thyroid Dose Commitment Worksheet, Attachment 9, and record the name of preparer, current date and time.

5.6.2 Obtain all data for item 1 of the Thyroid Dose Commitment Worksheet, Attachment 9, from the Environmental Survey Function (ESF).

5.6.3 Contact the RAP Team Captain and obtain a copy of Part II and Part III of the Radiological Emergency Data Form, Attachment 1. Using Attachment 1, fill in if core or fuel damage has occurred item 6, time of reactor shutdown, item 7, time the release started, item 9, and the release duration, item 13, on Thyroid Dose Commitment Worksheet, Attachment 9.

NOTE: If reactor is not shut down, use time the release started as time of reactor shutdown.

5.6.4 When the above items have been obtained, calculate the remaining items on the worksheet:

a. Subtract sample collection and time, item 1f, from sample collection start time, item 1e. Enter the result, called sample collection interval, as item 2.

b. Add the starting flow rate, item 1g, and the ending flow rate, item 1n, then divide by 2. Enter the result called air sample flow rate as item 3.

c. Subtract bare canister reading, item 1m, from the background reading, item 1j. Enter the results called net bare canister reading as item 4.

d. Subtract filter canister reading, item 1k, from bare canister reading, item 1m. Enter the result, called net filter absorber reading, as item 5.

e. Subtract time of reactor shutdown, item 7, from time of air sample measurement, item 1n. Enter the result, called time between shutdown and measurement, as item 8.

f. Divide distance from reactor to sample site, item 1c, by ground or elevated wind speed (mph) from Attachment 1. Enter the result, called plume travel time, as item 10.

g. Add time release started, item 9, to plume travel time, item 10. Enter the result, called time exposure started, as item 11.

h. Subtract time exposure started, item 11, from time of reactor shutdown, item 7. Enter the result, called after shutdown exposure started, as item 12.

5.6.5 Determine bare canister component, item 14a, and filter/canister component, item 14b, by using the nomogram, Attachment 11, and the instructions below:

5.6.6 Bare Canister Component

a. Locate the net bare canister iodine measurement, item 4, on the lower left-hand axis of the Thyroid Dose Commitment Nomogram, Attachment 11. Move horizontally to the right until the slanted line marked BARE CANISTER is intercepted.

b. Move vertically up until the time between reactor shutdown and measurement, item 8, is intercepted; for time values greater than 72 hours, use the line marked I-131.

c. Move horizontally to the right until the time between reactor shutdown and start of exposure, item 12, is intercepted; if the start of radiation exposure coincides with the time of measurement, move to the line marked Te = Tm.

d. Move vertically down until the time between reactor shutdown and time of measurement, item 8, is intercepted; if the start of radiation exposure coincides with the time of measurement, move to the line marked Te = Tm.

e. Move horizontally to the right until duration of exposure, item 13, is intercepted.

f. Move vertically up until the sample collection interval, item 2, is intercepted.

g. Move horizontally to the right to read off the thyroid dose commitment for the bare canister. Record this in item 14a on the Thyroid Dose Commitment Worksheet, Attachment 9.

5.6.7 Filter Component

NOTE: If core or fuel damage has not occurred, no iodine release in particulate form is expected and any filter radioactivity will be void of iodine. The total dose commitment value, item 15, will be the bare canister component only. Otherwise, complete the steps below.

a. Locate the net filter adsorber reading, item 5, on the lower left-hand axis of the Thyroid Dose Commitment Nomogram, Attachment 11. Move horizontally to the right until the slanted line corresponding to the number of hours between reactor shutdown and time of measurement, item 8, is intercepted.

b. Move vertically up until the time between reactor shutdown and measurement, item 8, is intercepted; for time values greater than 72 hours, use the line marked I-131.

c. Move horizontally to the right until the time between reactor shutdown and start of exposure, item 12, is intercepted; if the start of radiation exposure coincides with the time of measurement, move to the line marked Te = Tm.

d. Move vertically down until the time between reactor shutdown and time of measurement, item 8, is intercepted; if the start of radiation exposure coincides with the time of measurement, move to the line marked Te = Tm.

e. Move horizontally to the right until duration of exposure, item 13, is intercepted.

f. Move vertically up until the sample collection interval, item 2, is intercepted.

g. Move horizontally to the right to read off the thyroid dose commitment for the filter adsorber. Record this in item 14b on the Thyroid Dose Commitment Worksheet, Attachment 9.

5.6.8 Obtain total thyroid dose commitment, item 15, by adding bare canister component, item 14a, and the filter/canister component, item 14b.

5.6.9 Utilize results of data for input to OPIP 3.6.1, Plume Exposure Pathway Protective Action Recommendations, Section 5.1.1h.

6.0 REFERENCES

6.1 OPIP 3.5.1, Downwind Survey

6.2 OPIP 3.6.1, Protective Action Recommendations

7.0 ATTACHMENTS

1. Radiological Emergency Data Form
2. Dose Projection Worksheet (Airborne)
3. Shoreham Nuclear Power Station - Terrain Heights (Meters)
4. TI-59 Instructions - Nomograms
5. Xu/Q Tables - Gaussian Puff Gamma

6. Xu/Q Tables - Plume Centerline Concentration
7. Nomograms
8. Liquid Release Worksheet
9. Thyroid Dose Commitment Worksheet
10. TI-59 Instructions - Thyroid Dose Commitment Program
11. Thyroid Dose Commitment Nomogram

ATTACHMENT 3

EPC _____

Approved: _____

Effective Date _____

OPIP 3.5.1 DOWNWIND SURVEYING

1.0 PURPOSE

To describe the procedure to be followed for the conduct of Offsite Radiological Surveys. DOE-RAP Team personnel may use their own procedures.

2.0 RESPONSIBILITY

The Offsite Radiological Survey (ORS) Team is responsible for implementation of this procedure or its technical equivalent.

3.0 PRECAUTIONS

Maintain frequent communications contact at regular intervals.

4.0 PREREQUISITES

4.1 An Alert or higher emergency classification has been declared at SNPS, the Local EOC is activated, and the communication links between DOE-RAP at the Brookhaven Area Office (BHO) and the Offsite Radiological Survey (ORS) Teams are established.

4.2 The ORS Teams have been mobilized in accordance with OPIP 3.3.3, Standby and Mobilization.

5.0 ACTIONS

5.1 Team Briefing

5.1.1 ORS Team members report to the staging area at BHO or the Local EOC for a briefing by the Environmental Survey Function (ESF) or the RAP Team Captain.

a. If direct deployment is required from the staging area at BHO, then the ESF will brief ORS Teams via telephone or radio communications from the Local EOC.

b. If the ORS Teams are not directly deployed from BHO, then the ORS Teams will pick up their Offsite Radiological Survey Kits and report to the Local EOC for their briefing unless otherwise instructed by the ESF or the RAP Team Captain.

5.1.2 Ensure that the ESF or the RAP Team Captain will include the following items (as a minimum) in the briefing for the ORS Teams:

a. Team identification
b. Communications equipment and channel
c. Protective equipment (including use of KI)
d. Authorized exposure limits
e. Survey locations
f. Survey equipment
g. Type of data (air sample, soil sample, water, vegetation, feed, dairy products, and foodstuffs)

5.1.3 The ORS Team members will complete Offsite Radiological Survey (ORS) Briefing Form, Attachment 1, from briefing information provided by the ESF or the RAP Team Captain.

5.2 Equipment Check/Team Preparation

5.2.1 Assemble protective equipment as checked off on the Offsite Radiological Survey (ORS) Briefing Form, Attachment 1, and obtain Offsite Radiological Survey (ORS) Kits from the staging area at BHO; two ORS Kits are located at BHO and two ORS Kits are kept at the Local EOC.

5.2.2 Perform equipment check using Offsite Radiological Survey (ORS) Kit Inventory, Attachment 3. Observe proper meter response and see that equipment calibration stickers are valid (see equipment operation attachments). Be sure to remove the control TLD from the ORS Kit and leave at the Local EOC or BHO, as directed by the ESF.

5.2.3 Log predeployment personnel dosimeter readings onto the Offsite Radiological Survey Briefing Form, Attachment 1, Item 11.

5.2.4 Use an AC source to check the TCS EAS-1 Air Sampler motor. Do not put on the filter canister.

5.2.5 If the ESF advises that potassium iodide (KI) administration is required, fill out Attachment 9, then take one KI tablet (130 mg) at this time. Inform the ESF or the RAP Team Captain when this is done.

5.2.6 Perform communication check with the ESF at the Local EOC. Maintain proper communication practices and always identify both parties, e.g., "Offsite Radiological Survey Team #1 to ESF."

5.2.7 Put on appropriate protective clothing (see Attachment 6, Donning Protective Clothing) and dosimetry equipment (see Attachment 8, Use of Direct-Reading Dosimeters and TLDs), as outlined in ORS Briefing Form, Attachment 1, Item 9.

5.2.8 Proceed to the survey vehicle. Check for a full tank of gas, operating cigarette lighter socket, lights, and operability of the battery. Start the engine and with it on, plug in the cable of the TCS EAS-1 Air Sampler, without the filter, into the cigarette lighter socket and observe sampler operating (it should sound like a small vacuum cleaner). If the emergency vehicle is not equipped with a cigarette lighter socket, use the vehicle battery with jumper cables to facilitate connection of the DC adapter directly to the battery terminals (ensure correct polarity when installing cables).

