Director - Emerg. Prep. Sect.

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EP-102	Unusual Event Response	01/17/86	12	01/21/86 *
EP-103	Alert Response	01/17/86	12	01/21/86 *
EP-104	Site Emergency Response	01/17/86	13	01/21/86 *
EP-105	General Emergency Response	01/21/86	12	01/21/86 *
EP-110	Personnel Assembly and Accountability	12/20/85	2	01/06/86 *
EP-201	Technical Support Center (TSC) Activation	12/20/85	9	01/07/86 *
EP-202	Operations Support Centers (OSC) Activation	10/16/85	8	10/16/85
EP-203	Emergency Operations Facility (EOF) Activation	12/20/85	9	01/08/86 *
EP-203A	Alternate Emergency Operations Facility (EOF) Activation	10/12/84	0	10/12/84
EP-205	D E L E T E D	09/12/84		
EP-205A	Chemistry Sampling and Analysis Team	10/16/85	6	10/16/85
EP-205A .1	Operation of Post Accident Sampling Station	10/15/85	6	10/15/85
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EP-205A .5	Obtaining Reactor Water Samples from Sample Sinks Following Accident Conditions	10/16/85	1	10/16/85

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EP-205A .7	Obtaining the Iodine and Particulate Samples from the Main Stack and Roof Vents Following Accident Conditions	10/16/85	3	10/16/85
EP-205A .8	Obtaining Liquid Radwaste Samples from Radwaste Sample Sink Following Accident Conditions	10/16/85	1	10/16/85
EP-205A .9	Obtaining Samples from Condensate Sample Sink Following Accident Conditions	10/15/85	1	10/15/85
EP-205A .10	Obtaining Off-Gas Samples from the Off-Gas Hydrogen Analyzer Following Accident Conditions	10/15/85	1	10/15/85
EP-205A .11	D E L E T E D - Incorporated into EP-205A.13	12/20/85		*
EP-205A .12	Sample Preparation and Handling of Highly Radioactive Particulate Filters and Iodine Cartridges	10/15/85	4	10/15/85
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EP-205A .15	Guidelines for the Order of Analysis on Post-Accident Samples	10/15/85	1	10/15/85
EP-205A .16	Storage of Post-Accident Samples	09/12/85	0	09/12/85
EP-205A .17	Obtaining a Gas Sample from the Main Stack Under Accident Conditions	10/15/85	0	10/15/85
EP-205B	D E L E T E D - Replaced by EP 207G & EP-210A	12/20/85		*
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EP-207	Personnel Safety Team Activation	09/12/85	7	09/12/85
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EP-207B	D E L E T E D	04/27/84		
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EP-207D	Evacuation Assembly Group	09/16/85	4	09/16/85
EP-207E	D E L E T E D	08/28/85		
EP-207F	D E L E T E D	08/28/85		
EP-207G	Plant Survey Groups	09/09/85	0	09/09/85
EP-207H	Dosimetry, Bioassay, and Respiratory Group	09/16/85	0	09/16/85
EP-208	Security Team	12/18/85	2	01/03/86 *
EP-209	Telephone List For Emergency Use	12/18/85	11	12/31/85 *
EP-209 Appendix A	Immediate Notification Call List	12/18/85	11	01/17/86 *
EP-209 Appendix B	D E L E T E D	11/04/81		
EP-209 Appendix C	Peach Bottom Station Supervision	12/18/85	18	12/30/85 *
EP-209 Appendix D-1	On Site Emergency Team Leaders	12/30/85	14	12/30/85 *
EP-209 Appendix D-2	Dose Assessment Team	12/18/85	18	01/07/86 *
EP-209 Appendix D-3	Fire and Damage Team	12/18/85	16	01/07/86 *
EP-209 Appendix D-4	Personnel Safety Team	12/18/85	20	01/10/86 *
EP-209 Appendix D-5	Security Team	12/18/85	14	01/07/86 *

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EP-209 Appendix D-7	Technical Support Center Group	12/18/85	18	01/07/86 *
EP-209 Appendix D-8	Chemistry Sampling & Analysis Team	12/18/85	4	01/07/86 *
EP-209 Appendix E	Corporate Emergency Team Leaders and Support Personnel	12/18/85	15	01/10/86 *
EP-209 Appendix F	U. S. Government Agencies	12/18/85	6	01/07/86 *
EP-209 Appendix G	Emergency Management Agencies	12/18/85	8	01/07/86 *
EP-209 Appendix H	Company Consultants	12/18/85	12	09/14/85
EP-209 Appendix I-1	Field Support Personnel	12/18/85	20	01/07/86 *
EP-209 Appendix I-2	Chemistry & Health Physics Contractor Call List	12/18/85	18	12/30/85 *
EP-209 Appendix J	Nearby Public and Industrial Users Of Downstream Waters	12/18/85	8	01/07/86 *
EP-209 Appendix K	Miscellaneous	12/18/85	8	01/07/86 *
EP-209 Appendix L	Local PECo Phones	12/18/85	7	01/07/86 *
EP-209 Appendix M	D E L E T E D	10/21/84		
EP-209 Appendix N	Medical Support Groups	12/18/85	10	01/07/86 *
EP-209 Appendix P	Staffing Augmentation - 60 Minute Call Procedure	12/18/85	13	01/07/86 *
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EP-211	Emergency Radiation Exposure Guidelines and Controls	06/28/85	0	06/28/85
EP-212	Technical Support Team Activation	09/09/85	0	09/09/85
EP-301	Operating the Evacuation Alarm and Pond Page System	09/09/85	2	09/09/85
EP-303	Partial Plant Evacuation	08/30/85	3	08/30/83
EP-304	D E L E T E D	12/04/81		
EP-305	Site Evacuation	12/20/85	6	01/07/86 *
EP-306	D E L E T E D - No Replacement	01/17/86		*
EP-307	Reception and Orientation of Support Personnel	09/16/85	2	09/16/85
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EP-312	Radioactive Liquid Release (Emergency Director Functions)	09/20/84	2	09/20/84
EP-313	Control of Thyroid Blocking (KI) Tablets	09/12/85	2	09/12/85
EP-315	Corporate Computer Dose Calculations	10/12/84	0	10/12/84
EP-316	Cumulative Population Dose Calculations for Airbourne Releases Manual Method	12/18/85	8	12/31/85 *
EP-316 Appendix A	Worksheets/Meterological Calculations	09/17/85	8	09/17/85
EP-316 Appendix B	Activity After Reactor Shutdown	09/17/85	7	09/17/85
EP-316 Appendix C	Index of X/Q Outputs for Off-Gas Stack Releases	09/17/85	7	09/17/85
EP-316 Appendix D	Relative Dispersion Values for Emergency Dose Calculation Procedure	09/17/85	7	09/17/85
EP-316 Appendix E	SGTS Efficiency vs Decontamination Factor	09/17/85	7	09/17/85
EP-316 Appendix F	Percent Composition of Isotopic Distribution	09/17/85	7	09/17/85

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Number	Title	Review Date	Rev. No.	Revision Date
EP-316 Appendix G	Composite Whole Body Dose Conversion Factors vs Time Since Reactor Shutdown	09/17/85	7	09/17/85
EP-316 Appendix H	I-131/I-133 Composite Thyroid Dose Conversion Factors vs Time Since Reactor Shutdown	09/17/85	7	09/17/85
EP-316 Appendix I	Population Distribution by Compass Sector-Summer Day	09/17/85	0	09/17/85
EP-316 Appendix J	I/131/I-133 Percent Abundance vs Time Since Reactor Shutdown	09/17/85	0	09/17/85
EP-316 Appendix K	PBAPS Iodine Source Term From TSC Field Data	09/17/85	0	09/17/85
EP-316 Appendix L	Index of Plume Shine Outputs for Off-Gas Stack Releases	09/17/85	0	09/17/85
Ep-316 Appendix M	Plume Shine Value for Emergency Dose Calculation Procedure	09/17/85	0	09/17/85
EP-316 Appendix N	Refined Dose Assessment of Unmonitored Ground Release	09/17/85	0	09/17/85
EP-316A	Reading the Rapid Dose Assessment I Program into the TI-59	09/24/85	2	09/24/85
EP-316B	Calculating Rapid Dose Assessment on the TI-59	09/24/85	2	09/24/85
EP-316C	Reading the Refine Dose Assessment I Program onto the TI-59	10/15/84	0	10/15/84
EP-317	Determination of Protective Action Recommendations	12/20/85	4	01/06/86 *
EP-318	Liquid Release Dose Calculation Method for Intake Water at Downstream Facilities	12/18/85	2	12/31/85 *
EP-319	Liquid Release Dose Calculation Method for Fish	12/18/85	2	12/31/85 *
EP-320	Procedure for Leaking Chlorine	03/12/82	1	03/12/82
EP-325	Use of the Containment Radiation Monitor to Estimate Release Source Term	12/18/85	1	01/10/86 *

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Number	Title	Review Date	Rev. No.	Revision Date
EP-401	Entry for Emergency Repair and Operations	12/18/85	6	01/03/86 *
EP-500	Review and Revision of Emergency Plan (FSAR Appendix 0)	04/01/81	0	04/01/81

1-10-86

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-101 CLASSIFICATION OF EMERGENCIES

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PURPOSE:

To define the method of classification of an event or condition into one of four emergency classifications as described in the Emergency Plan. Additionally this procedure details the method of de-escalation from one emergency classification to another.

RESPONSIBILITIES:

1.0 Shift Supervision shall be responsible for recognizing and classifying the emergency situation.

2.0 Upon declaration of any emergency situation contained in Appendix EP-101-1, the Shift Supervision shall assume the duties of the Emergency Director.

3.0 The Manager, PBAPS or designated alternate shall relieve the Emergency Director, assume the duties of Emergency Director and continue to implement the various emergency plan implementing procedures, when available.

ACTION LEVEL:

Implement this procedure whenever Shift Supervision detects conditions which meet the Emergency Action Levels in Appendix EP-101-1.

IMPLEMENTATION OF THIS PROCEDURE DOES NOT CONSTITUTE IMPLEMENTATION OF THE EMERGENCY PLAN.

PRECAUTIONS:

THE JUDGEMENT OF THE EMERGENCY DIRECTOR IS VITAL IN PROPER CONTROL OF AN EMERGENCY AND TAKES PRECEDENCE OVER GUIDANCE IN THE EMERGENCY PLAN PROCEDURE.

PROCEDURE:

1.0 IMMEDIATE ACTIONS:

1.1 Shift Supervision or Emergency Director shall:

1.1.1 Select affected categories related to station events or conditions.

IF EVENT TRIGGER IS KNOWN TO BE SPURIOUS, DO NOT CLASSIFY EVENT.

Category	Reference Pages in Appendix EP-101-1
General Conditions	1
Unplanned Shutdown	2
Personnel Injury	3
Primary Containment	4
Radioactive Release	5
Fire	6
Environmental	7
Loss of Power	8
Secondary Containment	9
Instrument Failure	10
Fuel Damage	11
Hazards	12
Control Room Evacuation	13
Security	See Contingency Plan

1.1.2 Beginning at the indicated page in Appendix EP-101-1, review the Emergency Action Levels for all categories selected.

1.1.3 If the most severe events or conditions are classified as an Unusual Event, implement EP-102, "Unusual Event Response."

1.1.4 If the most severe events or conditions are classified as an Alert, implement EP-103, "Alert Response."

1.1.5 If the most severe events or conditions are classified as a Site Emergency, implement EP-104, "Site Emergency Response."

1.1.6 If the most severe events or conditions are classified as a General Emergency, implement EP-105, "General Emergency Response."

2.0 FOLLOW-UP ACTIONS:

2.1 If event is classified as Alert, Site Emergency, or General Emergency, Shift Supervision or Emergency Director shall:

2.1.1 Periodically evaluate the event classification as listed on attached Appendix EP-101-1. Based upon results of corrective action taken to recover from the emergency situation, escalation or de-escalation of the emergency classification will be decided upon by the Emergency Director. (It is preferable, but not mandatory, to obtain concurrence from the Site Emergency Coordinator and Corporate Headquarters prior to classification reduction). The NRC and appropriate off-site authorities at the Emergency Operations Facility shall be informed of the decision to move from one emergency classification to the next. All agencies or personnel listed in checkoff lists of EPs 102, 103, 104, and 105 shall be informed as a minimum.

2.1.2 Provide written summary within eight hours to the NRC concerning basis and circumstances surrounding reduction of emergency classification or closeout of the emergency.

2.2 Shift Supervision or the Emergency Director shall monitor boundary degradation, radioactive material release, environmental, and other appropriate EAL conditions, in order to identify situations or trends which, in his judgement, indicate that escalation of the classification is prudent or essentially inevitable. In these situations, Shift Supervision or the Emergency Director shall escalate the emergency classification based on his judgement that the situation meets the descriptive conditions of the new emergency classification. The classification category entitled, "General Conditions", Appendix EP-101-1, Page 1, provides guidance for this type of integrated or anticipatory emergency classification escalation.

2.3 Once an event is classified, Shift Supervision or Emergency Director shall periodically evaluate the event classification as listed on attached Appendix EP-101-1 and escalate or de-escalate the emergency classification if necessary. All appropriate agencies or personnel shall be notified using the appropriate checkoff lists of EP-102, 103, 104, 105.

2.4 When the emergency has been mitigated and the affected unit and auxiliaries have been placed in a safe shutdown condition, only then will a decision be made as to whether a recovery phase is justified. To enter the recovery phase after the emergency or accident situation is considered no longer in effect, the concurrence of the Site Emergency Coordinator, Emergency Director, and the Emergency Support Officer is required, if all have been activated. The recovery phase is a departure from an emergency situation. The Site Emergency Coordinator, if activated, and Emergency Director evaluate plant operating conditions as well as the in-plant and out-of-plant radiological conditions in this decision. The Site Emergency Coordinator shall direct that notifications are made to the various individuals and agencies that the recovery phase has been implemented.

APPENDICES:

Appendix EP-101-1, Emergency Action Levels

REFERENCES:

Peach Bottom Atomic Power Station Emergency Plan Section 4.0

NUREG-0654/REP-1 Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

EP-102 Unusual Event Response

EP-103 Alert Response

EP-104 Site Emergency Response

EP-105 General Emergency Response

GENERAL CONDITIONS	
UNUSUAL EVENT (Initiate EP-102)	ALERT (Initiate EP-103)
1) Situation threatens normal level of plant safety.	1) A situation which does or could represent a substantial degradation in the level of plant safety. OR 2) A situation which warrants the use of additional personnel for accident assessment and in-plant response. OR 3) A situation where a release of radioactive material warrants off-site response or monitoring, but does not require protective actions.
SITE EMERGENCY (Initiate EP-104)	GENERAL EMERGENCY (Initiate EP-105)
1) A situation where the level of safety has or could be degraded to the point of losing a plant function needed to protect the public. OR 2) A condition that warrants use of additional personnel for accident assessment, in-plant response, and off-site emergency response. OR 3) A situation where a significant release of radioactive material has occurred or could take place.	1) Substantial core damage and loss of, or high potential for, loss of primary containment. OR 2) A condition that warrants use of additional personnel for accident assessment, in-plant response, and off-site emergency response to aid in the implementation of protective actions. OR 3) Large amounts of radioactive material has been or could be released in a short period of time.

UNPLANNED SHUTDOWN	
UNUSUAL EVENT	ALERT
UNPLANNED SHUTDOWN Refer to A-31 for notifications. Do not initiate EP-102.	SCRAM WITH TRIPLE LO LEVEL 1) Scram alarm and 2) Double low level alarm (-48") and 3) Triple low level alarm (-130") and 4) Increase in containment pressure to greater than 1 psig but less but less than 2 psig on PR-2/3508. SCRAM WITH SMALL LEAK 1) Scram alarm and 2) Double low level alarm (-48") and 3) Triple low level alarm (-130") and 4) Containment high pressure alarm (2 psig) and 5) Containment pressure 2 psig or greater on PR-2/3508.
SITE EMERGENCY (Initiate EP-104)	GENERAL EMERGENCY (Initiate EP-105)
SCRAM WITH LOCA 1) Scram alarm and 2) Double low level alarm (-48") and 3) Triple low level alarm (-130") and 4) Containment high pressure alarm (2 psig) and 5) Containment pressure 10 psig or greater on PR-2/3508.	SCRAM WITH LOCA & NO ECCS 1) Scram alarm and 2) Double low level alarm (-48") and 3) Triple low level alarm (-130") and 4) Active fuel range level indication shows less than -226" on LI-2/3-2-3-91A, B and 5) Failure to reset triple low level alarm after 3 minutes and 6) Containment high pressure alarm (2 psig) and 7) Containment pressure greater than 20 psig on PR-2/3508.

PERSONNEL INJURY	
UNUSUAL EVENT	ALERT
INJURY WITH EXCESS RADIATION EXPOSURE OR CONTAMINATION Refer to A-31 for notifications. Do not initiate EP-102.	N/A
SITE EMERGENCY	GENERAL EMERGENCY
N/A	N/A

PRIMARY CONTAINMENT	
UNUSUAL EVENT	ALERT
NON-ISOLABLE LEAKAGE 1) Primary containment leak rate is greater than 0.5 percent of volume per 24 hrs at 49.1 psig or 2) N2 makeup system is not capable of maintaining pressure (not due to lack of N2). FAILURE TO ISOLATE PENETRATION WHEN ISOLATED BY A TRANSIENT 1) Incorrect valve position during Group I, II, or III isolation alarms.	LOSS OF PRIMARY CONTAINMENT INTEGRITY 1) Reactor Building vent rad effluent high rad alarm and inability to maintain pressure greater than 0.25 psig on narrow range PR-2/3508 or 2) Torus room flood alarm with level decrease in torus.
SITE EMERGENCY	GENERAL EMERGENCY
LOSS OF PRIMARY CONTAINMENT INTEGRITY 1) Erratic containment pressure fluctuations above alarm setpoints of 1.5 psig, and 2) Group II and III isolation alarms, and 3) Containment dose rate greater than 4X10P3 R/hr on RI-8/9103A/C and RI-8/9103B/D and 4) Reactor Bldg area high temperature alarm, or Area Radiation Monitors on PR-2/3-18-55 abnormally high, and Reactor Bldg vent rad effluent high alarm, or main stack rad effluent on RR 0-17-051 increasing due to SGTS operation.	N/A SITE EMERGENCY (Continued) POTENTIAL LOSS OF PRIMARY CONTAINMENT HIGH RADIATION 1) Containment high pressure alarm (2.0 psig), and 2) Scram, and 3) Containment dose rate greater than 4X10P3 R/hr on RI-8/9103A/C and RI-8/9103B/D, and 4) Reactor Building area rad monitors alarming, and 5) Vent stack rad effluent monitor alarm.

RADIOACTIVE RELEASE	
UNUSUAL EVENT	ALERT
INSTANTANEOUS RELEASE EXCEEDING TECH. SPECS. 1) Liquid effluent release exceeding Tech. Spec. 3.8.B.1 2) Gaseous effluent release exceeding Tech. Spec. 3.8.C.1 which may be detected by the following: a. If all releases are from one release point. 1. A spike on the main stack greater than 1.8X10P4 cps on RR-0-17-051 or 2. A spike on the Rx. Bldg. vent greater than 3X10P5 cpm on RR-2/3979 or b. If the release is from more than one release point 1. A spike on the main stack greater than 6X10P3 cps on RR-0-17-051 or 2. A spike on the Rx. Bldg. vent greater than 1X10P5 cpm on RR-2/3979.	ACTUAL OR POTENTIAL RELEASE 0.01 REM WHOLE BODY OR 0.05 REM THYROID 1) Uncontrollable release for more than 20 minutes from the: a. Main stack greater than 1X10P5 cps on RR 0-17-051 or b. Rx. Bldg. vent greater than 6.10X10P5 cpm on RR-2/3979 or 2) Continued particulate or iodine release such that analysis of particulate filter or charcoal cartridge results in the following estimated release rates: a. Main stack greater than 9.7 X 10P2 uCi/sec or b. Rx. Bldg. vent greater than 1.1 X 10P2 uCi/sec or
SITE EMERGENCY	GENERAL EMERGENCY
ACTUAL OR POTENTIAL RELEASE 0.1 REM WHOLE BODY OR 0.5 REM THYROID 1) Uncontrollable release for more than 20 minutes from the: a. Main stack greater than 2X10P8 cps on RR-7127 or b. Rx. Bldg. vent greater than 6X10P6 cpm on RR-2/3979 or 2) Continued particulate or iodine release such that analysis of particulate filter or charcoal cartridge results in the following estimated release rates: a. Main stack greater than 9.7X10P3 uCi/sec or b. Rx. Bldg. vent greater than 1.1X10P3 uCi/sec.	ACTUAL OR POTENTIAL RELEASE 1.0 REM WHOLE BODY OR 5.0 REM THYROID 1) Uncontrollable release for more than 20 minutes from the: a. Main stack greater than 2X10P9 cps on RR-7127 or b. Rx. Bldg. vent greater than 6X10P7 cpm on RR-2/3979 or 2) Continued particulate or iodine release such that analysis of particulate filter or charcoal cartridge results in the following estimated release rates: a. Main stack greater than 9.7X10P4 uCi/sec or b. Rx. Bldg. vent greater than 1.1X10P4 uCi/sec

FIRE	
UNUSUAL EVENT	ALERT
FIRE IN PROTECTED AREA LASTING 10 MIN. OR MORE AFTER INITIAL ATTEMPTS TO EXTINGUISH IT 1) Alarm and verbal report from SSV.	FIRE WHICH COULD MAKE AN ECCS INOP 1) Fire alarm and verbal report from it.
SITE EMERGENCY	GENERAL EMERGENCY
FIRE WHICH MAKES AN ECCS INOP 1) Fire alarm and verbal report from SSV.	FIRE WHICH CAUSES DAMAGE TO PLANT SYSTEMS SUFFICIENT TO LEAD TO OTHER GENERAL EMERGENCIES 1) Fire alarm and verbal report from SSV, and LOCA symptoms, ECCS, or containment failure.

ENVIRONMENTAL	
UNUSUAL EVENT	ALERT
N/A	EARTHQUAKE 1) An actual earthquake beyond the Operating Basis Earthquake (OBE) ABNORMAL POND LEVEL 1) Conowingo Pond Level on LI-2/3278A,B,C: a) greater than 115 feet or b) less than 98.5 feet without prior notification by L.D. TORNADO 1) A tornado strikes the Power Block with identifiable plant damage. HURRICANE 1) Station is experiencing a hurricane with winds > 100 mph.
SITE EMERGENCY	GENERAL EMERGENCY
EARTHQUAKE 1) An earthquake greater than Design Basis Earthquake as detected on seismic instruments. ABNORMAL POND LEVEL 1) Conowingo Pond Level on LI-2/3278A,B,C exceeding the following limits: a) greater than 116 feet or b) less than 87 feet	N/A

LOSS OF POWER	
UNUSUAL EVENT	ALERT
LOSS OF OFFSITE OR ONSITE POWER 1) Turbine generator trip with start-up auxiliary transformer SU2 and SU3 unavailable for service for more than 60 seconds or 2) Loss of voltage on the four 4160 volt emergency busses or 480 volt load centers supplied from the four 4160 volt emergency busses for more than 60 seconds.	LOSS OF OFFSITE AND ONSITE AC POWER FOR LESS THAN 15 MINUTES 1) Turbine generator trip with start-up auxiliary transformer SU2 and SU3 unavailable for service and 2) Failure of all diesel generators to energize their busses. LOSS OF ALL DC POWER FOR LESS THAN 15 MIN. 1) Less than 105 volts on the 2/3A,B, C & D distribution panels as indicated on panels 2/3AD03, 2/3CD03, 2/3BD03, 2/3DD03 and 2) Less than 21 volts on the 24 volt distribution panels as indicated on panels 2/3AD28, 2/3CD28, 2/3BD28, 2/3DD28 and 3) Loss of all alarms.
SITE EMERGENCY	GENERAL EMERGENCY
LOSS OF OFFSITE AND ONSITE AC POWER FOR LONGER THAN 15 MINUTES 1) Turbine generator trip with SU2 & SU3 unavailable for service for longer than 15 minutes and 2) Failure of all diesel generators to energize their busses for longer than 15 minutes. LOSS OF ALL 125 VDC POWER FOR LONGER THAN 15 MINUTES 1) Less than 105V on the 2/3A,B,C&D distribution panels as indicated on panels 2/3AD03,2/3CD03,2/3BD03, 2/3DD03 for longer than 15 min and	N/A SITE EMERGENCY (Continued) LOSS OF ALL 125 VDC POWER FOR LONGER THAN 15 MINUTES 2) Less than 21V on the 24V distribution panels as indicated on panels 2/3AD28, 2/3CD28, 2/3BD28, 2/3DD28 for longer than 15 min. and 3) Loss of all alarms for longer than 15 minutes.

SECONDARY CONTAINMENT	
UNUSUAL EVENT	ALERT
LOSS OF SECONDARY CONTAINMENT INTEGRITY 1) Loss of secondary containment integrity for greater than 12 hours.	N/A
SITE EMERGENCY	GENERAL EMERGENCY
N/A	N/A

INSTRUMENT FAILURE	
UNUSUAL EVENT	ALERT
SIGNIFICANT LOSS OF ASSESSMENT OR COMMUNICATION CAPABILITY IN THE MAIN CONTROL ROOM 1) Complete loss of all main control room communication equipment.	N/A
SITE EMERGENCY	GENERAL EMERGENCY
N/A	N/A

FUEL DAMAGE	
UNUSUAL EVENT	ALERT
POSSIBLE FUEL DAMAGE 1) Air ejector discharge rad monitor high alarm and an increase of 500 mR/hr within 30 minutes or a level of 2.5X10P3 mR/hr as indicated on RR-2/3-17-152, or 2) High reactor coolant activity as determined by sample analysis equal to or greater than 4 uCi/gm dose equivalent I-131.	FUEL DAMAGE 1) Air ejector discharge rad monitor indicating greater than 2.5X10P4 mR/hr on RR-2/3-17-152, or 2) High coolant activity of 300 uCi/gm dose equivalent I-131, and main steam line hi-hi radiation alarm with resultant scram alarm, or 3) Spent fuel damage resulting in a refueling floor area radiation monitor alarm or a high radiation alarm on refuel floor exhaust rad monitor, or 4) At least 2 of the 4 containment rad monitors indicate levels greater than 4X10P2 R/hr on RI-8/9103 A/C & RI-8/9103 B/D.
SITE EMERGENCY	GENERAL EMERGENCY
FUEL DAMAGE 1) At least 2 of the 4 containment rad monitors indicate levels greater than 4X10P3 R/hr on RI-8/9103A/C and RI-8/9103B/D, or 2) Major damage to spent fuel in fuel pool or uncovering of spent fuel as confirmed by a fuel pool area radiation monitor alarm and: a) Refuel floor exhaust radiation monitor high alarm, or b) Refuel floor area radiation monitor alarm, or 3) Observed major damage to spent fuel.	FUEL DAMAGE 1) When at least 2 of 4 containment rad monitors indicate levels greater than 4X10P4 R/hr on RI-8/9103A/C and RI-8/9103B/D, and containment pressure exceeds 10 psig on PR 2/3508.

HAZARDS	
UNUSUAL EVENT	ALERT
MODERATE HAZARDS 1) Aircraft crash on or near site as determined by Shift Supervision or 2) Significant explosion on or near site as determined by Shift Supervision, or 3) Toxic gas release on or near site as determined by Shift Supervision	SEVERE HAZARDS 1) Aircraft crash on the facility or missile impacts into the Reactor Bldg., Diesel Generator Bldg., or HPSW pump structure as determined by Shift Supervision, or 2) Explosion damage to facility affecting plant safety as determined by Shift Supervision, or 3) Chlorine gas detected in the control room.
SITE EMERGENCY	GENERAL EMERGENCY
N/A	N/A

CONTROL ROOM EVACUATION	
UNUSUAL EVENT	ALERT
N/A	REMOVE CONTROL ESTABLISHED 1) Evacuation of main control room anticipated or required and control established at remote shutdown panels as determined by Shift Supervision.
SITE EMERGENCY	GENERAL EMERGENCY
REMOTE CONTROL NOT ESTABLISHED 1) Evacuation of main control room and control of shutdown systems not established at remote shutdown panels in 15 minutes as determined by Shift Supervision.	N/A

JAN 21 1986

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-102 - UNUSUAL EVENT RESPONSE

CONTROLLED APPROVED CO.
WITH PREVIOUS ISSUE
DISTRIBUTION REF A-2

PURPOSE

The purpose of this procedure is to provide guidelines for response to an Unusual Event.

RESPONSIBILITIES:

1.1 The Shift Superintendent or designated alternate shall assume the duties of the Emergency Director and implement this procedure, until relieved.

1.2 The Station Manager or designated alternate shall relieve the Emergency Director, assume the duties of Emergency Director and continue implementing this procedure, if available.

ACTION LEVELS

This procedure shall be implemented when any event occurs that is classified as an Unusual Event per EP-101, Classification of Emergencies.

PRECAUTIONS:

PROCEDURE:

1.0 IMMEDIATE ACTIONS

1.1 The Shift Superintendent shall:

1.1.1 Assume duties of the Emergency Director

1.1.2 Activate Emergency Teams as necessary and designate appropriate team and group leaders.

1.1.3 Contact the Station Manager and the Shift Technical Advisor and inform them of the situation.

1.1.4 Complete the Unusual Event notification message in Appendix EP 102-1 and direct the communicator to notify the appropriate parties as specified in Appendix EP-102-1 Unusual Event Telephone Listing.

DO NOT USE BLUE RINGDOWN PHONE FOR THESE CALLS.

1.1.5 Closely monitor conditions to determine present hazards to personnel and potential accident conditions that may develop.

1.1.6 Designate a Licensed Operator to notify the NRC on the red phone. After completing the notification request concurrence of the NRC to terminate the telephone conversation, prior to hanging up the phone.

1.1.7 Provide station personnel with instructions over the Public Address System on any major changes in plant status, escalation or de-escalation of the classifications, etc. The following messages are examples:

MESSAGE

THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL. ATTENTION ALL PERSONNEL. ATTENTION ALL PERSONNEL. THE EMERGENCY DIRECTOR HAS DECLARED AN UNUSUAL EVENT. ALL ON SHIFT PERSONNEL REPORT TO THE CONTROL ROOM. ALL OTHER PERSONNEL STANDBY FOR FURTHER ANNOUNCEMENTS. THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL.

MESSAGE

THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL. ATTENTION ALL PERSONNEL. ATTENTION ALL PERSONNEL. THE UNUSUAL EVENT HAS BEEN DE-ESCALATED. ALL PERSONNEL SHALL RETURN TO THEIR NORMAL DUTIES. THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL.

1.1.8 Direct the evacuation of affected areas as necessary. Refer to the following procedure:

GP-15 Local Evacuation

1.2 Shift Clerk or designated person shall:

1.2.1 Notify additional emergency response/support personnel to report to the station, as directed by the Emergency Director/Shift Supervision using the appropriate Appendix to EP-209, Telephone List for Emergency use.

1.2.2 Perform the notification of the off site agencies and personnel within 15 minutes as directed by the Emergency Director using Appendix EP-102-1, Unusual Event Message and Appendix EP-102-3, Unusual Event Telephone Listing.

2.0 FOLLOW-UP ACTIONS

2.1 Emergency Director shall:

2.1.1 Periodically evaluate the event classification in accordance with EP-101, Classification of Emergencies and escalate or de-escalate the classification as necessary.

DO NOT USE THE BLUE RING-DOWN PHONES FOR THESE CALLS.

2.1.2 If classification is de-escalated, complete Appendix EP-102-3, Unusual Event De-Escalation Message and give it to the communicator and direct communicator to perform the notifications in accordance with Appendix EP-102-2.

DO NOT USE THE BLUE RING-DOWN PHONES

2.1.3 Perform actions necessary to mitigate conditions of the emergency situation.

2.1.4 Provide site personnel with public address announcements for any major changes in plant status, such as changing emergency action levels and evacuations.

2.2 Shift Clerk shall:

2.2.1 Notify additional support personnel to report to the plant as directed by the Emergency Director.

2.2.2 Perform notifications, as directed by Emergency Directors to the off-site agencies.

FINAL CONDITIONS:

1.0 Contaminated injured person(s) transported to hospital

2.0 Fire is out, or under control, fire watch has been posted

3.0 All vital areas requiring occupancy are habitable

4.0 Site Security is established

5.0 Plant is in stable condition and core is cooling

6.0 In plant radiation levels are decreasing or are stable

7.0 All engineering safeguards are operable

8.0 Release of radioactive materials is being controlled and no significant uncontrolled releases are contemplated

9.0 All emergency plan implementing procedures are closed out or they have been assigned to an individual for closure

APPENDICES

Appendix EP-102-1, Unusual Event Notification Message
Appendix EP-102-2. Unusual Event Notification Telephone Listing
Appendix EP-102-3, Unusual Event De-Escalation Message

REFERENCE

PBAPS Emergency Plan
EP-101 Classification of Emergencies
GP-15, Local Evacuation
EP-209 Telephone Listing for Emergency Use.

APPENDIX EP 102-1

UNUSUAL EVENT NOTIFICATION MESSAGE FORMAT

THIS (IS) (IS NOT) A DRILL. REPEAT THIS (IS) (IS NOT) A DRILL.

THIS IS PEACH BOTTOM ATOMIC POWER STATION CALLING TO REPORT AN UNUSUAL EVENT FOR UNIT _____. MY NAME IS _____ TELEPHONE NUMBER IS _____. PEACH BOTTOM IS REPORTING AN UNUSUAL EVENT AT _____, _____. THE BASIC PROBLEM
(24 hour clock time) (date)
IS _____

THERE (HAS) (HAS NOT) BEEN AN (AIRBORNE) (LIQUID) RADIOACTIVE RELEASE FROM THE PLANT. THE PLANT CONDITION IS (STABLE) (IMPROVING) (DEGRADING) (NOT KNOWN). THERE ARE NO PROTECTIVE ACTIONS BEING RECOMMENDED AT THIS TIME.

THIS (IS) (IS NOT) A DRILL. REPEAT, THIS (IS) (IS NOT) A DRILL.

UNUSUAL EVENT DE-ESCALATION MESSAGE FORMAT

THIS (IS) (IS NOT) A DRILL. REPEAT, THIS (IS) (IS NOT) A DRILL.

THIS IS PEACH BOTTOM ATOMIC POWER STATION CALLING TO REPORT A CHANGE IN THE EMERGENCY CLASSIFICATION FOR UNIT NO._____. MY NAME IS _____.

TELEPHONE NUMBER IS _____. THE UNUSUAL EVENT HAS BEEN TERMINATED.

TIME AND DATE ARE _____, _____.
(24 hr. clock time) (Date)

THE PLANT STATUS IS (STABLE) (IMPROVING). THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL.

APPENDIX EP-102-2

UNUSUAL EVENT NOTIFICATION TELEPHONE LISTING

TIME INITIATED: _____

PERSONNEL/AGENCIES TO BE NOTIFIED WITHIN APPROXIMATELY 15 MINUTES	PHONE NUMBERS	TIME	DISPOSITION
1. EMERGENCY DIRECTOR [redacted]	HOME: [redacted]		
ALTERNATES: [redacted]	OFFICE:		
	BEEPER:		
	HOME:		
	OFFICE:		
	BEEPER:		
	HOME:		
	OFFICE:		
	BEEPER:		
2. LOAD DISPATCHER			
3. YORK COUNTY EMERGENCY MANAGEMENT AGENCY			
4. PENNSYLVANIA EMERGENCY MANAGEMENT AGENCY (PEMA)			
5. PENNSYLVANIA BUREAU OF RADIATION PROTECTION (BRP)			
6. NRC OPERATION CENTER, BETHESDA, MD			
SECONDARY NOTIFICATION OF AN UNUSUAL NOTIFICATIONS TO BE COMPLETED AFTER THE 15 MINUTE NOTIFICATIONS HAVE BEEN COMPLETED			
SERGEANT OF THE GUARD [redacted]			
MANAGER, PUBLIC INFORMATION			
PRIMARY: [redacted]	HOME: [redacted]		
	OFFICE:		
	BEEPER:		
ALTERNATE: PATRICIA WEBSTER	HOME:		
	OFFICE:		
	BEEPER:		
EMERGENCY PREPAREDNESS			
PRIMARY: [redacted]	HOME: [redacted]		
	OFFICE:		
	BEEPER:		
ALTERNATE:	HOME:		
	OFFICE:		
	BEEPER:		
	HOME:		
	OFFICE:		
	BEEPER:		

NOTIFICATION COMPLETED BY: _____ TIME/DATE: _____
COMMUNICATOR

VERIFIED BY: _____

1-21-86

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-103 ALERT RESPONSE

CONTROLLED APPROVED COPY
VOID PREVIOUS ISSUE
PHILADELPHIA ELECTRIC

PURPOSE

The purpose of this procedure is to provide guidelines for response to an Alert.

RESPONSIBILITIES

1.0 Shift Superintendent or designated alternate shall assume the role of the Emergency Director when an Alert Classification is declared, unless the Station Superintendent is present and shall perform the necessary steps in this procedure.

2.0 The Station Manager or his alternate shall assume the duties of the Emergency Director, report to the Control Room or Technical Support Center, and relieve the Shift Superintendent of the responsibilities as the Emergency Director.

ACTION LEVELS:

This procedure shall be implemented when any event occurs that is classified as an Alert per EP-101, Classification of Emergencies.

PRECAUTIONS:

1. Planned radiation exposures should be limited to the administrative guide levels in Appendix EP-104-4, Emergency Exposure Guidelines.

PROCEDURE:

1.0 IMMEDIATE ACTIONS

1.1 Shift Supervision shall:

1.1.1 Assume the duties of Emergency Director.

1.1.2 Activate Emergency Teams as necessary and designate appropriate Team and Group Leaders.

1.1.3 Contact the Station Manager and the Shift Technical Advisor, inform them of the situation.

1.1.4 Fill out the Alert Notification Message, Appendix EP-103-1, and give it to the Communicator and direct the Communicator to commence notification of the appropriate parties as specified in Alert Notification Telephone Listing, Appendix EP-103-2.

1.1.5 Direct the Communicator to man the NRC RED telephone on a continuous basis if required by Procedure A-31. If Communicator is required for urgent plant operations related to the emergency, the concurrence for securing the phone should be obtained from the NRC prior to securing this telephone.

1.1.6 Direct the Shift Clerk to activate the 60 Minute Call List using EP-209, Appendix P. If Shift Clerk is not available, this function shall be assigned to any available individual.

1.1.7 Direct one of the on-shift I&C Technicians to activate the Technical Support Center and Emergency Operations Facility in accordance with EP-201 and EP-203. Inform Shift Clerk which I&C Technican will activate the centers at Unit 1 in order that the clerk will know which remaining I&C Technician to call for the prompt mobilization procedure.

1.1.8 Direct the Dose Assessment Team Leader to initiate off-site radiation surveys as necessary, in accordance with EP-210A Field Survey Groups.

1.1.9 Direct the Personnel Safety Team Leader to initiate on-site radiation surveys as necessary, in accordance with EP-207G, Plant Survey Groups.

1.1.10 Assign an Operations Support Center Coordinator (shift PO) and direct available shift personnel to report to the Operations Support Center on 135' elev. Turbine Building and to activate it in accordance with EP-202, if habitable. If this Operations Support Center is NOT habitable, direct shift personnel to report to the Control Room.

1.1.11 Closely monitor conditions to determine present hazards to personnel and potential accident conditions that may develop.

1.1.12 For samples, direct the on-shift Chemistry Technician or Chemistry Sampling and Analysis Team Leader to implement EP-205A, Chemistry Sampling and Analysis Team Activation.

1.1.13 For fire and damage repair, direct the Maintenance Shift Assistant Foreman or the Fire and Damage Team Leader to implement EP-206A, Fire Fighting Group and/or EP-206B Damage Repair Group.

1.1.14 For liquid release, implement EP-312, Radioactive Liquid Release, if required.

1.1.15 For security matters, contact Security Shift Supervisor and direct implementation of EP-208, Security Team Activation, if necessary.

1.1.16 Direct the evacuation of affected areas as necessary. Refer to the following procedures:

GP-15 Local Evacuation
EP-303 Partial Plant Evacuation
EP-305 Site Evacuation

1.1.17 Provide station personnel with instructions over the Public Address System on any major changes in plant status, escalation or de-escalation of the classifications, etc. The following messages are examples:

MESSAGE

THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL. ATTENTION ALL PERSONNEL. ATTENTION ALL PERSONNEL. THE EMERGENCY DIRECTOR HAD DECLARED AN ALERT. ALL SHIFT PERSONNEL REPORT TO THE CONTROL ROOM. ALL MEMBERS OF THE EMERGENCY RESPONSE ORGANIZATION REPORT TO YOUR EMERGENCY FACILITY OR EMERGENCY LOCATIONS. ALL NON-ESSENTIAL PERSONNEL AND VISITORS AWAIT FURTHER PUBLIC ADDRESS INSTRUCTIONS. THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL.

MESSAGE

THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL. ATTENTION ALL PERSONNEL. ATTENTION ALL PERSONNEL. THE ALERT CLASSIFICATION HAS BEEN DE-ESCALATED TO AN (UNUSUAL EVENT OR TERMINATED). ALL PERSONNEL SHALL WAIT INSTRUCTIONS FROM THEIR TEAM LEADERS OR SUPERVISORS. THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL.

2.0 FOLLOW-UP ACTIONS

2.1 The Emergency Director shall:

2.1.1 Verify that the Technical Support Center, Operations Support Center, and Auxiliary OSC have been activated.

2.1.2 Periodically evaluate the event classification in accordance with EP-101, Classification of Emergencies, and escalate or deescalate the classification, as necessary.

2.1.3 If the classification is de-escalated, complete Appendix EP-103-3, Alert De-Escalation Notification Message and give it to the communicator and direct the communciator to perform the notifications in accordance with Appendix EP-103-2.

2.1.4 Obtain the results of the EP-316, Cumulative Population Dose Calculations from the Dose Assessment Team Leader and on-site radiation surveys from the Personnel Safety Team Leader, as necesssary.

2.1.5 Notify the Bureau of Radiation Protection of any change in radiological conditions.

2.1.6 Perform actions as necessary to mitigate conditions of the emergency situation.

2.1.7 Determine which additional support personnel are necesssary for emergency functions and direct the Shift Clerk or other assigned communicator in TSC to contact those personnel, using the appropriate Appendix to EP-209, Emergency Telephone Listing.

