

LIMERICK GENERATING STATION  
EMERGENCY PLAN PROCEDURE INDEX

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PROCEDURE NUMBER	REV. NO.	TITLE	DATE SIGNED BY SUPER.	DATE OF LAST PERIODIC REVIEW
EP-101	2	Classification of Emergencies	09/27/84	
EP-102	5	Unusual Event Response	10/10/84	
EP-103	5	Alert Response	10/18/84	
EP-104	5	Site Emergency Response	10/18/84	
EP-105	5	General Emergency Response	10/05/84	
EP-106	1	Written Summary Notification	06/08/84	
EP-110	3	Personnel Assembly and Accountability	10/15/84	
EP-120	1	Site Emergency Coordinator	06/08/84	
EP-201	1	Technical Support Center (TSC) Activation	06/08/84	
EP-202	2	Operations Support Center (OSC) Activation	09/25/84	
EP-203	2	Emergency Operations Facility (EOF) Activation	09/27/84	
EP-208	3	Security Team Activation	10/05/84	
EP-210	1	Dose Assessment Team	06/08/84	
EP-220		CANCELLED		
EP-221	1	Personnel Dosimetry, Bioassay, and Respiratory Protection Group	06/08/84	
EP-222	2	Field Survey Group	07/27/84	
EP-230	3	Chemistry Sampling and Analysis Team Activation	07/20/84	
EP-231	4	Operation of Post-Accident Sampling System (PASS)	08/07/84	
EP-232		CANCELLED		
EP-233	3	Retrieving and Changing Sample Filters and Cartridges from the Containment Leak Detector During Emergencies	07/20/84	

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PROCEDURE NUMBER	REV. NO.	TITLE	DATE SIGNED BY SUPER.	DATE OF LAST PERIODIC REVIEW
EP-234	3	Obtaining Containment Gas Samples from the Containment Leak Detector During Emergencies	07/20/84	
EP-235	3	Obtaining Reactor Water Samples from Sample Sinks Following Accident Conditions	07/20/84	
EP-236	3	Obtaining Cooling Tower Blowdown Line Water Samples Following Radioactive Liquid Release after Accident Conditions	08/07/84	
EP-237	3	Obtaining the Iodine/ Particulate and/or Gas Samples from the North Vent Wide Range Gas Monitor (WRGM)	07/20/84	
EP-238	3	Obtaining Liquid Radwaste Samples from Radwaste Sample Sink Following Accident Conditions	07/20/84	
EP-240	2	Obtaining Off-Gas Samples from the Air Ejector/Holdup Pipe Discharge Sample Station	06/08/84	
EP-241	4	Sample Preparation and Handling of Highly Radioactive Liquid Samples	10/04/84	
EP-242	3	Sample Preparation and Handling of Highly Radioactive Particulate Filters and Iodine Cartridges	07/20/84	
EP-243	4	Sample Preparation and Handling of Highly Radioactive Gas Samples	08/06/84	
EP-244	0	Offsite Analysis of High Activity Samples	06/08/84	
EP-250	1	Personnel Safety Team Activation	06/08/84	

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PROCEDURE NUMBER	REV. NO.	TITLE	DATE SIGNED BY SUPER.	DATE OF LAST PERIODIC REVIEW
EP-251	1	Plant Survey Group	06/08/84	
EP-252	2	Search and Rescue/First Aid	07/20/84	
EP-254	1	Vehicle and Evacuee Control Group	06/08/84	
EP-255	1	Vehicle Decontamination	06/08/84	
EP-260	1	Fire and Damage Team Activation	06/08/84	
EP-261	1	Damage Repair Group	06/08/84	
EP-272	2	Philadelphia Electric Company Officials Phone List	10/17/84	
EP-273	2	Limerick Station Supervision Call List	10/04/84	
EP-275		CANCELLED		
EP-276	3	Fire and Damage Team Phone List	10/18/84	
EP-277	4	Personnel Safety Team Phone List	10/30/84	
EP-278	2	Security Team Phone List	12/06/84	
EP-279	2	Emergency Operations Facility (EOF) Group Phone List	10/05/84	
EP-280	3	Technical Support Center Phone List	10/18/84	
EP-282	2	Government and Emergency Management Agencies	10/05/84	
EP-284	2	Company Consultants and Contractors Phone List	09/27/84	
EP-287	1	Nearby Public and Industrial Users of Downstream Water	06/08/84	
EP-291	3	Staffing Augmentation	10/18/84	
EP-292	4	Chemistry Sampling and Analysis Team Phone List	10/17/84	