5.2.9 Inform the ESF that the Offsite Radiological Survey (ORS) Team is now ready and is starting its mission.

5.3 Survey

5.3.1 Proceed to the designated survey points, as listed on ORS Briefing Form, Attachment 1, Item 6b, using the Preselected Sampling Locations List, Attachment 10, and the Offsite Survey Map, Attachment 11, located in the ORS Kit.

5.3.2 While enroute to the survey point, keep the RO-2A and RM-14 with HP-270 probe on (see equipment operation, Attachments 4 and 5) and begin recording periodically any reading on the RM-14 greater than 1200 cpm (1 mR/hr) on the Offsite Radiological Survey Data Sheet, Attachment 2. Assign a number to any non-fixed points, mark the location on the map, then enter the point number assigned and the exposure rate on the ORS Data Sheet, Attachment 2.

5.3.3 Record any abnormal events or conditions which you observe on the Offsite Radiological Survey Data Sheet, Attachment 2.

5.3.4 If plume tracking is not required, proceed to Step 5.3.6.

5.3.5 Based on the survey data to be collected as indicated on the ORS Briefing Form, Attachment 1, Item 10, drive from point to point noting and reporting the following:

a. Plume boundaries are described by a dose rate of 1 mR/hr. (This is equivalent to approximately 1200 cpm on the RM-14 with HP-270 probe.)

b. Plume centerline is described as the point at which the RM 14 with HP-270 probe (open window) reading peaks and begins to decrease. Return to the peak concentration area.

c. At the plume centerline, report the maximum plume whole body dose rate measured with the RO-2A instrument at 4 feet above the ground and the measurement location to the ESC immediately after measurement (see Attachment 4, Operation of Eberline Model RO-2A). Mark the location on the map and ORS Data Sheet, Attachment 2.

d. If plume centerline air sampling is required, Attachment 1, Item 10 (2), collect an air sample using Step 5.3.7.

5.3.6 At the survey location, perform the following:

a. Obtain gamma (closed window of RO-2A) measurements at 3 inches and 4 feet above the ground

and record these readings on Attachment 2. (If the 4 foot reading is noticeably higher than the 3 inch reading, it should be assumed that the predominant gamma source is the airborne plume).

b. If readings increase with decreasing height above the ground, assume that the source is on the surface. In this case, take several smear samples (with gloves) over a 4" x 4" area of the ground and/or a soil sample when conditions permit.

c. Use a plastic bag for the soil sample and fill out a label to tag the bag. Label all samples with proper ID information: sample number, sample location, initials, date, time, and team ID.

d. When monitoring, periodically check beta (open window of RO-2A) reading at 3 inches and 4 feet above ground. Record any readings significantly different from the window-closed readings.

5.3.7 At the survey location, take an air sample, as required by the Radiological Survey Briefing Form, Attachment 1, Item 10 (2), as follows:

a. Leaving the vehicle engine running, plug in the TCS-EAS-1 air sampler. Run it for about a 1/2 minute, warm-up period without the filter/canister installed.

b. Open the TCS EAS-1 one quart can containing the canister. Inspect the canister for visible defects; the canister is not acceptable for use if the moisture check dot is blue.

c. Turn off the warmed-up sampler, center the canister over the suction opening on the side of the sampler. Stretch the elastic retainer over the outer end of the canister, making sure the fit is tight.

d. Position the air sampler 4 feet above the ground, as far away from the vehicle exhaust pipe as the cable will allow.

e. Adjust the flow rate to approximately 5 CFM. Set the timer to $\frac{25}{CFM}$ = 5 minutes.
(Rotate dial past the 5-minute mark, then turn back.)

f. Start the sampler and record the starting flow rate on the ORS Data Sheet, Attachment 2. Use a stop watch to verify the run time.

g. When the air sample time is completed, record the final flow rate reading on the ORS Data Sheet, Attachment 2. Carefully remove the canister from the sampler and put it in a plastic bag. Avoid contact with the white filter cloth wrapped around the outside and the bare filter. Be sure to record start/stop times and flow rates on the ORS Data Sheet, Attachment 2.

h. Connect the brass-shell GM-1 probe cable to the RM-14 count rate meter to "DETECTOR" input connection (see Attachment 5, Operation of Eberline Model RM-14). Switch "RESPONSE" to "SLOW". In this position, allow 20 seconds meter response time for each measurement.

i. Using the above setup, measure the background at 4 feet above the ground or inside the vehicle. Record this background cpm on the ORS Data Sheet, Attachment 2.

j. Insert the GM-1 probe into the center hole of the canister and adjust the scale of the RM-14 as necessary. Record the stabilized filter/canister reading (cpm) on the ORS Data Sheet, Attachment 2. Remove the GM-1 probe.

k. Carefully remove the white fiber cloth which is wrapped around the canister by pulling the red tape on the top rim of the canister. Hold the canister in the plastic bag while doing this to avoid contacting the cloth and to prevent silver zeolite crystal bits from falling out after the cloth wrapping is removed. Return the fiber cloth to the quart can.

l. Insert the GM-1 probe into the center hole of the canister and record the stabilized bare canister reading and time of measurement on the ORS Data Sheet, Attachment 2.

m. Place the bare canister with the plastic bag into the quart can and label the can with the following information:

Date and time of sample
Map location
Start and stop time
Starting and ending flow rate
Sample number (sequential)
Team ID

n. Place the quart can inside a plastic sample bag and ensure that a label is attached.

o. Report the ORS Data Sheet information for the air sample to the ESF.

5.3.8 Report dosimeter readings to the ESF at regular intervals (see OPIP 3.9.1, Dosimetry and Exposure Control).

5.3.9 Immediately report any equipment or supply shortages to the ESF.

5.3.10 Repeat Steps 5.3.2 through 5.3.8 as necessary for other survey locations.

5.3.11 When all survey and sampling activities are completed and the team receives no further requests from the ESF or the team is relieved by a second team, return to the Emergency Worker Decontamination Center, in Brentwood, unless instructed otherwise by the ESF or the RAP Team Captain.

5.3.12 Do not remove protective clothing or respirator until instructed by Emergency Worker Decontamination Facility personnel (see Attachment 6, Section 5.5, Removing Protective Clothing; Attachment 6, Section 5.7, Step-off Pad Use; Attachment 7, Section 5.5, Removing Respirator).

5.4 Decontamination/Sample Return

5.4.1 When all survey and sampling activities are completed, the team will return to the Emergency Worker Decontamination Facility, in Brentwood. The decontamination facility has the capability to decontaminate emergency workers and equipment in the event of a radiological release at SNPS.

5.4.2 When the ORS Teams arrive at the Emergency Worker Decontamination Facility, they notify the ESF of their arrival and proceed to the Vehicle Decontamination Area. The ESF or designee will meet the ORS Teams there and have the ORS personnel monitor the sample bags and data sheets with the RM-14 and HP-210 probe. If the plastic bags with the samples inside and/or the data sheet are not contaminated, then the ESF will bring them into the EOC for future analysis. If they are contaminated, then the ORS personnel will put the sample bags and/or data sheet into "clean" bags before being brought by the RAP Team Captain or designee into the EOC for future analysis.

5.4.3 The ORS Team members will then enter the Emergency Worker Decontamination Facility and follow the instructions of the monitoring and decontamination personnel. Be sure to take along your dosimeters, exposure record card, ORS Briefing Form, Attachment 1, and KI Record Sheet and Consent Form, Attachment 9. All other equipment will remain in the vehicle until the equipment and vehicle has gone through monitoring and decontamination.

5.4.4 Record post survey dosimeter readings on the ORS Briefing Form, Attachment 1.

5.4.5 The ESF or designee will examine all records, data sheets, and samples turned in by the ORS Teams, making copies of those items needed for dose assessment, and forward all samples for lab analysis.

5.4.6 Before the Offsite Radiological Survey Team returns the Offsite Radiological Survey Kit, make sure that all supplies and any contaminated equipment removed from service is replaced.

6.0 REFERENCES

6.1 OPIP 3.3.3, Standby and Mobilization

6.2 OPIP 3.9.1, Dosimetry and Exposure Control

6.3 OPIP 3.9.2, Radiological Monitoring and Decontamination of Emergency Workers and Evacuees

7.0 ATTACHMENTS

1. Offsite Radiological Survey (ORS) Briefing Form
2. Offsite Radiological Survey (ORS) Data Sheet
3. Offsite Radiological Survey Kit Inventory
4. Operation of Eberline Model RO-2A Ion Chamber
5. Operation of Eberline Model RM-14
6. Use of Protective Clothing and Step-Off Pads
7. Use of Full Face Respirators
8. Use of Direct-Reading Dosimeters and TLDs
9. Potassium Iodide Distribution
10. Preselected Sampling Locations
11. Offsite Survey Map

ATTACHMENT 4

EPC _____

Approved: _____

Effective Date _____

+OPIP 3.3.4 PROMPT NOTIFICATION SYSTEM ACTIVATION

1.0 PURPOSE

This procedure describes the actions necessary to activate the Prompt Notification System.

2.0 RESPONSIBILITY

2.1 The Director of Local Response is responsible for implementing this procedure.

2.2 The Customer Service Supervisor is responsible for implementing this procedure in a General Emergency involving immediate protective action recommendations if the Director of Local Response is not available.

3.0 PRECAUTIONS

3.1 If a General Emergency requiring immediate protective action recommendations is the first notification of the emergency, the Customer Service Supervisor will implement this procedure if contact with the Director of Local Response cannot be made within 10 minutes of the receipt of notification.

3.2 The activation of the Prompt Notification System must be coordinated with the activation of the Emergency Broadcast System.