2.1.8 Provide site personnel with P.A. speaker announcements for any major changes in plant emergency status, such as changing emergency action levels and evacuations.

2.2 The Station Manager shall:

2.2.1 Report to the Technical Support Center or Control Room for a briefing of the situation, if not already acting as the Emergency Director.

2.2.2 Assume the role of Emergency Director by formally relieving the Shift Superintendent. Announce that he has assumed the role of Emergency Director to the assembled Technical Support Center personnel.

2.2.3 Verify the emergency classification.

2.2.4 Verify that the Technical Support Center, the Emergency Operations Facility, the Operations Support Center, and the Auxiliary Operations Support Center have been activated.

2.2.5 If applicable, brief the Site Emergency Coordinator.

2.3 Operations Support Center Coordinator shall:

2.3.1 Notify the Emergency Director when their respective Operations Support Center is activated.

2.3.2 Provide support to the Control Room and Shift Supervision as necessary.

2.4 Auxiliary Operations Support Center Coordinator shall:

2.4.1 Notify the Personnel Safety Team Leader or Emergency Director that the Auxiliary Operations Support Center is activated.

2.4.2 Provide Health Physics support to teams as directed by Personnel Safety Team Leader.

2.5 Dose Assessment Team Leader shall:

2.5.1 Report progress and results of EP-316, Cumulative Population Dose Calculations and off-site radiation surveys to the Emergency Director or Site Emergency Coordinator, as necessary.

2.6 Personnel Safety Team Leader shall:

2.6.1 Report progress and results of on-site radiation surveys to the Emergency Director as necessary.

2.7 Shift Clerk or assigned TSC Communicator shall:

2.7.1 Notify additional support personnel to report to the plant as directed by the Emergency Director. Refer to the appropriate Appendix of EP-209.

2.7.2 Notify the Emergency Director when the additional support personnel have been notified.

2.8 Shift I&C Technician shall:

2.8.1 Inform the Emergency Director when the TSC and EOF are activated.

2.8.2 Man the TSC and EOF data display (CCTV) positions as directed by the Emergency Director.

2.9 Chemistry Sampling and Analysis Team Leader shall:

2.9.1 Report progress and results of any sampling activities and their results, if appropriate, to the Emergency Director.

2.10 Security Team Leader shall:

2.10.1 Provide a briefing of the security situation, as required, to the Emergency Director, providing status on the Security Force manning.

2.11 Fire and Damage Tam Leader shall:

2.11.1 Provide a briefing on fire and damage assessment activities to the Emergency Director, if appropriate.

2.12 Technical Support Team Leader shall:

2.12.1 Dispatch available communicators, status board keepers, etc., to support the activities in the various emergency response centers.

2.12.2 Provide engineering assessments on the emergency situation, as requested by the Emergency Director.

FINAL CONDITIONS:

1.0 Contaminated injured person(s) transported to hospital.

2.0 Fire is out, or under control, firewatch has been posted.

3.0 All vital areas requiring occupancy are habitable.

4.0 Site security is established.

5.0 Plant is in stable condition and core is cooling.

6.0 In plant radiation levels are decreasing or are stable.

7.0 All engineering safeguards are operable.

8.0 Release of radioactive materials is being controlled and no significant uncontrolled releases are contemplated.

9.0 All Emergency Plan Implementing Procedures are closed out or they have been assigned to an individual for closure.

APPENDICES:

Appendix EP-103-1, Alert Notification Message

Appendix EP-103-2, Alert Notification/Telephone Listing

Appendix EP-103-3, Alert De-Escalation Message

REFERENCES:

PBAPS Emergency Plan

NUREG 0654, Criteria for Preparation and Evaluation of Radiological Emergency Response, Performance, and Preparedness in Support of Nuclear Power Plants

EP-101, Classification of Emergencies

GP-15, Local Evacuation

EP-303, Partial Plant Evacuation

EP-305, Site Evacuation

APPENDIX EP-103-1

ALERT NOTIFICATION MESSAGE

Message: This (is) (is not) a drill. This (is) (is not) a drill. This is Peach Bottom Atomic Power Station calling to report an Alert has been declared on Unit No. _____. My name is _____, telephone number is _____. Time and date of Alert classification is _____ (24 hr clock), _____ (Date). The basic problem is _____

_____.

There (is presently) (has not been) (is potential for) (has been) a radioactive (airborne) (liquid) release from the plant. The plant status is (stable) (improving) (degrading) (not known). There are no recommended protective actions at this time. This (is) (is not) a drill. This (is) (is not) a drill.

APPENDIX EP-103-2

ALERT NOTIFICATION TELEPHONE LISTING

Time Initiated:_____

PERSONNEL/AGENCIES TO BE NOTIFIED WITHIN 15 MINUTES	PHONE NUMBERS	TIME	PERSON NOTIFIED/ DISPOSITION
1. EMERGENCY DIRECTOR [redacted] ALTERNATES: [redacted]	HOME: OFFICE: BEEPER: HOME: OFFICE: BEEPER: HOME: OFFICE: BEEPER:		
2. LOAD DISPATCHER			
3. PENNSYLVANIA EMERGENCY MANAGEMENT AGENCY (PEMA)			
4. MARYLAND EMERGENCY MANAGEMENT & CIVIL DEFENSE AGENCY			
5. YORK COUNTY EMERGENCY MANAGEMENT AGENCY			
6. LANCASTER COUNTY EMERGENCY MANAGEMENT AGENCY			

APPENDIX EP-103-2

ALERT NOTIFICATION TELEPHONE LISTING

PERSONNEL/AGENCIES TO BE NOTIFIED WITHIN 15 MINUTES	PHONE NUMBERS	TIME	PERSON NOTIFIED/ DISPOSITION
7. CHESTER COUNTY EMERGENCY MANAGEMENT AGENCY	[redacted]		
8. HARFORD COUNTY DEPARTMENT OF EMERGENCY SERVICES			
9. CECIL COUNTY DEPARTMENT OF EMERGENCY SERVICES			
10. BUREAU OF RADIATION PROTECTION (BRP)			
11. PENNSYLVANIA STATE POLICE YORK BARRACKS			
12. NRC OPERATIONS CENTER BETHESDA, MD			
13. SERGEANT OF THE GUARD			

APPENDIX EP-103-2

ALERT NOTIFICATION TELEPHONE LISTING

PERSONNEL/AGENCIES TO BE NOTIFIED WITHIN 15 MINUTES	PHONE NUMBERS	TIME	PERSON NOTIFIED/ DISPOSITION
SECONDARY NOTIFICATION FOR AN GENERAL EMERGENCY TO BE COMPLETED AFTER THE 15 MINUTE NOTIFICATION HAS BEEN COMPLETED			
14. MANAGER, PUBLIC INFORMATION PRIMARY: ALTERNATE:	[redacted]		
15. EMERGENCY PREPAREDNESS PRIMARY: ALTERNATE: ALTERNATE:	[redacted]		

NOTIFICATION COMPLETED BY: _____ TIME/DATE: _____
COMMUNICATOR

VERIFIED BY: _____
EMERGENCY DIRECTOR

APPENDIX EP-103-3

ALERT DE-ESCALATION NOTIFICATION MESSAGE

THIS (IS) (IS NOT) A DRILL. REPEAT, THIS (IS) (IS NOT) A DRILL. THIS IS PEACH BOTTOM ATOMIC POWER STATION CALLING TO REPORT A CHANGE IN THE EMERGENCY CLASSIFICATION. MY NAME IS _____, TELEPHONE NUMBER _____. THE ALERT ON UNIT NO._____ HAS BEEN (DE-ESCALATED TO AN UNUSUAL EVENT) (TERMINATED). TIME AND DATE ARE _____, (24 hr clock) _____. THE PLANT STATUS IS (STABLE) (IMPROVING). THIS (IS) (IS NOT) (Date) A DRILL. REPEAT, THIS (IS) (IS NOT) A DRILL.

1-21-86

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-104 SITE EMERGENCY RESPONSE

PURPOSE:

The purpose of this procedure is to provide guidelines for response to a Site Emergency.

RESPONSIBILITIES:

1.0 Shift Superintendent or designated alternate shall assume the rol of the Emergency Director when a Site Emergency is declared, unless the Station Manager is present, and perform the necessary steps in this procedure.

1.1 The Station Manager or his alterante shall assume the role of the Emergency Director, report to the Technical Support Center or Control Room and relieve the Shift Superintendent of the responsibilities as the Emergency Director.

1.2 Site Emergency Coordinator shall report to the Emergency Operations Facility or the Alternate Emergency Operations Facility and implement the appropriate section(s) of this procedure, if necessary.

ACTION LEVELS:

This procedure shall be implemented when an event occurs that is classified as a Site Emergency per EP-101, Classification of Emergencies.

PRECAUTIONS:

Planned radiation exposures should be limited to the Administration Guide Levels in Appendix EP-104-4, Emergency Exposure Guidelines.

PROCEDURE:

1.0 IMMEDIATE ACTIONS

1.1 Shift Supervision shall:

1.1.1 Assume the duties of Emergency Director.

1.1.2 If not already done at an earlier emergency action level, activate Emergency Teams as necessary, designate appropriate team and group leaders.

1.1.3 Contact the Station Manager and the Shift Technical Advisor, inform them of the situation.

1.1.4 Fill out Appendix EP-104-1, Site Emergency Notification Message and give it to the Communicator (PO or higher classification)

and direct the Communicator to commence notification of the appropriate parties per Appendix EP-104-3, Site Emergency Notification Telephone Listing.

1.1.5 Direct the Communicator to man the NRC RED Telephone on a continuous basis, if required by A-31. If Communicator is required for urgent plant operations related to the emergency, the concurrence for securing the phone should be obtained from NRC prior to securing this telephone.

1.1.6 If not already accomplished at the ALERT stage, direct the shift clerk to activate the 60 minute call list using EP-209 Appendix P, If shift clerk is not available, this function may be assigned to any available individual.

1.1.7 Direct one of the on-shift I&C technicians to activate the Technical Support Center and Emergency Operations Facility in accordance with EP-201 and 203, if not already activated. If not already performed previously, inform the shift clerk which I&C Technician will activate the centers at Unit 1 in order to let the clerk know which remaining I&C Technician to call for the prompt mobilization procedure.

1.1.8 Direct the Dose Assessment Team Leader to initiate off-site radiation surveys, as necessary, if not already done in accordance with EP-207A, Field Survey Groups.

1.1.9 Direct the Personnel Safety Team Leader to initiate on-site radiation surveys as necessary, if not already done in accordance with EP-207G, Plant Survey Groups.

1.1.10 Assign an Operations Support Center Coordinator (Shift PO) if not already done and direct available shift personnel to report to this Operations Support Center and to activate it in accordance with EP-202 if habitable. If the Operations Support Center is not habitable, direct shift personnel to report to the Control Room.

1.1.11 Closely monitor conditions to determine present hazards to personnel and potential accident conditions that may develop.

1.1.12 For samples, direct on-shift Chemistry Technician or Chemistry Sampling and Analysis Team Leader to implement EP-205A, Chemistry Sampling and Analysis Team Activation.

1.1.13 For Fire and Damage Repair, direct the Maintenance Shift Assistant Foreman or the Fire and Damage Team Leader to implement EP-206A, Fire Fighting Group and/or EP-206B, Damage Repair Group.

1.1.14 For a liquid release, omplement EP-312, Radioactive Liquid Release, if required.

1.1.15 For Security matters, contact Security Shift Supervision and direct implementation of EP-208, Security Team Activaiton, if necessary.

1.1.16 If appropriate, direct the evacuation of affected areas as

necessary. Refer to the following procedures:

GP-15 Location Evacuation
EP-303 Partial Plant Evacuation
EP-305 Site Evacuation

1.1.17 Provide station personnel with instructions over the Public Address System on any major changes in plant status, upgrading or downgrading the classifications, etc. The following messages are an example:

MESSAGE

THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL. ATTENTION ALL PERSONNEL. ATTENTION ALL PERSONNEL. THE EMERGENCY DIRECTOR HAS DECLARED A SITE EMERGENCY. ALL ON SHIFT PERSONNEL REPORT TO THE CONTROL ROOM. ALL MEMBERS OF THE EMERGENCY RESPONSE ORGANIZATION REPORT TO YOUR EMERGENCY FACILITIES OR EMERGENCY LOCATIONS. A SITE EVACUATION HAS BEEN DECLARED. ALL NON-ESSENTIAL PERSONNEL SHALL REPORT TO (THEIR WORK LOCATIONS) (NORTH SUB STATION) (PRESIDENT'S UTILITY BUILDING) (DELTA SERVICE BUILDING). ALL VISITORS WILL REPORT WITH THEIR ESCORTS TO THE SECURITY ADMINISTRATION BUILDING AND AWAIT FURTHER INSTRUCTIONS. THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL.

MESSAGE

THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL. ATTENTION ALL PERSONNEL. ATTENTION ALL PERSONNEL. THE SITE EMERGENCY HAS BEEN (DE-ESCALATED TO AN (UNUSUAL EVENT) (ALERT) (TERMINATED). ALL PERSONNEL SHALL AWAIT INSTRUCTIONS FROM THEIR TEAM LEADERS OR SUPERVISOR. THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL.

1.1.18 If necessary, direct Dose Assessment Team Leader to initiate the implementation of EP-315, Corporate Computer Dose Calculations, or EP-316, Cumulative Population Dose Calculations, and EP-317, Determination of Protective Action Recommendations.

2.0 FOLLOW-UP ACTIONS

2.1 Emergency Director shall:

2.1.1 Verify that the Technical Support Center, Operations Support Center and Aux. OSC have been activated.

2.1.2 Periodically evaluate the event classification in accordance with EP-101, Classification of Emergencies and escalate or de-escalate the classification, as necessary.

2.1.3 If the classification is de-escalated, complete Appendix EP-104-3, Site Emergency De-Escalation Notification Message and give it to the Communicator to perform notifications in accor-

dance with Appendix EP-104-2.

2.1.4 Obtain results of the EP-316, Cumulative Population Dose Calculations and offsite radiation surveys from the Dose Assessment Team Leader.

2.1.5 Obtain on-site Plant Radiation Surveys from the Personnel Safety Team Leader, as necessary.

2.1.6 Provide appropriate information from the previous evaluations to Communicator in the EOF for notification of the Bureau of Radiation Protection.

2.1.7 Perform actions as necessary to mitigate conditions of the emergency situation.

2.1.8 If not already performed, determine which additional support personnel are necessary for emergency functions and direct the shift clerk or other assigned communicator to contact those personnel.

2.1.9 Provide site personnel with P.A. speaker announcements for any major changes in plant emergency status, such as changing emergency action levels and evacuations.

2.1.10 Direct the Evacuation of affected areas as necessary. Refer to the following procedure:

GP 15 Local Evacuation
EP 303 Partial Plant Evacuation
EP 305 Site Evacuation

2.2 Station Manager shall:

2.2.1 Report to the Technical Support Center or Control Room, for a briefing of the situation, if not already acting as the Emergency Director.

2.2.2 Assume the role of Emergency Director (if not already done) by formally relieving the Shift Superintendent of this responsibility. Announce that he has assumed the role of the Emergency Director to the assembled Technical Support Center personnel.

2.2.3 Verify the emergency classification.

2.2.4 Verify that the Technical Support Center, Emergency Operations Facility and the Operations Support Center have been activated.

2.3 Operations Support Center Coordinator shall:

2.3.1 Notify the Emergency Director when the Operations Support Center is activated.

2.3.2 Provide support to the Control Room and Shift Supervision as necessary.

2.4 Auxiliary Operations Support Center Coordinator shall:

2.4.1 Notify the Personnel Safety Team or Emergency Director that the Auxiliary Operations Support Center is activated.

2.4.2 Provide Health Physics support to teams as directed by Personnel Safety Team Leader.

2.5 Dose Assessment Team Leader shall:

2.5.1 Notify the Emergency Director when the Emergency Operations Facility is manned.

2.5.2 Report progress and results of EP-316,Cumulative Population Dose Calculations and off site radiation surveys.

2.5.3 Notify the Site Emergency Coordinator of the need for assistance from Radiation Management Corporation.

2.6 Personnel Safety Team Leader shall:

2.6.1 Report progress and results of on-site radiation surveys to the Emergency Director as necessary.

2.7 Shift Clerk or other assigned person shall:

2.7.1 If not already done, notify additional support personnel to report to the plant as directed by the Emergency Director. Refer to the appropriate appendix of EP-209.

2.7.2 Notify Emergency Director or Site Emergency Coordinator when the additional support personnel have been notified.

2.8 I&C Technicians shall: (if not already performed as per EP-103)

2.8.1 Inform the Emergency Director when the centers are activated, if not previously done.

2.8.2 Man the TSC or EOF data display (CCTV) positions as directed by the Emergency Director.

2.9 Chemistry Sampling and Analysis Team Leader shall:

2.9.1 Report progress and results of any sampling activities and their results, if appropriate to the Emergency Director.

2.10 Security Team Leader shall:

2.10.1 Provide a briefing of the security situation, as required, to the Emergency Director, providing status on the Security Force manning.

2.11 Fire and Damage Team Leader shall:

2.11.1 Provide a briefing on fire and damage assessment activities to the Emergency Director, if appropriate.

2.12 Technical Support Team Leader shall:

2.12.1 Dispatch available communicators, status board keepers, etc. to support the activities in the various emergency response centers.

2.12.2 Provide engineering assessments on th eemergency situation, as requested by the Emergency Director.

FINAL CONDITIONS:

1.0 Contaminated injured person(s) transported to hospital.

2.0 Fire is out, or under control, firewatch has been posted.

3.0 All vital areas requiring occupancy are habitable.

4.0 Site security is established.

5.0 Plant is in stable condition and core is cooling.

6.0 In plant radiation levels are decreasing or are stable.

7.0 All engineering safeguards are operable.

8.0 Release of radioactive materials is being controlled and no significant uncontrolled releases are contemplated.

9.0 All Emergency Plan implementing procedures are closed out or they have been assigned to an individual for closure.

APPENDICES:

Appendix EP-104-1, Alert Notification Message
Appendix EP-104-2, Alert Notification/Telephone Listing
Appendix EP-104-3, Alert De-Escalation Message
Appendix EP-104-4, Emergency Exposure Guidelines

REFERENCES:

PBAPS Emergency Plan
NUREG 0654, Criteria for Preparation and Evaluation of Radiological Emergency Response, Performance, and Preparedness in Support of Nuclear Power Plants
EP-101, Classification of Emergencies
GP-15, Local Evacuation
EP-303, Partial Plant Evacuation
EP-305, Site Evacuation

APPENDIX EP-104-1

SITE EMERGENCY NOTIFICATION CHECKOFF LIST

Message: This (is) (is not) a drill. This (is) (is not) a drill. This is Peach Bottom Atomic Power Station calling to report a Site Emergency has been declared on Unit _____. My name is _____, telephone number is _____. Time and date of Site Emergency classification is _____ (24 hr clock), _____ (Date). The basic problem is _____

_____.

There (has not been) (is potential for) (has been) (is presently) a radioactive (airborne) (liquid) release from the plant. The plant status is (stable) (improving) (degrading) (not known). Recommended protective actions are (none) _____.

This (is) (is not) a drill. This (is) (is not) a drill.

APPENDIX EP-104-2

SITE EMERGENCY NOTIFICATION TELEPHONE LISTING

TIME INITIATED: _____

PERSONNEL/AGENCIES TO BE NOTIFIED WITHIN 15 MINUTES	PHONE NUMBERS	TIME	PERSON NOTIFIED/ DISPOSITION
1. EMERGENCY DIRECTOR ALTERNATE:	HOME: OFFICE: BEEPER: HOME: OFFICE: BEEPER: HOME: OFFICE: BEEPER:		
2. LOAD DISPATCHER			
3. PENNSYLVANIA EMERGENCY MANAGEMENT AGENCY (PEMA)			
4. MARYLAND EMERGENCY MANAGEMENT & CIVIL DEFENCE AGENCY			
5. YORK COUNTY EMERGENCY MANAGEMENT AGENCY			
6. LANCASTER COUNTY EMERGENCY MANAGEMENT AGENCY			
7. CHESTER COUNTY EMERGENCY MANAGEMENT AGENCY			
8. HARFORD COUNTY DEPARTMENT OF EMERGENCY SERVICES			
9. CECIL COUNTY DEPARTMENT OF EMERGENCY SERVICES			

APPENDIX EP-104-2

SITE EMERGENCY NOTIFICATION TELEPHONE LISTING

10.	BUREAU OF RADIATION PROTECTION (BRP)		
11.	PENNSYLVANIA STATE POLICE YORK BARRACKS		
12.	NRC OPERATIONS CENTER BETHESDA, MD		
13.	SERGEANT OF THE GUARD		
14.	MANAGER, PUBLIC RELATIONS PRIMARY: NEIL MCDERMOTT ALTERNATE: PATRICIA WEBSTER		
15.	EMERGENCY PREPAREDNESS PRIMARY: JACK TUCKER ALTERNATE: R. A. KANKUS ALTERNATE: K. W. SCHLECKER		

NOTIFICATION COMPLETED BY:_____ TIME/DATE:_____
COMMUNICATOR

VERIFIED BY:_____
EMERGENCY DIRECTOR

APPENDIX EP-104-3

SITE EMERGENCY DE-ESCALATION NOTIFICATION MESSAGE

THIS (IS) (IS NOT) A DRILL. REPEAT, THIS (IS) (IS NOT) A DRILL. THIS IS PEACH BOTTOM ATOMIC POWER STATION CALLING TO REPORT A CHANGE IN THE EMERGENCY ACTION LEVEL. MY NAME IS _____, TELEPHONE NUMBER _____. THE SITE EMERGENCY ON UNIT NO._____ HAS BEEN DE-ESCALATED TO (AN UNUSUAL EVENT) (AN ALERT) (AN SITE EMERGENCY) (TERMINATED). TIME AND DATE ARE _____, _____. THE PLANT STATUS IS (STABLE) (24 hr clock) (Date) (IMPROVING). THIS (IS) (IS NOT) A DRILL. REPEAT, THIS (IS) (IS NOT) A DRILL.

APPENDIX EP-104-4

EMERGENCY EXPOSURE GUIDELINES

	Function	Projected Whole Body Dose	Thyroid Dose	Authorized By
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 CFR 20 limits	10 CFR 20 limits	Emergency Director
5.	Re-Entry/Recovery Activities	Administrative Guidelines	Administrative Guidelines	N/A

*Reference: EPA-520/1-75-001 Table 2.1
**Such exposure shall be on a voluntary basis

1-21-86

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-105 GENERAL EMERGENCY RESPONSE

PURPOSE

The purpose of this procedure is to provide guidelines for response to a General Emergency.

RESPONSIBILITIES:

1.1 Shift Superintendent or designated alternate shall assume the role of Emergency Director and implement this procedure until relieved.

1.2 Station Manager or designated alternate shall report to the Technical Support Center or Control Room, relieve the Shift Superintendent, and continue implementing this procedure, if necessary.

1.3 Site Emergency Coordinator shall report to the Emergency Operations Facility or the Alternate EOF and perform the appropriate sections of this procedure, if necessary.

ACTION LEVELS:

This procedure shall be implemented when an event occurs that is classified as a General Emergency per EP-101, Classification of Emergencies.

PRECAUTIONS:

Planned radiation exposures should be limited to the Administrative Guide levels in Appendix EP-105-4, Emergency Exposure Guidelines.

PROCEDURE:

1.0 IMMEDIATE ACTIONS

1.1 Shift Supervision shall:

1.1.1 Assume the duties of Emergency Director.

1.1.2 Activate Emergency Teams as necessary if not already accomplished at an earlier emergency action level.

1.1.3 Contact the Station Manager and the Shift Technical Advisor, inform them of the situation.

1.1.4 Fill out Appendix EP 105-1 General Emergency Notification Message and direct Communicator (PO or higher classification) to commence notifications of the appropriate parties per Appendix EP-105-2, General Emergency Notification Telephone Listing.

1.1.5 Direct the Communicator to a man the NRC RED Telephone on a continuous basis if required by A-31. If communicator is required for urgent plant operations related to the emergency, the concurrance for securing the phone should be obtained from the NRC prior to securing this telephone.

1.1.6 If not already accomplished at the ALERT or SITE EMERGENCY stage, direct the shift clerk to activate the 60 minute call list using EP-209, Appendix P. If shift clerk is not available, this function may be assigned to any available individual.

1.1.7 Direct one of the on-shift I&C Technicians to activate the Technical Support Center and the Emergency Operations Facility in accordance with EP-201 and 203, if not already activated.

1.1.8 Direct the Dose Assessment Team Leader to initiate offsite radiation surveys, as necessary, in accordance with EP-210A, Field Survey Groups, if not already done.

1.1.9 Direct the Personnel Safety Team Leader to initiate on-site radiation surveys as necessary, in accordance with EP-209G, Plant Survey Groups, if not already done.

1.1.10 Assign an Operations Support Center Coordinator (Senior PO) if not already done and direct available shift personnel to report to report to the Operations Support Center and to activate it in accordance with EP-202, if habitable. If the Operations Support Center is NOT habitable, direct shift personnel to report to the control room.

1.1.11 Closely monitor conditions to determine present hazards to personnel and potential accident conditions that may develop.

1.1.12 For samples, direct onshift Chemistry Technician or Chemistry Sampling and Analysis Team Leader to implement EP-205A, Chemistry Sampling and Analysis Team Activation.

1.1.13 For fire and damage repair, direct the Maintenance Shift Assistant Foreman or the Fire and Damage Team Leader to implement EP-206A, Fire Fighting Group and/or EP-206B Damage Repair Group.

1.1.14 For a liquid release, implement EP-312, Radioactive Liquid Release, if required.

1.1.15 For security matters, contact Security Shift Supervisor and direct implementation of EP-208, Security Team Activation, if necessary.

1.1.16 If appropriate, direct the evacuation of affected areas as necessary. Refer to the following procedures:

GP-15 Local Evacuation
EP-303 Partial Plant Evacuation
EP-305 Site Evacuation

1.1.17 Provide station personnel with instructions over the Public Address System on any major changes in plant status, upgrading or downgrading the classifications, etc. The following message is an example:

MESSAGE

THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL. ATTENTION ALL PERSONNEL. ATTENTION ALL PERSONNEL. THE EMERGENCY DIRECTOR HAS DECLARED A GENERAL EMERGENCY. ALL ON SHIFT PERSONNEL REPORT TO THE CONTROL ROOM. ALL MEMBERS OF THE EMERGENCY RESPONSE ORGANIZATION SHALL REPORT TO THEIR EMERGENCY FACILITIES OR EMER GENCY LOCATIONS. ALL NON-ESSENTIAL PERSONNEL AND VISITORS SHOULD EVACUATE THE STATION AND RE-ASSEMBLE AT THE (NORTH SUB STATION) (PRESIDENT'S UTILITY BUILDING) (DELTA SERVICE BUILDING). THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL.

MESSAGE

THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL. ATTENTION ALL PERSONNEL. ATTENTION ALL PERSONNEL. THE GENERAL EMERGENCY HAS BEEN ((DE-ESCALATED TO AN (UNUSUAL EVENT) (ALERT) (TERMINATED)). ALL PERSONNEL SHALL AWAIT INSTRUCTIONS FROM THEIR TEAM LEADERS OR SUPERVISOR. THIS (IS) (IS NOT) A DRILL, REPEAT, THIS (IS) (IS NOT) A DRILL.

1.1.18 If necessary, direct Dose Assessment Team Leader to initiate the implementation of EP-315, Corporate Computer Dose Calculations, or EP-316, Cumulative Population Dose Calculations, and EP-317, Determination of Protective Action Recommendations.

2.0 FOLLOW-UP ACTIONS

2.1 Emergency Director shall:

2.1.1 Verify that the Technical Support Center, OSC, Aux. OSC, and EOF have been activated.

2.1.2 Periodically evaluate the event classification in accordance with EP-101, Classification of Emergencies. If the conditions change, de-escalate to an appropriate classification.

2.1.3 If classification is de-escalated, complete Appendix EP-105-3, General Emergency De-escalation Message and direct the communication to perform notifications in accordance with Appendix EP-105-2.

2.1.4 Obtain results of the EP-316 Cumulative Population Dose Calculations offsite radiation surveys from the Dose Assessment Team Leader.

2.1.5 Obtain onsite radiation surveys from the Personnel Safety Team Leader.

2.1.6 Referring to EP-317, Determination of Protective Action Recommendations and provide appropriate information from the previous evaluations and Protective Action recommendations to a Communicator in the EOF for notification of the Bureau of Radiation Protection.

2.1.7 Perform actions as necessary to mitigate conditions of the emergency situation.

2.1.8 If not already performed, determine which additional support personnel are necessary for emergency functions and direct the shift clerk or other assigned person to contact those personnel.

2.1.9 Provide site personnel with PA speaker announcements for any major changes in plant emergency status, such as changing emergency action levels.

2.1.10 Direct the evacuation of affected areas, as necessary. Refer to the following procedures:

GP 15 Local Evacuation
EP 303 Partial Plant Evacuation
EP 305 Site Evacuation

2.2 The Station Manager shall:

2.2.1 Report to the Technical Support Center or Control Room, for a briefing of the situation.

2.2.2 Assume the role of Emergency Director (if not already done) by formally relieving the Shift Superintendent. Announce that he has assumed the role of Emergency Director to the assembled Technical Support Center personnel.

2.2.3 Verify the emergency classification.

2.2.4 Verify that the Technical Support Center, Emergency Operations Facility, Operations Support Center, and Aux. OSC have been activated.

2.3 Operations Support Center Coordinator shall:

2.3.1 Notify the Emergency Director when the Operations Support Center is activated.

2.3.2 Support the Control Room and Shift Supervision as necessary.

2.4 Auxiliary Operations Support Center Coordinator shall:

2.4.1 Notify the Personnel Safety Team or Emergency Director that the Auxiliary Support Center is activated.

2.4.2 Provide Health Physics support to teams as directed by Personnel Safety Team Leader.

2.5 Dose Assessment Team Leader shall:

2.5.1 Notify the Emergency Director when the Emergency Operations Facility is activated.

2.5.2 Report progress and results of EP-316, Cumulative Population Dose Calculations and off site radiation surveys to the Emergency Director, as necessary.

2.5.3 Notify the Site Emergency Coordinator of the need for assistance from Radiation Management Corporation.

2.6 Personnel Safety Team Leader shall:

2.6.1 Report progress and results of onsite radiation survey to the Emergency Director as necessary.

2.7 Shift Clerk or other assigned person shall:

2.7.1 If not already done, notify additional support personnel to report to the plant as directed by the Emergency Director. Refer to the appropriate Appendix of EP-209.

2.7.2 Notify Emergency Director or Site Emergency Coordinator when additional support personnel have been notified.

2.8 I&C Technicians shall: (if not already performed as per EP-103 or EP-104)

2.8.1 Inform the Emergency Director when centers are activated.

2.8.2 Man the TSC and EOF data display (CCTV) positions as directed by the Emergency Director.

2.9 Chemistry Sampling and Analysis Team Leader shall:

2.9.1 Report progress and results of any sampling activities and their results, if appropriate to the Emergency Director.

2.10 Security Team Leader shall:

2.10.1 Provide a briefing of the security situation, as required, to the Emergency Director, providing status on the Security Force manning.

2.11 Fire and Damage Team Leader shall:

2.11.1 Provide a briefing on fire and damage assessment activities to the Emergency Director, if appropriate.

2.12 Technical Support Team Leader shall:

2.12.1 Dispatch available communicators, status board keepers, etc., to support the activities in the various emergency response centers.

2.12.2 Provide engineering assessments on the emergency situation, as requested by the Emergency Director.

FINAL CONDITIONS:

1.0 Contaminated injured person(s) transported to hospital.

2.0 Fire is out, or under control, firewatch has been posted.

3.0 All vital areas requiring occupancy are habitable.

4.0 Site Security is established.

5.0 Plant is in stable condition and core is cooling.

6.0 In plant radiation levels are decreasing or are stable.

7.0 All engineering safeguards are operable.

8.0 Release of radioactive materials is being controlled and no significant uncontrolled releases are contemplated.

9.0 All emergency plan implementing procedures are closed out or they have been assigned to an individual for closure.

APPENDICES:

Appendix EP-105-1, General Emergency Notification Message

Appendix EP-105-2, General Emergency Notification Telephone List

Appendix EP-105-3, General Emergency De-escalation Notification Message

Appendix EP-105-4, Emergency Exposure Guidelines

REFERENCES:

PBAPS Emergency Plan

NUREG 0654, Criteria for Preparation and Evaluation of Radiological Emergency Response, Performance and Preparedness in Support of Nuclear Power Plants

EP-101, Classification of Emergencies

GP-15, Local Evacuation

EP-303, Partial Plant Evacuations

EP-305, Site Evacuation

APPENDIX EP-105-1

GENERAL EMERGENCY NOTIFICATION CHECKOFF LIST

Message: This (is) (is not) a drill. This (is) (is not) a drill. This is Peach Bottom Atomic Power Station calling to report a General Emergency has been declared on Unit No. _____. My name is _____, telephone number is _____. Time and date of General Emergency classification is _____, _____. The basic problem is _____
(24 hr clock) (Date)

_____.

There (is presently) (has not been) (is potential for) (has been) a radioactive (airborne) (liquid) release from the plant. The plant status is (stable) (improving) (degrading) (not known). Recommended protective actions are (none) _____.

The affected population area is (none) _____.

This (is) (is not) a drill. This (is) (is not) a drill.

APPENDIX EP-105-2

GENERAL EMERGENCY NOTIFICATION TELEPHONE LISTING

Time Initiated: _____

PERSONNEL/AGENCIES TO BE NOTIFIED WITHIN 15 MINUTES	PHONE NUMBERS	TIME	PERSON NOTIFIED/ DISPOSITION
1. EMERGENCY DIRECTOR [redacted] ALTERNATES: [redacted]	HOME: [redacted] OFFICE: BEEPER: HOME: OFFICE: BEEPER: HOME: OFFICE: BEEPER:		
2. LOAD DISPATCHER	[redacted]		
3. PENNSYLVANIA EMERGENCY MANAGEMENT AGENCY (PEMA)	[redacted]		
4. MARYLAND EMERGENCY MANAGEMENT & CIVIL DEFENSE AGENCY	[redacted]		
5. YORK COUNTY EMERGENCY MANAGEMENT AGENCY	[redacted]		
6. LANCASTER COUNTY EMERGENCY MANAGEMENT AGENCY	[redacted]		

PROOF

APPENDIX EP-105-2

GENERAL EMERGENCY NOTIFICATION TELEPHONE LISTING

PERSONNEL/AGENCIES TO BE NOTIFIED WITHIN 15 MINUTES	PHONE NUMBERS	TIME	PERSON NOTIFIED/ DISPOSITION
7. CHESTER COUNTY EMERGENCY MANAGEMENT AGENCY	BLUE OMNI Phone [redacted]		
8. HARFORD COUNTY DEPARTMENT OF EMERGENCY SERVICES			
9. CECIL COUNTY DEPARTMENT OF EMERGENCY SERVICES			
10. BUREAU OF RADIATION PROTECTION (BRP)			
11. PENNSYLVANIA STATE POLICE YORK BARRACKS			
12. NRC OPERATIONS CENTER BETHESDA, MD			
13. SERGEANT OF THE GUARD			

APPENDIX EP-105-2

GENERAL EMERGENCY NOTIFICATION TELEPHONE LISTING

PERSONNEL/AGENCIES TO BE NOTIFIED WITHIN 15 MINUTES	PHONE NUMBERS	TIME	PERSON NOTIFIED/ DISPOSITION
SECONDARY NOTIFICATION FOR AN GENERAL EMERGENCY TO BE COMPLETED AFTER THE 15 MINUTE NOTIFICATION HAS BEEN COMPLETED			
14. MANAGER, PUBLIC INFORMATION PRIMARY: [redacted] ALTERNATE: [redacted]	HOME: OFFICE: BEEPER: [redacted] HOME: OFFICE: BEEPER:		
15. EMERGENCY PREPAREDNESS PRIMARY: [redacted] ALTERNATE: [redacted] ALTERNATE:	HOME: OFFICE: BEEPER: HOME: OFFICE: BEEPER: Dispatc HOME: OFFICE: BEEPER:		

NOTIFICATION COMPLETED BY: _____ TIME/DATE: _____
COMMUNICATOR

VERIFIED BY: _____
EMERGENCY DIRECTOR

APPENDIX EP-105-3

GENERAL EMERGENCY DE-ESCALATION NOTIFICATION MESSAGE

THIS (IS) (IS NOT) A DRILL. REPEAT, THIS (IS) (IS NOT) A DRILL. THIS IS PEACH BOTTOM ATOMIC POWER STATION CALLING TO REPORT A CHANGE IN THE EMERGENCY ACTION LEVEL. MY NAME IS _____, TELEPHONE NUMBER _____. THE GENERAL EMERGENCY ON UNIT NO._____ HAS BEEN DE-ESCALATED TO (AN UNUSUAL EVENT) (AN ALERT) (AN SITE EMERGENCY) (TERMINATED). TIME AND DATE IS _____, _____. THE PLANT STATUS IS (STABLE) (24 hr clock) (Date) (IMPROVING). THIS (IS) (IS NOT) A DRILL. REPEAT, THIS (IS) (IS NOT) A DRILL.

APPENDIX EP-105-4

EMERGENCY EXPOSURE GUIDELINES

	Function	Projected Whole Body Dose	Thyroid Dose	Authorized By
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 CFR 20 limits	10 CFR 20 limits	Emergency Director
5.	Re-Entry/Recovery Activities	Administrative Guidelines	Administrative Guidelines	N/A

*Reference: EPA-520/1-75-001 Table 2.1
**Such exposure shall be on a voluntary basis

JAN 08 1986

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM UNITS 2 AND 3

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-110 - PERSONNEL ACCOUNTABILITY

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PURPOSE

This procedure describes the actions which shall be performed in the event that an emergency situation requires accountability for all station personnel.

RESPONSIBILITIES:

1.0 The Emergency Director shall be responsible for directing a Site Evacuation and Accountability based upon the nature of the emergency and plant status.

2.0 Security personnel are responsible for conducting the accountability effort and for generating a roster of unaccounted for personnel. This function shall be completed within 30 minutes after the announcement is made to perform a Site Evacuation.

3.0 Security personnel are responsible for monitoring and providing directions to personnel departing the protected area enroute to the designated off-site assembly area.

4.0 The Personnel Safety Team Leader shall control the dispatching Vehicle and Evacuee Group Leader to the designated off-site assembly area and if required, dispatch the Search and Rescue Group Leader to locate unaccounted for personnel as required.

5.0 Personnel departing the protected area shall badge out but retain their dosimetry while in transit to the designated off-site assembly area.

ACTION LEVEL:

This procedure shall be implemented at the discretion of Shift Supervision (or the Emergency Director if an emergency has been classified and declared).

PRECAUTIONS:

1.0 Upon announcement that a Site Evacuation shall be conducted, all non-emergency essential personnel shall depart the protected area and proceed to the designated off-site assembly area.

1.1 All members of the PBAPS Emergency Response Organization shall report to their emergency response facility.

2.0 Upon announcment of a Site Evacuation, all personnel outside the protected area shall proceed to the designated off-site assembly area.

3.0 Security personnel shall be instructed and dispatched to ensure that the Personnel Processing Center;Henkle/McCoy trailer; President's Utility Building, and Information Center are evacuated, if required. In addition, perform a visual inspection in and around the cooling towers for additional personnel and direct them to the appropriate off-site assembly area.

4.0 Personnel departing the protected area will deposit their security badges but retain their dosimetry and report to the designated assembly area.

5.0 The following personnel shall authorize non-PECo. support personnel access to PBAPS during an emergency situation:

5.1 Emergency Director

5.2 Site Emergency Coordinator

5.3 Security Team Leader

PROCEDURE:

1.0 IMMEDIATE ACTIONS:

1.1 Emergency Director shall:

1.1.1 Make the following announcement over the public address system. This announcement shall be repeated twice:

MESSAGE

This (is) (is not) a drill. Repeat, this (is) (is not) a drill. Attention all personnel. This is a Site Evacuation announcement. All non-essential personnel depart the site. The designated off-site assembly area is: _____ (North Sub-station, President's Utility _____. All members of the Emergency Building, Delta Service Building)

Organization or Emergency Teams report to your emergency facility. This (is) (is not) a drill. Repeat, this (is) (is not) a drill.

1.1.2 Provide the Personnel Safety Team Leader with advance warnings prior to declaring a Site Evacuation to allow these individuals time to activate and dispatch their Group Leaders.

1.2 Senior Security Officer shall:

1.2.1 Direct Security personnel to commence the accountability of personnel within the Protected Area.

1.2.2 Complete the Accountability Procedure within the prescribed 30 minutes after the announcement is made for a Site Evacuation.

1.2.3 Dispatch patrols to ensure that personnel at the following locations are in transit to the designated off-site assembly areas:

a. Personnel Processing Building
b. Henkle McCoy Trailers
c. Parking Lot
d. Areas Surrounding Cooling Towers
e. Information Center
f. President Utility Building, if required

1.2.4 Upon completion of the accountability process, provide the names and last known location of any unaccounted for personnel to Personnel Safety Team Leader (if TSC is activated) or the Emergency Director.

1.3 The Personnel Safety Team Leader shall:

1.3.1 Provide instructions and dispatch the Vehicle and Evacuee Group Leader to the designated off-site Assembly Area.

1.3.2 When notified by the Security Team Leader of the names of unaccounted for personnel, request the control room to make repeated announcements in an attempt to locate these personnel. After 5 minutes, dispatch the Search and Rescue Group Leader to conduct the search.

1.4 The Vehicle and Evacuee Group Leader shall:

1.4.1 Conduct radiological monitoring of the arriving evacuees at the off-site assembly area, if required.

1.4.2 Provide supervision and directions to these evacuees.

1.5 Evacuees shall:

1.5.1 Upon receipt of the Site Evacuation announcement:

a. Badge out through security.

b. Retain their dosimetry.

c. Report to the designated off-site assembly area.

d. Follow instructions provided by the Vehicle and Evacuee Group Leader.

