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**U. S. NUCLEAR REGULATORY COMMISSION**

EXHIBIT No. 38

Applicant  Staff  Intervenor

Identified  Received  Rejected

Date: 6/6 - 6/9/84

Reporter: M. J. Trayler

Mr. Walter Stroly  
Administrator  
Sunrest Health Facilities, Inc.  
70 North Country Road  
Port Jefferson, New York 11777

Dear Mr. Stroly:

Enclosed for your review is a draft Sunrest Health Facilities, Inc. Protective Action Implementation Plan in the Event of a Radiological Emergency at the Shoreham Nuclear Power Station (SNPS). This is a preliminary draft which we will modify based on your review and comments.

We look forward to working with you to develop the draft Plan further. If you have any questions, please feel free to call me at 733-4884.

Very truly yours,

*Eileen M. Ryan*

Eileen M. Ryan  
Local Emergency Response  
Implementing Organization

EMR/nbr

Enclosure

- bcc: Messrs. J. A. Weismantle - w/attach. J. N. Christman (H&W)  
 C. A. Daverio Ms. E. D. Robinson - w/attach.  
 M. L. Miele K. E. McCleskey (H&W) - w/attach.  
 S. Dudar (S&W) R. Falzone (H&W)  
 D. Glazer LERO File - w/attach.

# **DRAFT**

**Sunrest Health Facilities  
Protective Action Implementation  
Plan In The Event Of A  
Radiological Emergency At  
The Shoreham Nuclear Power Station (SNPS)**

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# DRAFT

## A. GLOSSARY

As used in these procedures, the terms listed below have meanings given in the definitions. Underlined words cited in the definitions are cross-indexed.

### ALERT

An alert would be declared if there were an actual or potential safety problem at the plant. Chances of a radioactive release are small. An Alert condition is declared to ensure that emergency personnel, including radiation survey teams, are on standby in case the situation becomes more serious. LILCO informs all government agencies of the Alert condition and conducts briefings for the press.

### CONTAMINATION

The presence of radioactive material in undesirable locations.

### DECONTAMINATION

The reduction or removal of radioactive contaminants from an object, person or area, as by cleaning or washing with water or detergents.

### DOSE

A quantity of energy absorbed from ionization per unit mass of tissue. The rem is a unit of absorbed dose.

### DOSIMETER

A device that measures radiation dose.

### EMERGENCY OPERATIONS CENTER (EOC)

The command, coordination, and communication center operated by LERO which will be activated to evaluate the radiological emergency and make and coordinate protective action recommendations along with other efforts that may be implemented for emergency response.

### EMERGENCY PLANNING ZONE (EPZ)

The area about a nuclear power plant for which planning is accomplished to assure that prompt and effective actions can be taken to protect the public in the event of a radiological emergency. The plume exposure EPZ is an area approximately 10 miles in radius around a nuclear power plant.

## EVACUATION

The protective action that entails the actual movement of people out of the affected area.

## EXERCISE

A preplanned event that tests a major portion of all of the basic elements within the radiological emergency response plan. This event tests the capability of the emergency preparedness organization to successfully respond to a radiological emergency that could result in offsite consequences.

## GENERAL EMERGENCY

A General Emergency would be declared if there were potential or actual fuel core damage and radiation releases were expected to exceed limits beyond which the government requires protective action.

## LERO

Local Emergency Response Organization

## MILLIREM (MREM)

One-thousandth (1/1,000) of a rem.

## MILLIROENTGEN (MR)

One-thousandth (1/1,000) of a Roentgen.

## MONITORING, RADIOLOGICAL

The operation of locating and measuring radioactivity by means of survey instruments that can detect and measure (as dose rates) ionizing radiation.

## NUCLEAR POWER PLANT

A commercial nuclear electric power generating facility.

## NUCLEAR REACTOR

A device in which a fission chain reaction can be initiated, maintained, and controlled. Its essential component is a core with fissionable fuel.

## OFFSITE

The area beyond the property boundary line of a nuclear power plant.

## ONSITE

The area including and around the nuclear power plant enclosed by the property boundary line.

## PROTECTIVE ACTION GUIDELINES

Projected radiological doses to individuals in the general population and emergency workers, that warrant protective actions following a release of radioactive material.

## PROTECTIVE ACTIONS

The measures taken in anticipation of, during, or after a release of radioactive material. The purpose is to reduce the radiological doses to persons that would be likely to occur if the actions were not taken.

## RADIATION

The emission or preparation of waves or particles such as light, sound, radiant heat, or particles emitted by radioactivity including any or all of the following: alpha particles, beta particles, gamma rays, X-rays, neutrons, high-speed electrons, high-speed protons and other atomic particles.