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PROCEDURE NUMBER	REV. NO.	TITLE	DATE SIGNED BY SUPER.	DATE OF LAST PERIODIC REVIEW
EP-294	3	Dose Assessment Team Phone List	10/18/84	
EP-301	0	Operating the Evacuation Alarm and River Warning System	11/11/83	
EP-303	2	Local Evacuation	04/02/84	
EP-304	2	Partial Plant Evacuation	07/09/84	
EP-305	2	Site Evacuation	09/25/84	
EP-306	0	Evacuation of the Information Center	12/27/83	
EP-307	1	Reception and Orientation of Support Personnel	06/08/84	
EP-312	0	Radioactive Liquid Release	11/30/83	
EP-313	1	Distribution of Thyroid Blocking Tablets	06/08/84	
EP-314	0	Emergency Radiation Exposure Guidelines and Controls	12/06/84	
EP-315	1	Calculation of Offsite Doses During a Radiological Emergency Using RMMS in the Manual Mode	11/14/84	
EP-316	1	Cumulative Population and Near Real-Time Emergency Dose Calculations for Airborne Releases Manual Method	07/24/84	
EP-317	1	Determination of Protective Action Recommendations	10/17/84	
EP-318	0	Liquid Release Dose Calculations Method for Drinking Water	11/30/83	
EP-319	0	Fish Ingestion Pathway Dose Calculation	11/30/83	
EP-325	1	Use of Containment Dose Rates to Estimate Release Source Term	10/17/84	

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PROCEDURE NUMBER	REV. NO.	TITLE	DATE SIGNED BY SUPER.	DATE OF LAST PERIODIC REVIEW
EP-330	2	Emergency Response Facility Habitability	07/20/84	
EP-401	1	Entry for Emergency Repair and Operations	06/08/84	
EP-410	1	Recovery Phase Implementation	06/08/84	
EP-500	1	Review and Revision of Emergency Plan	06/08/84	

*Jim Lead 12/18/87*PHILADELPHIA ELECTRIC COMPANY  
LIMERICK GENERATING STATION  
EMERGENCY PLAN IMPLEMENTING PROCEDUREEP-278     SECURITY TEAM PHONE LIST1.0     PURPOSE

The purpose of this procedure is to provide guidelines and information to call in the Security Team.

2.0     RESPONSIBILITIES

2.1     The Security Team Leader shall be responsible to call in team members.

3.0     APPENDICES

None

4.0     PREREQUISITES

None

5.0     SPECIAL EQUIPMENT

None

6.0     SYMPTOMS

None

7.0     ACTION LEVEL

7.1     This procedure can be used when the Security Team is to be activated or when additional people need to be called in.

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8.0 PRECAUTIONS

None

9.0 PROCEDURE

9.1 ACTIONS

9.1.1 The (Interim) Security Team Leader shall call people from the following list until an adequate number are able to respond in the appropriate groups.

9.1.2 Security Team Leader Telephone No.

[REDACTED]	( [REDACTED] ) - [REDACTED]
[REDACTED] (Capt. of the Guards)	( [REDACTED] ) - [REDACTED]
[REDACTED] (Access Lt.)	( [REDACTED] ) - [REDACTED]

Security Junior Technical Assistant Telephone No.