1.6 Personnel providing escort services to visitors shall:

1.6.1 Follow the instructions in Section 1.5.1 above.

1.7 The following members of the Emergency Response Organization are designated as Accountability Coordinator for their emergency facilities and shall perform the following functions:

1.7.1 The Aux. OSC Coordinator - Aux. OSC

1.7.2 Shift Supervision - Control Room

1.7.3 The OSC Coordinator - OSC

1.7.4 The Chemistry Sampling Group Leader - Chemistry in Plant

1.7.5 Senior Security Officer - Security Department

1.7.6 Responsibilities:

a. Provide security with a written roster of personnel within their facility that will remain as members of the Emergency Response Teams or Groups.

b. Maintain accountability throughout the emergency including group members location when dispatched to provide a service or repairs, etc.

2.0 FOLLOW-UP ACTIONS:

2.1 Shift Supervision or the Emergency Director shall:

2.1.1 Activate Search and Rescue personnel as necessary to locate unaccounted for personnel.

2.2 Personnel Safety Team (if activated) shall report status of search and rescue efforts.

FINAL CONDITIONS:

None.

REFERENCES:

1.0 PBAPS Emergency Plan

1.1 Section 5.2.1.5.4 Security Team

1.2 Section 6.7.1.1 Risk Areas - Plant Site

1.3 Section 7.1.8 Emergency Evacuation Assembly Areas

2.0 EP-305 Site Evacuation

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PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-203 EMERGENCY OPERATIONS FACILITY (EOF) ACTIVATION

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PURPOSE:

To describe actions required for the activation, manning, and operation of the Emergency Operations Facility (EOF).

RESPONSIBILITIES:

1.0 The Site Emergency Coordinator (S.E.C.) shall be responsible for the overall coordination and direction of the PBAPS response organization during an emergency when the EOF becomes operational.

1.1 The Dose Assessment Team Leader shall take directions from the Emergency Director until the EOF becomes operational, at which time the Dose Assessment Team Leader takes his direction from the Site Emergency Coordinator.

ACTION LEVELS:

Activate the EOF when an event has been classified as a Site Emergency or General Emergency in accordance with EP-101, Classification of Emergencies, or at the discretion of the Site Emergency Coordinator.

APPARATUS:

1.0 Portable radios, 4 watt power shall be used for all field monitoring operations. These radio and special adapters with full wave antennas are stored in the EOF, Communications Room at rear of the room. Batteries for those radios are in the charging rack opposite the supply cabinet.

1.1 All telephones (GTD 1000 and OMNI) are stored in the Communications Room in a supply locker. Set up directions are posted on the door of this supply locker.

1.2 Administrative supplies, forms, etc. are stored in the front small Conference Room (labeled S.E.C. Conference Room) in a four drawer filing cabinet.

1.3 Telecopiers [redacted] are located in the Communications Room in the EOF.

PRECAUTIONS

1.0 Verify EOF habitability prior to activation. Ensure the EOF remains habitable while the EOF is activated. Refer to Appendix EP-203-4.

1.1 Maintain accounting of personnel reporting to the EOF throughout the incident.

1.2 Ensure EOF ventilation system is operating and in the recirculation/HEPA mode that air samples are periodically taken to measure potential airborne contamination. Also, ensure Ping 2A on first floor is routinely monitored.

1.3 Ensure that pertinent actions and notifications are logged.

PROCEDURE

1.0 IMMEDIATE ACTIONS:

1.1 The Site Emergency Coordinator shall:

1.1.1 Obtain continuous status updates on plant conditions from the Control Room or Technical Support Center and have a log maintained of significant events and actions.

1.1.2 Ensure that the manning and operation of the Emergency Operations Facility is in accordance with the actions of this procedure.

1.1.3 Provide briefings on the emergency and pertinent plant conditions to the EOF staff.

1.1.4 Inform the Control Room and Technical Support Center when the Emergency Operations Facility has been activated.

1.2 The Site Emergency Coordinator Communicator shall:

1.2.1 Verify communications capability by completing the telephone check off list for EOF (Appendix EP-203-6).

1.2.2 Inform the Site Emergency Coordinator when communication capabilities have been verified or of any discrepancies.

1.2.3 Man communications lines as assigned and maintain a communications log containing information received from and sent to other facilities and organizations.

1.3 The Shift Instrument and Control Technician shall:

1.3.1 When directed by Shift Supervision to report to Unit 1 and perform the activation and operational functions outlined in Appendix EP-203-3, Procedure for Operation of TSC/EOF TV Monitors.

1.3.2 Ensure that PING-2A are in operational mode in accordance with Appendix EP-203-4, Activation of the Eberline PING-2A in the Emergency Operations Facility.

1.4 The Dose Assessment Team Leader shall:

1.4.1 Designate a member of the Field Survey Group to perform habitability surveys of the Emergency Response Facilities at Unit 1, i.e., TSC, EOF, etc. using Appendix EP-203-5, EOF Habitability Guidelines.

2.0 FOLLOW-UP ACTIONS:

2.1 The Site Emergency Coordinator shall:

2.1.1 Use Appendix EP-203-1 and Appendix EP-203-2 to ensure that personnel required to man the EOF are in place.

2.1.2 If necessary, assign an individual (clerical staff) as a runner to route information in the EOF and other appropriate facilities.

2.1.3 If necessary, assign an individual (clerical staff) to perform any typing and clerical work.

2.1.4 If necessary, assign two individuals (clerical staff) as telephone operators to man communications equipment in the TSC Communications Equipment Room.

2.1.5 Brief the EOF staff periodically on the status of the emergency and pertinent plant conditions.

2.1.6 Direct the S.E.C. Emergency Communicator to maintain a log of significant events and actions to include as a minimum the following information:

a. Date and Time
b. Significant Event
c. Significant Actions Taken

2.1.7 Direct the S.E.C. Emergency Communicator to transmit status board information to the Headquarters Emergency Support Center.

2.2 The Dose Assessment Team Leader shall:

2.2.1 Assign an individual as a Field Survey Group Radio Communicator to maintain radio contact with Field Survey Squads.

2.2.2 Assign an individual as a Status Board Recorder for the Field Monitoring Data Status Board and direct the individual to perform the steps outlined in Section 2.4 of these Follow-up Actions.

2.2.3 Assign an individual as Telephone Communicator to man appropriate communication lines assigned to the Dose Assessment Team Leader and perform the steps outlined in Section 2.4 of these Follow-up Actions.

2.2.4 Assign two individuals to perform dose projection calculations at the EOF.

2.2.5 Assign an individual as a Status Board Recorder for the Dose Assessment Data Status Board and direct the individual to perform the steps listed in Section 2.3 of these Follow-up Actions.

2.3 Status Board Recorders shall:

2.3.1 Set up the assigned status board.

2.3.2 Contact the following individuals for the various status board information.

a. TSC PBAPU Plant Parameters Status Board Recorder for plant status information.

b. TSC Event Chronology Status Board Recorder for event chronology information.

c. Site Emergency Coordinator, or Site Emergency Coordinator Communicator for off-site communication information.

d. Field Survey Group Radio Communicator for field monitoring data.

e. Dose Assessment Team Leader for dose assessment data.

2.3.3 Post appropriate information on assigned status board and maintain a log of status board entries.

2.3.4 Review and update the status board every 15 minutes and as changes in plant conditions or information warrant.

2.3.5 Inform the appropriate coordinator, team leader or group leader of significant changes in status board information.

2.4 Communicators shall:

2.4.1 Man communication lines assigned.

2.4.2 Maintain a Communications File containing information received from and sent to other emergency response facilities and other support organizations.

a. Data and time (use 24 hour time notation)
b. Messages received or sent
c. Name of person information was received from or sent to
d. Initials of person making entries

2.4.3 Inform the appropriate coordinator, team leader, or group leader promptly of information received from or sent to members of the emergency response organization or support organizations.

APPENDICES:

EP-203-1 Emergency Operations Facility Organization and Manning
EP-203-2 Emergency Operations Facility Layout
EP-203-3 Procedure for Operation of TSC/EOF TV Monitors
EP-203-4 Activation of the Eberline PING-2A in Emergency Operations Facility
EP-203-5 EOF Habitability Guidelines
EP-203-6 EOF Phone Check-Off List

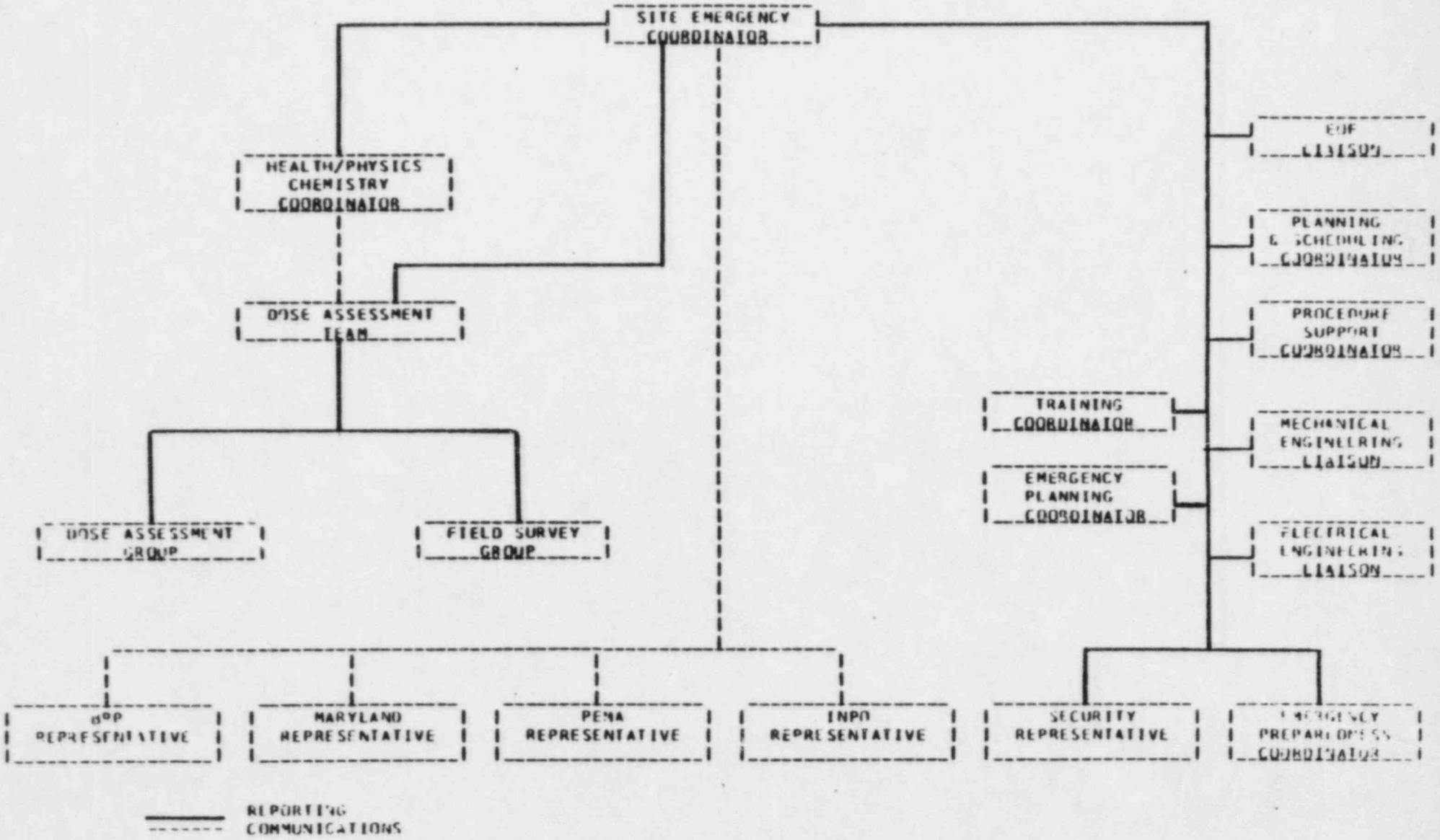
REFERENCES:

Peach Bottom Atomic Power Station Emergency Plan, Section 7.1.5, Emergency Operations Facility (EOF)

NUREG 0654 Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

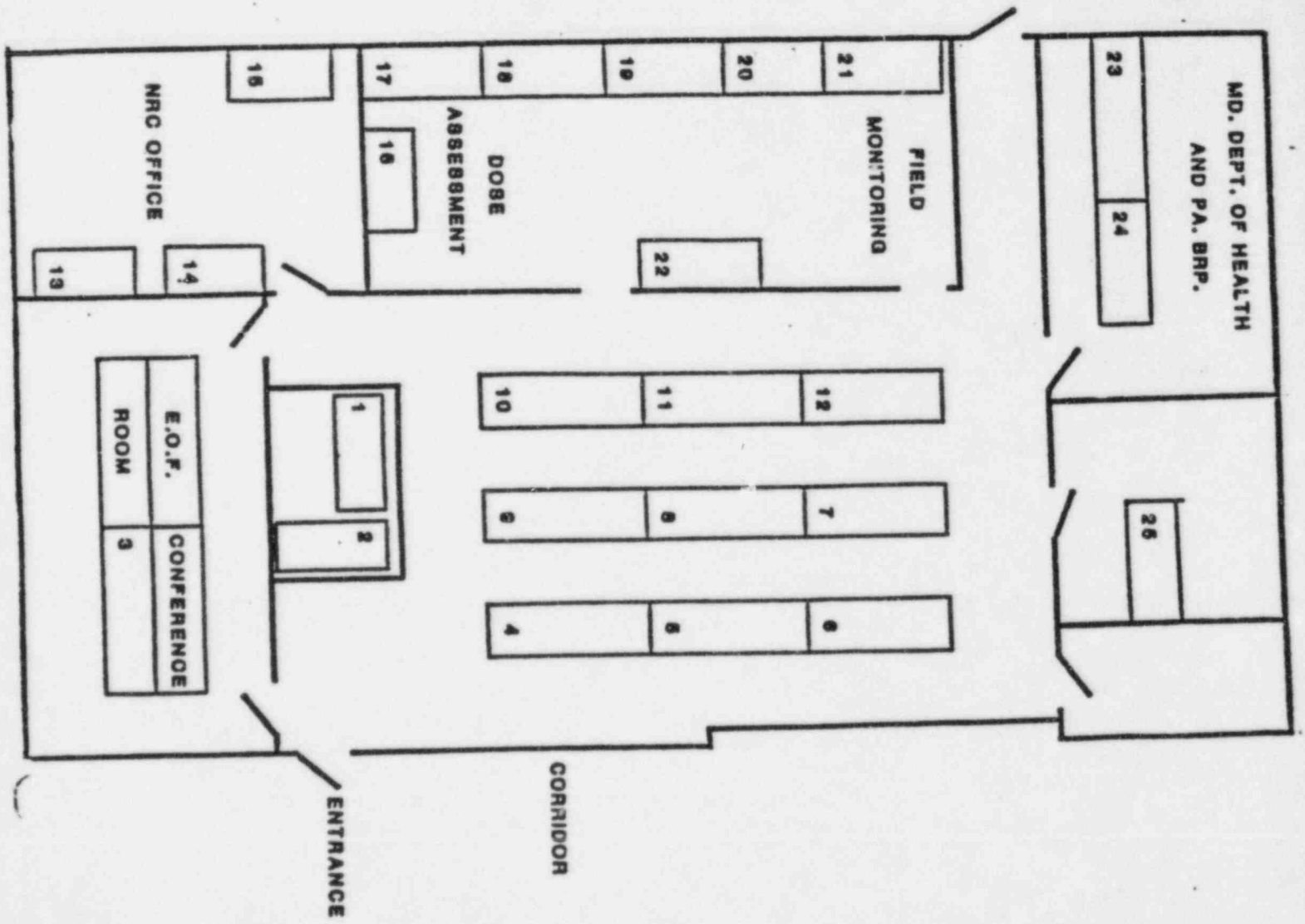
NUREG 0696 Functional Criteria for Emergency Response Facilities

APPENDIX EP-203-1
EMERGENCY OPERATIONS FACILITY ORGANIZATION AND MANNING



APPENDIX EP-203-2
EMERGENCY OPERATIONS FACILITY LAYOUT

TABLE NO.	POSITION ASSIGNMENT	TELE NO.	TABLE NO.	POSITION ASSIGNMENT	TELE NO.
1	Site Emergency Coord.	[redacted]	13	NRC	[redacted]
2	SEC Communicator		14	NRC	
3	EOF Conference Room		15	NRC	
4	Plan. & Scheduling		16	Dose Assessment	
	Emergency Planning		17	Dose Assessment	
5	Mech. Engr. Liaison		18	Dose Assessment	
6	Elect. Engr. Liaison		19	Dose Assess. Grp. Ldr	
7	Training Coord.		20	Field Survey Grp. Ldr	
8	Procedure Support		21	Field Survey Group	
9	EOF Liaison		22	HP & Chemistry Coord	
10	NRC		23	EOF State Room	
11	NRC		24	EOF State Room	
12	Security Rep./INPO		25	Telecopiers	



APPENDIX EP-203-2 (Continued)
EMERGENCY OPERATIONS FACILITY LAYOUT

OMNI TELEPHONE PLACEMENT IN EOF:

TABLE NO.	POSITION ASSIGNMENT	OMNI NO.
1	Site Emergency Coord.	[redacted]
2	SEC Communicator	
9	EOF Comm. Liaison	
12	PECo. Security Rep.	
22	HP&C Coordinator	
23/24	State Room	
Wall	Status Board Keeper, Plant Parameter	
Wall	Status Board Keeper, Plant Chronology	

APPENDIX EP-203-3
PROCEDURE FOR OPERATION OF TSC/EOF TV MONITORS

1.0 PURPOSE:

The following procedure defines the required steps for the operation of the Technical Support Center and Emergency Operations Facility TV monitoring of the Main Control Room.

2.0 SCOPE:

This procedure is to be followed by all personnel who use the video-monitoring system in the Control Room.

3.0 REFERENCES:

Operating instructions, controls for motorized zoom lenses. (Vicon Industries, Inc.) X85-780 6280-E-114-5-1

4.0 RESPONSIBILITY:

The person(s) operating this equipment shall be responsible for safe operation.

5.0 PREREQUISITES:

Person(s) operating this equipment should have a knowledge of its operation in addition to reviewing the operating instructions, and should be very familiar with the layout of instruments in the Control Room.

6.0 PROCEDURE:

6.1 On the second floor of the Unit 1 building, turn on both controllers, as they act as master controllers for the controllers on the third floor.

6.2 On the third floor of the Unit 1 building, turn on the four TV Monitors and their associated controllers.

6.3 Push 'close' button on iris a few short times to ensure proper lighting.

6.4 Joystick operates camera movement.

NOTE: Pan and tilt speed are a function of how far the joystick is moved away from the center "rest" position.

6.5 Motor speed is determined by knob (ON/OFF). NOTE: The motor speed not on the lens controller will have to be optomized for each individual camera (for focus and zoom it will be approximately mid-pot). To get iris control, the speed pot must be full clockwise.

NOTE 1: Fuse for all cameras is in the TRW panel in the control room, inside the right door on the left side.

NOTE 2: Control room TV camera switches are located at the base of each TV camera. Switch is labeled "AC Power Feed ON/OFF".

APPENDIX EP-203-4

ACTIVATION OF THE EBERLINE PING-2A IN THE EMERGENCY OPERATIONS FACILITY

1. OPEN FRONT PANEL BY TURNING BLACK KNOBS COUNTERCLOCKWISE AND PULLING OUT.

2. TURN "KEYBOARD" KEY ON (CLOCKWISE).

3. ACTIVATE PUMP BY PUSHING THE FOLLOWING SEQUENCE ON THE KEYBOARD:

   PUMP, ON/+, ENTER

   WHEN THE PUMP STARTS, CHECK PAPER PRINTOUT TO ENSURE THAT A STATUS CONDITION OF "NORMAL" FOR CHANNELS 1 THRU 5 EXISTS, IF THE PRINTOUT DOES NOT SHOW "NORMAL" AND TIME PERMITS, FOLLOW STEP B OF HPO/CO-140.

   IF THE PUMP FAILS TO START, GO TO THE GRAY CABINET IN THE E.O.F. AND OBTAIN AN AC AIR SAMPLER AND PLUG IT INTO THE WALL RECEPTACLE BY THE PING-2A.

APPENDIX EP-203-5
EOF HABITABILITY GUIDELINES

	RM-16	Ping 2A
Gamma	120 mR/hr 24 hr stay time prior to reaching quarterly limit of 3000 mR 200 mR/hr off-scale. Consider initiation of periodic surveys.	Low Alarm 120mR/hr 24 hour stay time prior to reaching a quarterly limit of 3000 mR. High Alarm 375 mR/hr 8 hr. stay time prior to reaching quarterly limit of 3000 mR Site Emergency Coordinator should order evacuation of E.O.F.
Xe	N/A	Low Alarm 50% of high alarm ($2X10^{-4}$ uCi/cc) 24 hour stay time High Alarm 10% of maximum value ($5X10^{-4}$ uCi/cc) 8 hour stay time. Site Emergency Coordinator should order evacuation of E.O.F. Note: MPC occupational exposure $1X10^{-5}$ uCi/cc
Beta Particu-late	N/A	Low Alarm 50% of high alarm ($5X10^{-9}$ uCi/cc) 24 hour stay time. High Alarm 10% of maximum value ($1X10^{-8}$ uCi/cc) 8 hour stay time Site Emergency Coordinator should order evacuation of E.O.F. Note: MPC occupational exposure $3X10^{-10}$ uCi/cc
I 131	N/A	Low Alarm 50% of high alarm ($2X10^{-7}$ uCi/cc) 24 hour stay time High Alarm 10% of maximum value ($4X10^{-7}$ uCi/cc 8 hour stay time. Site Emergency Coordinator should order evacuation of E.O.F. Note: MPC occupational exposure $9X10^{-9}$ uCi/cc

APPENDIX EP-203-6
EOF PHONE CHECKOFF LIST

1. Test Phones for Dial Tone

Phone Number	Use/Location	Operational Yes - No
[redacted]	NRC/Table 13	_____
	NRC/Table 14	_____
	NRC/Table 15	_____
	SEC Communicator/Table 2	_____
	SEC Communicator/Table 2	_____
	SEC Communicator/Table 2	_____
	SEC Communicator/Table 2	_____
	SEC/Table 1	_____
	SEC/Table 1	_____
	SEC/Table 2	_____
	Emergency Preparedness/Table 4	_____
	EOF Corp. Comm. Liaison/Table 9	_____
	EOF Corp. Comm. Liaison/Table 9	_____
	Security/Table 12	_____
	Municipal Support/Table 12	_____
	Mechanical Engr. Liaison/Table 5	_____
	Electrical Engr. Liaison/Table 6	_____
	Procedures Support Coord./Table 8	_____
	Planning & Scheduling Coord./Table 4	_____
	Training Coordinator/Table 7	_____
	SEC Conference Room/Table 3	_____
	Telecopiers/Table 25	_____
	Telecopiers/Table 25	_____

APPENDIX EP-203-6 (Cont'd.)

Phone Number	Use/Location	Operational Yes - No
[redacted]	BRP - Rad./State Room - Table 24	_____
	BRP - Rad./HP&C Coord. - Table 22	_____
	BRP - Tech./State Room - Table 24	_____
	PEMA/State Room - Table 24	_____
	Off-Site Officials/State Room - Wall	_____
	MD-State & Counties/State Room-Table 24	_____
	Dose Assess. Group Leader/Table 19	_____
	HP & Chem. Coordinator/Table 22	_____
	Chem. Samp. & Anal./Table 22	_____
	Field Survey Group Leader/Table 21	_____
	NRC/Table 10	_____
	NRC/Table 10	_____
	NRC/Table 10	_____
	NRC/Table 11	_____
	NRC/Table 11	_____
	Status Boards/East Wall	_____
	Status Boards/East Wall	_____

XXX - OMNI Telephones

XXXX - GTD-1000 Telephones

JJT:mdw

1-7-86

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-201 TECHNICAL SUPPORT CENTER (TSC) ACTIVATION

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PURPOSE

To describe the instructions and actions required for the activation, manning, and operation of the Technical Support Center (TSC). The TSC is located on the third floor of Unit 1.

RESPONSIBILITIES

1.0 Emergency Director shall direct the activiation of the Technical Support Center.

2.0 The Dose Assessment Team Leader reports to the Emergency Director, until the Emergency Operations Facility and Site Emergency Coordinator are operational.

3.0 Shift I&C Technician shall activate the equipment in the TSC.

4.0 Communicators shall man assigned telephones and maintain communications logs.

5.0 Status Board keepers shall obtian and post information on assigned status boards.

6.0 Technical Support Team Leader will make assignment for group members from the services group.

7.0 Health Physics Technician shall perform habitability checks of the TSC.

ACTION LEVEL

Activate the TSC when an event has been classified as an Alert, Site Emergency, or General Emergency in accordance with EP-101, Classification of Emergencies, or at the discretion of the Emergency Director.

PRECAUTIONS

1.0 Verify TSC habitability prior to activation. Ensure TSC remains habitable while the TSC is activated. Refer to Appendix EP-201-8.

2.0 Maintain accountability of personnel and staff reporting to the TSC throughout the incident.

3.0 Ensure TSC ventilation system is operating in the recirculation/HEPA mode and that air samples are taken periodically to measure potential airborne contamination. Also, insure routine monitoring of Ping 2A monitor.

4.0 Ensure that pertinent actions and notifications are logged. An official log is located in the Technical Support Center.

PROCEDURE

1.0 IMMEDIATE ACTIONS:

1.1 Emergency Director shall:

1.1.1 Assign one of the on-shift I&C technicians to perform the steps outlined in Section 1.2 of these Immediate Actions.

1.1.2 Assign an individual the duties of Communicator and direct the individual to perform the steps outlined in Section 1.3 of these Immediate Actions.

1.1.3 Direct the first HP staff member that arrives at the TSC to perform the steps outlined in Section 1.4 of these Immediate Actions.

1.1.4 Direct the first Test Engineer staff member that arrives at the TSC to perform the steps outlined in Section 1.5 of these Immediate Actions.

1.1.5 Obtain continuous status updates on plant conditions from the Control Room and maintain a log of significant events and actions.

a. Date and Time
b. Significant Event
c. Significant Actions

1.1.6 Provide briefings on the emergency and pertinent plant conditions to appropriate TSC staff upon their arrival.

1.1.7 Inform the Control Room that the TSC is operational upon completion of steps outlined in Section 1.1.2 through 1.1.8 of these Immediate Actions. Announce activation of the TSC when all Team Leaders are present or in charge.

1.1.8 Ensure that the manning and operation of the TSC is in accordance with the Follow-Up Actions of this procedure.

1.2 On-Shift I&C Technician shall:

1.2.1 Go to the guardhouse, pick up the emergency key ring, and proceed to Unit 1 using one of the dedicated I&C vehicles parked in the Company Vehicle Area. Keys for these vehicles are in guardhouse.

1.2.2 Use attached Appendix EP-201-1 to turn on lighting, HVAC, radiation monitors, and closed circuit TV monitors in both the EOF and TSC.

1.2.3 Ensure the PING in TSC and 1st floor in Unit 1 are in operation.

1.2.4 Inform the Emergency Director when TSC/EOF equipment set-up is complete and of any equipment problems.

1.2.5 Remain at the TSC as the Data Display Operator. Man the TV camera station in the TSC and perform any needed request from the Emergency Director. Use Appendix EP-201-6 for TV monitor operation instructions.

1.3 Emergency Director Communicator shall:

1.3.1 Using Appendix EP-201-7 TSC Telephone Checkoff List, verify communications capability exists from the Technical Support Center.

1.3.2 Inform the Emergency Director when the communications capabilities have been verified or of any discrepancies.

1.3.3 Man communications lines as directed by the Emergency Director and maintain a Communications Log containing information received from and sent to Emergency Centers and offsite agencies.

The log shall include as a minimum the following information:

a. Date and Time (use 24 hour time notation)
b. Messages received or sent
c. Name of person information was received or sent to
d. Name and initials of person making entries

1.3.4 Inform the Emergency Director promptly of all information received from site groups and offsite agencies.

1.4 First HP Staff Member shall:

1.4.1 Perform the steps outlined on Appendix EP-201-2 and Appendix EP-201-8 and report completion to the Emergency Director.

1.5 First Test Engineer shall:

1.5.1 Perform the steps outlined on Appendix EP-201-3 and, upon completion, inform the Emergency Director that TLD distribution has begun.

1.6 Personnel Safety Team Leader shall:

1.6.1 Provide necessary personnel and on-site radiation status.

1.6.2 Assign assistants as necessary to man the site Radiological Status Board.

1.6.3 Coordinate with the Auxiliary for on-site radiation problems which develop.

1.7 Dose Assessment Team Leader shall:

1.7.1 provide briefings to the Emergency Director, until the EOF is activated and Site Emergency Coordinator has accepted his responsibility.

2.0 FOLLOW-UP ACTIONS

2.1 Emergency Director shall:

2.1.1 Use attached Appendix EP-201-4 and Appendix EP-201-5 to ensure that the TSC is adequately staffed.

2.1.2 Assign three individuals (test engineers or technical assistants) as Status Board Recorders:

a. One individual for the PBAPS Plant Parameter Status Board.

b. One individual for the Event Chronology Status Board.

c. One individual for the Offsite Communications Status Board and Emergency SupportPersonnel Information Status Board.

2.1.3 Direct the Status Board Recorders to perform the steps outlined in Section 2.2 of these Follow-Up Actions.

2.1.4 Assign and individual (test engineer or technical assistant) to man the dedicated communication lines to the Control Room and Operations Support Center and direct the individual to perform the steps outlined in Section 2.3 of these Follow-Up Actions.

2.1.5 If necessary, dispatch an individual (test engineer or technical assistant) to the Control Room to transmit requested Control Room parameters and information to the TSC.

2.1.6 If necessary, assign an individual (clerical staff) as a Telephone Operator to man the telephone console on the 3rd floor TSC area.

2.1.7 Ensure that two individuals (instrument/ control technician) are assigned as Data Display Operators to man the TV camera station in the TSC.

2.1.8 Brief the TSC staff periodically (normally every 30 minutes) on the status of the emergency and pertinent plant conditions.

2.1.9 Rely on the Personnel Safety Team Leader for status as to contaminated or injured personnel, site or local evacuations, and on-site radiological problem areas.

2.2 Status Board Recorders shall:

2.2.1 Set up the assigned status board given to you.

2.2.2 Contact the following individuals for the various status board information.

a. Data Display Operators for plant status information

b. Communicator to Control Room for event chronology information

c. Emergency Director or Control Room for offsite communication information.

d. Emergency Director for staff assignment information.

e. Aux. OSC for site radiological status.

f. Designated site evacuation assembly area coordinator for evacuation information.

2.2.3 Post appropriate information on assigned status board and maintain a log record of all status board entries.

Transmit plant status information and event chronology information to appropriate Status Board Recorders at the EOF.

2.2.4 Review and update the status board at least every 15 minutes and as changes in plant conditions or information warrant.

2.2.5 Inform the Emergency Director as significant changes in status board information are noted.

2.3 Communicators shall:

2.3.1 Man assigned communication lines.

2.3.2 Maintain a Communications Log containing information received from and sent to other emergency response facilities and other support organizations.

The log shall include as a minimum the following information:

a. Date and time (use military time notification)
b. Incoming/Outgoing
c. Messages received or sent
d. Name of person information was received from or sent to
e. Name and initials of person making entries

2.3.3 Inform the Emergency Director promptly of all information received from or sent to members of the emergency response organization or support organizations.

APPENDICES:

EP-201-1 Equipment Activation of Technical Support Center and Emergency Operations Facility

EP-201-2 Actions of First HP to Arrive at Technical Support Center and Emergency Operations Facility

EP-201-3 Actions of First Test Engineer to Arrive at Technical Support Center and Emergency Operations Facility

EP-201-4 Technical Support Center Organization

EP-201-5 Technical Support Center Facility Layout

EP-201-6 Procedure for Operation of TSC TV Monitors

EP-201-7 TSC Telephone Checkoff List

EP-201-8 TSC Habitability Guidelines

REFERENCES:

Peach Bottom Atomic Power Station Emergency Plan

NUREG 0654 Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.

NUREG 0696 Functional Criteria for Emergency Response Facilities

S.19.1 Technical Support Center & Emergency Operations Facility Vent System

APPENDIX EP-201-1
EQUIPMENT ACTIVATION OF TSC AND EOF

1. Enter Emergency Operations Facility using key B9178.

2. Go to the lighting panels located just outside the north door. On Panel P-23 turn on Breakers 2, 4, and 6. On Panel P-43 turn on Breaker 5.

3. Go to Technical Support Center door on third floor and enter the room using key PG-6.

4. Go to lighting Panel P-47 located behind the status boards next to the copying machine and turn on all breakers labeled "TSC lighting."

5. Go to the Ventilation Panel at the northwest corner of the Technical Support Center. Turn on the ventilation system using the procedure posted there.

6. Turn on the Particulate-Iodine-Noble Gas Monitor (PING) located at the northeast corner of the Technical Support Center using the procedure on the PING.

7. Turn on the 4 TV monitors and the video recorder located in center of the Technical Support Center using the procedure near the monitors. Notify the Unit 2 and 3 Control Room operators to energize the cameras and remove the lens covers.

8. Go to the 1st floor, and turn on the PING inside the entrance.

9. Turn on the 2 TV monitors located in the Emergency Operations Facility using the procedure near the monitors.

10. Return to the Technical Support Center, third floor, and man the TV camera station as directed by the Emergency Director. Inform the Emergency Director that you have energized the Technical Support Center and the Emergency Operations Facility.

APPENDIX EP-201-2
ACTIONS OF FIRST HP TO ARRIVE AT TSC AND EOF

1. Go to the first floor by the Unit one entrance and inventory and prepare the Emergency Equipment Locker and Emergency Kits.

2. Prepare the emergency TLD's in the green Radiation Emergency Equipment boxes for use. These boxes are located in the hallway leading to the Alternate Chem. Lab. The TLD's should be inventoried and readied for use by those who enter the Unit One Emergency Centers.

3. Monitor the following radiological monitoring equipment once every 15 minutes after there is an indication of a radioactive release to ensure proper operability of the equipment and habitability of the Emergency Response facilities:

   A. T.S.C. (EP-201, Appendix 13)
      - Ping 2A
      - RM16

   B. E.O.F. (EP-203, Appendix 12)
      - RM16

   C. First Floor (EP-203, Appendix 12)
      - Ping 2A

   If any equipment fails or habitability of the facility is in question, notify the Personnel Safety Team Leader immediately.

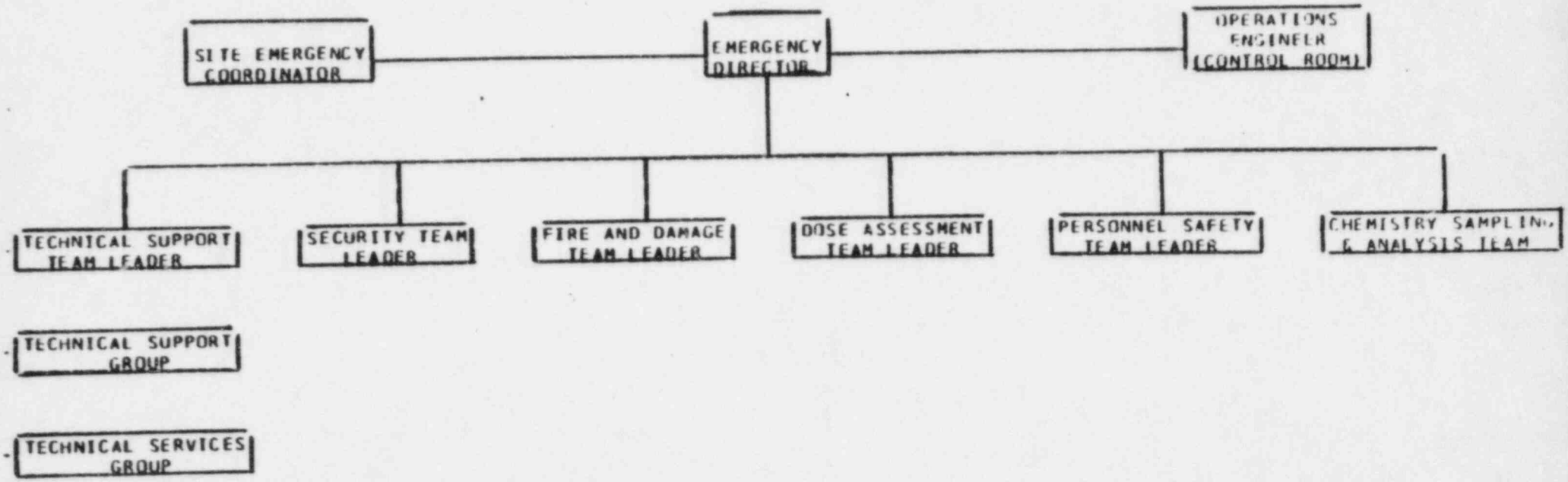
APPENDIX EP-201-3
ACTIONS OF FIRST TEST ENGINEER TO ARRIVE AT TSC AND EOF

1. Go to the first floor by Unit one entrance and get emergency TLD's from the Radiation Equipment lockers. If portable frisker is not already at Unit One entrance, get it from the Emergency Operations Facility and set it up at the desk just inside the glass door.

2. Obtain boxes marked "E.O.F. Supplies" from T.S.C. supply cabinet and deliver these to the E.O.F.

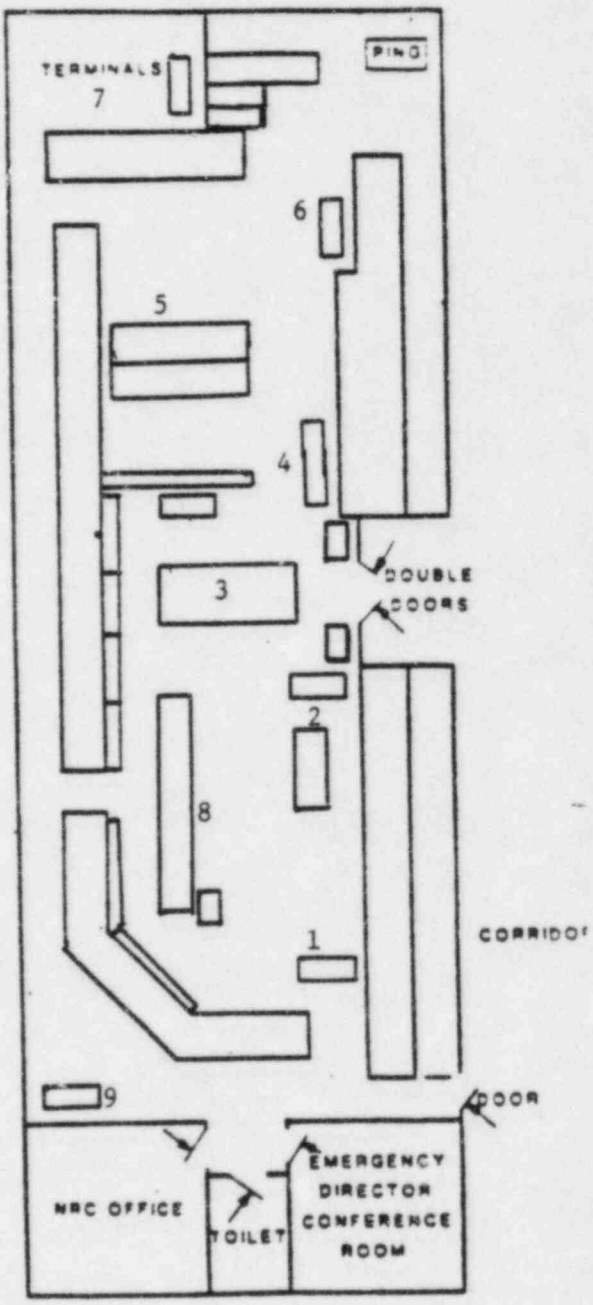
3. Go to the first floor entrance of Unit One. Distribute TLD to all personnel who possess emergency response roles. Log TLD numbers versus names. This function shall be assumed by a guard as soon as he is available.

APPENDIX EP-201-4
TECHNICAL SUPPORT CENTER ORGANIZATION



APPENDIX EP-201-5
TECHNICAL SUPPORT CENTER FACILITY LAYOUT

LOCATION NO.	TSC DUTY POSITION
1	Personnel Safety Team Area
2	Chemistry Sampling Team Area
3	Emergency Directors Table
	Fire & Damage Team Leader
	Emergency Directors Communicator
	Technical Engr Team Leader
	NRC
4	Security Team Leader
5	Technical Engr Area
6	Telecopier
7	Nuclear Records Area
8	Data Display and Video Area
9	Reproduction Machine



SCALE 1/11

TECHNICAL SUPPORT CENTER

APPENDIX EP-201-6
PROCEDURE FOR OPERATION OF TSC/EOF TV MONITORS

1.0 PURPOSE:

The following procedure defines the required steps for the operation of the Technical Support Center and Emergency Operations Facility TV monitoring of the Main Control Room.

2.0 SCOPE:

This procedure is to be followed by all personnel who use the video-monitoring system in the Control Room.

3.0 REFERENCES:

Operating instructions, controls for motorized zoom lenses. (Vicon Industries, Inc.) X85-780 6280-E-114-5-1

4.0 RESPONSIBILITY:

The person(s) operating this equipment shall be responsible for safe operation.

5.0 PREREQUISITES:

Person(s) operating this equipment should have a knowledge of its operation in addition to reviewing the operating instructions, and should be very familiar with the layout of instruments in the control room.

6.0 PROCEDURE:

6.1 In the Emergency Operations Facility (2nd floor of Unit 1) turn on both controllers, as they act as master controllers for the controllers on the third floor.

6.2 In the Technical Support Center (3rd floor of Unit 1), turn on the four TV monitors, and their associated controllers.

6.3 Push 'close' button on iris a few short times to ensure proper lighting.

6.4 Joystick operates camera movement.

NOTE: Pan and tilt speed are a function of how far the joystick is moved away from the center 'rest' position.

6.5 Motor speed is determined by knob (on/off).

NOTE: The motor speed not on the lens controller will have to be optomized for each individual camera (for focus and zoom it will be approximately mid-pot). To get iris control, the speed pot must be fully clockwise.

NOTE 1: Fuse for all cameras is in the TRW panel in the control room, inside the right door on the left side.

NOTE 2: Control Room TV camera switches are located at the base of each TV camera. Switch is labeled "AC Power Feed On/Off".