4.0 PREREQUISITES

A decision to activate the Prompt Notification System has been made in accordance with OPIP 3.1.1, Command of Emergency Operations.

5.0 ACTIONS

5.1 System Activation

5.1.1 The Director of Local Response will:

a. Upon the decision to activate, ensure that the Coordinator of Public Information has prepared an Emergency Broadcast System (EBS) message, has transmitted it to WALK-FM Radio, and that they are prepared to broadcast it.

b. Direct the Coordinator of Public Information to activate EBS.

c. Activate the Siren System using the encoder located at the Local EOC.

In the unlikely event that, prior to the activation of the EOC, notification from the plant is a General Emergency and includes a recommendation for sheltering or evacuation, the following procedure will be used:

1. At the direction of the Director of Local Response, the Coordinator of Public Information contacts WALK-FM (EBS) Radio Station over commercial telephone. He will explain that there is an immediate emergency and that the Local EOC has not, as yet, been activated and therefore the dedicated phone normally used for a radiological emergency is not currently accessible.

The Coordinator of Public Information will then indicate to the station to broadcast the protective response actions as recommended by the utility using a preestablished message format shown in OPIP 3.8.2, EBS System Activation.
If the Director cannot reach the Coordinator of Public Information, the Director will contact WALK-FM and implement OPIP 3.8.2, EBS System Activation.

2. The Director of Local Response then instructs the Emergency Director, via the Customer Service Operator to activate the sirens using the encoder located in the SNPS Control Room and notify the Coast Guard if the protective action affects the Long Island Sound.

   NOTE: A back-up encoder is located at the Brookhaven Substation.

   Should the Customer Service operator not be able to reach the appropriate individual who has the authority to activate the Prompt Notification System and give direction to the general public within ten (10) minutes of the receipt of notification, inform the Customer Service Supervisor. The Customer Service Supervisor shall notify the SNPS Emergency Director and request that the Control Room activate the prompt notification system (sirens). The Customer Service Supervisor will also implement OPIP 3.8.2, EBS System Activation.

5.2 System Verification

5.2.1 The Coordinator of Public Information at the EOC will:

a. Direct a staff member to verify the activation of EBS by monitoring a tone alert radio and a commercial radio located in the EOC.

b. Report the status of EBS to the Director of Local Response.

c. Contact Marketing Evaluations Inc. and request them to verify activation of sirens.

d. Note the siren number of inoperative sirens and report them to the Manager of Local Response.

5.2.2 The Manager of Local Response will:

a. Upon notification of a failure of any or all sirens, direct the Evacuation Coordinator to initiate route alerting (Step 5.3) for the areas covered by non-activated sirens.

5.3 Route Alerting

5.3.1 The Evacuation Coordinator will direct the Special Facilities Evacuation Coordinator to initiate route alerting.

5.3.2 The Special Facilities Evacuation Coordinator will:

a. Obtain the listing of all non-activated sirens from the Coordinator of Public Information.

b. Contact the appropriate Lead Traffic Guide and direct that route alert drivers be dispatched to the areas requiring warning. Inform the Lead Traffic Guide which sirens are located in the downwind zones and direct that the Route Alert Drivers be dispatched to these zones before sending drivers to the other zones.

c. When teams have been dispatched, notify the Evacuation Coordinator.

5.3.3 Lead Traffic Guide will:

a. Obtain the alerting packets for the non-activated sirens and distribute the packets to the drivers.

b. Brief the Route Alert Drivers on their assignments.

c. Ensure that the drivers are issued dosimetry.

d. Deploy the Route Alert Drivers to their assigned routes, instructing them to follow the Route Alert Drivers Procedure (Attachment 1). Complete the Route Alert Driver Dispatch Log (Attachment 2) for each Route Alert Driver.

e. If notified that a Route Alert Driver has received a dose of 3.5R, arrange to have an alternate driver relieve him in the field and finish notification of the area.

f. When all drivers have been dispatched, notify the Special Facilities Evacuation Coordinator.

5.3.4 Route Alert Drivers will:

a. Report to the Staging Area in accordance with OPIP 3.3.3, Standby and Mobilization.

b. Obtain Dosimetry Equipment from the Record Keeper and don this equipment immediately.

c. Receive instructions from the Lead Traffic Guide.

d. Obtain a route alert packet from the Lead Traffic Guide.

e. Proceed with Steps 1 through 6 of the Route Alert Drivers Procedure (Attachment 1).

f. When directed by the Lead Traffic Guide, leave the staging area and proceed to the start of the route.

g. Proceed with Steps 7 through 10 of the Route Alert Drivers Procedure.

5.4 Deaf Notification

5.4.1 The Evacuation Coordinator will direct the Special Facilities Evacuation Coordinator to initiate notification of that portion of the deaf population within zones requiring protective actions.

a. If sheltering is the recommended protective action, dispatch available Route Alert Drivers to notify both ambulatory and non-ambulatory deaf people.

b. If evacuation is the recommended protective action, dispatch available Route Alert Drivers to notify only the ambulatory deaf people.

NOTE

AMBULANCES/AMBULETTE VANS ARE DISPATCHED TO THE NON-AMBULATORY DEAF. THIS WILL SERVE AS NOTIFICATION.

5.4.2 The Special Facilities Evacuation Coordinator will:

a. Obtain the listing of deaf population for the affected zones from Home Coordinator.

b. Contact the Lead Traffic Guide(s) and direct that Route Alert Drivers be dispatched to the homes listed and contact the listed individuals in person.

c. When drivers have been dispatched, notify the Evacuation Coordinator.

5.4.3 Lead Traffic Guide will:

a. Based upon the list of the deaf residents received from the Special Facilities Evacuation Coordinator, obtain the proper alerting packets.

b. Brief the Route Alert Drivers.

c. Ensure that the drivers are issued dosimetry.

d. Deploy the Route Alert Drivers to the homes of the deaf, instructing drivers to follow their procedures. Complete the Route Alert Driver Dispatch Log, Attachment 2, for each Route Alert Driver.

5.4.4 Route Alert Drivers will:

a. Report to the Staging Area in accordance with OPIP 3.3.3, Standby and Mobilization.

b. Obtain Dosimetry Equipment from the Record Keeper and don this equipment immediately.

c. Receive instructions from the Lead Traffic Guide.

d. Obtain an alerting packet from the Lead Traffic Guide.

e. Proceed with Steps 1 through 4 of the Action Checklist (Attachment 1).

f. When directed by the Lead Traffic Guide, leave the staging area and proceed to the homes of the deaf.

g. Proceed with Steps 7 through 10 of the Action Checklist.

6.0 REFERENCES

6.1 OPIP 3.8.2, Emergency Broadcast System Activation

7.0 ATTACHMENTS

1. Route Alert Drivers Procedure
2. Route Alert Driver Dispatch Log

ROUTE ALERT DRIVERS PROCEDURE

1. Inventory emergency kit before beginning route alerting. This kit consists of:

   a. Packet containing:

      - Route Alert Drivers Procedure
      - Route Maps

   b. Public Address System and prerecorded message (for siren failure only)

2. Receive dosimetry equipment from the Record Keeper, consisting of 1 direct-reading dosimeter (0-200 mR), 1 direct-reading dosimeter (0-5 R) and 1 thermoluminescent dosimeter (TLD). Don this equipment 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 briefing to receive your routes and directions on your assignment and/or your routes.

5. Mount and test the Public Address System in the vehicle.

6. Upon notification from the Lead Traffic Guide, proceed to your route alerting assignment.

7. a. Upon reaching the starting point of the route, drive at approximately 5 mph and activate the Public Address System for Broadcast of prerecorded messages.

   b. Upon arrival at the home of a deaf person, contact person and hand them either a sheltering or evacuation message as appropriate (for deaf notification only).

8. If readings go beyond the scale on the 0-200 mR dosimeter, inform the Lead Traffic Guide by telephone and read the 0-5 R dosimeter.

ROUTE ALERT DRIVERS PROCEDURE
(continued)

9. At a reading of 3.5 R (3500 mR), inform the Lead Traffic Guide of dosimeter readings and prepare to leave the area. If directed to leave the area, 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.

10. Notify the Lead Traffic Guide when your assignment and/or route is complete. Report to the Emergency Worker Decontamination Center at the Local EOC in Brentwood for monitoring and possible decontamination.

ROUTE ALERT DRIVERS PROCEDURE
(continued)

9. At a reading of 3.5 R (3500 mR), inform the Lead Traffic Guide of dosimeter readings and prepare to leave the area. If directed to leave the area, 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.

10. Notify the Lead Traffic Guide when your assignment and/or route is complete. Report to the Emergency Worker Decontamination Center at the Local EOC in Brentwood for monitoring and possible decontamination.

ROUTE ALERT DRIVER DISPATCH LOG

Staging Area: _____

Staging Area Coordinator: _____

Date: _____

Page ____ of ____

Route Alert Driver's Name	Assignment

ATTACHMENT 5

EPC _____

Approved: _____

Effective Date _____

OPIP 3.8.1 PUBLIC INFORMATION

1.0 PURPOSE

To provide the Local Emergency Response Organization (LERO) with a method for the coordination and dissemination of public information during, and the preparation of educational materials to the public prior to, an incident at the Shoreham Nuclear Power Station (SNPS).

2.0 RESPONSIBILITY

The Coordinator of Public Information will be responsible for implementing this procedure during an incident at SNPS.