[REDACTED]	( [REDACTED] ) - [REDACTED]
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9.1.3 Security Team Members

9.1.3.1 Security Team Sergeants Telephone No.

[REDACTED]	( [REDACTED] ) - [REDACTED]
[REDACTED]	( [REDACTED] ) - [REDACTED]
[REDACTED]	( [REDACTED] ) - [REDACTED]
[REDACTED]	( [REDACTED] ) - [REDACTED]
[REDACTED]	( [REDACTED] ) - [REDACTED]

9.1.3.2 Security Team Corporals

[REDACTED]	( [REDACTED] ) - [REDACTED]
[REDACTED]	( [REDACTED] ) - [REDACTED]
[REDACTED]	( [REDACTED] ) - [REDACTED]
[REDACTED]	( [REDACTED] ) - [REDACTED]
[REDACTED]	( [REDACTED] ) - [REDACTED]
[REDACTED]	( [REDACTED] ) - [REDACTED]

**PROPRIETARY**

9.1.3.3 Security Team CAS and EAS

[REDACTED]

( ) - [REDACTED]  
( ) - [REDACTED]  
( ) - [REDACTED]  
( ) - [REDACTED]  
( ) - [REDACTED]  
( ) - [REDACTED]  
( ) - [REDACTED]  
( ) - [REDACTED]  
( ) - [REDACTED]

9.1.3.4 Security Team Guards

[REDACTED]

[REDACTED]

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9.1.3.5 Security Team Watchmen

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

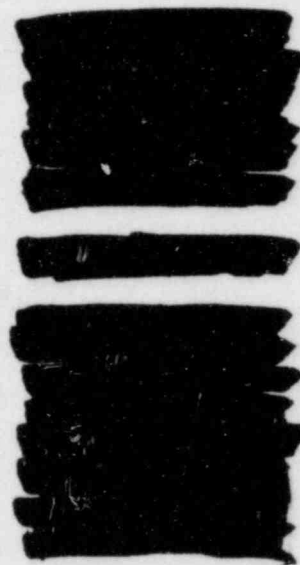
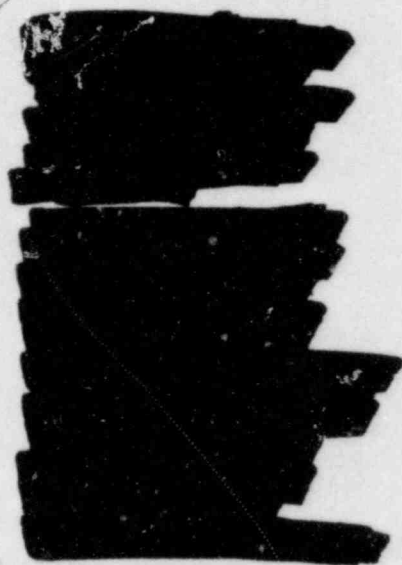
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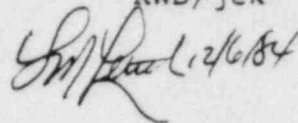
9.1.3.6 Watchmen Under Instruction



10.0 REFERENCES

None

**PROPRIETARY**

Handwritten signature and date: 1/26/84

PHILADELPHIA ELECTRIC COMPANY  
LIMERICK GENERATING STATION  
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-314 EMERGENCY RADIATION EXPOSURE GUIDELINES AND CONTROLS

1.0 PARTICIPANTS

- 1.1 The Emergency Director shall ensure that the actions outlined in this procedure are carried out.
- 1.2 The Personnel Safety Team Leader shall ensure that follow-up items are carried out.

2.0 ACTIONS-IMMEDIATE

2.1 The Emergency Director Shall:

- 2.1.1 Determine the need to perform specific tasks anticipated to result in exposures exceeding station administrative guidelines by evaluating the potential consequences resulting from not performing the tasks against the anticipated exposure.
- 2.1.2 Follow the guidelines for emergency exposure listed in EP-314-2.
- 2.1.3 Verify that the personnel selected to perform the task:
  - a). are aware of the potential biological effects associated with the requested Emergency Exposure Guideline. (See Appendix EP-314-4)
  - b). are not (a) fertile female(s).  
have not previously received emergency exposure,
  - c). have been briefed of the situation, are volunteers, and
  - e). are technically qualified to perform the specific task.