6.6 Request Chief Operator to turn on the extra lights in the Control Room. (Panel 46L and 66L for Unit 2 and 3 respectively.)

APPENDIX EP-201-7
TSC TELEPHONE CHECKOFF LISTING

1. Test Phones for Dial Tone:

Phone Number	Use/Location	Operational Yes - No
[redacted]	Personnel Safety Team Leader	_____
	Personnel Safety Team Circuit	_____
	Chem. Sampling & Analysis Team Ldr.	_____
	Chem. Sampling & Analysis Circuit	_____
	Security Team Leader	_____
	Municipal Support	_____
	Emergency Director's Table	_____
	Management Circuit	_____
	Public Address System - E.D. Table	_____
	Area Conference	_____
	TSC/OSC Circuit	_____
	CR/TSC/EOF Circuit	_____
	State/County Emergency Notification	_____
	Emergency Communicator Circuit	_____
	Emergency Director's Table	_____
	BRP Technical Circuit	_____
	Technical Engineer	_____
	Damage Maintenance Circuit (Wall Unit)	_____
	Fire & Damage Team Ldr. (Wall Unit)	_____
	Status Board Keeper (Wall Unit)	_____
	Status Board Keeper (Wall Unit)	_____
	Status Board Keeper-Plant Chronology (Wall Unit)	_____

WAVAY

Phone Number	Use/Location	Operational Yes - No
[redacted]	Status Board Keeper-Plant Parameters (Wall Unit)	_____
	~~Status Board Keeper-Plant Parameters (Wall Unit)~~	_____
	~~Data Display Operator~~	_____
	Nuclear Records Management (Wall Unit)	_____
	Emergency Analysis Area (Wall Unit)	_____
	Telecopier	_____
	TSC Conference Room - Management	_____

XXX - OMNI Telephones
XXXX - GTD-1000 Telephones

	RM 16	Ping 2A
Gama	120 mR/hr 24 hour stay time prior to reaching quarterly limit of 3000 mR 200 mR/hr off-scale. Consider initiation of periodic surveys	Low Alarm 120 mR/hr 24 hr. stay time prior to reaching quarterly limit of 3000 mR. High Alarm 75 mR/hr 8 hr. stay time prior to reaching quarterly limit of 3000 mR. Emergency Director should consider evacuation and request the Radiation Protection Team Leader to initiate surveys and utilize Ping 2A to monitor integrated dose.
Xe 133	N/A	Low Alarm 50% of high alarm ($2X10^{-4}$ uCi/cc) 24 hr stay time High Alarm 10% of maximum value ($5X10^{-4}$ uCi/cc) 8 hr stay time Emergency Director should consider evacuation and request Radiation Protection Team Leader to initiate surveys and utilize Ping 2A to monitor integrated dose. Note: MPC occupational exposure 1 X 10^{-5} uCi/cc
Beta Particulate	N/A	Low Alarm 50% of high alarm ($5X10^{-9}$ uCi/cc) 24 hr stay time High Alarm 10% of maximum value ($1X10^{-8}$ uCi/cc) 8 hr stay me Emergency Director should consider evacuation and request Radiation Protection Team Leader to initiate surveys and utilize Ping 2A to monitor integrated dose. Note: MPC occupational exposure $3X10^{-10}$ uCi/cc
I 131	N/A	Low Alarm 50% of high alarm ($2X10^{-7}$ uCi/cc) 24 hr stay time High Alarm 10% of maximum value ($4X10^{-7}$ uCi/cc) 8 hr stay time Emergency Director should consider evacuation and request Radiation Protection Team Leader to initiate surveys and utilize Ping 2A to monitor integrated dose. Note: MPC occupational exposure $9X10^{-9}$ uCi/cc.

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PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM UNITS 2 & 3

EP-205A.6 OBTAINING CANAL DISCHARGE WATER SAMPLES FOLLOWING RADIOACTIVE LIQUID RELEASES AFTER ACCIDENT CONDITIONS

PURPOSE:

The purpose of this procedure is to provide guidance for obtaining canal discharge water samples following radioactive liquid releases after accident conditions.

RESPONSIBILITIES:

1.0 The Chemistry Sampling and Analysis Team Leader shall determine via dialogue with the Personnel Safety Team Leader, the need for specific Health Physics coverage.

2.0 The Chemistry Sampling and analysis Group Leader shall brief the Chemistry Sampling and Analysis Group members on:

2.1 Sampling points to be used.

2.2 Routes to be taken.

2.3 Appropriate survey and protective equipment to be used.

3.0 The Chemistry Sampling and Analysis Group members shall:

3.1 Assemble necessary equipment

3.2 Apply the ALARA concept for radiation exposure

3.3 Review this procedure prior to implementation

ACTION LEVELS:

The need for a canal discharge water sample has been identified.

APPARATUS:

Appropriate Health Physics survey equipment, 1 liter sample bottle with lid, Plastic bags, Tape, Dosimetry, remote sampling device (if needed).

PRECAUTIONS:

1.0 In all steps of this procedure, implementation of the ALARA concept is mandatory.

2.0 Planned exposures shall not exceed administrative guidelines except when authorized by the Emergency Director in accordance with EP-205A Appendix 1.

3.0 At no time shall any grab samples be taken at the discharge to the Conowingo pond by going beyond the safety railings.

4.0 Do not travel to the end of the discharge canal alone.

PROCEDURE:

1.0 Grab samples of canal discharge water may be taken from the chlorine analyzer sample pump discharge located in the gate control shack at the end of the canal or by remote sampling.

2.0 To take a grab sample of canal discharge water, two methods are used:

2.1 Take the sample from the chlorine analyzer sample pump discharge sample tap located in the gate control shack at the end of the canal.

2.2 If unable to get a sample from the sample pump discharge sample tap, a remote grab sample may be obtained as follows.

2.2.1 Obtain the remote sampling device from storage.

2.2.2 The remote sample must be obtained from behind the safety railing.

2.2.3 Attach the end of the remote sample device to the safety railing.

2.2.4 NOTE: If at any time excessive force is encounted on the sample device, release the sample device immediately.

2.2.5 Lower the sample device to obtain a sample.

2.2.6 Retreive the sample device and transfer the sample to a clean sample container(s).

2.2.7 Detach end of sample device from the safety railing and return it to the storage location.

3.0 Daily canal discharge composite samples may be taken as follows.

3.1 Turn on the mixer in the canal discharge tank in the gate control shack at the end of the canal to mix the liquid in the tank.

3.2 Allow mixer to run approximately 5 minutes.

3.3 Take a sample from this tank.

3.4 Drain the tank.

3.5 Clean out the tank with the water from the hose.

3.6 Close the drain and verify that an appropriate sample flow is entering the tank from the composite sample pump.

4.0 Label the samples with date, time, and sample type (canal discharge and/or canal composite discharge).

5.0 Take the samples to the appropriate counting room to scan for activity.

FINAL CONDITIONS:

None.

APPENDICES:

None.

REFERENCES:

EP-205A - Chemistry Sampling and Analysis Team.

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PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM UNITS 2 AND 3

EP-205A.11 SAMPLE PREPARATION AND HANDLING OF HIGHLY RADIOACTIVE LIQUID SAMPLES

PURPOSE:

The purpose of this procedure is to provide some guidelines for consideration during sample preparation and handling of highly radioactive samples following accident conditions with major fuel damage.

APPARATUS:

Appropriate Health Physics Survey Equipment
Air Sampler (low volume) if required
Respirator Protection Equipment if required
Anti-C Clothing if required
Appropriate Lead Shielding
Appropriate Microsyringes
14.4 ml Off-Gas Vials with Septums
Extremity Dosimetry

REFERENCES:

CA-2A
CA-75A
HPA-7D

DELETED — SEE INDEX

Manager Date 1-21-86

PRECAUTIONS:

A. In all steps of this procedure, an ALARA concept is mandatory. This procedure provides some philosophy in pre-planning for sample preparation (dilution) and analysis of highly radioactive liquid samples. In addition to reviewing this procedure, an ALARA review of the sample preparation and analysis should be performed prior to beginning preparation and analysis. If an analysis is not really needed or a lower dose method is possible to obtain the same data, do not perform the analysis.

B. At no time, may NRC exposure limits (either airborne or body dose) be exceeded during the sample preparation and chemical analysis. If it appears that an overexposure could reasonably occur during sample preparation or analysis DO NOT proceed without written NRC approval.

C. Samples should be placed in plastic bags prior to gamma isotopic analysis to prevent contamination of the counting equipment.

9-18-84

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM UNITS 2 AND 3

EMERGENCY PLAN IMPLEMENTING PROCEDURE

DELETED — SEE INDEX

Manager

Date 1-21-86

EP-205B RADIATION SURVEY GROUPS

PURPOSE:

To define the actions of the Radiation Survey Groups.

REFERENCES

1. Peach Bottom Atomic Power Station Emergency Plan

Section	Title
5.2.1.5.5.1	Field Surveys
5.2.1.5.7.2	Plant Surveys

2. Health Physics Operating/Chemistry Operating Procedures

Number	Title
HPO/CO-4	Radiation Work Permits
HPO/CO-8	Decontamination of Tools and Equipment
HPO/CO-11	Establishing and Posting Radiologically Controlled Areas
HPO/CO-60	Field Use of Eberline Ion Chamber Model RO-1 Radowl
HPO/CO-62	Field Use of Eberline GM Detector Model E-400
HPO/CO-63	Field Use of Eberline Contamination Monitor Model RM-14
HPO/CO-64	Field Use of Eberline RM-14 and HP-210 Probe as a Field Scaler
HPO/CO-65	Field Use of a Low Volume Portable Air Sampler
HPO/CO-67A	Field Use of TCS Air Sampling System for the Determination of Iodine

JAN 08 1986

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY PLAN IMPLEMENTING PROCEDURE

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EP-206A FIRE FIGHTING GROUP

PURPOSE

To define the actions of the Fire Fighting Group.

RESPONSIBILITIES

1.0 The Emergency Director may elect to designate the outside Shift Supervisor, or other member of Shift Supervisor to assume the duties of the Fire and Damage Team Leader, until relieved by the Maintenance-Engineer or his designated alternate.

2.0 The Fire and Damage Team will designate the Fire Fighting Group Leader who shall provide support fire fighting activities, activate the Fire Fighting Group and coordinate the group's activities.

ACTION LEVEL

1.0 The Fire Fighting Group will be activated whenever there is a situation onsite which, in the judgement of the Emergency Director or Shift Supervision, requires their services.

2.0 The Fire Fighting Group shall also be activated upon any initiation of the Fire System.

PRECAUTIONS

1.1 Team member's exposure should be limited to the administrative guide levels in Appendix EP 206A-6, Emergency Exposure Guidelines. The Emergency Director shall approve any team member exceeding Peach Bottom quarterly exposure limits. The Fire and Damage Team Leader should ensure that all team members are controlling their own exposure in accordance with ALARA concepts.

1.2. The Engineer-Maintenance and the Assistant Engineer-Maintenance are qualified in fire-fighting techniques which allows them both to be Fire and Damage Team Leaders if required. However, as a general rule, the site maintenance personnel are not fire-fighting qualified. These personnel can only assist in fire-fighting activities with the shift operators if requested by the operators due to an in-extremis situation.

1.3 If off-site assistance is required, ensure a representative of the fire-fighting group meets the fire department at the designated entrance to the plant to brief them of the situation and provide guidance to the fire location. Request Security and Dosimetry support for off-site fire companies.

1.4 Requirements of HPO/CO-4, Radiation Work Permits, are not applicable. The HP accompanying the Fire Fighting group will serve as the RWP.

1.5 If team members are required to enter a hazardous area, there shall be a minimum of two people per group entering, plus HP Technician.

PROCEDURE:

1.0 IMMEDIATE ACTIONS:

1.1 Personnel who identify fires shall:

1.1.1 Immediately determine if the fire can be extinguished by a quick action such as using a nearby fire extinguisher. Attempt to quickly extinguish the fire, and in all instances, notify Shift Supervision [redacted] of the fire location and type and actuate the nearest fire alarm station.

Warning: For a fire in fuel storage areas, flooding new fuel with water or applying a water fog should be avoided to prevent a possible criticality in new fuel.

1.1.2 After sounding the alarm remain close to the area, at a safe distance from smoke, fumes and fire, to provide direction to the fire location to the fire fighting group.

1.2 Shift personnel who receive report of fire shall:

1.2.1 If a fire is reported to the control room via phone or P.A. the individual who receives the report shall advise the chief operator of the location and fire description.

1.2.2 If the fire notification was initiated via the fire alarm annunciator panel the chief operator should obtain the exact words on the annunciator window, and use them in the announcement.

1.2.3 The Chief Operator should make repeated announcements of the fire type (if known), location, and fire fighting group assembly area. He may at this time, or later, if requested to do so by the Team Leader, announce an assembly area for general plant personnel. This assembly area should be chosen based upon the additional needs of the fire fighting group as indicated by the leader. (E.G. manpower - at fire location/portable fire fighting equipment - per locations indicated in Appendix EP-206A-5/turnout coats, boots, gloves, scott 4.5 SCBA - cage located at Unit 3 13 KV area.)

1.2.4 Consider evacuation using the following procedures:

GP-15 - Local Evacuation

EP-303 - Plant Evacuation

EP-305 - Site Evacuation

1.3 Emergency Director shall:

1.3.1 Call the Fire and Damage Team Leader. If the situation permits, discuss the problem with the Fire and Damage Team Leader so he can assess the situation and determine how many and what type of team members will be necessary to correct the problem.

1.3.2 If necessary, direct the designated communicator to contact fire and damage Team members; refer to EP 209 Appendix D-3 for telephone numbers. Inform the team members where to assemble.

1.3.3 If necessary, contact off-site agencies for assistance.

1.3.4 If possible and the EOF is activated, provide a briefing to the Site Emergency Coordinator after off-site emergency services are requested.

1.3.5 In the event that the fire has the potential to completely disable all equipment in and cabling passing through the fire area, reference the 'F' procedure for the area and Appendix EP-206-A7 to obtain guidance in determining the remaining available systems to accomplish safe shutdown of the affected unit.

1.4 Fire Fighting Group Leader (Shift Supervision) shall:

1.4.1 Obtain known information from Chief Operator.

1.4.2 If time permits, review the applicable "F" procedure for the affected fire zone.

1.4.3 Obtain all necessary keys for the fire zone in the event of doors are locked or the security keycard device does not function.

1.4.4 Obtain two radios; one for the leader and one for the inspection team leader.

1.4.5 Call the Auxiliary Operations Support Center and request an HP to report to the assembly area.

1.4.6 Proceed to the fire scene and assemble the fire fighting group.

1.4.7 Explain the situation and what has to be done in detail to the fire fighting group. Also inform them of any hazards or precautions encountered on way to fire.

1.4.8 Prior to leaving the assembly area decide the number of personnel necessary (minimum of 2 plus an H.P.), designate equipment to be used (see EP-206-A Appendix 1), ensure team members have adequate protection to fight the fire, and ensure the team leader and group have portable radios.

1.4.9 If entry into a hazardous area is necessary, do so in accordance with EP-401, Entry for Emergency Repair and Operations.

1.4.10 Direct the fire-fighting efforts in accordance with Appendix EP-206A-1, fire and damage team organization and reponsibilities and Appendix EP-206A-2, fire fighting group standard actions. Use portable and installed fire protection equipment in accordance with EP-206A-3, automatic fire protection system initiation and reset, Appendix EP-206A-4, classes of fires and types of extinguishants, and Appendix EP-206A-5, portable fire fighting equipment available on-site.

1.4.11 Advise the Control Room concerning the need for de-energizing or removing equipment or systems from service and the significance of damage sustained and the impact on plant operations and safety. Request as required the shutdown of ventilation system(s).

1.4.12 Be alert to radiological, electrical, and toxic hazards to personnel involved in fire fighting. Seek advice from the Fire and Damage Team Leader on radiological or toxic agent hazards.

1.4.13 Periodically update the emergency director of the status of the situation, request the Emergency Director to ask for assistance from the Delta-Cardiff fire and ambulance company, if necessary.

1.4.14 Coordinate the activities of off-site fire fighting support groups.

1.4.15 Advise the Emergency Director concerning Emergency Exposure Limits for team members involved in emergency work and repairs, attempt to minimize radiation exposure and contamination as much as possible. (See Appendix EP-206-8 for exposure limits).

1.4.16 Provide periodical briefings to the control room approximately every 15 minutes at a minimum.

1.5 Fire Fighting Group Members shall:

1.5.1 Report to the assembly area with equipment, as assigned in Appendix EP-206A-1, assume the responsibilities assigned in Appendix EP-206A-1, and fight the fire under direction of the team leader.

1.6 Fire and Damage Team Leader shall:

1.6.1 Report to the technical support center (when activated). Contact Emergency Director when on-site and obtain status of the current situation.

1.6.2 Establish communications with the Fire and Damage Team Leader and obtain status of the fire fighting group.

1.6.3 Provide additional personnel support if necessary. Use EP 209 Appendix D-3 for additional qualified fire fighters or maintenance support personnel. Contact them and provide information on where to report. Assign designated plant staff to direct one or more Fire Fighting Teams as necessary. Assign at least three personnel to each team, as required. Direct the team to relieve or assist the on shift team members as necessary.

1.6.4 Periodically provide Fire and Damage Group Leader with plant status changes and significant radiation exposure and radioactive contamination problems which may affect the functions of the team. Assign a member of the Fire Fighting Group to man the SCBA system on the First Floor of Unit 1.

1.7 Auxiliary Operations Support Center Coordinator shall:

1.7.1 Assign an HP Technician to each fire fighting group.

1.8 HP technicians shall:

1.8.1 Obtain required equipment and report to assembly area. Obtain information from and inform interim team leader of any known radiation hazards associated with the situation.

1.8.2 Ensure safe radiological conditions in the fire fighting area.

2.0 <u>FOLLOW-UP ACTIONS</u>:

2.1 Fire and Damage Team Leader shall:

2.1.1 Communicate and discuss situation with Emergency Director and Fire Fighting Group Leader.

2.1.2 Actuate the Damage Repair Group (if necessary), to provide support to Fire Fighting Group.

2.1.3 Update Emergency Director on status of group's activities.

2.1.4 Request additional personnel and equipment from the Emergency Director as required.

2.1.5 Request off-site fire assistance from the Emergency Director, as required.

2.1.6 Reassess the situation periodically and make appropriate reports and adjustments.

2.1.7 Have personnel radiation exposures monitored and request emergency exposure authorization from the Emergency Director as necessary.

2.1.8 Debrief all involved participants to complete an accurate report when team activities have been completed.

2.1.9 Ensure that a firewatch is posted when fire has been extinguished.

FINAL CONDITIONS:

When directed to de-activate the Fire and Damage Team by the Emergency Director, or the fire has been extinguished and a firewatch has been posted.

APPENDICES:

EP-206A-1 Fire Fighting Group Organization and Responsibilities by Job Title

EP-206A-2 Fire Fighting Group Standard Actions

EP-206A-3 Automatic Fire Protection System Initiation and Reset

EP-206A-4 Classes of Fires and Types of Extinguishants

EP-206A-5 Portable Fire Fighting Equipment Available on Site

EP-206A-6 Emergency Exposure Guidelines

EP-206A-7 Available Methods of Safe Shutdown

REFERENCES:

1. Peach Bottom Atomic Power Station Emergency Plan

Section	Title
5.2.1.5.8	Fire and Damage Team

2. EP-401 — Entry for Emergency Repair and Operations

3. NUREG 0654 — Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

4. 10CFR50 Appendix R, Section K

5. EP-209, Appendix D-3 Fire and Damage Team Notification List

APPENDIX EP-206A-1

FIRE FIGHTING GROUP ORGANIZATION AND RESPONSIBILITIES BY JOB TITLE

A. The Fire Fighting Group should report to the assembly area with the following assigned equipment:

Shift Supervisor: Two radios and necessary keys

Plant Operator No. 1: CO_2 portable fire extinguisher

Plant Operator No. 2: Purple K dry chemical fire extinguisher

Ass't Plant Operator: Purple K dry chemical fire extinguisher

Auxiliary Operator: Immediately proceed to the fire fighting group equipment cage, 116' El. by joy air compressor or cart El. 165' by Unit 2 turbine sh'eld wall and obtain one Scott 4.5 SCBA and proceed to assembly area. Immediately obtain additional SCBA if requested to do so by leader.

B. The following are guidelines which should be used to assign responsibilities to the Group members:

Shift Supervisor: Interim Fire and Damage Team Leader

Plant Operator No. 1:
1) Inspection Team Leader
2) Ass't Interim Fire and Damage Team Leader (i.e. Shift Supervisor designated alternate)
3) Nozzle man on No. 2 Fire Hose
4) Extinguishant with CO_2

Plant Operator No. 2:
1) Nozzle man on No. 1 Fire Hose
2) Extinguishment with purple K dry chemical
3) Lighting and Smoke Removal

Ass't Plant Operator:
1) Inspection Team (along with P.O. No. 1)
2) Backup man on No. 2 Fire Hose
3) Extinguishment using purple K dry chemical

Auxiliary Operator: (inside)
1) Equipment Manager
2) Backup man on No. 1 Fire Hose
3) Extinguishment using CO_2

APPENDIX EP-206A-2

FIRE FIGHTING GROUP STANDARD ACTIONS

CAUTION: THE PRODUCTS OF COMBUSTION OF CERTAIN MATERIALS (e.g. SOME ELECTRICAL CABLES, PLASTICS, OILS) ARE VERY TOXIC, IF HIGH TOXIC GAS LEVELS ARE SUSPECTED, IF THE OXYGEN LEVEL IS LESS THAN 19.5%, OR IF THE CARDOX SYSTEM HAS BEEN ACTIVATED, SCOTT 4.5 AIR PACKS MUST BE USED.

1. Communications should be established with the Interim Emergency Director or Emergency Director, or his designee (via phone, P.A., or radio).

2. Fire Assessment

   a. Prior to entry by the inspection team, if the access to the fire zone is unopened, look for abnormalities such as physical deformation, discoloration, peeling paint or other evidence of high temperature in an attempt to determine the proximity of the fire to the access. Use extreme caution to open door. If door is hot or flash over is expected, move a charged line in prior to opening door.

   b. The Fire Fighting Group Leader should direct the Inspection Team to enter the area of the fire. The Inspection Team should have portable fire extinguishers. Dependent upon the size of the fire area and smoke conditions the inspection team may use a Scott 4.5 SCBA radio, lifeline, or portable life lines at the Leaders discretion (or use of a charged line by inspection team).

   c. The Inspection Team should stand to the side, (charging line must be available) while remaining low, and slowly crack open, then open the access. (If required, the site forcible entry tool is located in the security building, Auxiliary SAS, under the windows of the North Wall).

   d. If the fire is determined, by the Inspection Team Leader, to be obviously extinguishable, with their portable extinguishers, immediate action shall be taken to do so.

      If the fire is of such magnitude that immediate extinguishment is beyond the capabilities of the Inspection Team, the Inspection Team Leader shall report, to the Fire Fighting Group Leader, the nature of the fire, its location and severity, equipment adjacent to and involved with the fire hazards in the vicinity (e.g. oil tanks or lines, compressed gas lines, cylinders, or tanks, propane lines or tanks), and any apparent effects of the ventilation system on the fire.

3. Upon the report of the Inspection Team, the Fire Fighting Group Leader should direct the manual initiation of installed fire suppression equipment described in Appendix EP-206A-3, if appropriate, and direct fire fighting equipment preparation and associated actions. Also check for fire extensions and extinguish same.

APPENDIX EP-206A-2 (Continued)

4. At this time and periodically thereafter the Fire Fighting Group Leader should report the fire scene situation to the Interim Emergency Director or Emergency Director. (The Interim Emergency Director or the Emergency Director, based upon Control Room indications, and review of the applicable "F" procedure should make recommendations as deemed necessary).

   a. Ventilation - The "F" procedure for the fire zone indicates normal ventilation flow rates. This data, along with Inspection Team observations should be evaluated to determine degree of impact from the normal fire zone ventilation. In general, direct the shutdown of the supply ventilation system servicing the fire area to isolate and help smother the fire. Exhaust ventilation may remain in service to either aid in increasing visibility (smoke removal), remove potential toxic or explosive fumes, or to introduce cool air. Otherwise, supply and exhaust ventilation should both be shutdown initially. If ventilation is completely shutdown the Fire Fighting Group Leader should direct (e.g. General Plant Personnel Leader) that areas serviced by the same ventilation system be surveilled to assure smoke is not migrating into those areas. If so, exhaust fans should be sequenced on periodically to alleviate this condition.

5. The Fire Fighting Group should then, under the direction of the fire and damage team leader, enter and extinguish the fire. The guidelines presented in Appendix EP-206A-1 should be used to aid in coordination of this effort. The guidelines presented in Appendix EP-206A-4 should be used to employ the proper extinguishant for the type of fire which is present.

6. If deemed necessary, the Fire Fighting Group Leader should direct additional general plant personnel either directly or via the Interim Emergency Director or the Emergency Director. He should request additional portable fire fighting equipment, as listed in Appendix EP-206A-5 and additional personnel to fight the fire.

7. Upon extinguishment of the fire or as is necessary designated plant personnel should "ventilate" the area using guidance contained in the applicable "F" procedure. Instructions for use of the portable smoke removal equipment are contained in Procedure S.13.1.

8. Upon extinguishment of the fire, a fire watch shall be established, in the area, in the event of a reflash of the fire. The duration of the fire watch shall be proportional to the magnitude of the fire, but in no case shall be less than 1/2 hour.

9. Fire fighting equipment shall be inventoried, replaced and returned to its proper storage location. If Scott airpacks have been used, the cylinders must be refilled and then inspected by the Respiratory Protection Administrator through performance of ST 17.2.B.

APPENDIX EP-206A-2 (Continued)

10. At some time after the fire PECo Form No. 196-64002, "Report of Fire" Form, should be completed and forwarded to the Safety Department by the Interim Fire and Damage Team Leader.

APPENDIX EP-206A-3

AUTOMATIC FIRE PROTECTION SYSTEM INITIATION AND RESET

Those areas in the plant which have their own fire protection systems are listed below with a brief description of system actuation and resetting. Auto actuation of any of these systems will initiate a coded signal and a Main Control Room alarm.

1. The following equipment is protected by open head sprinklers supplied by Water Deluge Valves which are initiated automatically upon heat detection or manually by opening and pushing the lever in the manual station located at the Deluge Valve in the Condensate Pump Room. After a fire is out or under control, reset these valves per Procedure S.13.2.1.G.

   a. Main transformers 2AX01, 2BX01, and 2CX01 (3AX01, 3BX01 and 3CX01)

   b. Auxiliary transformer 20K02 (30K02)

   c. Condensate pump transformers 2AX07, 2BX07, 2CX07 (3AX07, 3BX07, 3CX07)

   d. Start up and emergency auxiliary transformer 00X03

2. The following equipment is protected by open head sprinklers supplied by Water Flooding Valves which are initiated automatically upon heat detection or manually by opening and pushing the lever in the manual station located at the Deluge Valve near the protected equipment. After a fire is out or under control, reset these valves per Procedure S.12.3.2.1.I:

   a. Hydrogen seal oil unit (Units 2 & 3)

   b. A and B standby gas treatment system filters

   c. A and B recombiner building ventilation filters

3. The Turbine Hatch Area (COMMON) is protected by a Heat Sensitive Closed Head "Nitrogen-filled dry sprinkler system." Heat breaks the sprinkler head(s), releases the nitrogen pressure, and causes a fire alarm. The sprinkler system for the Turbine Hatch Area must then be manually initiated by one of the following methods:

   a. Pushing the remote pushbutton located on panel 20C01 in the Control Room.

   b. Opening the local electro-manual box mounted next to the Turbine Building Cardox unit.

   c. Opening and pushing the lever in the manual station located at the Deluge Valve El. 116' near Turbine Bldg. elevator.

   d. After the fire is out or under control, reset this valve per procedure S.13.2.1.G.

APPENDIX EP-206A-3 (Continued)

4. The following areas are protected by Heat Sensitive closed head sprinklers supplied Sprinkler Alarm Valves (SAV) which initiate upon actuation of the heat sensitive sprinkler heads. If a heat sensitive sprinkler head breaks but the Sprinkler Alarm Valve fails to open, the local manual station located at the individual SAVs may be used to open the SAV. After a fire is out or under control, reset these valves per Procedure S.13.2.1.H:

   a. Turbine Lube Oil Reservoir Room (Unit 2 & 3)

   b. Turbine Lube Oil Storage Room (Unit 2 & 3)

   c. Main Steam Stop Valve Area (Unit 2 & 3)

   d. East and west feedwater heater service platforms (Units 2 & 3).

   e. Areas under east and west main turbine generator platforms (Unit 2 & 3).

   f. Auxiliary Boiler Building

5. The following rooms are protected by sprinkler systems which, upon actuation of a heat sensitive sprinkler head, give a direct spray on the equipment in the room. After a fire is out or under control, reset these systems by closing the corresponding Manual Block Valve, replacing the actuated sprinkler head, and restoring the block valve to an open position:

   a. A, B, and C RFP Turbine Lube Oil Reservoir Rooms (Units 2 & 3)

   b. Diesel Fire Pump Room (COMMON)

   c. El. 116' lube oil storage room Unit No. 3 Turb. Bldg.

   d. El. 116' lube oil storage room in Admin. Bldg.

   e. El. 135' Radwaste Compaction Area

6. The turbine bearing oil line below the pedestal (Units 2 & 3) are protected by a "Heat Sensitive Closed Head Nitrogen-filled dry sprinkler system." Heat breaks the sprinkler head(s), releases the nitrogen pressure, and initiates a fire alarm. The dry sprinkler system for the turbine bearing oil lines below pedestal may then be manually initiated by one of the following methods:

   a. At the local stations located at North and South ends of turbine.

   b. Opening and pushing the lever in the manual station located at the Deluge Valve (165' elevation near generator). After the valve is out or under control, reset this valve per procedure S.13.2.1.G.

APPENDIX EP-206A-3 (Continued)

7. The Diesel Generator Cardox System, if not disarmed, will initiate automatically upon heat detection in each of the individual Diesel Compartments. If heat detection initiation does not occur, the system may be manually initiated using the pushbutton station outside each Diesel Compartment door. Upon failure of the pushbutton station, manually initiate the Cardox System by breaking the front glass of the appropriate Electro-Manual Pilot Valve (located outside of the Booster Pump Room) and move the lever to the OPEN position to open the Master Select Valve for 60 seconds, then close the pilot valve. When initiated manually, the Electro-Manual Pilot Valve lever must be moved to the CLOSED position to stop the discharge of CO_2 to the Diesel Compartment. After initiation of the Cardox system, reset the system per Procedure S.13.2.2.B. The Diesel Generator CO_2 tank, located in the Booster Pump Room, holds 5500 lbs. of CO_2. A single sixty second discharge to any of the Diesel Generator rooms uses 2200 lbs. Therefore, "double shot" protection is provided.

8. The HPCI Room Cardox System can be initiated in any of the three manners described above for the Diesel Generator Cardox System. The Electro-Manual Pilot Valve for the HPCI room is located at the Unit 2(3) Turbine Bldg. Cardox Storage Tank. Manual discharge is performed by moving the Electro-Manual Pilot Control (EMPC) lever to the OPEN position for 60 seconds, then closing the EMPC. Reset of the system per Procedure S.13.2.2.D, Section A. Each Turbine Building CO_2 Tank (Unit 2 and Unit 3) holds 12,000 lbs. of CO_2. A single 60 second discharge to either of the HPCI Rooms uses 2100 lbs. Therefore "multiple shot" protection is provided.

9. The Computer Room Cardox System is initiated at the pushbutton stations on either side of the Computer Room. If pushbutton initiation fails, the Electro-Manual Pilot Control (EMPC) levers for the Master Select Valve and the Select Valve must be moved to the OPEN position for 125 seconds. The EMPC for the Master Select Valve is located at the Unit 2 Turbine Building CO_2 Storage Tank. The EMPC for the Select Valve is located outside the Cable Spreading Room. When initiated manually, both the EMPC levers must be returned to the CLOSED position after 125 seconds. System reset per Procedure S.13.2.2.D may then be accomplished.

   Upon Computer Room CO_2 injection, the tie valve between the Unit 2 and Unit 3 tanks opens, providing a total CO_2 capacity of 24,000 lbs. A single 125 second discharge to the computer room uses 1100 lbs. of CO_2. Therefore, "multiple shot" protection is provided.

APPENDIX EP-206A-3 (Continued)

10. The Cable Spreading Room Cardox System is initiated automatically by actuation of both channels of a two channel smoke detector matrix in the Cable Spread Room. If smoke detector automatic initiation does not occur, the system may be actuated manually by using the pushbutton stations outside either Cable Spreading Room door. If pushbutton initiation fails, the EMPC levers for the Master Select Valve and the Select Valve must be moved to the OPEN position for 125 seconds. The EMPC for the Master Select Valve is located at the Unit 2 Turbine Building CO_2 storage tank. The EMPC for the Select Valve is located outside the cable spreading room. When initiated manually, the EMPC levers must be returned to the CLOSED position after 125 seconds. System reset per Procedure S.13.2.2.D may then be accomplished.

    Upon Cable Spreading Room CO_2 injection the tie valve between the Unit 2 and Unit 3 tanks opens, providing a total CO_2 capacity of 24,000 lbs. A single 125 second discharge to the Cable Spreading Room uses 9600 lbs. of CO_2. Therefore "double shot" protection is provided.

11. The main Control Room and the Unit 2 and 3 165' El. lift pump areas are equipped with CO_2 hose reels. When the hose nozzle is removed from its holder the hose reel and header automatically pressurize. Discharge is accomplished by depressing the nozzle hand lever. If hose reel header fails to pressurize, at the Unit 2 Turbine Bldg. Cardox Tank, move the HOSE REEL EMPC valve to the OPEN position to pressurize. When use of the hose reel is complete, return the EMPC valve to the CLOSED position.

12. The bearing casings for turbine bearings 1 through 8 (Units 2 & 3) are protected by dry chemical furnished through a series of nozzles. In the event of a fire at the casings:

    a. Move the 350-pound wheeled Ansul dry chemical unit to the appropriate bearing.

    b. Connect the quick connect hose from the Ansul unit to the quick connect fitting at the bearing.

    c. Discharge dry chemical by opening the manual valve to charge the cylinder and actuating the hand lever for discharge.

13. The MG Set Room (Unit 2 & 3) and the MG Set Lube Oil Pump Room (Unit 2 & 3) are protected by a "Heat Sensitive Closed Sprinkler Head" Nitrogen Filled, Smoke Detector Pressurized Sprinkler System. Smoke Detection causes fire alarms and pressurizes the sprinkler header with water by opening the flooding valve. Heat breaks the sprinkler head, spraying the area of the fire. The system can be pressurized with water manually by operation of the manual station located at the flooding valve. The system is then reset per procedure S.13.2.1.K.

APPENDIX EP-206A-3 (Continued)

14. The No. 6 fuel oil tank and the auxiliary boiler building are protected by a manually operated foam system. To apply foam inside the No. 6 oil tank open the foam solution tank inlet and outlet valves. To apply foam using the manual hose reel and nozzle, unreel the entire hose, open the foam solution tank inlet valve, the hose reel isolation valve, and apply foam using the "Pistol Grip" shutoff valve. When fire is out, close valves and restore the system per procedure S.13.1.1.

15. The west corridor of the Unit 2 and 3 RX Bldg. Elevation 135' are protected by water curtains which can be actuated either manually or automatically.

    1. Manually by pulling the manual pull station at the flooding valve which is located in the southwest stairwell for Unit 3 and the northwest stairwell for Unit 2. It may also be actuated by removing the frangible lock from the remote electrical station box in the El. 135' Rx. Bldg. elevator stairwell, and actuating the pull box within.

    2. Automatically by heat detectors. Each unit's west corridor is separated into 2 zones with 2 detectors per zone. The detector zones are both north and south of each unit's center line. Automatic actuation can occur only when signals from both heat detectors in a given zone are received (i.e., 2 out of 2 once logic).

    3. These systems must be initiated manually if, in the opinion of the Shift Supervisor, the fire cannot be controlled with normal manual fire suppression equipment and has the potential to effect cables in these areas.

    4. After the fire is out and under control, reset these valves per procedure S.13.2.1.M.

APPENDIX EP-206A-4

CLASSES OF FIRES AND TYPES OF EXTINGUISHANTS

	EXTINGUISHANTS			
	Hose Station	Portable Fire Extinguishers		
Classes of Fires	Fog/Stream	CO_2	Purple K Dry Chemical	Pressurized Water
Class A (Defined as wood, paper, cloth, etc.)	Yes (See Note 4)	No, except very small fires	Yes (Heat of Combustion may remain)	Yes
Class B (Defined as flammable Liquids)	Yes, FOG ONLY (See note 1)	Yes	Yes	No
Class C (Defined as energized Electrical Equipment)	No No (See Note 2)	Yes Yes	Yes Yes (See Note 3)	No No (See Note 2)

Note 1: When using water to combat a Class B fire special techniques are necessary. The Use of a direct hose stream should be avoided to minimize spreading the fire. However, "cooling" may be provided via hose stream to heat sensitive equipment in the vicinity of the fire. If necessary, due to the size of the fire being beyond the capabilities of multiple Purple K dry chemical extinguishers, a water "fog" application NOT DIRECTLY APPLIED to the fire may be used for additional suppression.

Note 2: In the case of High Voltage Equipment, the Associated Cabling and Control Devices shall always be de-energized prior to the use of water as a suppresant. High density cable runs of generally lower voltage are a specific concern at PBAPS. Water ONLY in the form of a FOG may be used. Water should be used only in maximum fog form at the maximum effective distance (to eliminate electrical conduction) when fighting a fire in low voltage energized cable. Fog should first be established, not in contact with the fire, and separation distance should slowly be decreased. When electrical equipment is de-energized then, the fire may be considered as Class A and may be fought as such.

Note 3: Due to the highly corrosive characteristics of Purple K dry chemical extinguishant usage on electrical equipment should be minimized.

Note 4: WARNING: FOR A FIRE IN FUEL STORAGE AREAS, FLOODING NEW FUEL WITH WATER OR APPLYING A WATER FOG SHOULD BE AVOIDED TO PREVENT A POSSIBLE CRITICALITY IN NEW FUEL.

APPENDIX EP-206A-5

PORTABLE FIRE FIGHTING EQUIPMENT AVAILABLE ON SITE

A. Fire Brigade Personnel Equipment Cage and Cart (Cage located on El. 116', Turbine Building, adjacent to the joy air compressor. Cart located on El. 165' inshore shield wall for Unit 2 turbine). Contents include Scott 4.5 one hour self contained breathing apparatus, turnout coats, boots, gloves, and phoenix hard hats.

B. Emergency Fire Cabinets

1. Cabinet No. 1 (Located at 165' El. adjacent to Unit 2 control room shield wall). Contents include smoke removal blower, instruction manual, flexible duct, and vent duct to flexible duct adapter, masking, duct, and electrical tapes, tools and fittings, door bar back equipment, extension cord.

2. Cabinet No. 2 (Same location as No. 1). Contents include half mile rays and Chemox canisters.

3. Cabinet No. 3 (Located at 116' El. adjacent to plant entrance shield wall). Contents include two smoke removal blowers plus same items as Cabinet No. 1.

C. Additional in-plant Hose Carts:

1. Unit No. 2 Reactor Bldg:

   a. Hose Cart No. H-137 El. 165', southeast corner near hatch.
   b. Hose Cart No. H-135 El. 195', northeast corner of fire tower.

2. Unit No. 3 Reactor Bldg:

   a. Hose Cart No. H-138 El. 165', northeast corner near hatch.
   b. Hose Cart No. H-136 El. 195', southeast corner by fire tower.

D. 350 lb. Wheeled Ansul Units:

1. Elevation 116':

   a. Unit No. 2 Turb. Bldg. southwest corner.
   b. Turb. Bldg. Center SWGR. Area South.
   c. Turb. Bldg. Center SWGR. Area North.
   d. Unit No. 3 Turb. Bldg. Northwest Corner.

APPENDIX EP-206A-5 (Continued)

2. Elevation 165':

   a. Unit No. 2 Turbine Hall:

      1. Riverside wall North
      2. Riverside wall South
      3. Downriver Southwest corner.
      4. Adjacent to Control Room entrance.

   b. Unit No. 3 Turbine Hall:

      1. Riverside wall North
      2. Riverside wall South
      3. Northwest Corner
      4. Center near generator

E. Portable wall mounted CO_2, Purple K Dry Chemical, pressurized water fire extinguishers and self-contained breathing apparatus.

APPENDIX EP 206A-6
EMERGENCY EXPOSURE GUIDELINES

	Function	Projected Whole Body Dose	Thyroid Dose	Authorized By
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

*Reference: EPA-520/1-75-001 Table 2.1
**Such exposure shall be on a voluntary basis

APPENDIX 206A-7

AVAILABLE METHODS OF SAFE SHUTDOWN

Twenty-five methods of providing reactor shutdown and decay heat removal were utilized as the basis for a safe shutdown analysis. The individual "F" procedure for each fire zone indicates those methods which would remain available if the fire zone of interest were to be subjected to a design basis fire. A design basis fire is assumed to disable all equipment located within a fire zone and all equipment associated with cabling passing through the fire zone. This analysis assumes complete loss of equipment function even if a component is not required to change its normal line up status to perform satisfactorily.

Each of these methods includes a system by which water can be added to the reactor vessel, a system by which energy can be removed from the reactor vessel, and any support systems needed to accommodate energy removal to an ultimate heat sink or to return water to its supply source. Additionally, each method has several alternatives derived from multiple flow paths, redundant loops, or alternate power supplies.

Following is a description of these 25 methods of providing reactor shutdown.

Methods utilizing the condensate pumps or condensate pumps and reactor feed pumps:

1. Water is supplied from the condensate storage tank (CST) by the condensate and reactor feed pumps to the reactor vessel. Energy is removed via the turbine bypass valves (TBV) to the condenser and water is returned to the CST. The condenser is cooled by the circulating water system. This is a non-safety related method.

2. Water is supplied from the CST by the condensate and reactor feed pumps to the reactor vessel. Energy is removed via the main steam relief valves (MSRV) to the torus. the torus is cooled using the residual heat removal (RHR) pumps and the high pressure service water (HPSW) pumps and water is returned to the CST. This is a non-safety related method.