3.0 PRECAUTIONS

None

4.0 PREREQUISITES

None

5.0 ACTIONS

5.1 Coordinator of Public Information

5.1.1 Prior to an incident at the Shoreham Nuclear Power Station, under the direction of the Emergency Planning Coordinator the Coordinator of Public Information will:

a. Assure that all educational materials released to the public in the EPZ are reviewed by LERO on a continuous basis to prepare the population within the EPZ for an incident at the plant.

b. Issue a news announcement concerning the distribution of the Emergency Plannning Brochure.

c. Coordinate all activities closely with the LILCO Office of Public Affairs.

d. Coordinate with the LILCO Office of Public Affairs to develop an annual orientation program for members of the news media. This program will address general principles of nuclear energy and emergency planning.

5.1.2 During an emergency at the Shoreham Nuclear Power Station, the Coordinator of Public Information will:

a. Activate the Emergency Broadcast System (see OPIP 3.8.2, Emergency Broadcast System Activation).

b. Report to the Local Emergency Operations Center. Upon activation of the Emergency News Center (ENC), dispatch two Public Information Staff Members to establish a working office at the ENC in the Quality Inn, Old Mill, Ronkonkoma. Desk space and telephones to accommodate the various representatives of the news media will be provided at the ENC. This will consist of 60 telephones, 30 typewriters, and work space for approximately 100 people. Additionally, there is a second floor conference room of about 3,000 square feet which has space for approximately 300 press people. This room will be employed for joint news conferences and has raised platforms for TV coverage.

c. Confer with the Director of Local Response and the Public Information Staff at the ENC on a regular basis to maintain consistent information content.

d. Prepare and disseminate press releases as appropriate. In preparing press releases:

- o Obtain up-to-date information regarding offsite emergency response.
- o Utilize established press release format, if possible (reference Attachment 1, Sample Press Releases).
- o Upon completion of a press release, verify its content with the Director of Local Response.
- o Incorporate changes into a final press release.
- o After receiving approval from the Director of Local Response, telecopy a press release to the ENC and direct a staff member to ensure distribution of press releases to the utility and any government Public Information Officers (PIOs). Obtain their acknowledgement by means of a sign-off.
- o Distribute approved press release.

e. Assign personnel to monitor media and radio broadcasts for incorrect information.

f. Control misinformation by providing current information for LILCO Rumor Control personnel and answering any questions regarding local response.

g. Direct an Administrative Assistant to maintain a log of all events in the Public Information Office and establish a file for all press releases, Emergency Broadcast System messages and rumors received.

5.2 Public Information Support Staff

5.2.1 Prior to an incident at the Shoreham Nuclear Power Station, the Public Information Support Staff will

assist the Coordinator of Public Information in development of all public information materials for the Emergency Planning Zone (EPZ). The staff shall coordinate closely with the LILCO Office of Public Affairs in the development of these materials.

5.2.2 During an incident at the Shoreham Nuclear Power Station, members of the Public Information Support Staff will:

a. Report to the EOC and then, upon direction of the Coordinator of Public Information, two staff members proceed to the ENC.

b. Establish and maintain contact between the EOC and the ENC, via dedicated telephones, and supply the Coordinator of Public Information with information as the incident develops.

c. Assist the Coordinator of Public Information in developing press releases (see Attachment 1, Sample Press Releases).

d. Upon approval of the Coordinator of Public Information, release and ensure distribution of press releases.

e. Assist at the ENC during press conferences by supplying any information needed during the course of the conference.

f. Supply the Rumor Control Staff with the most correct information available.

g. Assist the Coordinator of Public Information, as necessary, throughout the course of the incident.

6.0 REFERENCES

6.1 OPIP 3.8.2, Emergency Broadcast System Activation

7.0 ATTACHMENTS

1. Sample Press Releases

ATTACHMENT 6

EPC _____

Approved: _____

Effective Date _____

+OPIP 3.8.2 EMERGENCY BROADCAST SYSTEM ACTIVATION

1.0 PURPOSE

This procedure describes the actions necessary to activate the Emergency Broadcast System.

2.0 RESPONSIBILITY

The Coordinator of Public Information is responsible for implementing this procedure.

3.0 PRECAUTIONS

For Site Area Emergency and General Emergency classifications, OPIP 3.3.4, Prompt Notification System Activation (Siren Activation) must be implemented.

4.0 PREREQUISITES

An Alert, Site Area Emergency, or General Emergency condition is in progress and has been verified.

5.0 ACTIONS

5.1 EBS Activation

CAUTION
FOR A SITE AREA EMERGENCY OR GENERAL EMERGENCY, THE ACTIVATION OF EBS MUST BE COORDINATED WITH THE SIREN SYSTEM ACTIVATION TO ENSURE THAT THE PUBLIC WILL RECEIVE PROMPT INSTRUCTIONS. RADIO STATION WALK, WHICH BROADCASTS SIMULTANEOUSLY ON AM AND FM, WILL BE THE PRIMARY DIRECT COMMUNICATION LINK TO THE PUBLIC AFTER ACTIVATION OF THE PUBLIC NOTIFICATION SYSTEM.

5.1.1 In the event of a radiological emergency involving the Shoreham Nuclear Power Station (SNPS), the Emergency Broadcast System (EBS) can only be

activated by communication with Radio Station WALK (97.5 FM) located in Patchogue, New York, from one of the following initiators:

- o Director of Local Response or his authorized representative
- o Coordinator of Public Information
- o Customer Service Supervisor

5.1.2 The initiator will first call WALK-FM on the EOC dedicated phone line or using commercial telephone and request immediate connection with the EBS operator on duty. The initiator will provide the EBS operator with the following information to be recorded on the appropriate EBS Message Form (see Attachment 1):

- o Name and title of the initiator
- o Authentication number

The authentication number is a specific nine-digit number with a controlled circulation and provides for positive identification of the caller.

The EBS operator will immediately proceed to check the authentication number indicated by EBS message originator against the authentication number available at the radio station at a predesignated location, sealed in a special envelope.

CAUTION
THE SYSTEM CAN BE ACTIVATED ONLY THROUGH THE AUTHENTICATION NUMBER PROVIDED BY THE INITIATOR. AUTHORIZED LERO PERSONNEL ARE IN POSSESSION OF THE AUTHENTICATION NUMBER AS ARE PERSONNEL AT WALK-FM RADIO STATION.

5.1.3 The EBS operator will record the message as read by the initiator. The EBS operator will only then be authorized to begin radio transmission of the EBS message.

CAUTION

FOR SITE AREA AND GENERAL EMERGENCY, THE EBS MESSAGE WILL BE READ OVER THE AIR ONLY AFTER THE PROMPT NOTIFICATION SYSTEM (SIRENS) HAS BEEN ACTIVATED.

5.1.4 Once an authenticated message is received by the EBS operator and is authorized for broadcast, Radio Station WALK-FM will transmit the message to the relay stations. During the siren sounding, the EBS will be activated to alert the public and the relay stations that an emergency message is forthcoming regarding the Shoreham Nuclear Power Station. The method used will consist of broadcasting the standard EBS signal by WALK-FM, which activates the network station monitors of relay stations and of tone alerts throughout Suffolk County. Radio station WALK will broadcast on 97.5 FM and simultaneously on 1370 AM. Upon the completion of the siren sounding, the operator on duty will play the recorded EBS message. Once this procedure is carried out, the message is repeated a second time, five minutes later. The relay stations will be equipped to record the message or to broadcast simultaneously.

NOTE

RADIO STATION WALK-FM HAS A BACKUP POWER SYSTEM TO ENSURE CONTINUOUS OPERATION IN THE EVENT OF A POWER LOSS.

5.2 Message Preparation

EBS Messages are provided for three accident classifications by radiological conditions and protective action recommendations.

5.2.1 Message Selection

Select a message for the appropriate accident classification, radiological conditions, and protective action recommendations from the following and modify to reflect actual circumstances:

a. EBS Activation Advisory

Read Message A (Attachment 4).

b. Alert (No Release of Radiation)

Read Message B (Attachment 4).

c. Alert (Release of Radiation)

Read Mesage C (Attachment 4).

d. Site Area Emergency (No Radiological Release)

Read Message D (Attachment 4).

e. Site Area Emergency (Sheltering)

Read Message E (Attachment 4).

f. General Emergency (Sheltering)

Read Message F (Attachment 4).

g. General Emergency (Sheltering and Evacuation)

Read Message G (Attachment 4).

h. General Emergency (Evacuation)

Read Message H (Attachment 4).

i. De-escalation of Emergency

Read Message I (Attachment 4).

j. Termination of Emergency Message

Read Message J (Attachment 4).

k. Test Message for EBS

Read Message K (Attachment 4).

l. Spurious Activation of Prompt Notification System Message

Read Message L (Attachment 4).

5.2.2 Message Assembly

Once a message is selected in Step 5.2.1 various information must be inserted into the appropriate locations in the messages.

a. Time

Obtain from Item 1, Part I - Radiological Emergency Data Form.

b. Names and Titles of Emergency Response Officials

Obtain names, titles, and organizational affiliation from the persons present at EOC (for Messages B - J).

c. Time of Release

Obtain from Item 15A or 15B, Part II - Radiological Emergency Data Form (for Messages C, E, F, G, H).

d. Amount of Radiation Released

Obtain from Item 16B, Part II - Radiological Emergency Data Form (for Messages E, F, G, H).

e. Zones Affected and Descriptions

Obtain affected zones from Item 10C, Part I Radiological Emergency Data Form. Obtain area description from Attachment 5.

f. Schools

If the schools have already initiated early dismissal, do not recommend other protective actions.