## RADIOLOGICAL EMERGENCY

Any event involving actual or potential radiation exposure or radiological contamination to the environment.

## RELEASE

Escape of radioactive materials into the environment.

## REM

Acronym for Roentgen Equivalent, a unit of dose equivalent; the dosage of ionizing radiation that will cause the same biological effect as one Roentgen of X-ray or gamma ray dosage.

## ROENTGEN

A unit of radioactive dose of exposure; the amount of X-radiation or gamma radiation that will provide one electrostatic unit of charge (positive or negative) in one cubic centimeter of dry air at standard pressure and temperature conditions.

### SHELTERING

The protective action consisting of going indoors, closing doors and windows, and turning off ventilation systems.

### SITE AREA EMERGENCY

This classification would be declared if there were actual or potential major failures of plant systems. At this level, radioactive releases which might require people living near the site boundary to take protective action may occur. If a Site Area Emergency is declared, emergency personnel would report to their stations, radiation survey teams would be dispatched, and government agencies and the public would be notified.

### SOURCE TERM

The amount of (curies) radioisotope released to the environment, often expressed as a function of time (i.e., curies/second).

### THERMOLUMINESCENT DOSIMETER (TLD)

A dosimetry badge worn by workers in the nuclear industry, used to measure possible exposure to ionizing radiation. The TLD has to be sent to a laboratory to be read.

### UNUSUAL EVENT

This classification would be declared if there were potential for a safety problem, but there had been no release of radiation. At this level, there may be no need for a change in the operational status of the plant. LILCO would inform government authorities of the Unusual Event.

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## I. Introduction

Under the Shoreham Plan, emergencies are to be classified using four categories of increasing seriousness: Unusual Event, Alert, Site Area Emergency, and General Emergency. Only at a General Emergency would there be the possibility that a release of radioactivity would be sufficient magnitude to potentially exceed, in the plume EPZ, the Environmental Protection Agency's Protective Action Guideline dose levels.

Your facility will be notified initially of any emergency at Shoreham requiring protective actions by anyone in the EPZ by the tone alert radio provided to your facility by LILCO. Your tone alert radio will be activated at the Alert Classification although there will be no need for adult/nursing homes to take any protective actions at that emergency classification. If at a higher classification protective actions are recommended for adult/nursing homes, LERO would also contact your facility by telephone to verify that you received the protective action recommendation.

Protective actions of sheltering or evacuation are recommended based upon the projected radiation doses that may be received in particular areas of the plume EPZ, and the amount of time available in which to respond relative to the amount of time necessary to implement a response. While it is unlikely that an accident resulting in a release would occur at Shoreham, it is more unlikely that a release would occur that would make it necessary to take protective action out to the 10-mile boundary.

## II. Sheltering

In sheltering your residents during a release of radioactivity from Shoreham, the residents are being protected from two kinds of exposure: (1) external exposure to radiation from an overhead plume and (2) internal exposure from inhaling radioactive particulates from the plume. Adequate sheltering can be provided by your building. The sheltering areas are identified in Section C.

## III. Evacuation

It is possible to postulate a highly unlikely accident scenario that would result in the conclusion that it would be necessary to evacuate Sunrest Health Facilities. However, Sunrest Health Facilities is located near the edge of the plume EPZ and in



most accident scenarios, a radioactive release from Shoreham would not present your facility with an immediate emergency (as would, for example, a fire), giving your facility ample time to implement protective actions. In addition, government studies indicate that the probability of large radiation doses, even from a worse case accident at the plant, drops off substantially at about 10 miles from the reactor (NUREG 0396, Pg. I-37).

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C. SUNREST HEALTH FACILITIES, INC.  
PROTECTIVE ACTION IMPLEMENTATION PROCEDURE  
IN THE EVENT OF A RADIOLOGICAL EMERGENCY  
AT THE  
SHOREHAM NUCLEAR POWER STATION (SNPS)

## 1.0 PURPOSE

This procedure provides guidance for the implementation of evacuation and sheltering efforts in the event of a radiological emergency at the Shoreham Nuclear Power Station (SNPS).

## 2.0 RESPONSIBILITY

The senior supervisor at the time of the emergency is responsible for implementing this procedure.

## 3.0 PRECAUTIONS

You may be notified at the Alert level and will be notified at all higher emergency classifications that there is an emergency situation at the SNPS by the message broadcast over your tone alert radio.

Protective action recommendations will not be made by LERO for nursing/adult homes until a Site Area or General Emergency is declared.