3. Water is supplied from the CST by the condensate and reactor feed pumps to the reactor vessel. Energy is removed via high pressure coolant injection (HPCI) steam drag to the torus. The torus is cooled using the RHR and HPSW pumps and water is returned to the CST. This is a non-safety related method.

4. The reactor is depressurized to 650 psig or less using the TBV. Water is supplied from the CST by the condensate pumps to the reactor vessel. Energy is removed via the TBV to the condenser and water is returned to the CST. The condenser is cooled by the circulating water system. This is a non-safety related method.

APPENDIX EP-206A-7 (Continued)

5. The reactor is depressurized to 650 psig or less using the MSRV. Water is supplied from the CST by the condensate pumps to the reactor vessel. Energy is removed via the MSRV to the torus. The torus is cooled using the RHR and HPSW pumps and water is returned to the CST. This is a non-safety related method.

Methods utilizing the RCIC pump:

6. Water is supplied from the CST by the reactor core isolation cooling (RCIC) pump to the reactor vessel. Energy is removed via the TBV to the condenser. The condenser is cooled by the circulating water system. the torus is cooled by the RHR and HPSW pumps. Water is returned to the CST. This is a non-safety related method.

7. Water is supplied from the CST by the RCIC pump to the reactor vessel. Energy is removed via the MSRV to the torus. The torus is cooled by the RHR and HPSW pumps and water is returned to the CST. This is a non-safety related method.

8. Water is supplied from the CST by the RCIC pump to the reactor vessel. Energy is removed via HPCI steam drag to the torus. The torus is cooled by the RHR and HPSW pumps and water is returned to the CST. This is a non-safety related method.

9. Water is supplied from the torus by the RCIC pump to the reactor vessel. Energy is removed via the TBV to the condenser. The condenser is cooled by the circulating water system. The torus is cooled using the RHR and HPSW pumps and water is returned to the torus. This is a non-safety related method.

10. Water is supplied from the torus by the RCIC pump to the reactor vessel. Energy is removed via the MSRV to the torus. The torus is cooled using the RHR and HPSW pumps. Although the RCIC system is not considered a safety related system, it is designed to satisfy class I seismic criteria. Because of this design, this method can be considered a safety related method.

11. Water is supplied from the torus by the RCIC pump to the reactor vessel. Energy is removed via RCIC steam drag to the torus. The torus is cooled by the RHR and HPSW pumps. Although the RCIC system is not considered a safety related system, it is designed to satisfy Class I seismic criteria. Because of this design, this method can be considered a safety related method.

Methods utilizing the HPCI pump:

APPENDIX EP-206A-7 (Continued)

12. Water is supplied from the CST by the HPCI pump to the reactor vessel. Energy is removed via the TBV to the condenser. The condenser is cooled by the circulating water system. The torus is cooled using the RHR and HPSW pumps and water is returned to the CST. This is a non-safety related method.

13. Water is supplied from the CST by the HPCI pump to the reactor vessel. Energy is removed via the MSRV to the torus. The torus is cooled by the RHR and HPSW pumps and water is returned to the CST. This is a non-safety related method.

14. Water is supplied from the CST by the HPCI pump to the reactor vessel. Energy is removed via HPCI steam drag to the torus. The torus is cooled by the RHR and HPSW pumps and water is returned to the CST. This is a non-safety related method.

15. Water is supplied from the torus by the HPCI pump to the reactor vessel. Energy is removed via the TBV to the condenser. The condenser is cooled by the circulating water system. The torus is cooled by the RHR and HPSW pumps and water is returned to the torus. This is a non-safety related method.

16. Water is supplied from the torus by the HPCI pump to the reactor vessel. Energy is removed via the MSRV to the torus. The torus is cooled by the RHR and HPSW pumps. This is a safety related method.

17. Water is supplied from the torus by the HPCI pump to the reactor vessel. Energy is removed via HPCI steam drag to the torus. The torus is cooled by the RHR and HPSW pumps. This is a safety related method.

Methods applicable after the reactor is depressurized to 300 psig or less:

18. The reactor is depressurized using the TBV. Water is supplied from the torus by an RHR pump to the reactor vessel. Energy is removed via the TBV to the condenser. The condenser is cooled by the circulating water system. Water is returned to the torus. This is a non-safety related method.

19. The reactor is depressurized using the MSRV. Water is supplied from the torus by an RHR pump to the reactor vessel. Energy is removed via the MSRV to the torus. The torus is cooled using the RHR and HPSW pumps. This is a safety related method.

Methods applicable after the reactor is depressurized to 350 psig or less:

APPENDIX EP-206A-7 (Continued)

20. The reactor is depressurized using the TBV. Water is supplied from the CST by a core spray pump to the reactor vessel. Energy is removed via the TBV to the condenser. The condenser is cooled by the circulating water system. Water is returned to the CST. This is a non-safety related method. This method is an alternate to method 22 below, i.e., water is supplied from the CST in place of the torus. Use of this water supply requires opening a manual valve in the core spray pump suction line.

21. The reactor is depressurizing using the MSRV. Water is supplied from the CST by a core spray pump to the reactor vessel. Energy is removed via the MSRV to the torus. The torus is cooled by the RHR and HPSW pumps and water is returned to the CST. This is a non-safety related method. This method is an alternate to method 23 below, i.e. water is supplied from the CST in place of the torus. Use of this water supply requires opening a manual valve in the core spray pump suction line.

22. The reactor is depressurized using the TBV. Water is supplied from the torus by a core spray pump to the reactor vessel. Energy is removed via the TBV to the condenser. The condenser is cooled by the circulating water system. Water is returned to the torus. This is a non-safety related method.

23. The reactor is depressurized using the MSRV. Water is supplied from the torus by a core spray pump to the reactor vessel. Energy is removed via the MSRV to the torus. The torus is cooled by the RHR and HPSW pumps. This is a safety related method.

24. The reactor is depressurized using the TBV. Water is supplied from the river by a HPSW pump to the reator vessel. Energy is removed via the TBV to the condenser. The condenser is cooled by the circulating water system. Water is returned to the CST which overflows to radwaste. This is a non-safety related method.

25. The reactor is depressurized using the MSRV. Water is supplied from the river by a HPSW pump to the reactor vessel. Energy is removed via the MSRV to the torus. The torus is cooled by the RHR and HPSW pumps. This is a safety related method.

JJT:mdw

1-7-86

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM UNITS 2 AND 3

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-206B - DAMAGE REPAIR GROUP

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PURPOSE

The purpose of this procedure is to provide guidelines for the actions of the Damage Repair Group.

RESPONSIBILITIES:

1.0 The Shift Supervisor shall assume the duties of the Fire and Damage Team Leader, until relieved by the Maintenance Engineer or his designated alternate.

2.0 The Fire and Damage Team Leader shall activate and coordinate the activities of the Damage Repair Group.

3.0 Damage Repair Group Leader shall direct the activities of the Damage Repair Group.

4.0 Members of the Damage Repair Group shall perform emergency repairs.

5.0 Health Physics Technicians shall provide health physics coverage to the group(s).

ACTION LEVEL:

The Damage Repair Group shall be activated whenever there is a situation on site which in the judgement of the Emergency Director requires their services.

PRECAUTION:

1. Team member's exposure should be limited to the administrative guide levels in Appendix EP 206B-1, Emergency Exposure Guidelines. The Emergency Director shall approve any team member exceeding Peach Bottom quarterly exposure limits. The individual damage team members should ensure that they control their own exposures in accordance with ALARA concepts.

2. Requirements of HPO/CO-4, Radiation Work Permits, are not applicable. The HP accompanying the repair group will serve as the RWP.

3. The functions of the Fire and Damage Team Leader are performed by the Shift Supervisor in the control room until the maintenance engineer (or alternate) relieves him of these responsibilities.

4. If team members are required to enter a hazardous area, there shall be a minimum of two people per group entering, plus one HP Technician.

PROCEDURE:

1.0 IMMEDIATE ACTIONS:

1.1 Emergency Director shall:

1.1.1 Direct all requests for damage repairs to the attention of the Fire and Damage Team Leader.

1.1.2 Provide the Fire and Damage Team Leader with all information required to facilitate repair efforts.

1.2 Fire and Damage Team Leader (Shift Supervisor) shall:

1.2.1 Contact the Maintenance Shift Assistance Foreman and explain the situation in detail when the Damage Repair Group's services are required.

1.3 Damage Repair Group Leader (Maintenance Shift Assistant Foreman) shall:

1.3.1 Assemble the Damage Repair Group at the first floor of the Administrative Building or Control Room and ensure an HP technician is included in the Group to provide radiological information where needed.

1.3.2 Designate an emergency repair squad leader and give him instructions on what actions should be taken by the group. The group should consist of the most experienced mechanical and electrical personnel. Minimum group make-up shall be 2 maintenance personnel and 1 HP technician.

1.3.3 Obtain necessary keys for the Group from the Control Room.

1.3.4 Review applicable maintenance procedures and advise team members. Explain the situation and what has to be done to the group in detail.

1.3.5 Provide information to the squad on equipment and supplies.

1.3.6 Advise the Control Room concerning the need for de-energizing or removing equipment or systems from service.

1.3.7 Advise the Fire & Damage team Leader of Group members exposures. For team members involved in emergency work and repairs, attempt to minimize radiation exposure and contamination as much as possible. (See Appendix EP-206-B-1 for Exposure Limits Guidelines).

1.3.8 If necessary, request additional personnel or equipment from the Fire and Damage Team Leader located in the TSC.

1.4 Fire and Damage Team Leader (Maintenance Engineer) shall:

1.4.1 Report to the Technical Support Center (when activated). Contact the Emergency Director and obtain status of the current situation.

1.4.2 Obtain an update of the situation and relieve the Fire and Damage Team Leader (Shift Supervisor).

1.4.3 Direct and coordinate emergency repair operations as necessary. Ensure selection of the most experienced electrical and mechanical maintenance personnel available for the particular repair effort at hand.

1.4.4 Periodically update the Emergency Director of the status of the repair work.

1.4.5 Provide additional personnel support if necessary. Use EP-209 Appendix D-3 for additional qualified maintenance personnel.

1.5 Damage Repair Group Members shall:

1.5.1 Report to the area designated by the group leader.

1.5.2 Assemble necessary equipment (i.e., tools, parts, etc. for the pending operations) from locations on or off-site designated by the Fire and Damage Team Leader. The Aux OSC Coordinator (on 116' Elevation Turbine Building, Unit 2 side) shall be contacted for a health physics technician needed to support the repair effort.

1.5.3 Follow the directions of the group leader.

1.6 Aux OSC Coordinator shall:

1.6.1 Assign an HP Technician to each Damage Repair Squad.

1.7 Health Physics Technician shall:

1.7.1 Obtain required equipment and report to the assembly area. Inform the damage repair squad leader of any known radiological hazards associated with the situation.

1.7.2 Ensure safe radiological conditions in the damage area.

2.0 FOLLOWUP ACTIONS:

2.1 Fire and Damage Team Leader shall:

2.1.1 Periodical update the Emergency Director on the status of the repair work.

2.1.2 Provide the Damage Repair Group Leader with periodical briefings on plant status including any significant radiation exposure and radioactive contamination problems which may effect the functions of the group.

2.1.3 Obtain additional personnel support, if necessary, using EP-209, Appendix D-3 for additional qualified maintenance personnel.

2.2 Damage Repair Group Leader shall:

2.2.1 Provide periodical up-dating briefings to the Fire and Damage Team Leader on the progress of repairs being accomplished.

2.2.2 Request additional support i.e., personnel, materials and equipment, if required from the Fire and Damage Team Leader.

APPENDICES:

EP-206B-1, Emergency Exposure Guidelines

REFERENCES:

PBAPS Emergency Plan, Section 5.2.1.5.8, Fire and Damage Team

NUREG 0654 Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness Support of Nuclear Power Plants

EP-206A, Fire Fighting Group

EP-209, Appendix D-3, Fire Fighting and Damage Repair Notification List

EP-401, Entry for Emergency Repair and Operations

APPENDIX EP-206B-1
EMERGENCY EXPOSURE GUIDELINES

	Function	Projected Whole body Dose	Thyroid Dose	Authorized By
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

*Reference: EPA-520/1-75-001 Table 2.1
**Such exposure shall be on a voluntary basis

1-3-85

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM UNITS 2 AND 3

EMERGENCY PLAN IMPLEMENTING PROCEDURE

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EP-208 - SECURITY TEAM ACTUATION

PURPOSE:

To delineate the responsibilities and actions of the Security Team.

RESPONSIBILITIES:

1.0 The Sergeant of the Guard shall assume the duties of the Security Team Leader immediately upon notification by the Control Room. These duties will be performed at the Secondary Alarm Station until relieved by the Senior Security Coordinator or his designated alternate.

2.0 The Senior Security Coordinator or his alternate shall report to Unit 1, TSC and take directions from the Emergency Director when the TSC is activated or at the Alert Classification.

ACTION LEVEL:

The Emergency Director shall contact the Guard Sergeant, or designated alternate, and direct him to activate the Security Team.

PRECAUTIONS:

1.0 During an emergency involving a radiological release, the Senior Security Supervisor shall only call out the security personnel that are trained and qualified to wear protective clothing and respiratory equipment to perform functions within the protective area.

2.0 However, if other functions are to be performed outside the protected area which do not require the dress-out or respiratory equipment, the Senior Security Supervisor may call out these additional security personnel, as required by the emergency situation.

PROCEDURE:

1.0 IMMEDIATE ACTIONS:

1.1 The Sergeant of the Guard shall:

1.1.1 Assume the responsibilities of the Security Team Leader following notification of an emergency until relieved by the Senior Security Coordinator or his alternate.

1.1.2 Designate qualified and trained group leaders for the following functions:

a. Access Control Group

b. Accountability Group

1.1.3 Dispatch one additional security officer to Unit 1 to prepare for the arrival of members of the emergency response organization, to set up badging, dosimetry, etc.

1.1.4 Prepare to dispatch the Access Control Group Leader and group members in accordance with Security Procedures PP-10 and PP-11.

1.1.5 Provide the Emergency Director a security briefing(s), as required.

1.1.6 Maintain station security integrity of the Protective Area as required by Security Procedures.

1.1.7 When a Site Evacuation is declared, ensure that personnel in the Information Center, President Utility Building (PUB), any persons located near the cooling towers, Personnel Processing Center, etc. are notified of the Site Evacuation.

1.2 Accountability Group Leader shall:

1.2.1 Be prepared to perform the required accountability functions as directed by the Security Team Leader.

1.2.2 When a Site Evacuation is directed by the Emergency Director, provide the following services:

a. Account for all personnel departing the station, ensuring that they turn in the Security Key Card ID badges but they take their personal dosimetry with them.

b. Post security officer at the exit turnstile area with a container to accept all restricted area badges.

c. Provide vehicle directions to the designated off-site assembly area i.e., PUB, North Substation, or Delta Service Building.

d. Upon completion of the roll call for accountability, provide a roster to designate assembly area (Vehicle and Evacuee Group Leader).

e. Provide a list of names for all personnel not accounted for to the Security Team Leader, who will notify the Emergency Director on the situation.

f. This accountability function shall be accomplished within the prescribed 30 minutes after the public address announcement is made for a Site Evacuation.

1.3 The Personnel Safety Team Leader shall:

1.3.1 Make public address announcements in an attempt to locate the missing personnel that are not accounted for during the station roll call. If missing personnel do not answer the public address announcements within approximately a five minute period of time, the Personnel Safety Team Leader will dispatch the Search and Rescue Team to locate the missing individual(s).

1.4 Access Control Group Leader shall:

1.4.1 Obtain sufficient personnel and assign group members to designated posts.

1.4.2 Implement appropriate security procedures, as required.

1.4.3 Establish road blocks and control egress and access roads.

1.4.4 Screen incoming personnel at the road blocks. If any problems arise on questionable incoming persons, contact Security Supervisor for assistance.

1.4.5 Provide directions to visitors, evacuees, etc.

1.4.6 Provide escort services, as required.

1.4.7 Assist the Vehicle and Evacuee Group Leader in directing evacuees and traffic at the designated assembly area(s).

1.4.8 Expedite the entry of off-site emergency responding vehicles and personnel. Notify the Security Team Leader or Sergeant of the Guard when these emergency response personnel arrive at the road blocks.

2.0 <u>FOLLOW UP ACTIONS</u>:

2.1 Security Team Leader shall:

2.1.1 Continue to provide directions to the group leaders as the emergency classification is escalated or de-escalated.

2.1.2 Advise the Emergency Director when additional security personnel are required.

2.1.3 Coordinate security activities with the EOF Security Liaison Representative when EOF has been activated.

2.1.4 Maintain the security integrity of the Protected Area.

2.1.5 Maintain a log of events throughout the emergency or drill.

2.1.6 Visitors, contractors, consultants, etc. will be allowed entrance to the station only when they are authorized admittance by one of the following individuals:

a. Emergency Director, or

b. Site Emergency Coordinator, or

c. Security Team Leader

FINAL CONDITIONS:

1.0 Upon notification from the Emergency Director that the emergency classification has de-escalated to normal operations, the Security Team Leader can close out his function.

APPENDICES:

None

REFERENCES:

PBAPS Emergency Plan, Section 5.2.1.5.4, Security Team Leader; Section 5.2.1.4.4.1, Accountability Group; Section 5.2.1.5.4.2, Access Control Group.

NUREG 0654

Security Procedure, PP-11, Guard Actions During Site Evacuation

EP-110, Personnel Assembly and Accountability

EP-201, Technical Support Center (TSC) Activation

PBAPS Security Plan and Contingency Procedures

12-31-85

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM UNITS 2 AND 3

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EP-209 TELEPHONE LISTS FOR EMERGENCY USE

PURPOSE:

To designate members of the Emergency Teams and to supply pertinent company and non-company emergency support personnel telephone numbers.

PROCEDURE:

The names and telephone numbers listed in the appendices of this procedure are arranged for use in an emergency. Each appendix represents a specific group of personnel. In some cases, a name will appear in more than one appendix. The appendices are:

Appendix No.	Description
A	Immediate Notification Lists
C	Peach Bottom Station Supervision
D1	On Site Emergency Team Leaders
D2	Dose Assessment Team
D3	Fire and Damage Team
D4	Personnel Safety Team
D5	Security Team
D6	Re-Entry Team
D7	Technical Support Team
D8	Chemistry Sampling & Analysis Team
E	Corporate Emergency Team Leaders & Support Personnel
F	United States Governmental Agencies
G	Emergency Management Agencies
H	P.E. Company Consultants and Contractors
I1	Field Support Personnel
I2	Rad Services Call List
J	Nearby Public & Industrial Users of Downstream Waters
K	Miscellaneous
L	Local PECo Phones
N	Medical Support Groups
P	60 Minute Call Procedure

FIRE AND DAMAGE TEAM:

The Fire and Damage Team consists of the on-shift P.O.'s, APO's, and A.O.'s. The team is augmented by other personnel who are on-site or called in. The augmenting forces are trained on the Emergency Plan but not necessarily in Fire Fighting. These augmenting forces operate under the direction of the team members and leaders who have had Fire Fighting Training. The augmenting forces are:

1. Staff Engineers and Test Engineers
2. Maintenance personnel
3. Construction personnel
4. Janitors and Storeroom personnel
5. Delta-Cardiff Volunteer Fire Department

Most personnel in Groups 1 through 4 receive PECo Fire Training; Group 5 personnel are trained in fire fighting by the Delta-Cardiff Volunteer Fire Company.

PERSONNEL SAFETY TEAM:

The Personnel Safety Team is made up of on-shift Health Physics Technicians, P.O.'s, A.P.O.'s, and A.O.'s who are trained in the Emergency Plan Procedures. The team is augmented by other site personnel who are on-site or called in. Augmenting forces may be Plant Janitors, Test Engineers, and others who are not necessarily trained in the Emergency Plan but will assist under the direction of the team leaders and members.

SEARCH AND RESCUE/FIRST AID GROUP:

The Search and Rescue/First Aid Group is organized by the Personnel Safety Team Leader at the direction of the Emergency Director. It will consist of personnel who are available and who are knowledgeable of the plant layout and recognize conditions which could result from the existing emergency condition. The purpose of this team is to search plant areas quickly to locate and rescue victims. These personnel are also trained in First Aid. Personnel who know plant layout and are available to make up this team are from the following groups:

Shift Operators	Construction
Test Engineers	H.P. Technicians
Staff Engineers	Susquehanna Test Branch
Maintenance	Field Engineers
	Plant Janitors

SECURITY TEAM LEADER AND TEAM MEMBERS:

The Security Team is made up of the Guard Force. The Sergeant of the Guard is the Team Leader. The guard force is trained in security and necessary Emergency Plan Procedures.

RE-ENTRY TEAM:

The Re-Entry Team will be made up of available personnel. It is anticipated that personnel with some radiological controls experience or training would be used. Personnel from the following groups are available:

Shift Personnel	HP Technicians
Staff Engineer	Some Maintenance Personnel
Test Engineers	Some Construction Personnel

Specialized training is not required for personnel other than the team leaders.

TECHNICAL SUPPORT TEAM:

The Technical Support Team is organized by the Emergency Director. It consists of various staff, administrative, and consulting personnel who can jointly provide recommendations to the Emergency Director intended to correct and improve emergency conditions.

REVIEW REQUIREMENTS:

1. Changes to this procedure proper shall be in accordance with A-4.

2. Additions, deletions, or changes of names or responsibilities on the appendices shall be PORC approved in accordance with A-4.

3. Corrections of addresses or phone numbers on the appendices may be handled by the secretarial staff without PORC review and approval; however, these appendices must be signed by the Manager or Alternate.

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EP-209 APPENDIX A - IMMEDIATE NOTIFICATION CALL LIST

Unusual Event Immediate Notification Call List

a. Emergency Director — Centrex

Alternate

b. Load Dispatcher

c. Pennsylvania Emergency Management Agency — 24 hrs. per day

d. York County Emergency Management Agency — 24 hrs. per day

e. NRC Operations Center
Bethesda, MD

f. Penna. Bureau of Rad. Protection
Harrisburg, PA

g. Manager - Public Info.

Office [redacted]

Home [redacted]

Beeper [redacted]

Alternate [redacted]

Office [redacted]
Home [redacted]
Beeper [redacted]

Alert Condition Immediate Notification Call List

a. Emergency Director — Centrex

[redacted]

Alternate: [redacted]

b. Load Dispatcher
(initiates call list "C")

c. Pennsylvania Emergency Management Agency

d. Maryland Civil Defense Agency

e. County Emergency Management Agencies

(1) York County — 24 hrs. per day

(2) Lancaster County

(3) Chester County

(4) Harford County — 8-5 PM, 5PM-8AM

(5) Cecil County

30[redacted]

f. NRC Operations Center
Bethesda, MD

1st Choice:
2nd Choice:
3rd Choice:
4th Choice:

5th Choice:

g. Penna. Bureau of Rad. Protection
Harrisburg, PA

[redacted]

Site Area Emergency Immediate Notification Call List

a. Emergency Director

[redacted]

Alternate:

b. Load Dispatcher
(Initiates call list "C")

c. Pennsylvania Emergency
Management Agency

d. Maryland Civil Defense Agency

e. County Emergency Management
Agencies

(1) York County 24 hrs.
per day

(2) Lancaster County

(3) Chester County

(4) Harford County 8-5PM
5PM-8AM

(5) Cecil County

Centrex

[redacted]

f. NRC Operations Center
Bethesda, MD

1st Choice:
2nd Choice:
3rd Choice:
4th Choice:

5th Choice:

g. Department of Energy REP (Optional

h. Penna. Bureau of Rad. Protection
Harrisburg, PA

i. Penna. State Police
York Barracks

General Emergency Immediate Notification Call List

a. Emergency Director — Centrex

Alternate:

b. Load Dispatcher
(initiates call list "C")

c. Pennsylvania Emergency
Management Agency

d. Maryland Civil Defense Agency

e. County Emergency Management
Agencies

(1) York County — 24 hrs. per day

(2) Lancaster County

(3) Chester County

(4) Harford County — 8-5PM
5PM-8AM

(5) Cecil County

f. NRC Operations Center
Bethesda, MD

g. Department of Energy REP (Optional)

h. Delaware Div. Emergency Planning
(Optional)

i. Delaware State Police

j. New Jersey State Police Emergency
Management (Optional)

k. Penna. Bureau of Rad. Protection
Harrisburg, PA

l. Penna. State Police
York Barracks

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PEACH BOTTOM UNITS 2 AND 3

EP-209 APPENDIX C - PEACH BOTTOM STATION SUPERVISION

Manager	Home Phone	Centrex
[redacted]	[redacted]	[redacted]
Superintendent - Operations		
[redacted]	[redacted]	[redacted]
Superintendent - Plant Services		
[redacted]	[redacted]	[redacted]
Engineer - Outage Planning		
[redacted]	[redacted]	[redacted]
Engineer - Maintenance		
[redacted]	[redacted]	[redacted]
Engineer - Technical		
[redacted]	[redacted]	[redacted]

Engineer - Operations

[redacted]

Senior - HP

[redacted]

Engineer - Administration

[redacted]

Performance Group

[redacted]

Project Group

[redacted]

Security Supervisor

[redacted]

Engineer - I&C

[redacted]

Senior - Chemist

Engineer - Chemistry

Engineer-Health Physics

Quality Engineer

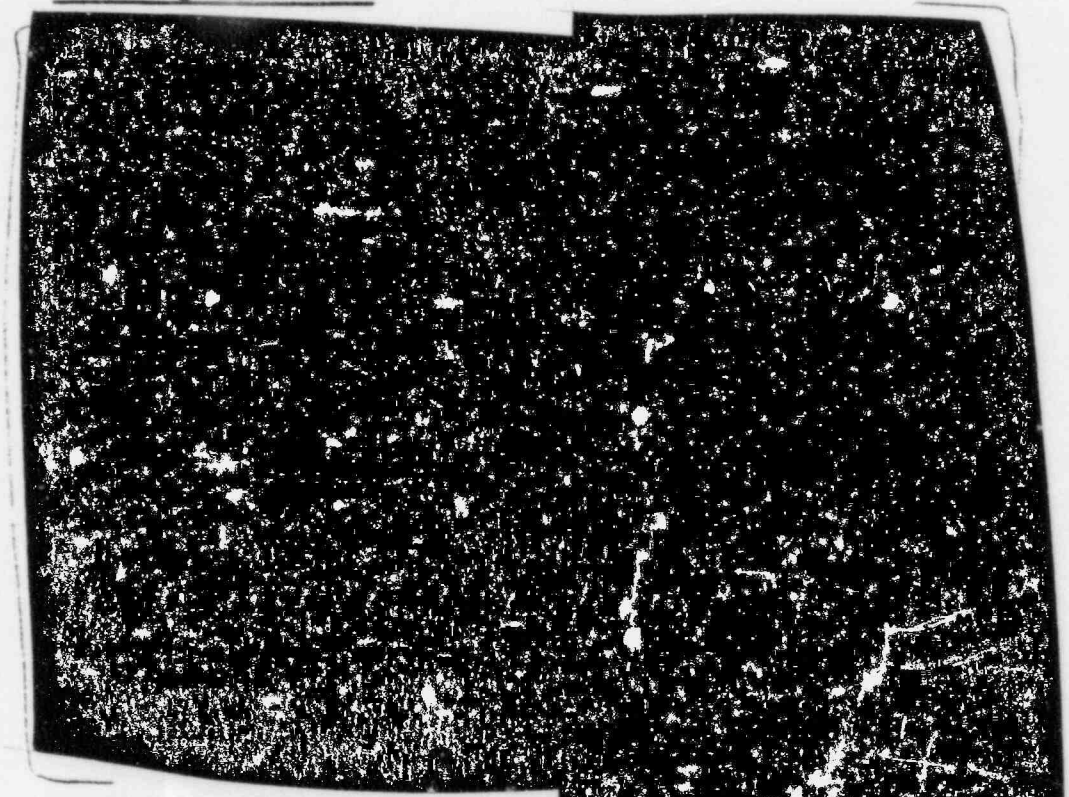
Assistant Maintenance Engineer

Engineer - Reactor

Chemist

Individuals below are not required to be notified during an Alert, Site Emergency, or General Emergency.

Shift Superintendent



Shift Supervisor

[redacted]

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PEACH BOTTOM UNITS 2 & 3

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EP-209 APPENDIX D-1 - ON SITE EMERGENCY TEAM LEADERS

Emergency Director	Home Phone	Centrex
[redacted]		
Alternate Emergency Director		
[redacted]		
Emergency Directors		
[redacted]		

Alternate Emergency Directors/
Fire and Damage Team Leaders

1-7-86

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PEACH BOTTOM UNITS 2 & 3

EP-209 APPENDIX D-2 - DOSE ASSESSMENT TEAM

DOSE ASSESSMENT TEAM LEADER	HOME PHONE	CENTREX	PAGER
[redacted]			

ALTERNATE DOSE ASSESSMENT TEAM LEADER

[redacted]

DOSE ASSESSMENT TEAM MEMBERS

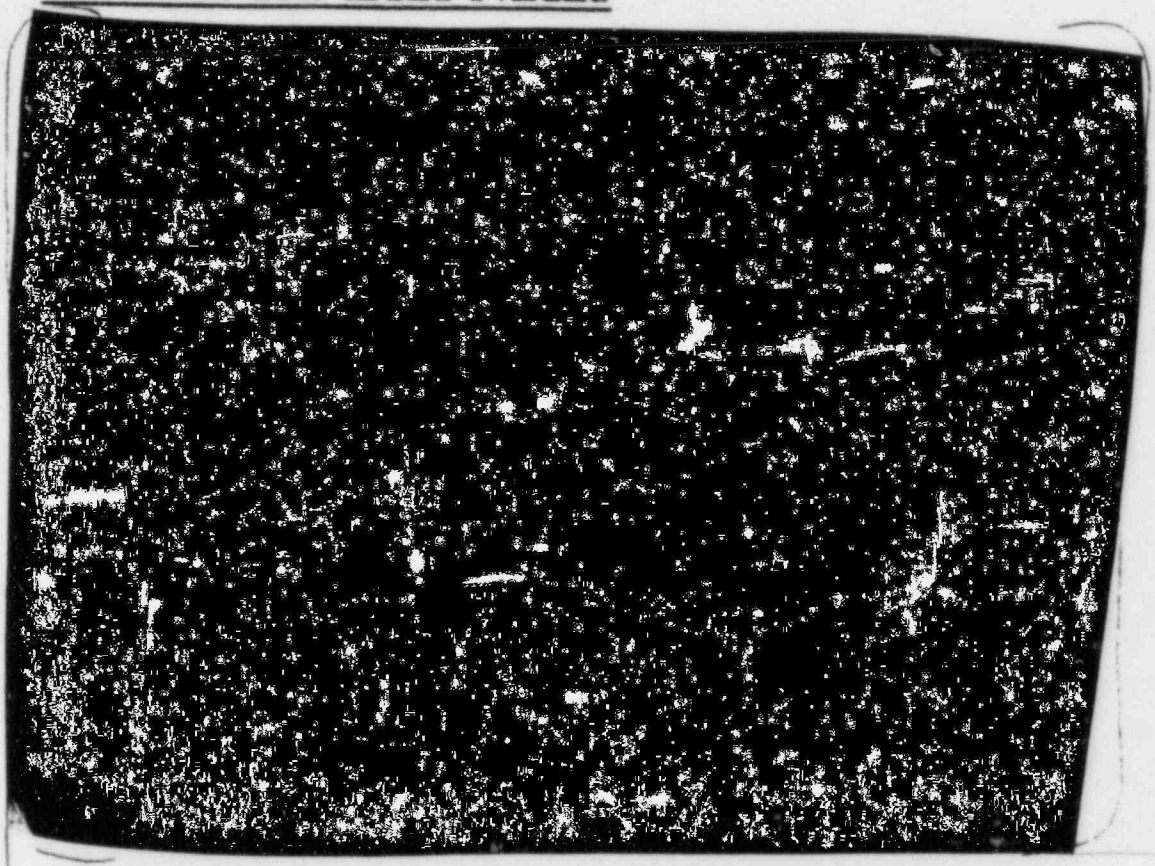
[redacted]

FIELD SURVEY GROUP LEADER

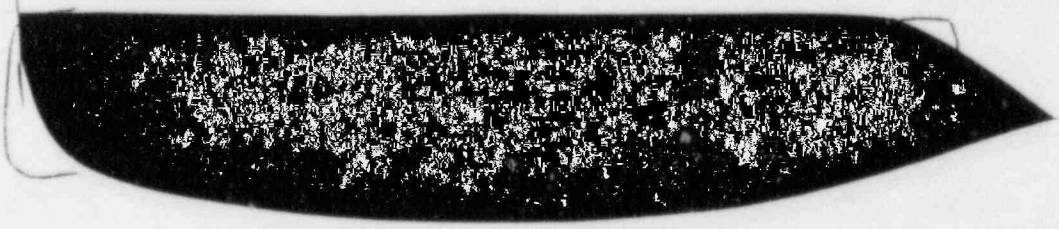
[redacted]

* Can not meet 60 minute reporting requirement.

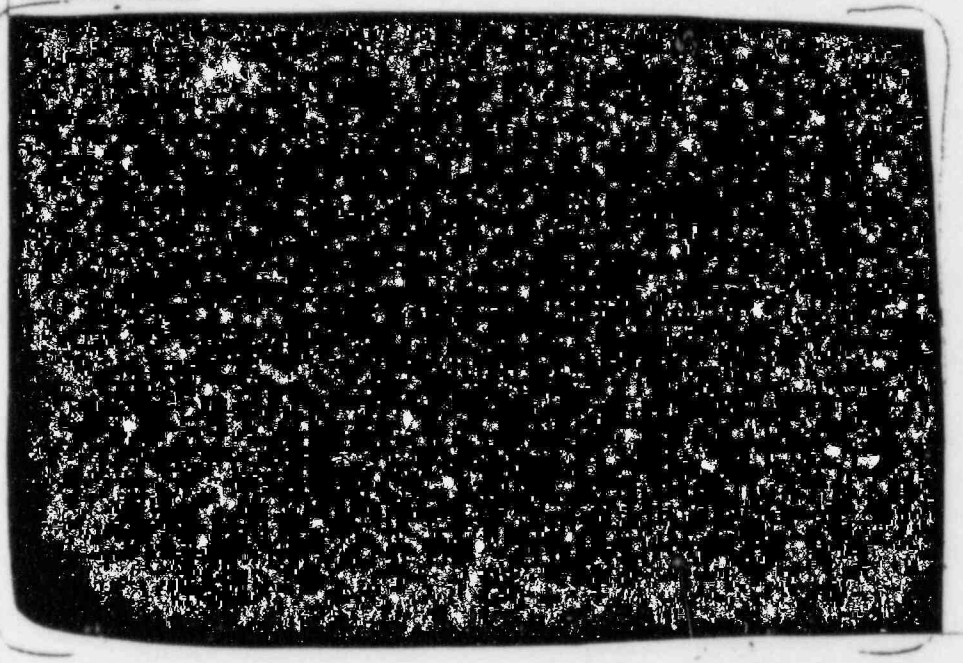
FIELD SURVEY GROUP LEADERS & MEMBERS



LOG RECORDERS



DATA TAKERS



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PEACH BOTTOM UNITS 2 & 3

EP-209 APPENDIX D-3 - FIRE AND DAMAGE TEAM

Fire and Damage Team Leader

[redacted]

Alternate

[redacted]

Fire and Interim Damage Team Members

[redacted]

Maintenance Personnel - Damage Augmentation Forces

[redacted]

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PEACH BOTTOM UNITS 2 & 3

EP-209 APPENDIX D-4 PERSONNEL SAFETY TEAM

Personnel Safety Team Leader	Home Phone	Centrex
[redacted]	[redacted]	[redacted]
Alternate Personnel Safety Team Leader		
[redacted]		
Interim Personnel Safety Team Leader		
Onshift Senior Tech. HP		
Interim Personnel Safety Team Members		
Onshift HP's		
First Aid/Search and Rescue Group Leader		
[redacted]		
Alternate First Aid/Search and Rescue Group Leader		
[redacted]		
First Aid/Search and Rescue Group Members		
[redacted]		

[redacted]

[redacted]

Plant Survey Group Leader

Home Phone

Centrex

[redacted]

Alternate Plant Survey Group Leader

[redacted]

Plant Survey Group Members

[redacted]

[redacted]

[redacted] [redacted]

For Contractor Plant Survey Group Members See EP-209 APP I-2

Evacuation Assembly Area Group Leader	Home Phone	Centrex
[redacted]	[redacted]	

Alternate Evacuation Assembly Group Leader		
[redacted]		

Evacuation Assembly Area Group Members		
[redacted]		

Personnel Dosimetry, Bioassay, Respiratory Protection Group Leaders	Home Phone	Centrex
[redacted]		

Personnel Dosimetry, Bioassay, Respiratory Protection Group Members		
[redacted]		

Health Physics Data Takers for Personnel Safety Team

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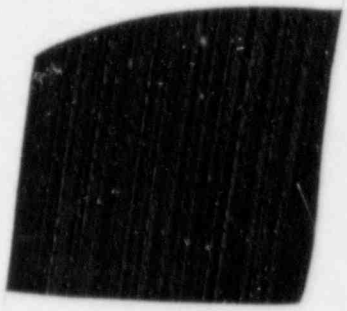
PEACH BOTTOM UNITS 2 & 3

EP-209 APPENDIX D-5 SECURITY TEAM

SECURITY TEAM LEADER	TELEPHONE NO.
[redacted]	[redacted]
ALTERNATES	
[redacted]	
SECURITY TEAM - SERGEANTS	
[redacted]	
ACCESS CONTROL/BADGING	
[redacted]	
EQUIPMENT REPAIR COORDINATOR	
[redacted]	
CLERK	
[redacted]	

CORPORALS



SECURITY TEAM MEMBERS- GUARDS

[redacted]

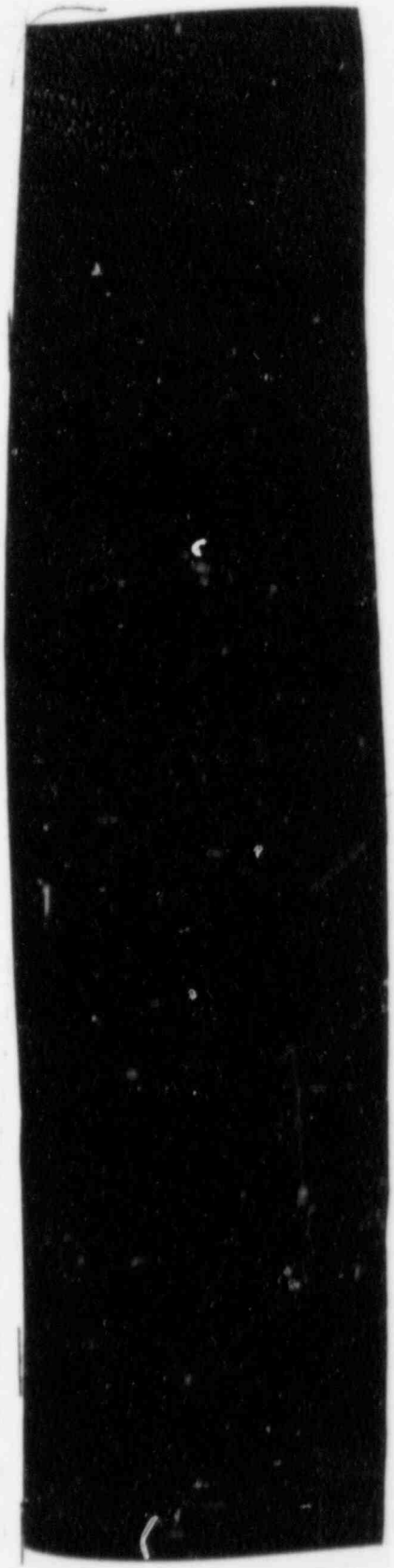
[redacted]

SECURITY TEAM MEMBERS - WATCHPERSONS

TELEPHONE NO.

[redacted]

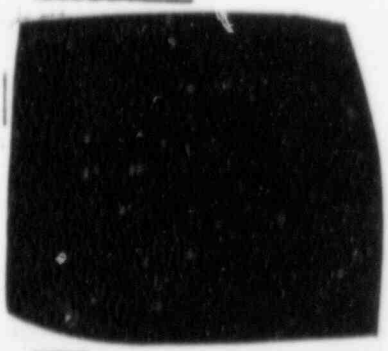
[redacted]



* CAS/SAS trained

SECONDARY ALARM ST. & CONTROL ALARM

ATTENDANTS



TELEPHONE NO.

[redacted]

PART-TIME SECURITY TEAM MEMBERS - GUARDS

TELEPHONE NO.

[redacted]

PART-TIME SECURITY TEAM MEMBERS - WATCHPERSONS

TELEPHONE NO.

[redacted]

BURNS INTERNATIONAL SECURITY SERVICES, INC.

[redacted]

BURNS DISTRICT MANAGER

[redacted]

PERSONNEL ADMINISTRATOR

[redacted]

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EP-209 APPENDIX D-6 RE-ENTRY AND RECOVERY TEAM

Re-Entry and Recovery Team Leader

[redacted]

Alternate Re-Entry and Recovery Team Leader

[redacted]

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EP-209 APPENDIX D-7 TECHNICAL SUPPORT CENTER GROUP

Emergency Director

[redacted]

Alternate

[redacted]

Technical Engineer

[redacted]

Alternates

[redacted]

Home

Centrex

[redacted]

Supervising Engineers & Alternates

Outage Planning Engineer

[redacted]

Alternate: [redacted]

Administration Engineer

[redacted]

Performance Group

[redacted]

Alternate: [redacted]

I & C Engineer

[redacted]

Alternate: [redacted]

Project Group:

[redacted]

Alternate: [redacted]

Reactor Engineer

[redacted]

Alternate: [redacted]

Senior Chemist

[redacted]

Alternate: [redacted]

Quality Assurance Engineer

[redacted]

Alternate: [redacted]

Maintenance Engineer ***

[redacted]

Alternate: [redacted]

Senior Health Physicist ***

[redacted]

Alternate: [redacted]

Applied Health Physicist ***

[redacted]

Alternate: [redacted]

<u>Record Keeper and Communicator</u>

See EP-209 Appendix I-1 for personnel to fill this position.

[redacted]

Data Display Operators - 2 required

Notify one of the five persons in the order listed below. The person notified will contact two Data Display Operators.