5.3 Testing the EBS Operation

5.3.1 Communication Drills

Communication drills will be conducted periodically to test the communications between the EOC and the Radio Station WALK-FM. Notification of such a test will originate with the Director of Local Response or his designee by telephone call to the Radio Station WALK-FM in Patchogue, New York. The WALK-FM operator on duty will receive the call and will complete the Communication Drill Form, EBS-2,(see Attachment 2) entering the name and title of the caller and acknowledge the drill. Verification will be by means of checking the authentication number. The completed Communications Drill Form will then be filed as a permanent record of the drill. There will be no broadcast in the communications drill.

5.3.2 Test Message for EBS

Notification to test the EBS will originate with the Director of Local Response or his designee by telephone call to Radio Station WALK-FM in Patchogue, New York. The WALK-FM operator on duty will receive the call and will complete the Test Message Form, EBS-3 (see Attachment 3), entering the name and title of the caller and acknowledge the test. Verification of the call will be by means of checking the authentication number, which will also be entered on the Test Message Form. Then the EBS tone will be broadcast along with the Test Message K. (This test message of the EBS system may be prerecorded).

During the actual test, the phrase "This is a test" must precede and follow the message. The completed Test Message Form will then be filed as a permanent record of the test.

5.4 Spurious Activation of Prompt Notification System

Notification to broadcast the message for the spurious activation of the prompt notification sirens (Message L) will originate with the Director of Local Response or his designee by telephone call to Radio Station WALK-FM in

Patchogue, New York. The Director of Local Response or designee will read the message to the EBS operator for recording. Then the EBS operator will broadcast the EBS tone and Message L will be played back.

6.0 REFERENCES

6.1 OPIP 3.3.4, Prompt Notification System Activation.

7.0 ATTACHMENTS

1. EBS Message Form for Shoreham Nuclear Power Station, EBS-1
2. Communications Drill Form for Shoreham Nuclear Power Station, EBS-2
3. EBS Test Message Form for Shoreham Nuclear Power Station, EBS-3
4. EBS Sample Messages, A through L
5. Description of Planning Zones/Areas for Suffolk County

ATTACHMENT 7

EPC _____

Approved: _____

Effective Date _____

OPIP 4.1.2 LOCAL EOC DOCUMENTATION AND RECORDKEEPING

1.0 PURPOSE

The purpose of this procedure is to describe the methods for the logging in and handling of all incoming and outgoing messages to, from, and within the Local EOC at Brentwood.

2.0 RESPONSIBILITY

2.1 The LERO Lead Communicator is responsible for implementing this procedure.

2.2 The LERO Coordinators are responsible for maintaining logs throughout the emergency.

3.0 PRECAUTIONS

All incoming, outgoing, or internal calls should be recorded in writing by the originator on the EOC Message Form.

4.0 PREREQUISITES

None

5.0 ACTIONS

5.1 Originator, complete the EOC Message Form (Attachment 1) for all EOC messages.

5.1.1 At the top of the form, enter the following information in the designated spaces:

a. Date

b. Time (use 24-hour clock)

c. Your name and EOC group

d. Addressee's name and EOC group to which he belongs

e. Whether message is incoming or outgoing

f. Message number (sender only)

g. Precedence

5.1.2 Record the message.

5.1.3 Retain the blue copy for your records.

5.1.4 Forward the yellow copy to the LERO Lead Communicator.

5.1.5 Forward the white copy to the addressee.

5.2 LERO Lead Communicator perform the following:

5.2.1 Assign the message a journal number and record the number in the upper righthand corner of the Message Form.

5.2.2 Retain the yellow copy for your records.

5.3 Addressee perform the following:

5.3.1 Answer the originator on a new form, noting the receipt of the message, message number, actions taken and/or any needed information.

5.3.2 Retain the white copy for your records.

5.4 Emergency Logs

5.4.1 The following LERO personnel will maintain emergency logs:

a. Director of Local Response
b. Manager of Local Response
c. Health Services Coordinator
d. Evacuation Coordinator
e. Support Services Coordinator
f. Coordinator of Public Information

5.4.2 The following information shall be recorded on the log:

a. Time notification was received

b. Time of arrival at EOC

c. Summary of all telephone conversations, including time of call

d. Any actions taken or directed, including time of action

e. Time and name of second shift relief

f. Time of closeout of the emergency

6.0 REFERENCES

None

7.0 ATTACHMENTS

1. Message Form

ATTACHMENT 8

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

	Visual Display/ Staging Directions	Narration
S.1	Fade up from black medium shot waist-up of on the street interviewer - male 30-40 years of age	(Question asked off camera) What are you going to do in the case of a nuclear emergency? [Answer by interviewee]
S.2	Cut to couple together 40+ in age. ECU of couple	(Question asked off camera) What will you do in event of nuclear emergency? [Answer by interviewee]
S.3	Cut to woman with young child in arms. Tight shot including child	(Question asked off camera) What will you do in case of a nuclear emergency? [Answer by interviewee]
S.4	Cut to man 45+ in age waist up - medium shot	(What will you do in case of a nuclear emergency? [Answer by interviewee]
S.5	Disolve to Mr. Acker seated at desk in his office - medium long shot. Zoom in to medium shot as Mr. Acker addresses camera (Restoration Plan Book on desk)	Lack of direction, general unpreparedness, no specific plan of action. These are quite common responses to questions dealing with emergency preparedness. Americans in general, find it uncomfortable to plan for any type of disaster.

The onsite zone,

the plume exposure pathway zone,

and the ingestion exposure pathway zone.

Each zone has specific actions and procedures that will be implemented in case of an emergency.
These Protective Actions have been submitted, reviewed and approved by the Nuclear Regulatory Commission.
Together, the plans and procedures provide for the basis for the overall emergency response plan. This plan details both onsite as well as offsite actions by the utility, local, state and federal government agencies.
In order to demonstrate the effectiveness of this emergency plan, each year a utility must conduct a drill.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

	Visual Display/ Staging Directions	Narration
S.6	Super Mr. Acker name and title	Hello, my name is Joe Acker and I'm a Vice President of LILCO.
S.7	Zoom into MCU of Mr. Acker - drop title	At LILCO, we have always believed that emergency preparedness is essential to protect the health and safety of the community we serve.
S.8	Cut to medium side shot of Mr. Acker. His head turns toward camera and continues his narration. He picks up Restoration Plan Book.	Over the years, LILCO has developed a number of contingency or emergency plans to deal with natural events such as:
S.9	Cut away ice storm	o Ice Storms
S.10	Cut away blizzard	o Blizzards
S.11	Cut away hurricane	o Hurricanes
S.12	Cut away of racing fire engine	We also have plans to deal with other potential disasters such as fires at power stations,
S.13	Cut away of LILCO crew working on power line	downed power lines,
S.14	Cut away USGC at oil spill	oil spills,

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.15 LILCO gas crew in emergency gear	and gas explosions.
S.16 Mr. Acker seated on edge of desk - medium shot. He addresses camera	Today, I would like to acquaint each of you with another LILCO contingency plan. The plant that would be used if there was a Radiological Emergency at our Shoreham Nuclear Power Station.
S.17 Disolve to Shoreham plant site. Establish shot	We recognize that despite the stringent safety standards under which Shoreham was built and operates, that there is a need for an emergency plan to protect the people in our commmunity.
S.18 4-way of: a. LILCO employee guiding traffic b. LILCO employee on telephone c. Rad monitor team d. Man on radio LILCO car	Our radiological response details all the actions and activities to protect our neighbors, that we would initiate in the unlikely event of radiological material being released into the environment.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.19 Start Studio talent voice. Pans of news articles on memo of understanding with Suffolk County	It was in response to that need that LILCO first signed a memorandum of understanding with Suffolk County on Emergency Planning with respect to the
S.20 Cut to plant under construction slide	Shoreham Nuclear Power Station in June of 1976.
S.21 Cut to shot of memorandum	This memorandum addressed their respective responsibilities in the event of an incident at Shoreham.
S.22 Slow disolve into TMI footage	A lot has changed since 1976.
	On March 28, 1979 at 4 AM, outside Harrisburg, Pennsylvania at the Three Mile Island Nuclear Power Station, an accident occurred.
	Pause.
	As a result of the lessons learned from that incident, our perspective of preparing for radiological emergencies at

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
	Nuclear Power Plants has been expanded.
S.23 Shot of published studies	One of the conclusions following numerous studies of the incident was the need for additional emergency planning. The Presidents Commission stated that
S.24 Shot of Shoreham Super copy on S.24 "Emergency plan ... release of radioactivity."	"Emergency plans must clearly and consistently detail the actions public officials and utilities should take in the event of offsite radiation doses resulting from release of radioactivity."
S.25 Narrator is studio MS	As a result, new emphasis has been placed on emergency preparedness and numerous new regulations have been generated.
	The regulations contain three major changes from past practices. These are:
S.26 Build slides (disolves) Utility Emergency Plan	In order to continue operations or receive an operating license, a licensee is required to submit its emergency plans, as well as plans for a

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.27 Build S.26 - Local Plan	local emergency response to the Nuclear Regulatory Commission, NRC
S.28 Visual of books representing plans Disolve to man reviewing Emergency Plan book	they must be satisfied that the emergency plans are adequate and capable of being implemented.
S.29 MS Talent in studio	The key words here are adequate and capable of being implemented.
S.30 MS Talent in studio side shot	The second change was to expand the areas for which detailed emergency planning is done, to extend emergency planning considerations in to 10 and 50 mile Emergency Planning Zones.
S.31 Supercopy Emergency Planning Zones over MS talent in studio - lose super on narration que	
S.32 Slow zoom to ECU of talent in studio	The third major change was to require that detailed emergency planning implementing procedures be submitted to the NRC for review.
S.33 Disolve to motion footage Control Room simulation	One of the major problems with pre-TMI emergency plans was that the planning efforts of the utility and various