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INSTRUCTIONS ASSOCIATED WITH STEPS 2.1.4 THRU 2.1.6 MAY BE DELEGATED BY THE EMERGENCY DIRECTOR, HOWEVER ONLY THE EMERGENCY DIRECTOR CAN SIGN AUTHORIZATION IN STEP 6 OF SECTION A OF ATTACHMENT EP-314-1.

- 2.1.4 Instruct personnel not to enter any area where dose rates are unknown and unmeasurable with dose rate instruments.
- 2.1.5 Ensure that reasonable precautions for minimizing the radiological consequences of the emergency action are taken (i.e. protective clothing, respiratory protection, thyroid blocking agent, etc.).
- 2.1.6 Complete Section A of attachment EP-314-1.

THE EMERGENCY DIRECTOR IS THE ONLY INDIVIDUAL WHO CAN SIGN SECTION A AUTHORIZING THE EMERGENCY EXPOSURE. SEE APPENDIX, EP-314-2.

- 2.2 The individual to receive Emergency Exposure Authorization shall complete Section B of Attachment EP-314-1.
- 2.3 The Personnel Safety Team Leader Shall complete Sections C and D of Attachment EP-314-1.

ALTHOUGH IT IS PREFERABLE TO PERFORM AND DOCUMENT THESE STEPS PRIOR TO THE EXPOSURE, THE EMERGENCY DIRECTOR MAY VERBALLY AUTHORIZE THE EXPOSURE AND COMPLETE THE DOCUMENTATION AT A LATER TIME.

### 3.0 ACTIONS - FOLLOWUP

- 3.1 The Personnel Safety Team Leader Shall:
  - 3.1.1 Ensure that the exposure incident is brought to the attention of a physician, and/or the exposed individual is examined by a physician based on the guideline in Appendix EP-314-3.
  - 3.1.2 Ensure that the exposure evaluation and a full report on the emergency exposure, including necessary reports in accordance with 10CFR 20.403 are completed.

4.0 APPENDICES

- 4.1 EP-314-1 Emergency Exposure Guidelines.
- 4.2 EP-314-2 Emergency Exposure Guidelines.
- 4.3 EP-314-3 Physician Attention For Emergency Exposure Individuals.

5.0 SUPPORTING INFORMATION

5.1 Purpose - The purpose of this procedure is to provide guidelines and administrative controls for radiation exposures in excess of 10CFR 20 limits during activities involving: life saving and/or reduction of injury, and operation or maintenance of equipment to mitigate an emergency.

5.2 Criteria for Use - This procedure is to be initiated when emergency response actions to perform life saving or accident mitigating functions are expected to result in radiation exposures in excess of 10 CFR 20 limits.

10 CFR 20 EXPOSURE LIMIT IS 1.25 REM/QTR. IF AN INDIVIDUAL HAS AN UP-TO-DATE FORM 4 ON FILE, HE MAY BE EXPOSED TO A MAXIMUM OF 3 REM/QTR PROVIDED HIS LIFETIME EXPOSURE DOES NOT EXCEED S(N-18) REM. IF AN INDIVIDUAL DOES NOT HAVE AN UP-TO-DATE FORM 4 ON FILE, THIS PROCEDURE MUST BE USED PRIOR TO THAT INDIVIDUAL EXCEEDING 1.25 REM.

5.3 Special Equipment

None

5.4 References

None

ATTACHMENT EP-314-1

EMERGENCY EXPOSURE AUTHORIZATION FORM

SECTION A

1. Name (to receive exposure) : \_\_\_\_\_

Soc. Sec. No: \_\_\_\_\_ Sex \_\_\_\_\_ Age \_\_\_\_\_

2. Individual TLD Number: \_\_\_\_\_ Employee/LGS Department: \_\_\_\_\_

3. Task(s) to be Performed: \_\_\_\_\_

4. Date of Authorization: \_\_\_\_\_ Authorized Limit: \_\_\_\_\_

5. Conditions:

Individual is a volunteer

Individual is familiar with radiological consequences of exposure.

Fertile females shall not take part.

Individual has not received an emergency exposure before.

Males over forty years of age, if available and capable of performing the task/Dose rates in area are known/measurable.