1. [redacted]
2.
3.
4.
5.

*** Required to report to the EOF when activated.

Secretaries
2 required

Home

Centrex

[redacted]

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PEACH BOTTOM UNITS 2 & 3

EP-209 APPENDIX D-8 CHEMISTRY SAMPLING & ANALYSIS TEAM

Chemistry Sampling & Analysis Team Leader	Home Phone	Centrex
[redacted]		

Alternate Chemistry Sampling & Analysis Team Leader

[redacted]

Chemistry Sampling & Analysis Team Members

[redacted]

[redacted]

Supplemental Forces are available from Rad Services Inc. Appendix I-2.

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EP-209 APPENDIX E - CORPORATE EMERGENCY TEAM LEADERS AND SUPPORT PERSONNEL

	Home Phone	Centrex
Site Emergency Coordinator		
[redacted] Supt., Nuclear Generation	[redacted]	[redacted]
Site Emergency Coordinator Alternate		
[redacted] Supt. Nuclear Services	[redacted]	[redacted]
Site Emergency Coordinator Alternate		
[redacted] Supt. Limerick	[redacted]	[redacted]
HP&C Coordinator		
[redacted] Director, Rad. Prot. Sect.	[redacted]	[redacted]
HP&C Coordinator Alternate		
[redacted] Physicist, Rad. Prot. Sect.	[redacted]	[redacted]
Environmental Sampling Coordinator		
A. [redacted] Supv. Eng. Env. Branch	[redacted]	[redacted]
Environmental Sampling Coordinator Alternate		
[redacted] Sr. Eng. Environmental Branch	[redacted]	[redacted]
Planning & Scheduling Coordinator		
[redacted] Outage Planning Coordinator	[redacted]	[redacted]

Planning & Scheduling Coordinator Alternate

[redacted]

Procedure Support Coordinator

[redacted]

Senior Engineer, Licensing

Procedure Support Coordinator Alternate

[redacted]

Maintenance Engineer, Limerick

Emergency Support Officer/Recovery Officer

[redacted]

V.P. Electric Production

Emergency Support Officer/Recovery Officer Alt.

[redacted]

Mgr. Generation Nuclear

Emergency Medical Dirctor

[redacted]

Medical Director

Emergency Medical Director Alternate

[redacted]

Med. Disp. Physician

Emergency Security Officer

[redacted]

Manager, Claims-Security

Emergency Security Officer Alternate

[redacted], Director, Security

Insurance Coordinator

[redacted] Manager Insurance Division

Insurance Coordinator Alternate

[redacted] Insurance Administrator

Core Physics Coordinator

[redacted] Eng-in-charge Fuel Mgmt.

Core Physics Coordinator Alternate

[redacted] Eng. Fuel Mgmt.

Administrative and Logistics Manager

[redacted] Director, Corporate Analysis

Administrative and Logistics Manager Alt.

[redacted] Manager, Rate Division

Administrative and Logistics Manager Alt.

[redacted] Manager, T&D Services

[redacted]

Support Personnel Procurement Coordinator

[redacted]

Eng. in Charge, Licensing Section

Support Personnel Procurement Coordinator Al

[redacted]

Engineer, Licensing Section

Support Personnel Accommodations Coordinato

[redacted]

Mgr. Area Development

Support Personnel Accommodations Coord. Alt.

[redacted]

Supt., Sales Analysis

Support Personnel Accommodations Coord. Alt.

[redacted]

Staff Asst. Business Services

Western Division - Accommodations

[redacted]

Supv., Business Services

Western Division - Accommodations Alt.

[redacted]

Bus. Services Rep.

Purchasing Coordinator

[redacted]

Mgr., Purchasing

Purchasing Coordinator Alternates

[redacted]

Supervising Buyer

[redacted]

Transportation Coordinator

[redacted]

Gen. Supt. Trans. Div.

Transportation Coordinator Alternate

[redacted]

Supt. Operations

Communication Equipment Coordinator

[redacted]

Gen. Supt. Office Systems and Communicatio

Communication Equipment Coordinator Alt.

[redacted]

Supt. Office Systems and Communicatio

Stores Division Coordinator

[redacted]

Gen. Supt. Stores Division

Stores Division Coordinator Alternate

[redacted]

Supt. Stores Division

T & D Support Coordinator

[redacted]

Mgr. T&D Operations

T & D Support Coordinator Alt.

[redacted]

Asst. to V.P. T&D

Design and Construction Support Officer

[redacted]

Chief Mech. Eng.

Design and Construction Support Officer Alt.

[redacted]

Chief Elec. Eng.

QA/QC Coordinator

[redacted]

Supt. Q/A Division Electric Production

QA/QC Coordinator Alternate

[redacted]

Director, QA Division, E & R

Radwaste Coordinator

[redacted]

Eng. in Charge Power Plant Services Section

Radwaste Coordinator Alternate

[redacted]

Supv. Eng. Power Plant Services

Engineering Design Coordinator

[redacted]

Chief Design Engineer

Engineering Design Coordinator Alt.

[redacted]

Asst. Chief Design Engineer

I&C Coordinator

[redacted]

Supv. Eng. Power Plant Control Systems Branch
Engineer-in-Charge Control Eng. Section

I&C Coordinator Alt.

[redacted]

Supv. Eng. Nuclear Control Branch

Licensing Coordinator

[redacted]

Eng. in Charge Nuclear & Env. Section

Licensing Coordinator Alternate

[redacted]

Supv. Engineer Nuclear Branch

Systems Engineering - Mechanical Coordinator

[redacted]

Eng. in Charge, Power Plant Design

Systems Engineering - Mechanical Coorinator alt.

[redacted]

Supv. Eng. Nuclear Steam Supply Branch

Systems Engineering - Electrical Coordinator

[redacted]

Eng. in Charge, Station Eng. Section

Systems Engineering - Electrical Coord. Alt.

[redacted]

Supv. Eng., Nuc.-Gen. Branch

Construction Coordinator

[redacted]

Gen. Supt. Construction Division

Construction Coordinator Alternate

[redacted]

Asst. Gen. Supt. Construction Division

Maintenance Coordinator

[redacted]

Gen. Supt., Maintenance Division

Maintenance Coordinator Alternate

[redacted]

Supt. Mechanical Maintenance

Federal and State Government Liaison

[redacted]

Sr. V.P. Nuclear

Federal and State Government Liaison Alt.

[redacted]

V.P. Corporate Communications

Company Spokesman

[redacted]

V.P. Eng. Research

[redacted]

Manager, Eng. & Research

Public Information Officer

[redacted]

V.P. Corporate Communications

Public Information Officer Alt.

[redacted]

Manager Corporate Comm.

Muddy Run News Center Coordinator

[redacted]

Mgr. Corp. Communicatio.

Muddy Run News Center Coordinator Alt.

[redacted]

Mgr. Public Information

EOF Liaison

[redacted]

Asst. Mgr. Energy Information & Education

EOF Liaison Alt.

[redacted]

Sr. Energy Information Rep.
Limerick Information Center

Corporate News Media Coordinator

[redacted]

Mgr. Editorial Services

Corporate News Media Coordinator Alt.

[redacted]

Dir. Employee Info.

Technical Advisor (to Muddy Run News Center)

[redacted]

Sr. Eng. Nuc. Sect. Gen. Div.

Technical Advisor (to Muddy Run News Center) Alt.

[redacted]

Eng in charge, Nuclear Safety Section

Ventilation Coordinator

[redacted]

Eng. in charge, Industrial Section

Ventilation Coordinator Alternate

[redacted]

Supv. Eng., Building Facilities Branch

Civil Engineering Coordinator

[redacted]

Engr. in charge, Civil Section

Civil Engineering Coordinator Alternate

[redacted]

Supv. Eng. Structural Branch

Emergency Planning Coordinator

[redacted]

P.B. Emergency Preparedness Coordinator

Emergency Planning Coordinator Alternate

[redacted]

Emergency Preparedness Section

[redacted]

Emergency Preparedness Section

EOF Mechanical Engineer Liason

[redacted]

[redacted]

EOF Electrical Engineer Liason

[redacted]

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EP-209 APPENDIX F - U. S. GOVERNMENT AGENCIES

	Address	Phone
1. U.S. Nuclear Regulatory Commission		
A. Office of Inspection and Enforcement		
Region 1	631 Park Avenue King of Prussia, PA 19406	
B. Office of Nuclear Reactor Regulation	Washington, DC 20555 Phillips Bldg. Mail Stop P-428	
Harold Denton (Director)		
2. Dept. of Energy Radiological Program	Brookhaven Nat. Lab Upton, NY 11973	
3. Environmental Protection Agency	841 Chestnut St Philadelphia, PA 19106	
4. Department of Transportation 3rd U.S. Coast Guard District	Governors Island New York, NY 10004	

5. Department of Agriculture
   Chief, Division of Milk Sanitation

   G. W. Fouse

   Dept of Agriculture
   Bureau of Food & Chemistry
   2301 N. Cameron St
   Harrisburg, PA
   17110

6. Department of Energy Rep.

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EP-209 APPENDIX G - EMERGENCY MANAGEMENT AGENCIES

	Address	Phone
1. State Emergency Management Agencies		
a. Pennsylvania Emergency Management Agency	Room B-151 Transportation & Safety Bldg. P.O. Box 3321 Harrisburg, PA 17120	
b. Delaware Civil Defense Agency State Police and Civil Defense Emergency Management Section	P.O. Box 527 Delaware City, DE 19706	
c. New Jersey Office of Emergency Management N.J. State Police Division Headquarters	P.O. Box 7068 West Trenton, NJ 08625	
d. Maryland Emergency Management and Civil Defense Agency	Sudbrook Lane & Reisterstown Road Pikesville, MD 21208	
2. County Emergency Management Agencies		
a. Lancaster County William Johnson	County Courthouse 50 North Duke St. Lancaster, PA 17602	
b. York County Robert Straw	York County Courthouse 28 East Market St. York, PA 17401	
c. Chester County Tim Campbell	County Emergency Headquarters 14 East Biddle St. West Chester, PA 19380	

d. Harford County Dr. Charles Browne	Harford County Emergency Management & Civil Defense 2205 Conowingo Rd. Bel Air, MD 21014	[redacted]
e. Cecil County Rosemary Culley	Cecil County Emergency Management & Civil Defense 500 Landing Lane Box 37 Elkton, MD 21921	

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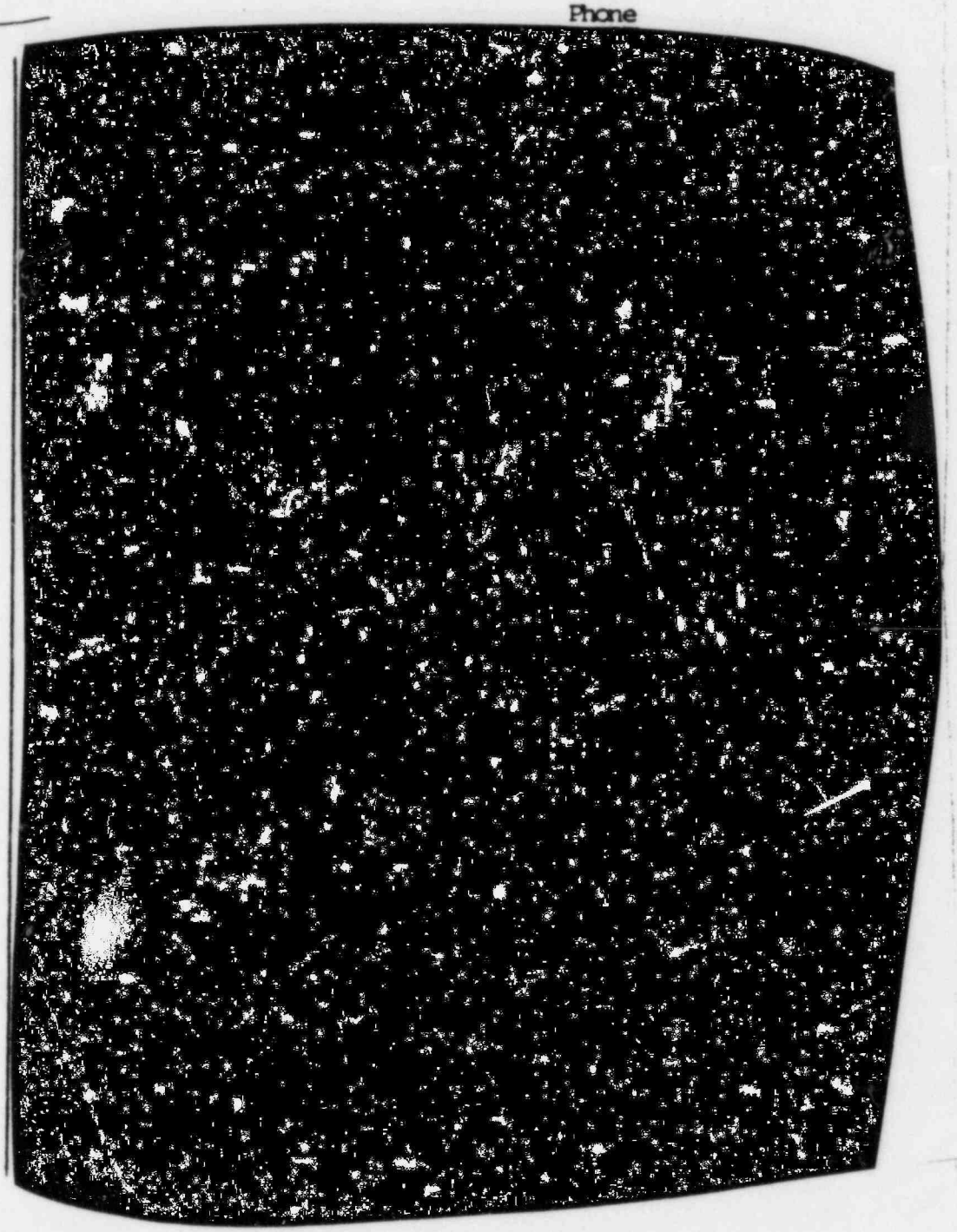
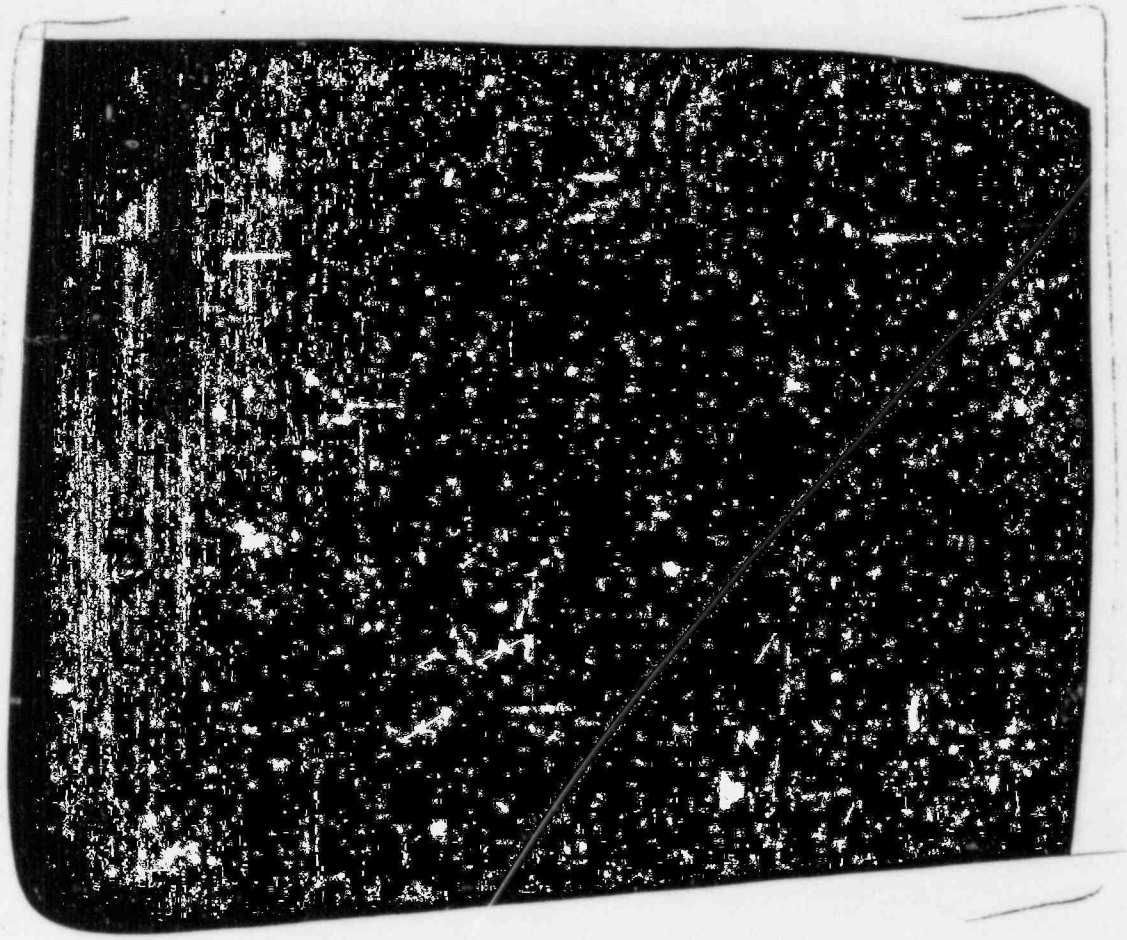
EP-209 APPENDIX I-1 FIELD SUPPORT PERSONNEL

Phone





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PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM UNITS 2 & 3

EP-209 APPENDIX I-2 - CHEMISTRY AND HEALTH PHYSICS CONTRACTOR CALL LIST

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EP-209 APPENDIX J NEARBY PUBLIC AND INDUSTRIAL USERS OF DOWNSTREAM WATERS

	Address	Phone
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

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EP-209 APPENDIX K MISCELLANEOUS

	Address	Phone
1. Western Union Telegraph	York, PA Philadelphia, PA Toll Free	
2. Control Centers		
A. Lancaster County		
Emergency Operations Center	50 N. Duke St Lancaster, PA 17602	
B. York County		
Emergency Operations Center	29 E. Market St York, PA 17401	
3. Maryland Department of Health		
Division of Radiation Control		
Emergency Roster	Business:	
[redacted]		
4. Department of Environmental Resources		
A. Office of Network Information		
Ellen Sprinkle, Director	Room B-102 Transportation & Safety Building Harrisburg, PA 17120	

B. Harrisburg Regional Office

James Flesher, Chief, Operations Section	1 Ararat Blvd. Harrisburg, PA 17110

5. Bureau of Radiation Protection Dept of Environmental Resources [redacted] — P.O. Box 2063 Harrisburg, PA 17120

Office Hours: 8:00 AM - 4:00 PM

Personnel & Home Phones:

[redacted]

6. Pennsylvania Health Department

A. South Central District	1500 N. 2nd St. Harrisburg, PA 17102
B. State Health Center York County	After hours 36N. George St. York, PA 17401
C. Emerg. Management Co-Ordinator	

7. State Police York Barracks	1195 Roosevelt Ave. York, PA 17404
8. State Police Lancaster Barracks	2099 Lincoln Hwy East Lancaster, PA 17602
9. State Police - Maryland	Pikesville Bel Air North East

[redacted]

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EP-209 APPENDIX L LOCAL PECO PHONES

Peach Bottom

Switchboard:

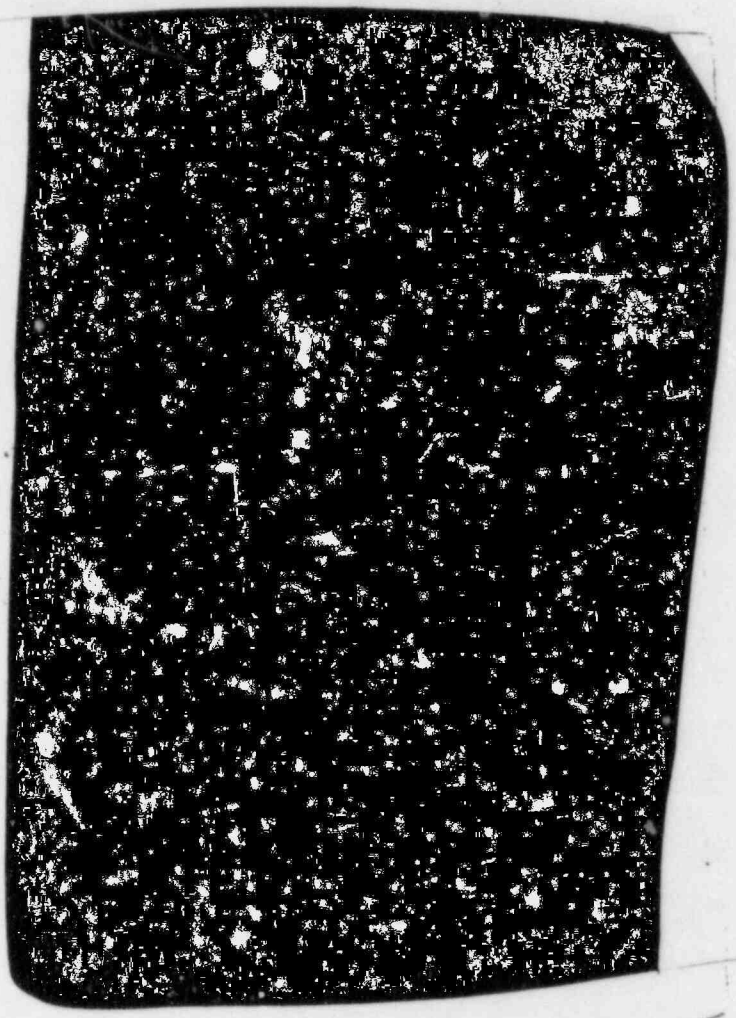
Catalytic
Construction:

Control Room:
Information Center:
NRC Office:

Rad Services:
Storeroom:
Susquehanna Test:
220 KV House:
Utility Building:
Guard House

Others

Delta Office:
Delta Service Building:



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EP-209 APPENDIX N - MEDICAL SUPPORT GROUPS

Local Physicians & Addresses	Office Phone	Home Phone
1st choice: [redacted]	[redacted]	
2nd choice: [redacted]		

Harford Memorial Hospital

501 South Union Avenue
Havre de Grace, MD 21078

Ambulance	Preferred No.	Alternate
Harford Civil Defense Agency	[redacted]	
Delta-Cardiff Fire Company		

	Business No.
Harford Co. Fire Control Headquarters	[redacted]
York County Control	

Medical Director	Home Phone	Centrex
[redacted]	[redacted]	

Pager

[redacted]

Alternate

[redacted]

[redacted]

Pager

[redacted]

Director - Radiation Protection Section

[redacted]

[redacted]

Radiation Management Corporation

Preferred

Alternate

[redacted]

[redacted]

Beeper

* If no one is at R.M.C. (Radiation Management Corporation) or if this number is called after 5:00 PM, a taped message will be heard. This message will instruct the caller to leave his message or to call the "after 5:00 PM" number.

** This number is located in the PECo load dispatcher office. Ask L.D. supervisor to contact R.M.C. and have them contact you at your number.

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PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-209 APPENDIX P - STAFFING AUGMENTATION - 60 MINUTE CALL PROCEDURE

PURPOSE:

This appendix provides the method of contacting key staff personnel who will, in-turn, notify sufficient support personnel to meet the one-hour staffing requirement. It is used if an Emergency Plan Alert, Site Emergency, or General Emergency is declared.

1. The following steps shall be performed, in sequence, by the Shift Clerk or other assigned personnel.

2. Inform each person contacted of the event classification and that 60 minute staffing is required.

3. Call pager number if the phone is busy, if there is no answer, or if you know that the individual is "on-the-pager". Individuals may, of cource, supply temporary numbers which should be called first.

4. Contact two staff senior engineers. R. S. Fleischmann is contacted by the Communicator and counts as one contact. Do not call R. S. Fleischmann if the Communicator has successfully reached him. Attempt to contact the "Duty" and "Interim Site Coord." engineers first. If you are unsuccessful, continue to call or page personnel on the list until you contact two individuals who can be at the site in less than 60 minutes.

Name	Phone	Time Called	Disposition No Ans.-Busy-Contacted	Called By

5. Contact one of the representatives from the Personnel Safety Team listed below and request the call-in of required Personnel Safety Team members. Make the calls in the listed order unless individuals are known not to be available.

Name	Phone	Time Called	Disposition No. Ans.-Busy-Contacted	Called By
[redacted]				

6. Contact one of the representative from the Dose Assessment Team listed below and request the call-in of required HP, TAs and Technicians. Make the calls in the listed order unless individuals are known not to be available. This step may be omitted if A. E. Hilsmeier was contacted in Step 4.

Name	Phone	Time Called	Disposition No Ans.-Busy-Contacted	Called By
[redacted]				

7. Contact one of the representatives from the Chemistry Sampling and Analysis Team listed below and request the call-in of required Chemistry TAs and Technicians. Make the calls in the listed order unless individuals are known not to be available. This step may be omitted if Dennis Oltmans was contacted in Step 4.

[redacted]

8. Contact the on-shift Maintenance Sub-Foreman via phone (at Ext. 4713) or plant page system and request a call-in of two maintenance mechanics (preferrably one electrician and one fitter or machinist) from their own support personnel call list.

   Maintenance Sub-Foreman _____

   Time Contacted _____ by _____

9. Contact the on-shift I&C technician via plant phone (at ext. 4238) or plant paging system and request a call-in of two additional I&C Technicians from their own support personnel call list.

   I&C Technician contacted _____

   Time Contacted _____ By _____

10. Contact one of the representative of the Engineering Support Group below and request the call-in of required Engineers and TAs call in the listed order unless individuals are known not to be available. This step may be omitted if A. A. Fulvio was contacted in Step 4.

Name	Phone	Time Called	Disposition No Ans.-Busy-Contacted	Called By
[redacted]				

11. Contact one PO or APO on list provided by SS/SSV and call-in for work as Radwaste Operator. (If the person is contacted, he is required to come to plant). This step may be waived by Shift Supervision if an extra PO or APO for Radwaste is already on shift.

    PO or APO Contacted _____ Est Arrival Time _____

    Time Contacted _____ by _____

12. At the discretion of the Shift Superintendent, call in a Shift Supervisor to act as OSC Coordinator. Use EP-209 APP. C for phone numbers.

    Supervisor Contacted _____ Estimated Arrival Time _____
    Time Contacted _____ Contacted By _____

13. Contact the Radwaste Supervisor or the Electrical Supervisor, as required, at the discretion of the Shift Superintendent for help in responding to the plant condition.

Name	Phone	Time Called	Disposition No. Ans.-Busy-Contacted	Called By
[redacted]				

14. Attempt to contact all other senior engineers listed in Step 4. Document in Step 4.

15. Notify Emergency Director (Shift Supterintendent) when notifications are complete and inform him of any discrepancies.

    Notified _____ at _____

    Discrepancies _____

File Sys 3-1

12-31-85

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-210 DOSE ASSESSMENT TEAM

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PURPOSE:

To define the actions of the Dose Assessment Team.

RESPONSIBILITIES:

1.0 The Senior Health Physicist or his designated alternate shall assume the duties of the Dose Assessment Team Leader when the Technical Support Center is activated at the Alert Classification.

2.0 The Dose Assessment Team Leader or his alternate will report to the Emergency Director, until the Emergency Operations Facility (EOF) is operational and the Site Emergency Coordinator assumes operational control over the emergency situation.

ACTION LEVEL:

The Dose Assessment Team shall be activated by the Emergency Director or at the Alert Classification.

1.0 IMMEDIATE ACTIONS:

1.1 Dose Assessment Team Leader shall:

1.1.1 Upon notification of an alert or higher classification, activate team members, assign emergency roles and direct them to report to EOF.

1.1.2 Proceed to EOF (second floor Unit 1)

1.1.3 Establish contact with the Site Emergency Coordinator (or Emergency Director under Alert Condition).

1.1.4 Coordinate dispatching the field survey squads under the direction of the Site Emergency Coordinator or the Emergency Director.

1.1.5 Initiate calculations as necessary, see Appendix EP-210-1, Dose Assessment Procedure and Application.

1.1.6 Upon completion of EP-316 calculations, implement EP-317, Direct Recommendations to County Emergency Management and Civil Defense Agencies, when required.

1.2 Dose Assessment Team Members shall:

1.2.1 Check supply of data and worksheets and calculators.

1.2.2 Establish data acquisition mode; i.e., TV monitors or direct link to control room.

1.2.3 Perform calculations as directed.

1.2.4 Calculate integrated and projected dose and post on status board.

NOTE: Status Board keeper will post board and transmit copies of status board data to TSC and HQ ESC.

2.0 FOLLOW UP ACTIONS:

2.1 Dose Assessment Team Leader shall:

2.1.1 Coordinate with the Chemistry Sampling and Analysis Team Leader to obtain chemistry sampling and analysis data.

2.1.2 Keep Emergency Director, Site Emergency Coordinator, and Health Physics and Chemistry Coordinator informed of dose projections.

2.1.3 Prepare Appendix EP-210-2, Contacting Radiation Management Corporation (RMC), when requested by the Site Emergency Coordinator.

2.1.4 Establish contact with Pennsylvania Bureau of Radiation Protection and Maryland Division of Radiation Control representatives in the EOF and keep these agencies informed.

2.1.5 Participate in EOF briefings and provide current dose assessment and protective action information.

2.2 Dose Assessment Team Members shall:

2.2.1 Continue to refine calculations as new data becomes available.

APPENDICES:

EP 210-1 Dose Assessment Procedures & Application

EP 210-2 Contacting Radiation Management Corporation (RMC)

REFERENCES:

Peach Bottom Atomic Power Station Emergency Plan Section 5.2.1.5.6 and 6.6.1
EP-316 Cumulative Population Dose Calculations
EP-317 Determination of Protective Action Recommendations
EP-318 Liquid Release Dose Calculations - Water
EP-319 Liquid Release Dose Calculations - Fish
EP-325 Methodology for Using the Containment Radiation Monitor Dose Rate vs. Time Curves to Estimate Source Term Available for Release
EP-209 Appendix P - Staffing Augmentation

Appendix EP-210-1

DOSE ASSESSMENT PROCEDURES APPLICATION

Input Radiological Data	Applicable Procedure
Normal Range Monitor Release Rate	EP-316 Manual or Computer Method to Determine Dose
High Range Monitor Release Rate	EP-316 Manual Method to Determine Release Rate for Manual or Computer Method
Containment Rad Monitor Dose Rate	EP-325 To Estimate Release Rate for Manual or Computer Method
Particulate Filter and Iodine Cartridge Data	EP-316 Manual or Computer Method to Estimate Dose. (2) Use Manual Method to Determine Deposition Concentration.
Field Survey - I-131 or Concentration	EP-316 To Estimate Thyroid Dose Commitment Rate
Liquid Release Data	EP-318 and/or EP-319 as Necessary

General Notes:

1. Dose Model is primary calculation method when in operation.

2. EP-316 "Rapid" calculations are conservative and assume normal flow conditions, predetermined windspeeds and turbulence classes.

Appendix EP-210-2

CONTACTING RADIATION MANAGEMENT CORPORATION

Phone Number [redacted]

This is __(Name)__ representing the Dose Assessment Team of the Peach Bottom Atomic Power Station.

There has been a release of radioactive material from the Unit (2), (3) plant and your assistance is required in the following areas:

_____Radiation Surveys (____Low Level____High Level)

_____BETA
_____GAMA
_____NEUTRON

_____Decontamination (____ALPHA, ____BETA, ____GAMMA)

_____Environmental sample analysis

_____Air particulate samples collection/evaluation

_____Bioassay

_____Wholebody counting

_____Other (Specify below)

Approach the site from (direction, route, etc.). Respiratory protection (is/is not) necessary. Anti-contamination clothing requirements are:

_____full
_____partial (booties, gloves, ____other)

Additional comments:

_____

_____

_____

_____

_____

_____

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PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM UNITS 2 AND 3

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-210A FIELD SURVEY GROUPS

PURPOSE:

To define the actions of the Field Survey Groups.

RESPONSIBILITIES:

1.0 Dose Assessment Team Leader or designated alternate shall activate the members of his team as required and report to the TSC or the EOF, when activated.

2.0 Field Survey Group Leader or designated alternate shall activate, brief, and dispatch the Field Survey Squads. In addition, will report to the EOF at the Alert Classification.

3.0 The Susquehanna Branch shall provide vehicles for use by the Field Survey Group.

4.0 The Maintenance Department shall provide sufficient drivers for each Field Survey Squad dispatched.

ACTION LEVEL:

The Field Survey Group will be activated as necessary by the Dose Assessment Team Leader.

PRECAUTIONS

1. Group members' exposure should be limited to Station Administrative Limits. Exposure exceeding Station Administrative Limits must be authorized by the Emergency Director and shall be in accordance with EP-211, Emergency Radiation Exposure Guidelines and Controls. Team members should control their exposure in accordance with ALARA concepts at all times.

2. If the equipment in use during a survey fails or malfunctions, the survey team shall retreat to a safe area until the equipment is replaced or repaired.

3. When conducting field surveys from inside a vehicle, readings must be taken with the probe outside the vehicle.

4. Requirements of HPO/CO-4, Radiation Work Permits, are not applicable.

PROCEDURE:

1.0 IMMEDIATE ACTIONS

1.1 Dose Assessment Team Leader shall:

1.1.1 Report to Emergency Director during an alert or when the EOF is activated.

1.1.2 Appoint a Field Survey Group Leader to direct field Survey Squads and communicate with Field Survey Group.

1.1.3 Designate to the Field Survey Group Leader in the areas to be surveyed.

1.1.4 Instruct the Field Survey Group Members to report the progress and results of the surveys on a periodic basis via the portable radios which they will carry with them when they are dispatched from the Emergency Operations Facility to make surveys.

1.1.5 Appoint a group member to stay at Unit 1 and perform periodic habitability checks of the TSC and EOF at specified intervals, as described in EP-203, Emergency Operations Facility (EOF) Activation.

1.2 Field Survey Group Leader shall:

1.2.1 Report to the EOF (second floor Unit 1).

1.2.2 Dispatch group members, to monitor areas offsite, as designated by the Dose Assessment Team Leader. A team consists of one H.P. Technician and one driver.

1.2.3 Designate channel to be used for radio communications between group leader and survey teams.

1.2.4 Maintain communications with survey teams via portable radios or landlines when radio communications are not possible.

1.2.5 Analyze and relay the collected survey data to the Dose Assessment Team Leader.

1.3 Field Survey Group Members shall:

1.3.1 Report to the EOF (second floor Unit 1).

1.3.2 Acquire equipment & maps as the situation requires from the Emergency Operations Facility. Members shall carry appropriate personnel dosimetry, including zeroed pocket dosimeters, prior to leaving to conduct surveys. Portable radios are located in the Communication Room at the Emergency Operations Facility.

1.3.3 During transit to the specified areas, observe the energized survey instruments for changes above background levels. When conducting surveys outside the vehicle instrument probes should be waist high above the ground.

1.3.4 Conduct surveys as directed by the Field Survey Group Leader (fill out appropriate portions of Appendix EP-210A-1). Use GM survey meters to scan close to ground surfaces to detect deposition of contamination. Obtain shielded and unshielded readings to determine Beta to Gamma ratio. All air samples taken should be counted in the field. Refer to HPO/CO-60 thru 67A for methods to take the various field samples required. Habitability surveys of TSC and EOF shall be conducted in accordance with EP-201 and EP-203.

1.3.5 Upon completion of the surveys, return the vehicle to the designated area for possible decontamination, if required.

1.3.6 Survey the vehicle and decontaminate in accordance with HPO/CO-8, Decontamination of Tools and Equipment, as necessary. If the vehicle was contaminated, inform the Field Survey Group Leader.

1.3.7 Report data to the Field Survey Group Leader (or alternate) via portable radios.

1.3.8 Frisk before leaving any area potentially contaminated.

1.4 The Susquehanna Branch shall:

1.4.1 Provide Security with keys to vehicles.

1.4.2 Provide four 4X4 wheeled vehicles for Field Monitoring purposes. (See 1.4.4, below)

1.4.3 During actual emergencies, there will be two 4X4 vehicles available, the other two will be recalled, or Field Survey Group can obtain other vehicles or use their individual private automobiles, until replacements can be obtained from PECo resources.

1.5 The Maintenance Department shall:

1.5.1 Provide sufficient drivers to operate these vehicles listed in Section 1.4, above.

1.5.2 Designated Maintenance Drivers will sign out and obtain keys to their designated 4X4 wheeled vehicles and report to the Field Survey Group Leader at Unit 1, in the EOF. The keys to these vehicles shall be obtained from the Sergeant-of-the-Guard in the Security Administration Building.

2.0 FOLLOW-UP ACTIONS

2.1 Dose Assessment Team Leader shall:

2.1.1 Analyze survey data and relay this data to the Site Emergency Coordinator (if EOF is activated) and the Emergency Director.

2.1.2 Provide the survey teams with appropriate information as to plant status and expected radioactive "plume" movement which may affect the activities of the teams. Advise team members to be cognizant of "plume" and to move to edge of plume after data is collected (maximum advantage should be made of time, distance and shielding in accordance with ALARA considerations).

2.2 Field Survey Group Members shall:

2.2.1 In case of failure of primary communications radios, locate the nearest commercial (pay) telephone and pass information via this secondary means of communications.

2.3 Field Survey Group Drivers shall:

2.3.1 Upon termination of the drill or emergency, return their vehicles to the PECo Vehicle parking lot.

2.3.2 If any problems or malfunctions are observed during the course of travel, it will be reported to the Field Survey Group Leader by the driver of the vehicle.

APPENDICES:

EP-210A-1, Radiation-Contamination-Airborne Survey

REFERENCES:

NUREG 0654 Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
NUREG 0696 Functional Criteria for Emergency Response Facilities
PBAPS Emergency Plan, Section 5.2.1.5.6.1, Field Survey Group
HPO/CO-8, Decontamination of Tools and Equipment
HPO/CO-60, Field Use of Eberline Ion Chamber Model RO-1 Radow
HPO/CO-62, Field Use of Eberline GM Detector Model E-400
HPO/CO-63, Field Use of Eberline Contamination Monitor Model RM-14
HPO/CO-64, Field Use of Eberline RM-14 and HP-210 Probe as a Field Scaler
HPO/CO-65, Field Use of Low Volume Portable Air Sampler
HPO/CO-67A, Field Use of TCS Air Sampling System for the Determination of Iodine

PBAPS - RADIATION - CONTAMINATION - AIRBORNE SURV

J.P. NO. _____ RECORD - UNIT 2 ☐ - UNIT 3 ☐ - Offsite

SURVEY NO. _____

DATE - _____ TIME - _____ SURVEY BY - _____

AREA - (Location)

REASON - _____

Instrument Type _____
Range or Model Number _____
Serial Number _____

- RADIATION -

		BETA MRAD/HR	GAMMA MR/HR	NEUTRONS MREM/HR	TOTAL MREM/HR	DISTA
1						
2						
3						
4						
5						

Instrument Type _____
Range or Model Number _____
Serial Number _____

Type of Samplers and Serial Number _____

Type of Counting Instrument & Serial Number _____

- CONTAMINATION -

ITEM	BETA-GAMMA DPM/100 cm²	ALPHA DPM/100 cm²

- AIRBORNE - Total Volume _____

SAMPLING Time	AVERAGE FLOW RATE	COUNTER
START - _____		
STOP - _____	FT³/MIN. _____	EFF. _____

GROSS COUNTS _____

COUNTING TIME _____ MIN.

GROSS COUNTS/MIN _____

BACKGROUND (CPM) _____

NET CPM _____

ISOTOPE(S)

*MICRO-CURIES CUBIC CENT. (SPECIFIC ACTIVITY)

MPC Functions = $\frac{uCi/cc}{MPC\ I_{131}}$ (____

$$* = \frac{\text{NET CPM}}{\text{SCALER EFF} \times \text{FILTER EFF.} \times \text{AREA FRACTION} \times \text{VOLUME (FT}^3) \times 6.28 \times 10^{10}}$$

Specify Activity Based on Gamma Spectroscopy (compute printout)

REMARKS/AREA DIAGRAM -

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PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-305 SITE EVACUATION

PURPOSE

The purpose of this procedure is to define the necessary actions to be performed, if a site evacuation is required.

RESPONSIBILITIES

1.0 The Emergency Direction shall direct the evacuation of the station.

2.0 Security shall perform accountability of personnel during the evacuation. In addition, Security will perform access control by posting road blocks as directed.

3.0 All non-essential personnel shall evacuate the station and proceed to the designated off site assembly area as directed over the public address system.

4.0 Control Room Supervision shall ensure that the Information Center, Personnel Processing Center, area around Cooling Towers and the President Utility Building (if not being used as an assembly area) is surveyed to ensure all occupants are evacuated as required.

ACTION LEVELS

1.0 This procedure shall be implemented by the Emergency Director at his discretion or when an actual or potential radioactive release exceeds that specified as an Alert, Site Emergency or General Emergency levels in EP-101, Classification of Emergencies.

2.0 Evacuate all non-essential personnel from the site when one or more of the following conditions exist:

2.1.1 A Site Emergency or General Emergency has been declared,
2.1.2 Multiple Continuous Air Monitors throughout the plant are at high alarm,
2.1.3 Multiple area radiation monitors throughout the plant are at high alarm,
2.1.4 Conditions such as smoke, fire, uncontrolled toxic materials, or flooding, preclude habitation of large portions of the site,
2.1.5 Airborne radioactivity outside the plant but within the security fence is greater than 1×10^{-9} uc/cc unidentified,

2.1.6 Any condition which in the opinion of the Emergency Director makes it desirable to remove unnecessary personnel.

PRECAUTIONS

1.0 Vehicle and Evacuee Group Leader must ensure that hazardous site locations are identified and warn personnel of these locations for the determination of the safest routes between offsite emergency assembly areas and if relieved to go home.

2.0 Only the following personnel may authorize support personnel without PECo identification cards access to the site during a Plant Emergency:

Site Emergency Coordinator Emergency Director Security Team Leader

3.0 All evacuees shall deposit their Security Badge at the Security Administration, but they will retain their personal dosimetry during the Site Evacuation.

PROCEDURE:

1.0 IMMEDIATE ACTIONS

1.1 Emergency Director shall:

1.1.1 Determine which assembly area will be used. If the wind is from the north at greater than 3 miles per hour, designate the North Substation as the assembly area. Otherwise, designate the President's Utility Building (PUB). The alternate location is the Delta Service Building.