Visual Display/ Staging Directions	Narration
	agencies were not coordinated and did not provide a common basis for actions in response to an emergency. To improve the coordination and communication between the various groups responsible for an emergency response, the emergency classification system has been revised and standardized fact sheets have been introduced.
S.34 Disolve into studio talent	The purpose of the emergency classification system is to classify the severity of an emergency and to eliminate situations like the one we're about to witness.
S.35 ECU motion. Man answers phone at desk in office	Hello, local emergency preparedness office.
S.36 Cut to ECU operation in Control Room	This is Nuclear Power Station Unit No. 1. We have had an initiation of Emergency Core Cooling System.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.37 Cut to talent in studio	O.K. This is a potential safety problem. Let's now see how a typical County official may have responded to this potential emergency telephone call prior to the revised emergency classification system.
S.38 Cut to local emergency official (showing confusion, not panic)	An emergency with what? the core cooling system. Isn't that big trouble at the nuclear plant? What do we have to do?
S.39 Cut to MS talent in studio	As we can see here the operator at the plant is not communicating with the official responsible for the protective actions. Oh they are talking to each other alright, but they are not both getting the same information from what is being said over the phone. Let's now replay this scene, only this time both the operator and the local emergency official will use the proper emergency classification level and notification fact sheets.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.40 Cut to local emergency official at desk in office	Hello, Local Emergency Preparedness Office.
S.41 Cut to operator in plant reading from an Emergency Notification Fact Sheet	This is Nuclear Power Station Unit No. 1. Please take out your emergency Notification Fact Sheet Part I. Pause.
a. Local emergency official's voice over phone	O.K. Ready.
b. Cut to operator in plant reading from an Emergency Notification Fact Sheet	Item 1. This message is transmitted on March 29 at 04:15 hours. Item 2. This is Nuclear Power Station Unit No. 1. Item 3. This is being reported by John Edson, the Unit No. 1 Control Room Communicator. Our phone number is 516-454-8000. Item 4. This is not an exercise. Item 5. The emergency classification is an Unusual Event. Item 6. This classification was declared on March 29 at 04:10 hours.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
	Item 7. We had an initiation of emergency core cooling system at 04:00 hours this morning. The reactor tripped at 04:01 hours.
	Item 8. As of 04:10 hours, there has not been a release of radioactivity.
	Item 9. is not applicable.
	Item 10. There is no need for Protective Actions outside the site boundary.
	Item 11 - Weather:
	The wind speed is 15 mph.
	The wind direction is 350°.
	The stability class is A.
	The general weather conditions are fair.
	This is the end of the message.
	Will you please read it back to me.
8.42 Cut to local emergency official at desk reading from a Fact Sheet	Item 1. The message was transmitted on March 29 at 04:15 hours.
	Item 2. It is Nuclear Power Station Unit No. 1 transmitting the report.
	Item 3. It is being reported by John

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
	Edson, the Unit No. 1 Control Room Communicator. Your phone number is 516-454-8000.
	Item 4. This is not an exercise.
	The lead emergency official would continue
S.43 Disolve to talent in studio MS	reading back the information on the notification fact sheet, verifying that he had the correct information.
	Now the operator at the plant and the official responsible for protective actions are communicating.
	By the training he has received, the
S.44 MS Talent in studio Insert slide of operation upper lt. corner Operation in classroom Lose super insert	operator recognizes the Emergency Core Cooling System initiation as a potential safety problem not requiring any offsite protective action, and classifies it in accordance with well defined guidelines, as a Notification of Unusual Event.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.45 MS Talent in studio Insert slide of local emergency official upper lt. corner Official in classroom. Lose super insert	And by the training he has received, the official recognizes the Notification of Unusual Event as meaning a potential safety problem, not requiring any offsite protective action.
S.46 Slow zoom into ECU talent	By using the emergency classification system as a means of communicating... and writing the procedures to direct the actions to be taken for each emergency classification, those men from different technical backgrounds can successfully coordinate their response to the incident at the plant.
S.47 Build visual. Emergency Classification System	Now lets look at the emergency classification system. There are four emergency classifications.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.48 Build NUE: S.47	- Notification of Unusual Event
S.49 Build Alert: S.47-48	- Alert
S.50 Build SAE: S.47,48,49	- Site Area Emergency
S.51 Build GE: S.47,48,49,50	- and General Emergency
S.52 Disolve to talent in studio MS	In each of these classes, the
S.53 Supercopy over talent onsite Emergency Resp. Org. Lose super	LILCO Onsite Emergency Response Organization would respond to the problem as needed.
S.54 Hold MS of talent from S.52 Super NUE	A Notification of Unusual Event class, is declared when unusual events have occurred which could indicate a safety problem, and there has been no releases of radiation from the plant, but we want to notify the

Visual Display/ Staging Directions	Narration
	offsite officials, of the potential problem.
S.55 Super Alert. Copy over talent	An Alert class is declared when there is an actual or potential safety problem. There may be some release of radiation, but the amounts at this point is not significant.
S.56 Slow zoom into ECU of Talent	When we declare this emergency class, we are telling the offsite officials to have their emergency personnel readily available to respond if the problem becomes more serious.
S.57 Cut to slide of site - Burn copy: "Site Area Emergency" on slide	A Site Area Emergency is declared when there are actual or likely major failures of plant functions needed for protection of the public. There may be releases of radiation, but they are not expected to exceed government limits except near the site boundary.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.48 Build NUE: S.47	- Notification of Unusual Event
S.49 Build Alert: S.47-48	- Alert
S.50 Build SAE: S.47,48,49	- Site Area Emergency
S.51 Build GE: S.47,48,49,50	- and General Emergency
S.52 Disolve to talent in studio MS	In each of these classes, the
S.53 Supercopy over talent onsite Emergency Resp. Org. Lose super	LILCO Onsite Emergency Response Organization would respond to the problem as needed.
S.54 Hold MS of talent from S.52 Super NUE	A Notification of Unusual Event class, is declared when unusual events have occurred which <u>could</u> indicate a safety problem, and there has been no releases of radiation from the plant, but we want to notify the

Visual Display/ Staging Directions	Narration
	offsite officials, of the potential problem.
S.55 Super Alert. Copy over talent	An Alert class is declared when there is an actual or potential safety problem. There may be some release of radiation, but the amounts at this point is not significant.
S.56 Slow zoom into ECU of Talent	When we declare this emergency class, we are telling the offsite officials to have their emergency personnel readily available to respond if the problem becomes more serious.
S.57 Cut to slide of site - Burn copy: "Site Area Emergency" on slide	A Site Area Emergency is declared when there are actual or likely major failures of plant functions needed for protection of the public. There may be releases of radiation, but they are not expected to exceed government limits except near the site boundary.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.58 Cut to MS talent in studio	When we declare this emergency class, the offsite officials would be manning their emergency positions offsite radiation survey teams would be dispatched and the public would be notified of the situation.
S.59 Cut to site shot - Burn copy "General Emergency" over slide	A General Emergency is delcared when the situation involves actual or imminent substantial core damage and radiation releases can be expected to exceed the government limits for more than the immediate site area.
S.60 Cut to MS of talent in studio	When we declare a General Emergency, the offsite officials would consider the pre-planned protective actions such as sheltering or evacuation, depending on the situation, and provide updates for the public.
S.61 Talent turns to address camera. Slow zoom in	Earlier we mentioned that one of the changes from past practices was to extend emergency planning considerations to emergency plan zones.

Visual Display/ Staging Directions	Narration
	What are these zones? How were they established? and what kinds of planning is done for each zone?
S.62 Cut to map of plant Show first zone	The first zone, is the plant site.
S.63 Disolve to highlight LILCO property outline in first zone	This is the land that the utility owns around the actual plant. In the event of an emergency, the onsite emergency response organization would be responsible for the emergency actions onsite.
S.64 Cut to Control Room panel with operator	These actions would include an operational assessment, figuring out what went wrong,
S.65 Three men reviewing design drawings	and
S.66 Disolve to shot of repair crew	the operational response, figuring out how to fix the problem, and fixing it. Additionally,
S.67 Cut to operator on red hotline phone	they would notify the offsite officials as to the specific problem and emergency classification.