## 4.0 PREREQUISITES

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

## 5.0 ACTIONS

- 5.1 The senior supervisor or physician on duty at the time of the emergency will do the following:
- 5.1.1 Upon notification of an Alert or higher emergency classification from SNPS via the tone alert receiver provided to your facility, note that Sunrest Health Facilities is in Zone Q. All EBS messages which require protective actions are keyed to the 19 zone letters, A through S.
  - 5.1.2 Call any additional staff that may be required for the implementation of a protective action specified in the EBS message by using Attachment #1.
  - 5.1.3 Continue to listen to your tone alert radio for further EBS messages.
  - 5.1.4 If evacuation is recommended for zone Q the LERO Health Facilities Coordinator will contact you with further instructions via commercial telephone.
  - 5.1.5 When the LERO Health Facilities Coordinator recommends sheltering go to Section 6.0 of this procedure. When the LERO Health Facilities Coordinator recommends an evacuation go to Section 7.0 of this procedure.
- 6.0 Upon notification of sheltering do the following:
- A. Brief your staff on the status of the emergency.
  - B. Request that the nursing supervisor prepare the residents for sheltering. The residents will be moved to the sheltering area in the west section of the building on the ground floor (see attachment #2 for floor plan illustrating the sheltering area). Review their sheltering procedure (section 6.1) with them.
  - C. Request that the maintenance staff close all outside doors and windows, and turn off outside ventilation. Review their procedure (section 6.2) with them.

- D. Request that the dietary staff prepare for sheltering. Review their procedure (section 6.3) with them.
  - E. Request that the housekeeping staff prepare for sheltering. Review their procedure (section 6.4) with them.
  - F. Request that the social services, activities department, and administration department staff prepare for sheltering. Review their procedure (section 6.5) with them.
  - G. Notify the LERO Health Facilities Coordinator (516-xxx-xxxx) when the protective action has been completed.
- 6.1 Nursing supervisor perform the following upon notification from your supervisor.
- 6.1.1 Hold a separate briefing with your staff and implement the following steps:
    - A. Instructions on where the sheltering areas are located and how residents are to be transported to the sheltering areas (see Attachment 2).
    - B. Identification of those residents which should not be moved to the sheltering areas.
    - C. Instructions on how to handle medications and charts for residents that will be taken to the sheltering area.
- 6.2 Maintenance staff supervisor perform the following upon notification from your supervisor.
- 6.2.1 Hold a separate briefing with your staff and implement the following steps:
    - A. Review the floor plan illustrating the sheltering area (attachment #2). Prepare the sheltering area for the arrival of the residents.
    - B. Turn off all outside ventilation. Close and lock all doors and windows.

- 6.3 Dietary staff supervisor perform the following upon notification from your supervisor.
- 6.3.1 Hold a separate briefing with your staff and implement the following steps:
- A. Move a small amount of food and drink to the sheltering locations. The maintenance supervisor will give instructions where the food and drink should be stored. Avoid spending more than ten minutes gathering the food and drink.
  - B. Report to nursing after the completion of Step A to assist them with the sheltering actions.
- 6.4 Housekeeping staff supervisor perform the following upon notification from your supervisor.
- 6.4.1 Hold a separate briefing with your staff and implement the following steps:
- A. Close all windows and draw all curtains in residents and other rooms.
  - B. Upon the completion of the above step, report to nursing to assist with the sheltering of residents.
- 6.5 Social services, activities department and administration department staff perform the following upon notification from your supervisor:
- 6.5.1 Hold a separate briefing with your staff and implement the following steps:
- A. Notify relatives and friends about the sheltering of the residents. Inform them that they will be notified again when the emergency is terminated or in the event relocation is required.
  - B. Upon the completion of the above step, report to nursing to assist with the sheltering effort.

**7.0 Upon notification of an evacuation do the following:**

- A. When the LERO Health Facilities coordinator calls with evacuation instructions, provide him with the number of ambulance vans, buses, and ambulances that will be required to evacuate the residents.**
- B. Brief your staff on the status of the emergency.**
- C. Request that the nursing supervisor prepare the residents for the evacuation (see attachment 3 for evacuation instructions). Review their procedure (section 7.1) with them.**
- D. Request that the maintenance staff prepare the building for the evacuation. Review their procedure (section 7.2) with them.**
- E. Request that the dietary staff prepare for the evacuation. Review their procedure (section 7.3) with them.**
- F. Request that the housekeeping staff prepare for the evacuation. Review their procedure (section 7.4) with them.**
- G. Request that the social services, activities department, and administration department staff prepare for the evacuation. Review their procedure (section 7.5) with them.**
- H. Notify the LERO Health Facilities Coordinator (516-xxx-xxxx) when the protective action has been completed.**

7.1 Nursing supervisor perform the following upon notification from your supervisor.

7.1.1 Hold a separate briefing with your staff and implement the following steps:

- A. Identify any residents that require an ambulance (see attachment 3 for evacuation instructions).
- B. Insure that all residents' charts will accompany them to the reception center.
- C. Prepare and transfer to the reception center all resident medications.
- D. Provide each resident with adequate and proper clothing, including outerwear.
- E. Check daily with the temporary staging area, \_\_\_\_\_.