1.1.2 Provide advance warning to the senior ranking security officer and Personnel Safety Team Leader on shift that a site evacuation is imminent and tell them to carry out applicable emergency security procedures and HP procedures.

1.1.3 Announce a site evacuation over the public address system as follows: (Announcements should be clear and distinct)

MESSAGE

This (is) (is not) a drill. Repeat, this (is) (is not) a drill. Attention all personnel. This is a site evacuation notification All non-essential personnel evacuate to

_____
(designate the offsite assembly area - (North Substation), or

_____
(President Utility Building), or (Delta Service Building. All members of the emergency response organization report to your emergency response facility. This (is) (is not) a drill. Repeat. This (is) (is not) a drill.

1.1.4 Repeat the announcement.

1.1.5 Sound the evacuation sirens, including the Pond Page System, in accordance with EP 301, Operating the Evacuation Sirens and Pond Page System.

1.1.6 After the sirens have stopped, repeat the announcement and sound the evacuation sirens and the Pond Page System again.

1.1.7 Direct the evacuation of the Information Center, direct Shift Clerk or Emergency Communicator to call the Information Center and the President's Utility Building, if not being used as an assembly area.

1.2 Plant Personnel (except designated emergency team members) shall:

1.2.1 Evacuate the site and report to the announced assembly area. If the area is inaccessible, you will be directed to an alternate assembly area.

1.3 Shift Personnel shall:

1.3.1 Report to the Operations Support Center or the Control Room.

1.4 Emergency Team Members having emergency response roles shall:

1.4.1 Report to Emergency assembly areas and await further instructions.

1.5 The following personnel are designated as Accountability Coordinator for the emergency response facilities, designated opposite of their title:

1.5.1 OCS Coordinator - Operations Support Center

1.5.2 Chemistry Sampling and Analysis Group Leader - Chemistry

1.5.3 Aux. OSC Coordinator - Auxiliary Operations Support Center

1.5.4 Security Team Leader - Security

1.5.5 The above designated individual(s) will prepare a written roster of emergency response personnel that will remain in these facilities. This roster will be given to the Sensor Security Officer in the Security Administration Building for accountability purposes.

2.0 FOLLOW-UP ACTIONS

2.1 Emergency Director shall:

2.1.1 Contact the Personnel Safety Team Leader to conduct Search and Rescue operations if required to locate missing personnel.

2.2 Personnel Safety Team Leader Shall:

2.2.1 Conduct Search and Rescue operations if missing personnel are suspected to be in need of help.

2.3 Vehicle and Evacuee Group Leader shall:

2.3.1 Record names and PECo numbers of all individuals reporting to the offsite assembly area.

2.3.2 Conduct a roll call (if necessary to verify an accurate muster list).

2.3.3 Maintain a log of names and badge numbers of all personnel leaving and returning to offsite assembly areas.

2.3.4 If available, provide information on hazardous areas and best route to be traveled for minimizing radiation exposure. This information may be available from the Personnel Safety Team Leader in the Technical Support Center.

2.3.5 If the entire group of assembled personnel are to move to a new location, perform steps 2.3.1 through 2.3.3.

APPENDICES

None

REFERENCES

1. Peach Bottom Atomic Power Station Emergency Plan

2. NUREG 0654 Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.

3. EP 207A Search and Rescue

4. EP 207B Personnel Accountability

5. EP 207C First Aid

6. EP 207D Personnel Monitoring and Decontamination

7. EP 301 Operating the Evacuation Alarm and Pond Page System

8. EP 306 Evacuation of the Information Center

9. PP 11 Security Force Actions During a Site Evacuation

10. 10 CFR 20

DELETED — SEE INDEX

Manager Date 1-21-86

MAY 25 1982

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-306 EVACUATION OF THE INFORMATION CENTER

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PURPOSE

TO DEFINE THE ACTIONS TO BE PERFORMED IN THE EVENT THAT THE INFORMATION CENTER MUST BE EVACUATED.

REFERENCES

1. PEACH BOTTOM ATOMIC POWER STATION EMERGENCY PLAN

SECTION	TITLE
6.0	EMERGENCY MEASURES

2. NUREG 0654 — CRITERIA FOR PREPARATION AND EVALUATION OF RADIOLOGICAL EMERGENCY RESPONSE PLANS AND PREPAREDNESS IN SUPPORT OF NUCLEAR POWER PLANTS.

APPENDICES

EP 306-1 VISITOR'S LIST

ACTION LEVEL

1. THE INFORMATION CENTER WILL BE EVACUATED AT THE DISCRETION OF THE EMERGENCY DIRECTOR.

2. A SITE EVACUATION IS ANNOUNCED IN ACCORDANCE WITH EP 305.

PRECAUTIONS

1. ALL EFFORTS ARE TO BE MADE TO KEEP THE VISITORS CALM.

2. NO INFORMATION RELATING TO THE EMERGENCY IS TO BE DIVULGED TO THE VISITORS.

3. VISITORS WHO SHOW CONTAMINATION LEVELS OF 100 CPM OR GREATER ABOVE BACKGROUND WILL REQUIRE DECONTAMINATION.

4. ENSURE CONTAMINATED VISITORS REPORT TO THE DESIGNATED EVACUATION ASSEMBLY AREA FOR DECONTAMINATION.

IMMEDIATE ACTIONS

1.0 INFORMATION CENTER STAFF SHALL:

12-31-85

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-316 CUMULATIVE POPULATION DOSE CALCULATIONS FOR AIRBORNE RELEASES - MANUAL METHOD

PURPOSE

To provide methods of estimating the site boundary and offsite airborne concentrations and resulting whole body and/or thyroid doses when the Corporate Computer Dose Model is unavailable.

RESPONSIBILITIES:

1.0 Dose Assessment Team Leader shall direct the Dose Assessment Team to perform the necessary calculations outlined in this procedure.

2.0 Dose Assessment Team shall perform the calculations in this procedure.

3.0 Shift Technical Advisor or Shift Supervision shall perform the necessary calculations within this procedure until the Dose Assessment Team is assembled.

ACTION LEVEL

An alert or higher level emergency has been declared in accordance with EP-101, "Classification of Emergencies".

PRECAUTIONS

Calculations performed in this procedure should be checked by an independent reviewer. Calculation results should be verified as soon as practicable by plant survey squads (within security fence) or field survey squads (outside security fence).

PROCEDURE:

1.0 IMMEDIATE ACTIONS

1.1 Shift Supervision shall:

1.1.1 Perform the following steps until qualified dose assessment personnel are available.

1.1.2 Contact the Chemistry Sampling & Analysis Team Leader and direct him to have the Chemistry Sampling and Analysis Group collect and analyze appropriate gas, iodine, and particulate samples from the Main Stack and/or Roof Vents in accordance with EP-205A.7 - Obtaining the iodine and particulate sample from the Main Stack and Roof Vents following accident conditions.

1.1.3 Direct the Chemistry Sampling & Analysis Team Leader to provide the sample analysis results to the individual performing these calculations as soon as results are available.

1.1.4 Perform the RAPID assessment calculations in Section 1 of this procedure and determine the HIGHEST offsite whole body and thyroid dose.

1.1.5 Record the results on the Input Data Sheet for EP-317 and forward that sheet to the Emergency Director for performing EP-317. Direct recommendations to County Emergency Management and Civil Defense Agencies.

1.1.6 Continue to perform Steps 1.4 and 1.5 during and after the release until qualified dose assessment personnel are available.

1.2 Dose Assessment Team shall:

1.2.1 Perform the Refined assessment calculations in Section 2 of this procedure and determine the offsite whole body and thyroid dose.

1.2.2 Record the results on the Input Data Sheet for EP-317 and forward that sheet to the Emergency Director.

1.2.3 Continue to perform the above steps as new data becomes available, until you are relieved of this duty or until you are instructed that these calculations are no longer required.

2.0 FOLLOW UP ACTIONS:

None.

APPENDICES:

None.

REFERENCES

1. Peach Bottom Atomic Power Station Emergency Plan

Section	Title
5.2.1.5.6	Dose Assessment Team
6.6.1	Assessment Methods for Determining Magnitude of Release to the Atmosphere
6.6.3	Population Exposure Estimates

2. 10 CFR20, Appendix B

3. 10 CFR50, Appendix I

4.	NUREG 0654	Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Prepardness in Support of Nuclear Power Plants
5.	EP-101	Classification of Emergencies
6.	EP-103	Alert Response
7.	EP-104	Site Emergency Response
8.	EP-105	General Emergency Response
9.	EP-205A	Chemistry Sampling and Analysis Team
10.	EP-210	Dose Assessment Team
11.	EP-315	Corporate Computer Dose Calculations
12.	EP-317	Direct Recommendations to County Emergency Management and Civil Defense Agencies
13.	EP-325	Use of the Containment Radiation Monitor to Estimate Source Term

EP 316 INDEX

Section 1 Rapid Dose Assessments

1.1 Normal Range Monitors

1.1.1 Peak Whole Body Dose

1.1.2 Peak Thyroid Dose

1.2 High Range Monitors

1.2.1 Peak Whole Body Dose

1.2.2 Peak Thyroid Dose

Section 2 Refined Dose Assessment of Monitored Releases

2.1 Plume Centerline Whole Body Doses, known Isotopic Breakdown, based on Normal Range Monitor Readings

2.2 Plume Centerline Whole Body Doses, known Isotopic Breakdown, based on High Range Monitor Readings

2.3 Plume Centerline Thyroid Doses, known Isotopic Breakdown, based on the Normal or High Range Monitors

2.4 Plume Centerline Whole body and Thyroid Doses, unknown Isotopic Breakdown, based on Normal or High Range Monitor Readings

2.5 Plume Centerline Ground Deposition per Unit Area

2.6 Off-Plume Centerline Values

2.7 Plume Arrival Time

Appendix A: Worksheets

Appendix B: Count Rate Conversion Graphs

Graph #1: Main Stack Normal Range Monitor

Graph #2: Roof Vents Normal Range Monitors

Graph #3: Main Stack High Range Monitor

Graph #4: Roof Vents High Range Monitor

Appendix C: Table of Contents for the Relative Dispersion Factor (X/Q)

Appendix D: Dispersion Factors (X/Q)

Appendix E: SGTS Efficiency vs. Decontamination Factor

Appendix F: Noble Gas Isotopic Percent Abundances vs. Time Since Reactor Shutdown

Appendix G: Composite Whole Body Dose Conversion Factors vs. Time Since Reactor Shutdown

Appendix H: Composite Thyroid Dose Conversion Factor vs. Time Since Reactor Shutdown

Appendix I: Population Distribution

Appendix J: I-131/I-133 Percent Abundance vs. Time Since Reactor Shutdown

Appendix K: Iodine Source Term from TCS Field Data

Appendix L: Table of Contents for Plume Shine Values

Appendix M: Plume Shine Values

Appendix N: Refined Dose Assessment of Unmonitored Ground Releases

SECTION 1: RAPID DOSE ASSESSMENTS

USE THE NORMAL RADIATION MONITOR (RR-2(3)979 FOR THE ROOF VENTS AND RR-0-17-051 FOR THE MAIN STACK) FOR ALL CALCULATIONS UNLESS READINGS ARE OFFSCALE. IF THE NORMAL RANGE MONITOR IS OFFSCALE, USE THE HIGH RANGE MONITOR (RR-7127) AND SKIP TO SECTION 1.2 FOR CALCULATIONS.

1.1 Normal Range Monitor

1.1.1 Peak Whole Body Dose

	MS	RV2	RV3
1. Indicate the point(s) of release.	_____	_____	_____
2. Record the peak count rate.	_____cps	_____cpm	_____cpm
3. Multiply by the mrem conversion factor to determine the peak whole body dose.	9.43×10^{-5} mrem/cps	1.66×10^{-5} mrem/cpm	1.66×10^{-5} mrem/cpm
4. Peak whole body dose.	_____mrem	_____mrem	_____mrem
5. Add all three values.	_____mrem (total)		

THIS IS THE HIGHEST OFFSITE WHOLE BODY DOSE AT 5 MILES FOR A MAIN STACK RELEASE AND 1.5 MILES FOR A ROOF VENT RELEASE. THIS DOSE IS BASED ON THE ISOTOPIC MIX PRESENT AT 0.33 HOURS AFTER THE REACTOR SHUTDOWN, NORMAL STACK AND VENT FLOW RATES AND STABLE METEOROLOGICAL CONDITIONS.

1.1.2 Peak Thyroid Dose

	MS	RV2	RV3
1. Indicate the point(s) of release.	_____	_____	_____
2. Record the peak count rate.	_____cps	_____cpm	_____cpm
3. Multiply by the mrem conversion factor to determine the peak thyroid dose.	1.21×10^{-3} mrem/cps	1.36×10^{-2} mrem/cpm	1.36×10^{-2} mrem/cpm
4. Peak thyroid dose.	_____mrem	_____mrem	_____mrem
5. Add all three values.	_____mrem (total)		

THIS IS THE HIGHEST OFFSITE THYROID DOSE AT 5 MILES FOR A MAIN STACK RELEASE AND 1.5 MILES FOR A ROOF VENT RELEASE. THIS DOSE IS BASED ON AN ISOTOPIC MIX OF 50% I-131 AND 50% I-133, NORMAL STACK AND VENT FLOW RATES AND STABLE METEOROLOGICAL CONDITIONS.

1.2 High Range Monitor

1.2.1 Peak Whole Body Dose

	MS	RV2	RV3
1. Indicate the point(s) of release.	_____	_____	_____
2. Record the peak count rate.	_____cps	_____cpm	_____cpm
3. Multiply by the mrem conversion factor to determine the peak whole body dose.	4.23×10^{-7} mrem/cps	5.79×10^{-7} mrem/cpm	5.79×10^{-7} mrem/cpm
4. Peak whole body dose.	_____mrem	_____mrem	_____mrem
5. Add all three values.	_____mrem (total)		

THIS IS THE HIGHEST OFFSITE WHOLE BODY DOSE AT 5 MILES FOR A MAIN STACK RELEASE AND 1.5 MILES FOR A ROOF VENT RELEASE. THIS DOSE IS BASED ON THE ISOTOPIC MIX PRESENT AT 0.33 HOURS AFTER THE REACTOR SHUTDOWN, NORMAL STACK AND VENT FLOW RATES AND STABLE METEOROLOGICAL CONDITIONS.

1.2.2 Peak Thyroid Dose

	MS	RV2	RV3
1. Indicate the point(s) of release.	_____	_____	_____
2. Record the peak count rate.	_____cps	_____cpm	_____cpm
3. Multiply by the mrem conversion factor to determine the peak thyroid dose.	5.42×10^{-6} mrem/cps	4.74×10^{-4} mrem/cpm	4.74×10^{-4} mrem/cpm
4. Peak thyroid dose.	_____mrem	_____mrem	_____mrem
5. Add all three values.	_____mrem (total)		

THIS IS THE HIGHEST THYROID DOSE AT 5 MILES FOR A MAIN STACK RELEASE AND 1.5 MILES FOR A ROOF VENT RELEASE. THIS DOSE IS BASED ON AN ISOTOPIC MIX OF 50% I-131 AND 50% I-133, NORMAL STACK AND VENT FLOW RATES AND STABLE METEOROLOGICAL CONDITIONS.

SECTION 2: REFINED ASSESSMENT OF MONITORED NOBLE GAS AND RADIOIODINE RELEASES

2.1 Plume Centerline Whole Body Doses, known Isotopic Breakdown, based on Normal Range Monitor Readings

* Use Worksheet 2 of Appendix A for the following:

1. Indicate the point and duration of the release. If the release duration is unknown, then use 1.0 hour.

2. Record the average count rate.

3. Record the appropriate pressure correction factor. If unavailable, use 1.1.

4. Calculate the corrected count rate.

5. Record the flow rate (CFM) from the appropriate release point.

6. From the gamma scan of the vent or stack sample, record the decimal percent abundance of each isotope listed on the scan.

7. Multiply the decimal percent abundance by the appropriate count rate conversion factor for each isotope that is present.

8. Sum the count rate conversion factors to obtain the total count rate conversion factor.

9. Divide the corrected count rate by the total count rate conversion factor; multiply by the flow rate and by the units conversion factor of 472 min/sec per cc/ft 3 to obtain the release rate in uCi/sec. Record this release rate on Worksheet 4A and 4B of Appendix A.

* Use Worksheet 1 of Appendix A for the following:

10. Record the wind speed for the time interval of the release. Use the appropriate instrument as listed below:

For Main Stack Releases:

- 1° - 320' (Tower 2) 3-cup aerovane reading
- 2° - 330' Aerovane reading
- 3° - 75' (Tower 2) 3-cup anemometer reading
- 4° - 90' (Tower 1A) 3-cup anemometer reading
- 5° - 33' (Hill Pole) 3-cup anemometer reading

For Roof Vent Releases:

- 1 - 75' (Tower 2) 3-cup aerovane reading
- 2 - 320' (Tower 2) 3-cup anemometer reading
- 3 - 330' Aerovane reading
- 4 - 90' (Tower 1A) 3-cup anemometer reading
- 5 - 33' (Hill Pole) 3-cup anemometer reading

11. Determine and record the stability class using the wind speed and multipoint temperature chart tracing.

    If 320' (Tower 2) 3-cup anemometer reading windspeed ≥ 18 mph or 75' (Tower 2) 3-cup anemometer reading windspeed ≥ 12 mph the stability class in NEUTRAL.

    If below the above windspeeds, the stability class is determined by the following:

    If
    - 1 - 316' temperat[illegible] - 30' temperature = positive
    - 2 - 150' temperature - 30' temperature = positive
    - 3 - 90' temperature - 30' temperature = positive

    the stability class is STABLE.

    If
    - 1 - 316' temperature - 30' temperature = negative
    - 2 - 150' temperature - 30' temperature = negative
    - 3 - 90' temperature - 30' temperature = negative

    the stability class is UNSTABLE.

12. If necessary, correct the windspeed reading to the primary Aerovane reading for the point of release.

	Main Stack Have 75' reading Want 320' reading	Roof Vents Have 320' reading Want 75' reading
Stable	75' reading x 2.0552	320' reading x 0.4866
Unstable	75' reading x 1.4336	320' reading x 0.6976
Neutral	75' reading x 1.5857	320' reading x 0.6306

**Note: Treat 330' the same as 320'. Treat 33' and 90' the same as 75'.

13. Determine and record the direction which the wind is blowing TOWARDS by adding 180 degrees to the average wind direction from the recorder. If the wind direction from the recorder is greater than 180 degrees, subtract 180 degrees.

14. Perform Steps 15 and 16 for Main Stack releases only. For other releases, skip to Step 17.

15. Determine the applicable Plume Shine table number from the Table of Contents for Plume Shine Factors in Appendix L. The Plume Shine table number is determined by stability class, wind speed and decay time since reactor shutdown.

16. From the appropriate Plume Shine Table in Appendix M, record the plume shine value on Worksheet 4B of Appendix A.

17. Perform the operations indicated on Worksheet 4B to obtain the resultant plume shine whole body dose in mrem. If there is no plume shine value given for the distance of interest, the gamma immersion whole body dose is higher.

18. Determine the applicable X/Q table number from the Table of Contents for the Relative Dispersion factors (X/Q) in Appendix C. The X/Q table number is determined by the release point, the flow rate, the wind speed, and the stability class.

19. From the appropriate X/Q table in Appendix D, find the dispersion factor (X/Q) for the sector the wind is blowing TOWARDS and the distance of interest.

20. Perform the operations indicated on Worksheet 4A to obtain the air concentration (uCi/m3) and the resultant gamma immersion whole body dose in mrem.

2.2 Plume Centerline Whole Body Doses, known Isotopic Breakdown, based on High Range Monitor Readings

* Use Worksheet 3 of Appendix A for the following:

1. Record the point and duration of release.

2. Record the average count rate.

3. Record the appropriate pressure correction factor.

4. Calculate the corrected count rate.

5. Record the flow rate (CFM) from the appropriate release point.

6. From the gamma scan of the vent or stack sample, record the decimal percent abundance of each isotope listed on the scan.

7. Multiply the decimal percent abundance by the appropriate count rate conversion factor for each isotope that is present.

8. Sum the count rate conversion factors to obtain the total count rate conversion factor.

9. Divide the corrected count rate by the total count rate conversion factor; multiply the flow rate by the units conversion factor of: 472 min/sec per cc/ft 3 to obtain the release rate in uCi/sec. Record the release rate on Worksheet 4A and 4B of Appendix A.

10. Continue with Steps 10 through 20 of Section 2.1.1.

2.3 Plume Centerline Thyroid Doses, known Isotopic Breakdown, based on Normal or High Range Monitor Readings

* Use Worksheet 5A of Appendix A for the following:

1. Obtain the main stack or roof vent iodine activity released from the Chemistry Sampling and Analysis Group Leader.

2. Estimate the duration of the release.

**Note: For a "puff-type release or short term releases with consistent meteorology, the duration of the releasethe release corresponds to the total period of release.

For a long term release with consistent meteorology, the duration of the release corresponds to the total period of release.

If any of the meteorological conditions change, divide the release into segments according to such changes.

3. Obtain the meteorological conditions and stability class from Worksheet 1 of Appendix A.

4. Based on the meteorological conditions and stability class, determine the applicable X/Q table number from the Table of Contents for the Relative Dispersion factors (X/Q) in Appendix C. The X/Q table number is determined by the release point, the flow rate, the wind speed, and the stability class.

5. From the appropriate X/Q table in Appendix D, find the dispersion factor (X/Q) for the sector the wind is blowing TOWARDS and the distance of interest.

6. Perform the operations indicated on the worksheet to obtain the resultant thyroid dose in mrem.

**Note: December through March the ingestion dose is zero.

2.4 Plume Centerline Whole Body and Thyroid Doses, Unknown Isotopic Breakdown, based on the Normal or High Range Monitors

1. Perform Steps 1 through 5 of Section 2.1.

2. Using Worksheet 6, determine and record the decay time, in hours, since the reactor shutdown.

3. From Appendix B, obtain the count rate conversion factor, based on the time since reactor scram, for the appropriate monitor.

4. From Appendix E, calculate, if necessary, and record the Standby Gas Treatment Efficiency and the corresponding Decontamination Factor.

5. From Appendix G, record the composite whole body dose conversion factor based on the time since reactor scram.

6. From Appendix J, record the percent abundances of I-131/I-133 based on the time since reactor scram.

7. From Appendix H, record the composite iodine inhalation and ingestion dose conversion factor.

8. Continue with Steps 10 through 19 of Section 2.1.

9. Perform the operations indicated on Worksheet 6 of Appendix A to obtain the resultant whole body immersion and thyroid doses.

2.5 Ground Deposition Concentration per Unit Area

* Use Worksheet 7 of Appendix A for the following:

1. Record the main stack or roof vent(s) I-131 and/or Cs-137 release rates from Worksheet 5 or 6 of Appendix A.

2. Refer to the meteorological conditions and the stability class recorded on Worksheet 1 of Appendix A to determine the applicable X/Q table number from the Relative Dispersion factors (X/Q) Table of Contents.

3. Obtain the distance(s) of interest and the corresponding X/Q value.

4. Perform the operations indicated on the worksheet to obtain the plume centerline off-site ground deposition for the point(s) of interest.

2.6 Off-Plume Centerline Values

**Note: Overlays are not applicable to a roof vent release or plume shine values

1. Select the appropriate overlay for the existing stability class.

stable : use overlay V
unstable : use overlay II
neutral : use overlay IV

2. Mount the overlay on the map with the origin at the Main Stack.

3. Rotate the overlay to align the centerline with the direction the wind is blowing towards.

4. Using Worksheet 8A for whole body doses, Worksheet 8B for thyroid doses and Worksheet 8C for ground deposition, record the location(s) of interest.

5. Estimate the decimal fraction of the reduction from the centerline using the values on the overlay for the selected location(s).

6. Multiply the centerline whole body dose, thyroid dose and ground deposition by the decimal fraction to obtain the off-centerline values for the location(s) of interest.

7. See Appendix I for the population distribution values.

2.7 Plume Arrival Time

1. Refer to Worksheet 1 of Appendix A for the windspeed.

2. Using Worksheet 9 of Appendix A, calculate the plume arrival time for the distance(s) of interest.

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PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-317 DETERMINATION OF PROTECTIVE ACTIVE RECOMMENDATIONS

Purpose

To provide guidelines for determining Protective Action Recommendations to be made to appropriate state or local authorities.

RESPONSIBILITIES:

1. Dose Assessment Team Leader shall determine protective action recommendations based on dose projections and is responsible for making the protective action recommendations to the Emergency Director or Site Emergency Coordinator.

2. Site Emergency Coordinator, if activated, or Emergency Director shall provide recommendations to the Pennsylvania Bureau of Radiation Protection or directly to the counties if the state cannot be contacted.

ACTION LEVELS:

1. Dose Assessment calculations, manual or computer method, have been completed.

2. A General Emergency is declared (without escalation through Alert or Site Emergency) in accordance with EP-101, "Classification of Emergencies."

3. An Alert, Site Emergency, or General Emergency has been declared in accordance with EP-101, "Classification of Emergencies," and neither Pennsylvania Emergency Management Agency nor Bureau of Radiation Protection respond to the initial notification within 15 minutes.

APPARATUS:

None

PRECAUTIONS:

This procedure provides the method to determine protective action recommendations. The effectiveness of protective actions is influenced by a variety of factors beyond the scope of this procedure. Therefore, the actual selection of protective action recommendations, in the judgement of the Site Emergency Coordinator or Emergency Director, may override the criteria contained herein.

PROCEDURE:

1.0 IMMEDIATE ACTIONS:

1.1 Dose Assessment Team Leader shall:

1.1.1 Determine the plume exposure pathway protective action recommendations by doing the following:

1.1.1.1 Obtain dose assessment estimates, expected duration of release and windspeed. Proceed to Appendix EP-317-2, Protective Action Recommendation Worksheet.

Enter plume centerline dose rates (R/hr) for site boundary, 2 miles and 5 miles in appropriate columns for item (1a), whole body, and (1b), thyroid.

It is assumed that projected doses calculated and protective actions recommendations determined from this data at:

a) The site boundary, applies to 0-2 mile region and is effective for 360 degrees around the plant,

b) the 2 mile radius, applies to the 2-5 mile sector in a downwind wedge, and

c) the 5 mile radius, applies to the 5-10 mile sector in a downwind wedge.

The downwind wedge is a function of the dispersion of the plume and should be determined by evaluating the plume width.

1.1.1.2 Enter the expected duration of release (t) and multiply by items to get projected dose.

1.1.1.3 Select evacuation time estimate for existing conditions and enter as Item 3.

LONGEST ESTIMATES IN EACH CATEGORY ARE PROVIDED ON WORKSHEET.

1.1.1.4 Determine time until exposure begins as indicated on worksheet and enter as Item 4.

1.1.1.5 Subtract Item 4 from Item 3, this is the Evacuation Exposure Time in hours, Item 5.

1.1.1.6 Calculate Evacuation Exposure Dose by multiplying the whole body dose rate (1a) and thyroid dose rate (1b) for each location by Item 6 the Evacuation Exposure Time for each location.

This is the exposure the population would receive while being evacuated.

1.1.1.7 Calculate shelter dose by multiplying whole body (1a) and thyroid (1b) dose rates by duration (t) and Protection Factor as indicated in Items 7a and 7b.

A Protection Factor of .75 was used to determine the whole body shelter dose, the average in Pennsylvania is .71 (see Reference 8). Thyroid shelter dose assumes this Protection Factor for inhalation periods of < 2 hours.

1.1.1.8 Evaluate projected dose (Item 3), evacuation exposure dose (Item 7), and shelter dose (Item 8) for 0-2 miles, 2-5 miles, and 5-10 miles with respect to protective action guidelines. Appendix EP-317-1 provides the EPA guidelines for guidance.

1.1.1.9 Discuss recommendations with the Emergency Director, or if activated, the Site Emergency Coordinator, to ensure they are informed of the proposed recommendations before they are made to government authorities.

1.1.1.10 Using Appendix EP-317-5 summarize protective action recommendations and mark affected areas on map as indicated.

1.1.1.11 Update recommendations to the Emergency Director or if activated, the Site Emergency Coordinator, as new data becomes available or conditions change.

1.1.2 Dose Assessment Team Leader shall determine the ingestion exposure pathway protective action recommendations.

ACCIDENTS NOT REQUIRING PROTECTION AGAINST DIRECT EXPOSURE MAY STILL WARRANT CONCERN FOR THE INGESTION EXPOSURE PATHWAY THROUGH MILK.

1.1.2.1 Obtain Milk Ingestion Thyroid Dose Projection from the manual or computer dose calculations.

1.1.2.2 Compare Milk Ingestion Thyroid Dose Projection with Appendix EP-317-3, Ingestion Pathway Protective Action Recommendations.

1.1.2.3 Discuss and suggest protective action recommendations with the Site Emergency Coordinator, if activated, or the Emergency Director.

1.2 Site Emergency Coordinator, if activated, or Emergency Director shall:

1.2.1 Provide recommendations to the Pennsylvania Bureau of Radiation Protection.

a. If an Alert or Site Emergency has been declared without prior emergency classification, indicate that no protective actions are necessary for immediate notification in EP-103, Alert Response or EP-104, Site Emergency Response.

b. If a General Emergency has been declared without prior emergency classification and BRP or PEMA are not available, provide the recommendation to shelter within the 2 mile radius and 5 miles downwind of the plant to the counties through Notification Call List in EP-105, General Emergency Response. Protective action recommendations made directly to Pennsylvania counties should reflect PEMA's philosophy of recommending the same protective action for the full (360-0) EPZ.

or

If a General Emergency has been declared with prior classification, use Appendix EP-317-5, Protective Action Recommendation Summary or use Appendix EP-317-4, Protective Action Recommendations based on plant conditions for additional inputs in decision making based upon the following:

1.2.2 When possible, provide background information for protective action recommendations to state representatives.

2.0 FOLLOW-UP ACTIONS:

2.1 Dose Assessment Team Leader shall:

2.1.1 Periodically re-evaluate the situation to determine if changes in suggested protective action recommendations are needed.

2.1.2 Periodically update the Site Emergency Coordinator or Emergency Director.

2.2 Emergency Director or Site Emergency Coordinator shall:

2.2.1 Periodically update state officials on dose projections and actual field measurements.

FINAL CONDITIONS:

Protective Action Recommendations have been made to the appropriate off-site authorities.

APPENDICES:

1. Appendix EP-317-1 Table Protective Action Recommendations
2. Appendix EP-317-2 Protective Action Decision Making Worksheet
3. Appendix EP-317-3 Ingestion Pathway Protective Action Recommendations
4. Appendix EP-317-4 Protective Action Recommendations based on Plant Conditions
5. Appendix EP-317-5 Protective Action Recommendation Summary

REFERENCES:

1. Peach Bottom Atomic Power Station Emergency Plan

2. Peach Bottom Atomic Power Station Evacuation Time Estimates, Rev. 0, July, 1982

3. Peach Bottom Atomic Power Station EP-101, Classification of Events

4. Peach Bottom Atomic Power Station EP-315, Corporate Computer Dose Calculations

5. Peach Bottom Atomic Power Station EP-316, Cumulative Population Dose Calculations

6. Pennsylvania Department of Environmental Resources Bureau of Radiation Protection Plan for Nuclear Power Generation Station Incidents, Section VIII

7. U.S. Food and Drug Administration, 21 CFR Part 1090, Federal Register, Vol. 47, No. 205, October 22, 1982

8. SAND 77-1725, Public Protection Strategies for Potential Nuclear Reactor Accidents: Sheltering Concepts with Existing Public and Private Structures

9. EPA-520/1-75-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents

10. Reactor Safety Study, Appendix VI, WASH 1400, October 1975

11. I.E. Information Notice No. 83-28, Criteria for Protective Action Recommendations for General Emergencies.

APPENDIX EP-317-1
TABLE OF PROTECTIVE ACTION RECOMMENDATIONS

Projected Dose (Rem) to the Population	Recommended Actions(a)	Comments
Whole Body <1 Thyroid <5	No planned protective actions. (b) State may issue and advisory to seek shelter and await further instructions. Monitor environmental radiation levels.	Previously recommended protective actions may be reconsidered or terminated.
Whole Body 1 to <5 Thyroid 5 to <25	Seek shelter as a minimum. (d) Consider evacuation. Evacuate unless constraints make it impractical. Monitor environmental radiation levels. Control access.	If constraints exist, special consideration should be given for evacuation of children and pregnant women (c).
Whole Body 5 & Above Thyroid 25 & Above	Conduct mandatory evacuation. Monitor environmental radiation levels and adjust area for mandatory evacuation based on these levels. Control access.	Seeking shelter would be an alternative if evacuation were not immediately possible.

(a) These actions are recommended for planning purposes. Protective action decisions at the time of the incident must take existing conditions into consideration.

(b) At the time of the incident, officials may implement low-impact protective actions in keeping with the principle of maintaining radiation exposures as low as reasonably achievable.

(c) It is intended that family units remain intact during any evacuation.

(d) Shelter is to be with ventilation control. Ventilation control means turning off air conditioners or fans, closing doors or windows thus preventing access of outside air. Proceed to basement if available.

Reference: EPA-520/1-75-001

APPENDIX EP-317-2

Protective Action Area	0-2 Miles	2-5 Miles	5-10 Miles
Distance of Interest	Site Boundary	2 Miles	5 Miles
1. Enter centerline dose rate in R/hr			
1a. Whole Body	1a.		
1b. Thyroid	1b.		
Calculated at Time = _____			
2. Multiply expected duration of release "t" in hours _____ (hrs)* by whole body and thyroid dose rates to get projected doses.			
2a. Whole Body Projected Dose	2a.		
2b. Thyroid Projected Dose	2b.		
3. Enter evacuation time estimate in hours for existing time of day and weather.			
Night: 0-2 Normal 1.16, Adverse 1.16; 2-5 Normal 1.5, Adverse 1.66; 5-10 Normal 1.66, Adverse 2.16			
Day: 0-2 Normal 2.66, Adverse 3.00; 2-5 Normal 3.00, Adverse 3.33; 5-10 Normal 3.00, Adverse 3.66			
4. Enter time until exposure begins. If release has begun: = distance of interest (mi) - time release (hrs) has been in progress / windspeed (mph)	4.		
If release has not begun: = distance of interest (mi) + time until release (hrs) / windspeed (mph)			
5. Item 3 - Item 4 = Evacuation Exposure Time	5.		
6. Calculate Evacuation Exposure Dose (Rem)			
6a. Whole Body = Item 5 X Item 1a.	6a.		
6b. Thyroid = Item 5 X Item 1b.	6b.		
7. Calculate Shelter Dose (Rem)			
7a. Whole Body = Item 2a X .75	7a.		
7b. Thyroid = If t < 2 hrs: Item 2b X .75; If t > 2 hrs, Item 1b (t - 0.5)	7b.		

Protective Action Area		0-2 Miles	2-5 Miles	5-10 Miles
Distance of Interest		Site Boundary	2 Miles	5 Miles
8. Compare dose projections to protective.				
8a. Whole Body	Recommendations			
IF	THEN			
Projected dose (Item 2a) is less than 1 rem	No Action			
Shelter dose (Item 7a) is less than 5 rem	Shelter			
Shelter dose (Item 7a) is equal to or greater than 5 rem and evacuation dose (Item 6a) is equal to or greater than shelter dose	Shelter			
Shelter dose (Item 7a) is equal to or greater than 5 rem and evacuation dose (Item 6a) is less than shelter dose	Evacuate			
8b. Thyroid				
IF	THEN			
Projected dose (Item 2b) is less than 5 rem	No Action			
Shelter dose (Item 7b) is less than 25 rem	Shelter			
Shelter dose (Item 7b) is equal to or greater than 25 rem and evacuation dose (Item 6b) is equal to or greater than shelter dose	Shelter			
Shelter dose (Item 7b) is equal to or greater than 25 rem and evacuation dose (Item 6b) is less than shelter dose	Evacuate			

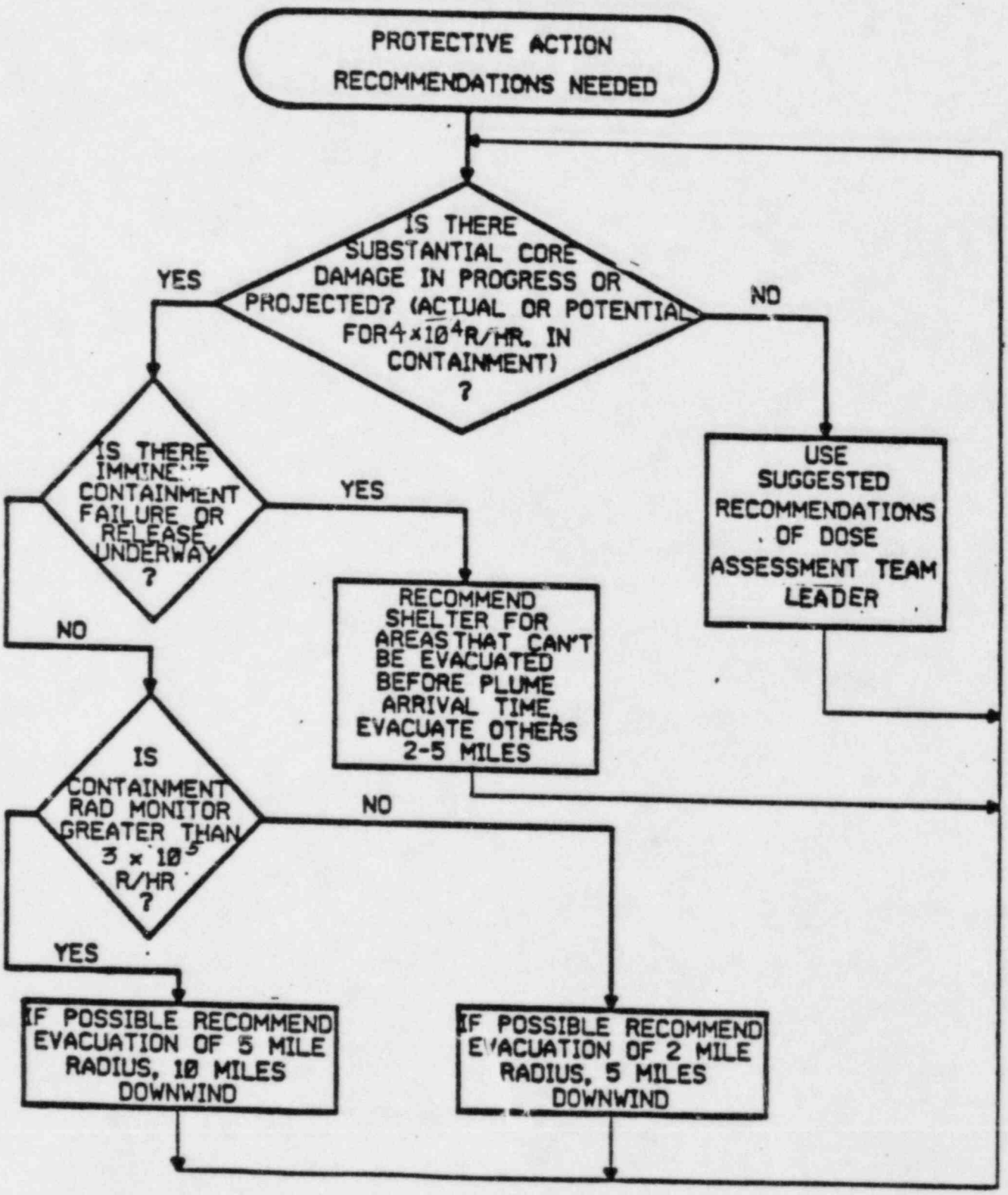
* If duration of release is expected to be greater than two hours and projected doses exceed EPA protective action guides, BRP philosophy is to order evacuation.

APPENDIX EP-317-3
INGESTION PATHWAY PROTECTIVE ACTION RECOMMENDATIONS

Preventive PAG Response Level	Recommended Protective Action
Projected Thyroid Ingestion Dose:	1. Remove all lactating dairy cows from pasture and substitute uncontaminated stored feed and water.
1.5	

Emergency PAG Response Level	Recommended Protective Action
Projected Thyroid Ingestion Dose:	1. Isolate contaminated food products and prevent introduction into commerce.
15 Rem	2. Determine whether condemnation or other disposition is appropriate after consideration of the food products in question.