Life saving Action?

Corrective Action?

6. Emergency Director: \_\_\_\_\_ (Signature)

SECTION B

I have been briefed in the radiological consequences of the proposed emergency exposure, and I have volunteered to perform the emergency measures during which I will receive the emergency exposure.

7. Signature: \_\_\_\_\_ Date: \_\_\_\_\_

ATTACHMENT EP-314-1 (CONTINUED)  
EMERGENCY EXPOSURE AUTHORIZATION FORM

SECTION C (Attached exposure evaluation)

1. Dose equivalent assigned for entry: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. TLD/Dosimeter Results: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Bioassay Results: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Medical Evaluation/Action: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Doctor: \_\_\_\_\_

5. Personnel Safety Team Leader: \_\_\_\_\_ Date \_\_\_\_\_  
\_\_\_\_\_

SECTION D

1. Disposition (Allow additional exposure, restricted access, etc.):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Individual assigned to follow up reports (s): \_\_\_\_\_

3. Personnel Safety Team Leader: \_\_\_\_\_ Date: \_\_\_\_\_



APPENDIX EP-314-2

Emergency Exposure Guidelines

<u>Function</u>	<u>Projected Whole Body Dose</u>	<u>Thyroid Dose</u>	<u>Authorized By</u>
1. Life Saving and Reduction of Injury	75 rem*	375 rem	Emergency** Director
2. Operation of Equipment to mitigate an Emergency	25 rem*	125 rem*	Emergency** Director
3. Protection of Health and Safety of the Public	5 rem	25 rem	Emergency Director
4. Other Emergency Activities	10 CFR20*** limits	10 CRF 20 limits	Emergency Director
5. Re-entry/Recovery Activities	Station Administrative Guide lines	Station Administrative guide-lines	N/A

\*Reference: EPA-520/2-75-001 Table 2.1

\*\*Such exposure shall be on a voluntry basis

\*\*\*10 CFR 20 Limits: 1.25 Rem/Qtr. If completed up-to-date NRC Form-4 is on file, individual can be exposed to a maximum of 3 rem provided the individual does not exceed 5(N-18) rem. N is the individual's age in years.

APPENDIX EP314-3

PHYSICIAN ATTENTION FOR EMERGENCY

EXPOSURE INDIVIDUALS

The following criteria should be applied as a minimum to any individual potentially exposed to excessive radiation levels:

- a) If an individual's dose equivalent exceeds 10 rem for the whole body, 30 rem for the thyroid, 60 rem for the skin, and/or 150 rem to an extremity, the details of the exposure incident shall be brought to the attention of a physician. The physician shall determine the need, extent, and nature of any clinical, biological, or biochemical examinations.
- b) If an individual's dose equivalent exceeds 25 rem for the whole body, 75 rem to the thyroid, 150 rem for the skin, and/or 375 rem for an extremity, the individual shall be examined by a physician. The Physician shall determine the need, extent, and nature of any clinical, biological, or biochemical examinations or necessary medical surveillance.

APPENDIX EP-314-4

POTENTIAL BIOLOGICAL EFFECTS ASSOCIATED WITH EMERGENCY  
EXPOSED GUIDELINES

<u>Projected Whole Body Dose</u>	<u>Biological Effects Summary</u>	<u>Long Term Risks</u>
4.5 Rem	No Detectable ill effects	.0135% (or 13.5 additional cases) in 10,000 of contacting Cancer. (See Note 1)
25 Rem	(See Note 2) Slight transient reduction in white blood cells. May experience one or more of the following: nausea anorexia vomiting fatigue	0.75% (or 75 additional cases) in 10,000 of contacting cancer (See Note 1)
75 Rem		2.25% (or 225 additional cases) in 10,000 of con- tacting Cancer. (See Note 1)

Note 1: The normal incidence of Cancer is approximately 2500 in 10,000 (or 25%). The long term risks indicate potential increases above the normal incidence, if 10,000 people received the projected whole body dose.

Note 2: The acute effects are similar over the range from 25 Rem to 75 Rem, but are more likely to be experienced as exposures increase.