7.2 Maintenance staff supervisor perform the following upon notification from your supervisor:

7.2.1 Hold a separate briefing with your staff and implement the following steps:

- A. Drain boilers and all water lines in freezing weather and leave faucets open. (except fire hydrant and sprinkler lines.)
- B. Secure all entrances after evacuation of the building by locking, chaining, etc.
- C. Check daily with the temporary staging area, for the duration of the emergency located at \_\_\_\_\_.

7.3 Dietary staff supervisor perform the following upon notification from your supervisor:

7.3.1 Hold a separate briefing with your staff and implement the following steps:

- A. Check with nursing about food for tube feeders to accompany residents to new facility.

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- B. Stop all cooking activities. Turn off all ranges, disconnect all electrical equipment (except those units providing refrigeration).
- C. After steps A&B are complete, all dietary staff members will report to nursing to assist with evacuation.
- D. For the duration of the emergency, all members of the dietary staff should check daily with the temporary staging area, located at \_\_\_\_\_.

7.4 Housekeeping staff supervisor perform the following upon notification from your supervisor.

7.4.1 Hold a separate briefing with your staff and implement the following steps:

- A. Close all windows and draw all curtains in residents and other rooms.
- B. Upon the completion of the above step, report to nursing to assist with the evacuation of residents.
- C. Check daily with the temporary staging area, for the duration of the emergency located \_\_\_\_\_.

7.5 Social services, activities department and administration department perform the following upon notification from your supervisor:

7.5.1 Hold a separate briefing with your staff and implement the following steps:

- A. Notify relatives and friends about relocation of residents and convey their new location and telephone numbers.
- \_\_\_\_\_
- \_\_\_\_\_

- B. Upon the completion of the above step, report to nursing to assist with the evacuation efforts.

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C. Check daily with the temporary staging area, for the duration of the emergency located at \_\_\_\_\_.

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IF SUNREST HEALTH FACILITIES, INC.

DECIDES TO ISSUE POTASSIUM IODIDE

(KI) TO THEIR PATIENTS SEE

ATTACHMENT #4 FOR KI INSTRUCTIONS

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**Attachment 1**

**To Be Provided**

**Attachment 2**

**To Be Provided**

Attachment 3

To Be Provided

## Potassium Iodide (KI) Distribution Instructions

### I. General Background on KI:

KI blocks radioiodine, which might be ingested or inhaled by an exposed person, from entering the thyroid gland by saturating the gland with nonradioactive iodine. If radioiodine exposure has occurred or is anticipated, the Hospital Administrator or his designee can recommend the use of KI as a protective action, in conjunction with sheltering.

Because KI works by saturating the thyroid gland with nonradioactive iodine before radioiodines reach the thyroid, it is very important to take KI shortly before or soon after any exposure to radioiodine. This concept is illustrated by the fact that KI is over 95 percent effective when taken at the time of exposure to radioiodine and is only 50 percent effective when taken 3-4 hours after exposure. It is important to remember that KI protects only the thyroid gland and does not protect the rest of the body from radiation exposure.

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## **II. Decision Authority:**

LILCO will not make a recommendation for the use of KI as a protective action. The decision to recommend KI will be made by the Hospital Administrator or his designee.

## **III. Recommended Dose and Frequency:**

The recommended dosage is one (1) 130 mg. tablet per day (equivalent to 100 mg. of iodine) to all individuals over one year of age and one-half ( $\frac{1}{2}$ ) of a 130 mg. tablet per day (equivalent to 50 mg. of iodine) to infants under one (1) year of age.

KI will not be required after ten (10) days if other protective measures are taken. These protective measures could include interruption of contaminated milk supplies or evacuation.

Radioiodine already present in the body but blocked from entering the thyroid gland by KI will continue to circulate for up to 48 hours after cessation of exposure. Thus, it takes the body two (2) days to eliminate radioiodine by renal excretion. The thyroid gland must be protected for this 48 hour period to prevent uptake of radioiodine from other parts of the body. Continued use

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of KI is, therefore, required for two (2) additional days after cessation of exposure. The minimum dosage of KI is three (3) days.

**IV. Side Effects:**

Read the manufacturer's brochure for possible side effects to KI. If the side effects are severe or if a person has an allergic reaction, they should contact a doctor.

**V. Storage:**

There are no special storage requirements for this type of KI, provided that each bottle remains tightly closed. It is recommended, however, that all KI be kept under lock and key to ensure against possible misuse.