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.68 Cut to computer screen with plume plot	They would perform radiological assessment with onsite equipment,
S.69 Cut to Environmental Monitoring team	and onsite radiation monitor crews.
S.70 Cut to workers in Anti "C" gear	They are also responsible for protective measures for personnel onsite.
S.71 Cut to ambulance leaving site	In this responsibility, the are aided by such local organizations
S.72 Cut to hospital crew during a radiation drill	as ambulance corps and hospitals.
S.73 Cut to talent MS in studio	In the event of a Site or General Emergency, they would also coordinate the information flow to the public. This last item is very important, so I would like to spend a few moments reviewing this public information activity
S.74 Cut to clip from IP #2 news conferences	One of the most important aspects of any emergency planning is the flow of information to the public in a timely manner. To accomplish this, the utility, as well as federal, state and local

Visual Display/ Staging Directions	Narration
	governments work together. Located in the Emergency News Centers, representatives of each agency act as spokespersons to report developments to the public as they may occur. Let's now return to our discussion of the various zones.
S.75 Cut to map indicating 10-mile EPZ	The second zone is called the plume exposure pathway. You might ask: What is a plume?
S.76 Cut to shot of plume from a smoke stack	Well you may be familiar with smoke coming out of a stack, we refer to the shape of that smoke cloud as a plume.
S.77 Disolve through of several plume movement shots over ground	If there was a release of radiation from a nuclear plant, it would behave just like that cloud of smoke, being heavy at the point of release and dispersing into the air as it gets further away until it is diluted to such a low level that it is not even visible. The only differences is that you can see a smoke plume, but not a radiation plume.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.78 Cut to map with plume exposure pathway	The plume exposure pathway emergency planning zone is the area in which the population would be subject to exposure from the passing radioactive airborne plume and from material deposited on the ground.
S.79 Cut to show a person with handkerchief over face	The major risk or danger would come from inhalation particles or breathing the radioactive gases.
S.80 Cut to chart of exposure vs. distance	As you can see; the amount of exposure, if there was a release of radiation, drops off as you get further from the plant.
S.81 Disolve to cloud in dispersion	The reason for that is that a radiation cloud, just like the smoke cloud is dispersed by the winds.
S.82 MS Studio talent	The criteria for establishing the size of this zone was the amount of radioactive material that could be released in the event of an accident.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.82a. Cut back to S.80 chart	As we see from the chart, past 10 miles the projected dose from the radiation could would drop off and very few if any people beyond this distance would receive a radiation dose from a plume exposure above the established government guidelines.
S.83 Supercopy: Protective Action Guidelines	These guidelines are called the Protective Action Guidelines.
S.84 Visual of 10-mile EPZ with moving around to indicate 10-mile EPZ	A 10-mile radius around the plant was established as the plume exposure pathway with the exact size and configuration determined by local emergency response needs and capabilities.
S.85 MS Studio talent	The distances for the emergency planning zones had to be large enough so that all the plants in the county would meet the criteria.
	So that a common planning basis could be established.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.86 Disolve through of plume overlays on EPZ to show path of plume	If we look at what would happen to the radiation cloud we see that most of the plume exposure pathway is not effected.
S.87 Cut to ECU of studio talent	To assure that protective actions can be taken quickly to protect the people at greatest risk of exposure we subdivide the Plume Exposure pathway into Emergency Planning Zones. Any protective action would be implemented for specific zones and not for the whole plume exposure pathway or 10-mile zone.
S.88 MS Talent turns to camera	Let's now turn our attention to the emergency planning responsibilities in the 10-mile EPZ.
S.89 Cut to shot of Public Information mailing "Brochures"	The utility has the responsibility to annually provide the public within the zone with emergency planning information to educate them on how they would be notified and what their initial actions should be in the event of an emergency.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.90 Cut to shot of siren	They also must assure that the government has the ability to promptly notify the public within 15 minutes. This can be accomplished with sirens
S.91 Cut to shot of tone alert, with voice of EBS announcer following tone alert signal voice fading off	and tone alert radios (sound of track of tone alert signal). This has been a test of the emergency broadcast system. If there had been a real emergency...
S.92 Disolve to 4-way build . County Building . 10-Mile zone map . Brick home . Man guiding traffic	The local government normally has the responsibility for protecting the health and safety of the public with the 10-mile EPZ, for determining the appropriate protective actions, such as sheltering, partial evacuation or complete evacuation, and implementing those actions.
S.93 Build 3-way allow . Local government . State . Utility Recommendations in center of 3-way	To assist the local government in their decision, both the State and the utility provide local officials with recommendations for protective action and any additional information they may need.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.94 Disolve to 3-way . 3 men talking . Monitoring team . Radio	The Federal and State governments will also provide technical advice, manpower and equipment support to the local government.
S.95 Disolve show map with burn title Ingestion Exposure Pathway	The third and final zone is called the ingestion exposure pathway.
Shot of food chain cycle . Cows . Produce . Water	The ingestion exposure pathway is the area in which the food chain could be contaminated.
S.96 Disolve through . Water . Milk . Fresh vegetables As build 3-way	The major risk or danger would be from ingestion or intake of contaminated water or foods such as milk or fresh vegetables.
S.97 Cut to MS studio talent	The criteria for establishing the size of this zone was, as with the plume exposure pathway, to assure that very few if any people would receive a radiation dose from contaminated foodstuffs from within the area, above the Protective Action Guidelines.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.98 Cut to shot of 10-mile and 50-mile EPZ map. Highlight 50-mile circle	A radius of about 50 miles around the plant was established as the ingestion exposure pathway.
S.99 Cut to State of NY logo	In this planning zone, the State would normally have the primary responsibility for protective actions.
S.100 Cut to title Environmental Surveillance	These actions would involve environmental surveillance such as:
S.101 Build 4-way . Woman talking to farmer - farmer on tractor . Worker taking water sample . Woman checking milk with counter . Man checking produce with counter	informing owners of livestock to place animals on stored feed, control of water supplies, monitoring and control of milk and diary products as well as monitoring and control of produce.
S.102 Cut to MS studio talent	Now let's tie everything together. Emergency plans are developed to clearly detail the actions to be taken in the

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
	event of a radiological emergency. The plans are supported by detailed procedures which specify how those actions are to be taken.
S.103 Cut to copy build in Emergency Classifications	The actions to be taken are keyed to the emergency classification action levels. Which are:
S.104 Notification of Unusual Event	o Notification of Unusual Event
S.105 Alert	o Alert
S.106 Site Area Emergency	o Site Area Emergency
S.107 General Emergency	o General Emergency
S.108 Cut to build 3-way arrow	Regardless of the classification, both the LILCO onsite emergency response organization and the local emergency response organization would initiate specific plans or action based on the extent of the emergency.
LILCO onsite org.	
local emer. org.	
response	
emergency plan	

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
S.109 Cut to copy build	The planning is done on the basis of three zones.
- the onsite zone	The onsite zone,
S.110 - the plume exposure pathway zone	the plume exposure pathway zone,
S.111 - the ingestion exposure pathway zone	and the ingestion exposure pathway zone.
S.112 Cut to show book containing procedures	Together, the plans and procedures provide for the basis for the overall emergency response plan. This plan details both onsite as well as offsite actions by the utility, local, state and federal government agencies.
S.113 Show man reviewing Emergency Plan	The plans and procedures have to be submitted to the Nuclear Regulatory Commission for review and must be approved as a condition for the nuclear power plants operating license.
S.114 Cut to way of man at news center podium	In order to obtain the NRC approval, it must be demonstrated that the plans are capable of being implemented.

LESSON PLAN I

EMERGENCY PREPAREDNESS OVERVIEW

A. General Knowledge

Visual Display/ Staging Directions	Narration
	This must be done annually and is done by conducting a drill.
S.115 Cut to show 2 men wearing controller arm bands with clip boards Watch S69 in background	This practice exercise also allows all the agencies to evaluate their effectiveness and plan for improvements.
S.116 Cut to MS studio talent	I've enjoyed our presentation today on General Emergency Preparedness and look forward to seeing you in future sessions.

ATTACHMENT 9

Attachment 9

COMMAND & CONTROL

MODULE NO. 17

This module applies to:

- o Director of Local Response
- o Manager of Local Response
- o Health Services Coordinator
- o Evacuation Coordinator
- o Lead Communicator
- o Support Services Coordinator
- o Coordinator of Public Information

Your Name _____

LERO Title _____

Company Title _____

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TABLE OF CONTENTS
(Continued)

TRAINING OBJECTIVES

At the completion of this module the individual should have a complete understanding of the following areas of emergency planning and be able to demonstrate this understanding by:

A. Explaining the need for emergency planning and describing the basic purpose and objectives of the SNPS Local Offsite Radiological Emergency Response Plan and associated implementing procedures.

B. Listing and describing the four emergency classifications, ranking them in order of their relative severity and indicating protective actions linked to the classification.

C. Explaining the basic assessment, corrective and protective actions for the four emergency classifications; including discussions on dose assessment field teams, potassium iodide, and staging area/emergency worker decontamination facilities.

D. Listing the location, name, and purpose of the LERO Emergency Response Facilities.

E. Stating the basic manpower and timing considerations for key LERO personnel and how they are activated in relation to the emergency classification.

F. Describing the communications capabilities of LERO.

G. Explaining the concept, purpose, and distances related to the plume exposure and ingestion exposure pathway emergency planning zones.

H. Stating the values and associated actions for the plume exposure pathway protective action guidelines, recalling general protective action responses for the ingestion pathway.

I. Recalling the basic concepts of operation for the public notification and information processes.

INTRODUCTION

What is emergency planning? It is as the term implies, just that, planning emergency response organizations, developing procedures, laying out support facilities, training personnel, and stockpiling equipment to be able to effectively respond to emergency events.

Whether it is in the commercial nuclear power industry or any other field, the best planning efforts can only account for the known possible accident contingencies. However, with the proper emergency planning program as a foundation, with an emergency organization developed and trained to respond for the expected events, then flexibility and adaptability will exist to judge and enact the necessary alterations to cope with the unexpected.