APPENDIX EP-317-4
PROTECTIVE ACTION RECOMMENDATIONS BASED ON PLANT CONDITIONS

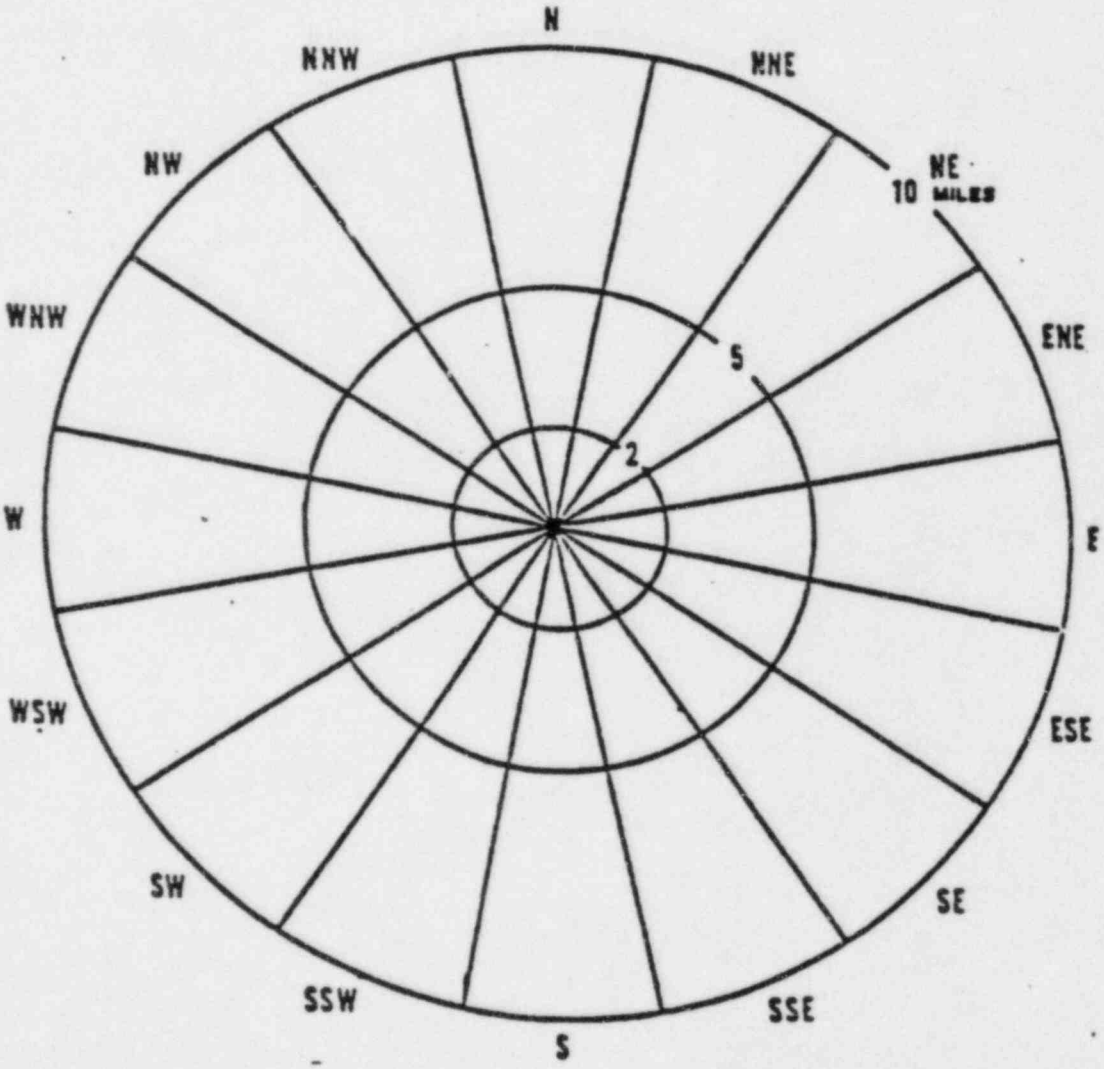


APPENDIX EP 317-5

Protective Action Recommendation Summary Sheet

Time _____ Windspeed _____ mph Direction _____°

Area	Protective Actions	(From)
0-2 miles	_____	
2-5 miles	_____	
5-10 miles	_____	



Mark affected areas

shelter

evacuation

These protective actions are based on

_____ plant status or

_____ dose projections effective at time _____

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PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM UNITS 2 & 3

EP-318 LIQUID RELEASE DOSE CALCULATION METHOD FOR INTAKE WATER AT DOWNSTREAM FACILITIES

PURPOSE:

To determine liquid release dose projections based on undiluted effluent samples and diluted samples from the discharge canal for drinking water.

RESPONSIBILITIES:

1.0 Dose Assessment Team members shall perform these calculations.

DEFINITIONS:

D_T = The cummulative dose commitment to the total body or any organ, T, from liquid effluents for the total time period in mrem.

C_i = The average concentration of radionuclide, i, in an undiluted liquid effluent sample or diluted sample from the discharge canal during time period t from any liquid release in uCi/ml.

F = The near field dilution factor for C during any liquid effluent release. Defined as the ratio of the volume of undiluted liquid waste released in gallons over t to the volume of water flow from the discharge canal in gallons per minute over t.

F = 1.0 for a diluted liquid release.

delta T = The length of the time period over which Ci and F are averaged for the liquid release in hours.

A = The site related ingestion dose commitment factor to the total body or organ, T, for each radionuclide in mrem-ml per uCi-hr.

D_F = The ratio of the concentration at Location III (downstream from plant site) for the flow rate of interest to the concentration at the location of interest for the same time and flow rate.

PROCEDURE:

1.0 IMMEDIATE ACTIONS:

1.1 Dose contributions from liquid effluents released to unrestricted areas shall be calculated for drinking water using the equation below:

$$D_T = (A \text{ delta } t \; C \; F)_{D,F}$$

1.2 Record time period over which C & F are averaged. 1. _____

1.3 Record volume of release over delta T. 2. _____

1.4 Record volume of water flow from discharge canal over delta T. 3. _____

1.5 Calculate F. (worksheet) 4. _____.

1.6 Record C_i for each nuclide in uCi/ml.

Co-60 _____
I-131 _____
Cs-134 _____
Cs-137 _____

1.7 Record A for each nuclide for total body or organ (see Table 1)

	TOTAL BODY	LIVER	THYROID
Co-60			
I-131			
Cs-134			
Cs-137			

1.8 Record current river flow. 7. _____

1.9 Record D_F for corresponding river flow (7) and point of interest (See Table 2).

Baltimore Water Intake _____
Chester Water Intake _____
Conowingo Tailrace _____

1.10 Calculate D for each nuclide to total body or organ (worksheet) and sum together.

1.11 Record dose projection.

Baltimore Water Intake _____ mRem
Chester Water Intake _____ mRem
Conowingo Tailrace _____ mRem

1.12 To obtain concentration at point of interest divide dose commitment for each nuclide (at a specific point of interest) by A and delta T.

e.g. $\underset{\text{I-131 Baltimore}}{\text{mRem}} \times \frac{\text{uCi-hr}}{\text{mRem-ml}} \times \frac{1}{\text{hr}} = \frac{\text{uCi}}{\text{ml}}$

REFERENCES:

EP-312 Radioactive Liquid Release
NUREG 0133
Reg. Guide 1.109

TABLE 1: A-Dose Commitment Factors(mrem-ml per uCi-hr)

	TOTAL BODY	LIVER	THYROID
Co-60	4.8×10^{2}	2.15×10^{2}	------
I-131	4.02×10^{2}	7.18×10^{2}	2.98×10^{5}
Cs-134	1.09×10^{4}	1.36×10^{4}	------
Cs-137	6.43×10^{3}	1.02×10^{4}	------

TABLE 2: D_F - Dilution Factors

River Flow (CFS)	Baltimore Water Intake	Chester Water Intake	Conowingo Tailrace
2500	8.0×10^{1}	4.0	1.12×10^{2}
5000	7.50×10^{1}	9.09	7.50×10^{1}
10,000	8.63×10^{1}	2.23×10^{1}	5.31×10^{1}
15,000	8.56×10^{1}	3.85×10^{1}	4.28×10^{1}
25,000	8.46×10^{1}	9.30×10^{1}	4.28×10^{1}
50,000	9.29×10^{1}	4.33×10^{2}	2.50×10^{1}
100,000	1.05×10^{2}	------	2.20×10^{1}
150,000	1.04×10^{2}	------	2.0×10^{1}

WORKSHEET

Calculate F = $\frac{\text{Volume of Release Over delta T}}{\text{Volume of Water Flow from Discharge Canal Over T}}$

Calculate D = (A delta t CF)

D (Co-60)=

D (I-131)=

D (Cs-134)=

D (Cs-137)=

$\frac{(D)}{D}$ = _____

Time of Maximum Concentration (hours after release)

Location

Average River Flow (cfs)	PBAPS Cooling Water Intake	Chester Water Intake	Baltimore Water Intake	Conowingo Powerhouse Tailrace
2,500	12	144	208	193
5,000	12	70	110	100
10,000	12	33	61	53
15,000	—	21	45	38
25,000	—	11	31	25
50,000	—	4	22	16
100,000	—	—	17	12
150,000	—	—	15	10

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PEACH BOTTOM UNITS 2 & 3

EP-319 LIQUID RELEASE DOSE CALCULATION METHOD FOR FISH

PURPOSE:

To determine liquid release dose projections for fish based on undiluted effluent samples and diluted samples from the discharge canal.

RESPONSIBILITIES:

1.0 Dose Assessment Team members shall perform these calculations.

DEFINITIONS:

D_T = The cummulative dose commitment to the total body or any organ, T, from liquid effluents for the total time period in mrem.

C_i = The average concentration of radionuclide, i, in an undiluted liquid effluent sample or diluted sample from the discharge canal during time period delta t from any liquid release in uCi/ml.

F = The near field dilution factor for C during any liquid effluent release. Defined as the ratio of the volume of undiluted liquid waste released in gallons over t to the volume of water flow from the discharge canal in gallons per minute over delta t.

F = 1.0

delta T = The length of the time period over which Ci and F are averaged for the liquid release in hours.

A = The site related ingestion dose commitment factor to the total body or organ, T, for each radionuclide in mrem-ml per uCi-hr.

PROCEDURE:

1.0 IMMEDIATE ACTIONS:

Dose contributions from liquid effluents released to unrestricted areas shall be calculated using the equation below:

D = (A delta t C F)

1.1 Record time period over which C & F are averaged. 1. _____

1.2 Record volume of release over delta T. 2. _____

1.3 Record volume of water flow from discharge canal over delta T. 3. _____

1.4 Calculate F (worksheet). 4. _____

1.5 Record C for each nuclide in uCi/ml.

P-32 _____
Co-60 _____
I-131 _____
Cs-134 _____
Cs-137 _____

1.6 Record A for each nuclide for total body or organ (see Table 1).

	TOTAL BODY	LIVER	THYROID
Co-60			
I-131			
Cs-134			
Cs-137			

1.7 Calculate D_T for each nuclide to total body or organ (worksheet).

1.8 Record dose projection. 8. _____

NOTE: Highest exposure individuals for total body, liver, and thyroid are adult, teenager, and child respectively.

REFERENCES:

EP-312 Radioactive Liquid Release
NUREG-0133
Reg. Guide 1.109

TABLE 1: A-Dose Commitment Factors (mrem-ml per uCi-hr)

	TOTAL BODY	LIVER	THYROID
P-32	5.93×10^{4}	1.04×10^{5}	———
Co-60	6.51×10^{2}	2.92×10^{2}	———
I-131	1.12×10^{2}	1.99×10^{2}	8.28×10^{4}
Cs-134	6.72×10^{5}	8.33×10^{5}	———
Cs-137	3.97×10^{5}	6.30×10^{5}	———

WORKSHEET

Calculate $F = \frac{\text{Volume of Release Over delta T}}{\text{Volume of Water Flow from Discharge Canal Over T}}$

Calculate $D_T = \frac{(A \text{ delta } t \quad CF)}{}$

D_T (P-32) =

D_T (Co-60)=

D_T (I-131)=

D_T (Cs-134)=

D_T (Cs-137)=

$\frac{(D)}{T}$ = _____

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PEACH BOTTOM UNITS 2 AND 3

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-325 - USE OF THE CONTAINMENT RADIATION MONITOR TO ESTIMATE RELEASE SOURCE TERM

PURPOSE:

To provide method of estimating source term from containment radiation monitors.

RESPONSIBILITIES:

1.0 Dose Assessment Team members shall perform these calculations.

ACTION LEVELS:

1.0 An Alert or higher level emergency has been declared in accordance with EP-101, "Classification of Events" AND containment radiation monitor reading greater than 10 times normal reading.

OR

2.0 An Alert or higher level emergency has been declared in accordance with EP-101, "Classification of Events" AND effluent monitor readings are unavailable.

PROCEDURE:

1.0 IMMEDIATE ACTIONS:

The Dose Assessment Team Leader shall direct Dose Assessment Group members to do the following:

1.1 Determine % Fuel Inventory Released:

Theoretical curves of gross gamma dose rate vs. time are given for a range of potential source terms. To determine the meaning of the measured dose rates:

1.1.1 Determine the Time after reactor shutdown.

1.1.2 Locate the rad. monitor Dose Rate Reading on the graph on Page 3, for the containment rad. monitor at the time after shutdown.

1.1.3 Determine the Percent Fuel Inventory released to the containment air corresponding to the measured dose rate by taking the ratio of the measured dose rate to the dose rate given on one of the curves for a known percent fuel inventory (i.e., interpolate, between curves).

1.1.4 From Table I, on Page 4, relate the % fuel inventory released to the Approximate Source and Damage Estimate.

1.2 Determine Source Term:

Source terms (released rates) for 3 pathways are estimated based on % fuel inventory available and design basis leak rate (0.5%/day).

1.2.1 Determine % Fuel Inventory released (Section 1.1.3).

1.2.2 Multiply decimal fraction of Fuel Inventory released by appropriate Conversion Factor, found on Table II, for one of the following pathways:

A. Primary Containment purged through Standby Gas Treatment System.

A-1. Primary Containment leakage to secondary containment.

A-2. Release rate from secondary containment.

B. Secondary Containment purged through Standby Gas Treatment.

C. Activity in secondary containment released through roof vents.

e.g.: To determine release rates for 100% fuel inventory release pathway A.

RESPONSIBILITIES:

Peach Bottom Atomic Power Station Emergency Plan, Section 6.6.1.2a, Containment Monitors

EP-316 - Cumulative Population Dose Calculations

Bechtel Emergency Planning DBA Dose Rate Curve Package - BLP - 21558

A. Primary Containment Purged through Standby Gas Treatment System

	Decimal Fraction		CF	Release Rate
Noble Gas	1	X	5×10^{8}	$= 5 \times 10^{8}$ uCi/sec.
Iodine	1	X	1.44×10^{6}	$= 1.44 \times 10^{6}$ uCi/sec.

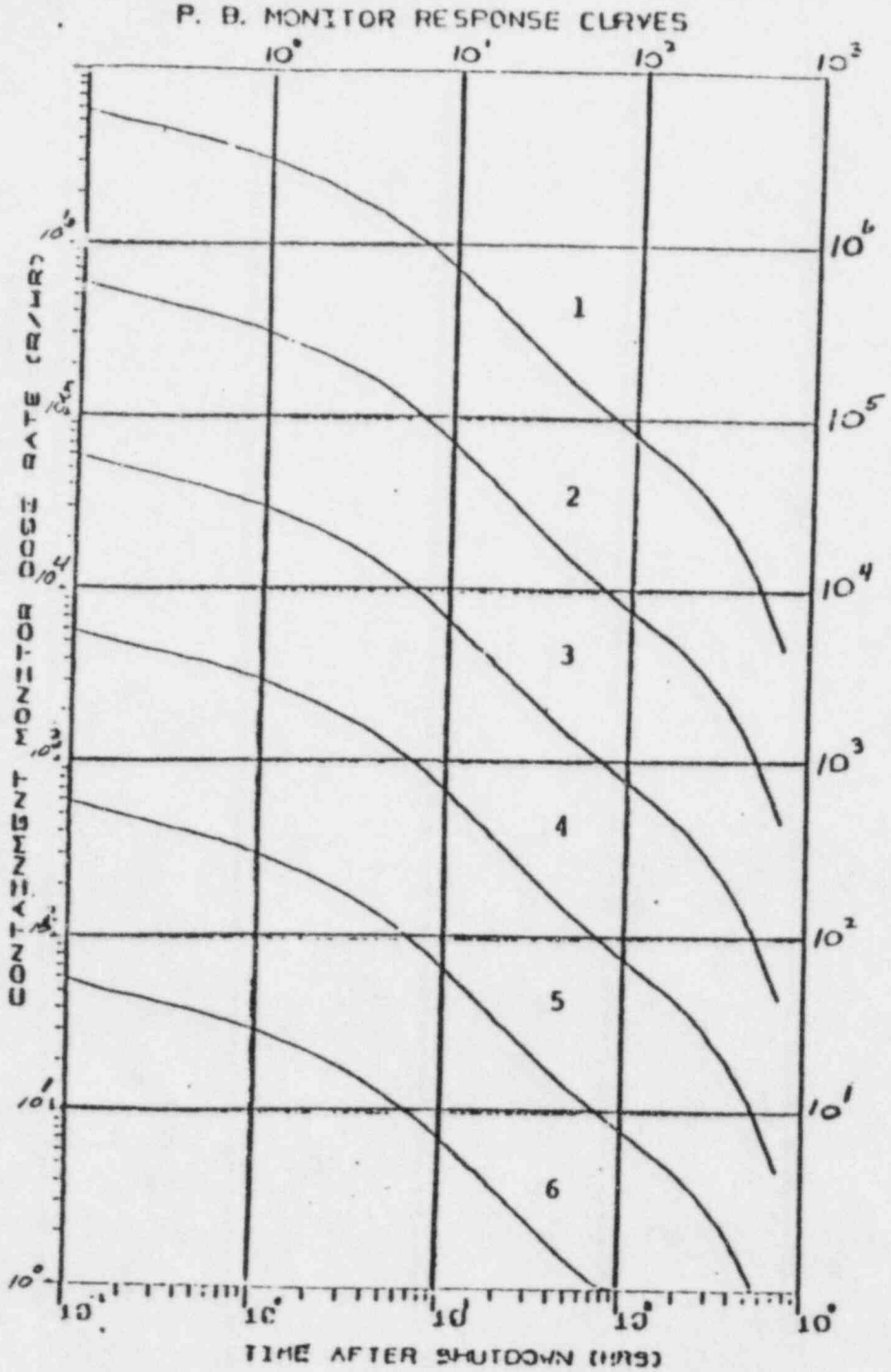
A-1 Primary COntainment Leakage to Secondary Containment

Noble Gas	1	X	4.86×10^{7}	$= 4.86 \times 10^{7}$ uCi/sec.
Iodine	1	X	1.39×10^{7}	$= 1.39 \times 10^{7}$ uCi/sec.

A-2 Release Rate from Secondary Containment

Noble Gas	1	X	9.30×10^{7}	$= 9.30 \times 10^{7}$ uCi/sec.
Iodine	1	X	2.67×10^{7}	$= 2.67 \times 10^{7}$ uCi/sec.

1.2.3 Release rates for Cases A & B are treated as main stack releases, release rates from Case A-2 and C are treated as roof vent releases, see EP-316, Cumulative Population Dose Calculations, for off-site dose calculations.



Peach Bottom Monitor Response Curves

for

Primary Containment Radiation Monitor

Curve Index

1. 100% Fuel Inventory (100% TID 14844
2. 10% Fuel Inventory (100% Gap Activity/R.G. 1.25)
3. 1% Fuel Inventory (10% NRC Gap - Clad Failure)
4. .1% Fuel Inventory
5. .01% Fuel Inventory
6. .001% Fuel Inventory

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TABLE I

Percent of Fuel Inventory Airborne in the Containment vs. Approximate Source and Damage Estimate

Curve No.	% Fuel* Inventory Released	Approximate Source and Damage Estimate
1	100.0	100% TID-14844, 100% fuel damage, potential core melt
	50.0	50% TID-14844 noble gases, TMI source
2	10.0	10% TID, 100% NRC gap activity, total clad failure, partial core uncovered
	3.0	3% TID, 100% WASH-1400 gap activity, major clad failure
3	1.0	1% TID, 10% NRC gap, Max. 10% clad failure
4	0.1	0.1% TID, 10% NRC gap, 1% clad failure, local heating of 5-10 fuel assemblies
5	0.01	0.01% TID, 0.1% NRC gap, clad failure of 3/4 fuel element (36 rods)
6	10^{-3}	0.01% NRC gap, clad failure of a few rods
	10^{-4}	100% coolant release with spiking
	5×10^{-6}	100% coolant inventory release
	10^{-6}	Upper range of normal airborne noble gas activity in containment

* 100% Fuel Inventory - 100% Noble Gases + 25% Iodine

TABLE II

Conversion Factors

	A	A-1	A-2	B	C
Noble Gas	5.00×10^{8}	4.86×10^{7}	9.30×10^{7}	1.44×10^{3}	4.86×10^{7}
Iodine	1.44×10^{6}	1.39×10^{7}	2.67×10^{7}	4.13×10^{0}	1.39×10^{7}

NOTE: (1) The curves account for the finite containment volume and shield walls seen by the detector but do not account for any monitor physical or shielding characteristics or calibration uncertainties.

(2) The curves assume that both airborne noble gases and iodines are significant. Sprays (if used) would make the iodine and particulate contribution (presently about 50%) insignificant. However, particulate plateout on the monitor casing and direct shine doses from components may make the readings unreliable.

(3) Curve uncertainties are on the order of a factor of 5 to 10.

(4) Source term in conversion factor is derived from PBAPS FSAR, Section 14-6.3.4; 100% of the Noble Gas and 25% of the Iodine equilibrium fission product activity which is:

8.4×10^{8} Ci Noble Gas

9.5×10^{8} Ci Iodine

DERIVATION OF CONVERSION FACTORS

Assumptions

.5%/day	-	design basis leak rate from primary containment of 49.1 psig
2.78×10^{5} ft^{3}	-	primary containment volume, including torus air space
1.59×10^{5} ft^{3}	-	primary containment volume, not including torus air space
3.77×10^{6} ft^{3}	-	secondary containment volume
6000 SCFM	-	flow rate/train when purging secondary containment through SGTS
10 SCFM	-	flow rate/train when purging primary containment through SGTS
8.4×10^{14} uCi	-	Noble Gas Activity available for release from primary containment, (100% equilibrium fission product activity for Noble Gases)
2.4×10^{14} uCi	-	Iodine Activity available for release from primary containment (25% equilibrium fission produce activity for iodines)

Assume mixing with 90% of secondary containment volume for Case B.

Assume Decontamination Factor of 1/100 for iodines processed through standby gas treatment system.

Calculations

A: Primary Containment Purged through Standby Gas Treatment System

Noble Gas

$$\frac{8.4 \times 10^{14}\ \text{uCi}}{2.78 \times 10^{5}\ \text{ft}^{3}} \times \frac{10\ \text{ft}^{3}}{\text{min.}} \times \frac{1\ \text{min.}}{60\ \text{sec}} = 5.00 \times 10^{8}\ \frac{\text{uCi}}{\text{sec}}$$

Iodine

$$\frac{2.4 \times 10^{14}\ \text{uCi}}{2.78 \times 10^{5}\ \text{ft}^{3}} \times \frac{10\ \text{ft}^{3}}{\text{min.}} \times \frac{1\ \text{min.}}{60\ \text{sec}} \times \frac{1}{100} = 1.44 \times 10^{6}\ \frac{\text{uCi}}{\text{sec}}$$

A-1: Primary Containment Leakage to Secondary Containment

Noble Gas

$$8.4 \times 10^{14}\ \text{uCi} \times \frac{.5\%}{\text{day}} \times \frac{\text{day}}{8.64 \times 10^{4}\ \text{sec.}} = 4.86 \times 10^{7}\ \frac{\text{uCi}}{\text{sec}}$$

Iodine

$$2.4 \times 10^{14} \times \frac{.5\%}{\text{day}} \times \frac{\text{day}}{8.64 \times 10^{4}\ \text{sec.}} = 1.39 \times 10^{7}\ \frac{\text{uCi}}{\text{sec}}$$

A-2: Release rate from secondary containment. Assume time (1 day) for diffusion of primary containment leakage into secondary containment.

Noble Gas

$$4.2 \times 10^{12}\ \frac{\text{uCi}}{\text{day}} \times \frac{1}{3.77 \times 10^{6}\ \text{ft}^{3}} \times \frac{5000\ \text{ft}^{3}}{\text{min.}} \times \frac{1\ \text{min.}}{60\ \text{sec}} = 9.30 \times 10^{7}\ \frac{\text{uCi}}{\text{sec}}$$

B: Secondary Containment Purged through Standby Gas Treatment System

Noble Gas

$$8.4 \times 10^{14}\ \text{uCi} \times \frac{.5\%/\text{day}}{8.64 \times 10^{4}\ \text{sec/day}} \times \frac{6000\ \text{ft}^{3}/\text{min.}}{.9 \times 3.74 \times 10^{6}\ \text{ft}^{3}} \times \frac{1\ \text{min.}}{60\ \text{sec}} \times 1\ \text{sec.} = 1.44 \times 10^{3}\ \frac{\text{uCi}}{\text{sec}}$$

Iodine

$$2.4 \times 10^{14}\ \text{uCi} \times \frac{.5\%/\text{day}}{8.64 \times 10^{4}\ \text{sec/day}} \times \frac{6000\ \text{ft}^{3}/\text{min}}{.9 \times 3.74 \times 10^{6}\ \text{ft}^{3}} \times \frac{1\ \text{min.}}{60\ \text{sec}} \times 1\ \text{sec} \times \frac{1}{100} = 4.13 \times 10^{0}\ \frac{\text{uCi}}{\text{sec}}$$

C: Activity in Secondary Containment Released through Roof Vents

Noble Gas

$$8.4 \times 10^{14}\ \text{uCi} \times \frac{.5\%/\text{day}}{8.64 \times 10^{4}\ \text{sec/day}} = 4.86 \times 10^{7}\ \frac{\text{uCi}}{\text{sec}}$$

Iodine

$$2.4 \times 10^{14}\ \text{uCi} \times \frac{.5\%/\text{day}}{8.64 \times 10^{4}\ \text{sec/day}} = 1.39 \times 10^{7}\ \frac{\text{uCi}}{\text{sec}}$$

Assuming leakage from primary to secondary goes out roof vents.

Estimation of source term from containment monitor.

WORKSHEET

1. Time after shutdown = _____ hrs.

2. Containment monitor dose rate = _____ R/hr at _____ time

3. % Fuel inventory released = _____ %

   Decimal Fraction = _____

4. Check pathway for release (as defined in Section 2.2) and use appropriate conversion factor in Step 5.

	A-1	A-2	B	C	D
4.1 Noble Gas	5.00×10^{8}	4.86×10^{7}	9.30×10^{7}	1.44×10^{3}	4.86×10^{7}
4.2 Iodine	1.44×10^{6}	1.39×10^{7}	2.67×10^{7}	4.13×10^{0}	1.39×10^{7}

	Decimal Fraction	X	CF	=	Release Rate uCi/sec.
Noble Gas	_____ (Item 3)	X	_____ (Item 4.1)	=	_____ uCi/sec. Noble Gas
Iodine	_____ (Item 3)	X	_____ (Item 4.2)	=	_____ uCi/sec. Iodine

See EP-316 for calculation of off-site doses.

Name: _____

Date: _____

Time: _____

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1-3-86

PHILADELPHIA ELECTRIC COMPANY

PEACH BOTTOM UNITS 2 AND 3

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EP-401 ENTRY FOR EMERGENCY REPAIR AND OPERATIONS

PURPOSE

To define the method for providing instructions for entering areas that have become adversely affected by the emergency conditions. This procedure is for use during emergency repair operations.

RESPONSIBILITIES:

1.0 Personnel Safety Team Leader shall ensure that designated portions of this procedure are implemented.

2.0 Plant Survey Group Leader shall implement designated portions of this procedure.

3.0 Fire and Damage Team Leader and the Entry Leader shall ensure that the designated portions of this procedure are implemented.

ACTION LEVEL

This procedure is implemented whenever personnel must enter an area of unknown radiological hazards for reasons of emergency operation of equipment or repairs.

PRECAUTIONS

1.0 The following criteria should be met prior to implementing this procedure:

1.1 The entry is authorized by the Personnel Safety Team Leader, and

1.2 Radiological conditions are unknown and suspected to be hazardous in an area to be entered, or

1.3 Conditions of time and/or the uncertainty or nature of various radiological conditions preclude the use of routine Health Physics procedures.

1.4 A minimum of two people will be assigned to an entry team and at no time will anyone be allowed to travel through a potentially high radiation area unless they are within sight of another team member.

1.5 For emergency operation or repair activites, personnel exposure should not exceed the limits of Appendix EP-401-1, Emergency Exposure Limits.

1.6 Personnel who may exceed the exposure of 25 Rem will do so on a voluntary basis.

1.7 Exposure to radiation greater than the limits imposed by the Peach Bottom Atomic Power Station limits shall be authorized by the Emergency Director, in accordance with EP-211, Emergency Radiation Exposure Guidelines and Controls.

1.8 Personnel performing an entry will be aware of the possible hazards associated with exceeding a dose of 25 Rem.

1.9 Monitor personnel exposure closely with the personal dosimeter.

1.10 Requirements of HPO/CO-4, Radiation Work Permits, are not applicable.

1.11 KI administration may be required prior to entry for emergency repair operations (See EP-313 for details).

1.12 Normal blocking procedure may be waived by Emergency Director in carrying out this procedure.

PROCEDURE:

1.0 IMMEDIATE ACTIONS

1.1 Personnel Safety Team Leader shall:

1.1.1 Provide radiological conditions information to the Emergency Director as an aid in planning emergency operations and maintenance activities.

1.1.2 Inform the Plant Survey Group Leader of planned emergency activities, the associated plant conditions and protective requirements, and the priority of the activity as it affects mitigation of the emergency condition.

1.1.3 Determine emergency exposure limitations for emergency activities.

CAUTION

PLANNED RADIATION EXPOSURES SHOULD BE LIMITED TO THE ADMINISTRATIVE GUIDE LEVELS IN APPENDIX EP-401-2, EMERGENCY EXPOSURE GUIDELINES. PERFORMANCE OF A TASK INVOLVING EXPOSURE ABOVE 10CFR20 LIMITS REQUIRED EMERGENCY DIRECTOR'S AUTHORIZATION.

1.1.4 Provide emergency exposure limitations to the Plant Survey Group Leader for entry into affected areas. For anticipated exposures greater than 10CFR20, use EP-211, Emergency Radiation Exposure Guidelines and Controls.

1.1.5 Provide guidelines for TLD evaluations to the Plant Survey Group Leader.

1.1.6 Determine resource support requirements from the Plant Survey Group Leader and provide that support from available on-site resources or identify that need to the Emergency Operations Facility (EOF).

1.1.7 Inform the Emergency Director of significant exposures, uptakes, or skin contamination problems which have occurred during entries into affected areas.

1.2 Plant Survey Group Leader shall:

1.2.1 Utilize Appendix EP-401-2, Emergency Radiation Work Permit to specify entry requirements, unless information is available to relieve specific requirements as specified below.

1.2.2 A filter respirator may be substituted for an SCBA if it is known that high radioiodine levels are not present or the use of a SCBA would physically restrict entry into the area. Sources of information on the presence or absence of radioiodine include:

a. The Emergency Director's estimate of fuel damage.

b. Radioiodine concentrations from ventilation process monitors (Process Radiation Monitors) for the entry area.

IF A SCBA IS NOT USED DUE TO PHYSICAL ACCESS RESTRICTIONS AND RADIOIODINE IS KNOWN OR SUSPECTED TO BE PRESENT, THYROID BLOCKING AGENT SHOULD BE EVALUATED IN ACCORDANCE WITH EP-313, DISTRIBUTION OF THYROID BLOCKING TABLETS.

1.2.3 Health Physics escort requirements may be waived if one of the entry team members (who will not be doing physical work) is a qualified self-monitor; alarming dosimeters are utilized by the team members; and the entry is of short duration and well defined in terms of location and work to be performed.

1.2.4 Determine the team member's current quarterly exposure by reviewing personnel exposure records and daily dose cards or questioning the individuals.

1.2.5 Instruct the team members on their allowable exposure for the entry based upon a maximum quarterly exposure of 2500 mRem.

ALLOWABLE EXPOSURES ABOVE 2500 mRem/QUARTER MUST BE AUTHORIZED BY THE EMERGENCY DIRECTOR.

1.2.6 Review Appendix EP-401-3, Access Control Briefing Guide, with the team members prior to the entry.

CAUTION

NO ONE PERSON SHALL BE LEFT ALONE DURING THE ENTRY.

CAUTION

RADIATION EXPOSURES SHALL BE KEPT AS LOW AS REASONABLE ACHIEVALBE (ALARA).

UNTIL IT HAS BEEN CONFIRMED OTHERWISE, AIRBORNE RADIOACTIVITY WILL BE ASSUMED TO BE PRESENT IN ALL AFFECTED AREAS OF THE PLANT.

TO THE EXTENT PRACTICABLE, ROUTINE HEALTH PHYSICS PROCEDURES WILL BE UTILIZED.

1.2.7 After the emergency entry, the Plant Survey Group Leader shall:

a. Direct personnel to be monitored for contamination in accordance with HPO/CO-6, Personnel Contamination Monitoring.

b. Direct contaminated personnel to be detained until they can be decontaminated in accordance with HPO/CO-7, Personnel Decontamination.

c. Complete Appendix EP-401-3, Access Control Briefing Guide.

d. Document personnel exposures of team members on the RWP Access and Exposure Control Log Sheets.

CAUTION

IF A SIGNIFICANT EXPOSURE (ABOVE LEVELS IDENTIFIED BY THE PERSONNEL SAFETY TEAM LEADER) WAS RECEIVED BY A GROUP MEMBER(S), INFORM THEM THEY WILL NOT BE ALLOWED FURTHER ENTRY UNTIL A DOSIMETRY EVALUATION HAS BEEN COMPLETED.

1.2.8 Document survey results on Survey Data Sheet(s).

1.2.9 Direct air samples to be analyzed in accordance with HPO/CO- , Air Sample Analysis.

2.1.10 Brief the Personnel Safety Team Leader on the results of the entry.

1.3 Fire and Damage Team Leader shall:

1.3.1 Determine what task has to be performed and how many people will be required to complete the task.

1.3.2 Have the team members assemble the necessary tools and spare parts that will be required for the task.

1.3.3 Request the Personnel Safety Team Leader to provide maximum allowable dose and a projected stay time.

1.3.4 Have the Personnel Safety Team Leader determine what type of respiratory and protective clothing will be required for the entry.

NOTE: Follow good health physics practices as much as practicable consistent with the urgency of the task.

1.3.5 Have the Plant Survey Group Leader provide a health physics qualified individual to accompany each team. Equip this individual with a high range, beta-gamma detector (such as a Teletector) and monitor for the expected radiation levels.

1.3.6 Arrange for relief of personnel as necessary.

1.3.7 Provide necessary equipment, materials, and tools to support the entry repair. If required, have Emergency Director contact the Site Emergency Coordinator for additional assistance. Enter the area and perform the task. Inform the Emergency Director of what has been done.

1.4 Entry Group (Operations or Repair) shall:

1.4.1 Assist the Team Leader in determining what has to be done, spare parts, tools, and how many people will be needed.

1.4.2 Assemble the necessary equipment required to perform the task.

1.4.3 Wear the appropriate respiratory and anti-contamination clothing deemed necessary by the Personnel Safety Team Leader.

NOTE: Follow guidance of HPO/CO-9, Respiratory Protection Program, consistent with the urgency of the emergency task.

1.4.4 Establish communications with the control room and if possible, Fire and Damage Team Leader.

1.4.5 Provide periodical briefings to either the control room or the Fire and Damage Team Leader at a minimum of every 15 minutes during the entry.

2.0 <u>FOLLOW UP ACTIONS</u>:

2.1 Personnel Safety Team Leader shall:

2.1.1 Determine, in conjunction with the Emergency Director, when the plant situation has stabilized to the point where it is possible to establish the ongoing radiological controls program using the guidelines in Appendix EP-401-4, Health Physics Considerations During Emergencies. Where practical, normal Health Physics procedures should be used.

2.2 Fire and Damage Team Leader shall:

2.2.1 Provide a periodical status briefing to the Emergency Director on the progress of the entry group's activities.

APPENDICES:

EP-401-2, Emergency Exposure Guidelines
EP-401-2, Emergency Radiation Work Permit
EP-401-3, Access Control Briefing Guide
EP-401-4, Health Physics Considerations During Emergencies

REFERENCES:

PBAPS Emergency Plan

Section	Title
5.2.1.5.7	Personnel Safety Team
5.2.1.5.8	Fire and Damage Team
6.7.1.1.5	Monitoring of Evacuees
6.7.1.1.7	Re-Entry

NUREG 0654, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

NCRP Report 39, Basic Radiation Protection Criteria

EP-211, Emergency Radiation Exposure Guidelines and Controls

EP-313, Control of Thyroid Blocking (kI) Tablets

HPO/CO-4, Radiation Work Permits

HPO/CO-6, Personnel Contamination Survey Techniques

HPO/CO-9, Respiratory Protection Program

APPENDIX EP 401-1
EMERGENCY EXPOSURE LIMITS

	Function	Projected Whole Body Dose	Thyroid Dose	Authorized By
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 CFR 20 limits	10 CFR 20 limits	Emergency Director
5.	Re-Entry/Recovery Activities	Administrative Guidelines	Administrative Guidelines	N/A

*Reference: EPA-520/1-75-001 Table 2.1
**Such exposure shall be on a voluntary basis

APPENDIX EP-401-2

EMERGENCY RADIATION WORK PERMIT (ERWP)

ORIGINAL — NRF NO.

RADIATION WORK PERMIT

EMERGENCY RADIATION WORK PERMIT (ERWP)

ENTER THE ABOVE AREA DURING ACCIDENT CONDITIONS OR WHEN RADIOLOGICAL CONDITIONS ARE UNKNOWN.

REASON FOR ENTRY:

[illegible]		X	[illegible]		DOSIMETER & LSR — R RANGE: X
[illegible]		X	[illegible]		EXTREMITY HAND
[illegible]		X	[illegible]	X	EXTREMITY FOOT
PLASTIC GLOVES	1 PR	X			LAPEL AIR SAMPLER (ON AT LEAST ONE PERSON PER GROUP) X
RUBBER GLOVES		X			
COVERALLS	2 PR	X	GLASSES		
SHOE COVERS	2 PR	X	TAPED OPENINGS	X	DP CHAMBER REQUIRED FOR ENTRY X
PLASTIC PANTS			TAPED ZIPPER - HOOD	X	ALARMING DOSIMETER X
PLASTIC SUIT					CONSTANT HP COVERAGE
BOOTS - RUBBERS		X			ESCORT HP COVERAGE X
			SELF FRISK	X	

SPECIAL INSTRUCTIONS —

1. AT LEAST 2 PERSONS REQUIRED FOR ENTRY, AT LEAST ONE OF WHICH IS AN HP.
2. OBTAIN READINGS OF ALL ARMS WITHIN THE AREA PRIOR TO ENTERING THE AREA.
3. KNOW & UNDERSTAND AUTHORIZED PERSONNEL ESCORTED FOR ALL PERSONNEL WITHIN THE AREA. EXIT THE AREA IMMEDIATELY IF ANY INDIVIDUAL IN THE GROUP IS APPROACHING ITS AUTHORIZED EXPOSURE LIMIT.
4. 0-5R DOSIMETER REQUIRED IF EXPOSURES IN EXCESS OF 100 mR ARE EXPECTED.

RADIATION EXPOSURE DATA — SEE MOST RECENT ATTACHED SURVEY

R.W.P. REQUESTED BY _____ OF _____ (DIV) TIME _____ DATE _____

R.W.P. ISSUED BY _____ HEALTH PHYSICS TIME _____ DATE _____

SUPPLEMENTAL RADIATION SURVEYS REQUIRED EVERY

SURVEY NO.	HP	DATE	STAY TIME FOR 100 mR/HR	SURVEY NO.	HP	DATE	STAY TIME FOR 100 mR/HR
INITIAL							

R.W.P. TERMINATED BY _____ TIME _____ DATE _____

APPENDIX EP-401-2

EMERGENCY RADIATION WORK PERMIT (ERWP)

RADIATION WORK PERMIT

R.W.P. ACCESS and EXPOSURE CONTROL

LOCATION: _____ R.W.P. NO _____

JOB DESCRIPTION: _____ PAGE ____ OF ____

YOUR NAME INDICATES UNDERSTANDING AND COMPLIANCE WITH JOB REQUIREMENTS

R.W.P. READ BY (PRINT NAME)	DATE	SOCIAL SECURITY NUMBER	JOB GROUP CODE (SEE BELOW)	SPECIFIC REASON FOR ENTRY (TASK TO BE PERFORMED)	AUTH EXP / MASK CODE	TIME IN / TIME OUT	EXP RATE	DOSE IN / DOSE OUT	TOTAL EXP	HP ONLY: MPC HOURS	HP ONLY: COMP EF
NAME - This line for 0-200 mR Dosimeter											
- this line for 0-500 mR Dosimeter											
- This line for 0-1,500 mR Dosimeter											
- this line for 0-5,000 mR Dosimeter											

JOB GROUP CODES

BALANCE GROUP	BA	INSTRUMENT LAB	IL	OPERATOR	OP		
BOILER GROUP	BO	INSERVICE INSPECTION	ISI	PIPEFITTER	PF		
CARPENTERS	CA	INSPECTOR	IN	QUALITY ASSURANCE	QA		
ELECTRICIANS	EL	JANITOR	JA	RIGGERS	RI		
GENERAL ELECTRIC	GE	LABORER	LA	TEST ENGINEERS	TE		
HEALTH PHYSICS	HP	MACHINIST	MA	TURBINE GROUP	TG		
HELPER	HE			WELDERS	WE		

MASK CODES:

F - FILTER RESPIRATOR
A - AIRLINE RESPIRATOR
S - SELF CONTAINED
NA - NONE

APPENDIX EP-401-3
ACCESS CONTROL BRIEFING GUIDE

I. PRE-ENTRY BRIEFING

Team Members _____ _____

_____ _____

Date of Entry: _____ Time of Entry: _____ EREP # _____

Purpose: _____

_____

INITIAL

_____ 1. Potential hazards - radiological and non-radiological.
_____ 2. Dose rates and activity levels.
_____ 3. Dosimetry type (TLC, high range self-reading extremity, finger, etc.) issued and use understood.
_____ 4. Respiratory protection - type, lapel sampler.
_____ 5. Protective clothing.
_____ 6. Stay times on exposure limit discussed and understood. Initials of Entry Team: _____, _____, _____, _____, _____.
_____ 7. Instruments to be used.
_____ 8. Review documentation required for entry and personnel exposure records if time permits.
_____ 9. Define and explain as detailed any system malfunctions, breaks, or hazards from operating equipment.
_____ 10. Surveys to be performed (air, cont. rad.).

Briefing Performed By: _____

II. EXIT BRIEFING

_____ 1. Determine exposure and time in area.
_____ 2. Monitor for personnel contamination, document positive findings.
_____ 3. Determine approximate dose rates from survey meter.
_____ 4. Document any noticeable radiological or operations concerns, i.e., gas leaks, liquid spills, alarms, equipment malfunction, etc.
_____ 5. Document recommended bioassay.
_____ 6. Take nasal swabs of persons in airborne contamination areas.
_____ 7. Obtain any survey data sheets.

Debriefing Performed By: _____

Time of Debriefing: _____

Comments: _____

_____

APPENDIX EP-401-4

HEALTH PHYSICS CONSIDERATIONS DURING EMERGENCIES
(Continued)

VI Equipment

1. Dosimetry - TLDs (extremity), DRDs (high range), alarming dosimeters
2. Respiratory Protection - Masks, filters, SCBA bottles, air lines
3. Instrumentation - High range meters, lapel air samples, teledose systems, sampling media
4. Clothing
5. Documentation - Survey forms, log sheets

VII. Manpower

1. Short term needs.
2. Long term needs.