Within the general framework of any emergency response, a number of possible alternatives for action are usually available. The basic criterion to employ, however, is to minimize the number of possible responses so that available resources are expended only on viable solutions and actions for the emergency response. A well-defined emergency preparedness program drastically reduces the ineffectual demands on resources that are not needed or that thwart the overall recovery effort. To this end, the SNPS Local Offsite Radiological Emergency Response Plan has been devised to effectively coordinate an immediate response to a broad spectrum of emergency situations. It provides answers to such questions as:

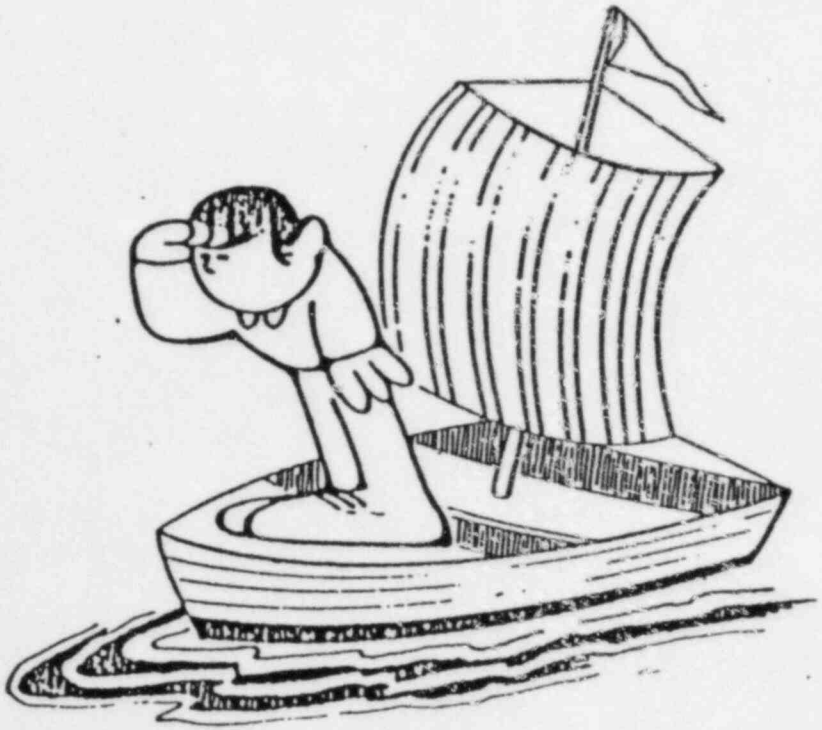
- How would the public be protected from an incident at SNPS?
- Who would be notified?
- What are the proper responses for offsite emergency personnel?

- What protective actions are justified for various emergency situations?

It is your responsibility as one of the senior LERO members to ensure that the resources of LERO are properly applied and managed to achieve a successful solution to the accident situation at hand. In order to effectively manage an organization as large and complex as LERO, it is necessary for you to have a well-rounded understanding of LERO, the Emergency Response Plan and its Implementing Procedures, and your responsibility within the accident management process. This workbook module is designed to provide you with an overview of the key facets of the offsite emergency planning efforts related to LERO. In addition, you should refer often to the SNPS Local Offsite Radiological Emergency Response Plan and the Implementing Procedures to acquire an understanding of the commitments and concepts established for implementing a response by LERO.

SENECA'S PROVERB DEMONSTRATES THE NECESSITY FOR AN EMERGENCY PLANNING OBJECTIVE

IF A MAN DOES NOT KNOW WHAT HARBOR
HE'S HEADED FOR, NO WIND IS THE RIGHT ONE ---



MURPHY'S EIGHTH LAW REQUIRES

PLANNING

WHATEVER YOU SET OUT TO DO,
SOMETHING ELSE MUST BE DONE FIRST

.... ESPECIALLY IN AN EMERGENCY

A. EMERGENCY PLAN AND IMPLEMENTING PROCEDURES

The purpose of an emergency plan is to provide a mechanism to be utilized in making decisions in the event of an emergency and to ensure that the necessary personnel, equipment, supplies, and essential services are available to implement those decisions should they be required.

The objectives of the SNPS Local Offsite Radiological Emergency Response Plan are to:

- Establish an effective method to activate and mobilize an emergency organization to direct and conduct the emergency response activites.

- Outline a method to evaluate and recommend protective actions.

- Outline the most effective course of action required to safeguard the general public and emergency workers.

- Establish the interface between emergency response locations and organizations.

- Provide for the maintenance of the emergency preparedness program.

The SNPS Local Offsite Radiological Emergency Response Plan is divided into five chapters:

- o Chapter 1 - Introduction
- o Chapter 2 - Organization
- o Chapter 3 - Concept of Operation
- o Chapter 4 - Facilities & Equipment
- o Chapter 5 - Maintenance of the Planning Effort

Before moving on in this module, spend some time with your copy of the Emergency Plan. Become familiar with its layout and the information it provides. This document can be an excellent reference source to you, both during the training program and when responding as a senior member of LERO.

Where the Emergency Plan outlines the concepts and commitments to be employed in carrying out the offsite responsibilities for emergency planning, the SNPS Local Offsite Radiological Emergency Response Plan Implementing Procedures provide the detailed, step-by-step instructions for carrying out the concepts and commitments of the Emergency Plan.

As indicated earlier, the Emergency Plan may be considered a reference document which can be referred to during a response; however, the Implementing Procedures must be utilized by all responding LERO members to ensure all actions are carried out correctly and in the proper sequence. As a senior LERO member, one of your primary responsibilities is to ensure that all members of your group are familiar with their respective procedures and that the procedures are out and in use during any LERO response.

Again, before moving on, take time now and familiarize yourself with your copy of the Implementing Procedures. Pay particular attention to the procedures that relate to your group's activities.

MODULE 17

EMERGENCY PLAN & IMPLEMENTING PROCEDURES

MODULE REVIEW

PART 1

Name: _____ LERO Title: _____

Company Title: _____

1. The SNPS Local Offsite Radiological Emergency Response Plan provides the concepts and philosophies of LERO, whereas the Implementing Procedures provide the detailed step-by-step instructions to be followed by LERO members in carrying out their actions.

   True or False

2. Which chapter of the Emergency Plan provides information related to the protective actions employed by LERO?

   a. Chapter 1, Section 1.3
   b. Chapter 3, Section 3.6
   c. Chapter 4, Section 4.3
   d. Chapter 5, Section 5.1

3. Indicate which Implementing Procedure details the process for controlling documents and records at the Local EOC.

   OPIP - _____

4. A foldout map showing the 10 EPZ and the 19 zones within the EPZ can be found in

   OPIP - _____

5. Your responsibility as a senior LERO member is to ensure that all members of your group have memorized the steps listed in the Implementing Procedures so that the Implementing Procedures can be used only occasionally to refresh their memory during an emergency.

   True or False

B. EMERGENCY CLASSIFICATION METHODOLOGY

As a result of the Three Mile Island emergency, a standardized emergency classification system was devised to facilitate effective communication between the various responding emergency organizations. Onsite and offsite plans and procedures are written so that required response actions are keyed to the emergency classification. By using the emergency classification system, plant operators can communicate the level of seriousness of an emergency to non-technical oriented emergency response personnel without having to describe the specific equipment problem.

Chapter 3, Section 3.2, of the SNPS Local Offsite Radiological Emergency Response Plan discusses the emergency classification system as it relates to LERO.

There are four emergency classifications. They are, in order of increasing severity: Notification of Unusual Event, Alert, Site Area Emergency, and General Emergency.

A brief description of each classification follows.

Notification of Unusual Event is the occurrence of an event or events which indicate a potential degradation of the level of safety of the plant.

Generally speaking, an unusual event involves no abnormal release of radioactive material.

The purpose of the unusual event classification is to:

- Provide current information when unusual events or occurrences transpire.

- Assure that the first step in any response of the emergency organization is carried out.

- Provide for periodic testing of emergency communications.

Alert is the occurrence of an event or events which involve an actual or potential substantial degradation of the level of safety of the plant.

This level of classification may include events involving a limited release of radiation onsite.

The purpose of the alert classification is to:

- Provide current status information to offsite authorities and agencies.

- Assure that emergency personnel are readily available to respond if the situation becomes more serious.

- Provide testing of response center activation.

Site Area Emergency is the occurrence of an event or events which involve actual or likely major failures of plant functions needed to protect the public.

This classification includes the type of events where there may be some radiation exposure to the "near site" public.

The purpose of the site area emergency classification is to:

- Provide current information for, and clarification with, offsite authorities and the public.

- Assure that emergency response centers are manned.

- Assure that personnel required for evacuation of "near site" areas are at their duty stations.

- Assure that radiation monitoring field teams can be dispatched both onsite and offsite.

- Provide for testing of response capabilities of the entire emergency organization.

General Emergency is the occurrence of an event or events which involves actual or imminent core degradation and/or the potential for loss of containment integrity with a large radioactive release potential.

This classification includes events where large amounts of radioactive material could be released causing a hazard to the general public.

The purpose of the general emergency classification is to:

- Provide current information for, and consultation with, offsite authorities and the public.

- Recommend and implement pre-determined protective actions for the public.

- Provide continuous monitoring of the situation.

- Initiate additional measures as indicated by event releases or potential releases.

It is important for you, as a senior LERO member, to have an appreciation for the difference in magnitude of the severity of an incident associated with each of these classifications.

Look again at the types of events which fall into each classification. For an unusual event, you should note that no abnormal release of radioactive material is involved. For an alert, any release of radiation must be limited to an area onsite. Only when the situation progresses to a Site Area or General Emergency is there an actual radiation release potential which involves offsite consequences and protective actions.

It should also be pointed out that it is quite possible to find the nuclear power plant in any of the four classification situations with there having been no release of radiation. Examples of this type of situation would be fires of varying degree or earthquakes of varying magnitude requiring classification of the event from an Unusual Event through a General Emergency, based on their involvement or magnitude.

As a senior LERO member, you need to become very familiar with this emergency classification system. While progressing through the remainder of this workbook module, and in fact the remainder of the training program, pay particular attention to the various actions and activities that are keyed to each of the four classification levels.