EMERGENCY RESPONSE PROCEDURES
INDEX
PEACH BOTTOM ATOMIC POWER STATION
FOR UNIT 2, UNIT 3 AND COMMON

Number	Title	Sponsor Number	Review Date	Rev. No.	Revision Date
ERP-101	CLASSIFICATION OF EMERGENCIES	(101)	/ /	12	11/05/93
ERP-110	EMERGENCY NOTIFICATIONS	(101)	/ /	7	07/21/93
ERP-110 APPENDIX 1	EMERGENCY NOTIFICATION TELEPHONE LIST	(101)	/ /	31	12/01/93
ERP-110 APPENDIX 2	EMERGENCY CLASSIFICATION NOTIFICATION TELEPHONE LIST FOR A SITE EMERGENCY OR GENERAL EMERGENCY CANCELLED - REPLACED BY ERP-110 APPENDIX 1	( )	/ /	24	07/21/93
ERP-120	PARTIAL PLANT EVACUATION CANCELLED - REPLACED BY ERP-130 & GP-15	( )	/ /	2	08/10/92
ERP-130	SITE EVACUATION	(101)	/ /	6	12/01/93
ERP-140	EMERGENCY RESPONSE ORGANIZATION (ERO) CALL OUT	(101)	/ /	10	11/02/93
ERP-140 APPENDIX 1	EMERGENCY DIRECTORS CANCELLED - REPLACED BY PIMS PRINTOUTS ISSUED MONTHLY PER RT/ERP-2	( )	/ /	17	08/20/92
ERP-140 APPENDIX 2	TECHNICAL SUPPORT TEAM CANCELLED - REPLACED BY PIMS PRINTOUTS ISSUED MONTHLY PER RT/ERP-2	( )	/ /	20	08/20/92
ERP-140 APPENDIX 3	DOSE ASSESSMENT TEAM CANCELLED - REPLACED BY PIMS PRINTOUTS ISSUED MONTHLY PER RT/ERP-2	( )	/ /	22	08/20/92
ERP-140 APPENDIX 4	CHEMISTRY SAMPLING & ANALYSIS TEAM CANCELLED - REPLACED BY PIMS PRINTOUTS ISSUED MONTHLY PER RT/ERP-2	( )	/ /	15	08/20/92

Number	Title	Sponsor Number	Review Date	Rev. No.	Revision Date
ERP-140 APPENDIX 5	DAMAGE REPAIR TEAM CANCELLED - REPLACED BY PIMS PRINTOUTS ISSUED MONTHLY PER RT/ERP-2	( )	/ /	14	08/20/92
ERP-140 APPENDIX 6	SECURITY TEAM CANCELLED - REPLACED BY PIMS PRINTOUTS ISSUED MONTHLY PER RT/ERP-2	( )	/ /	13	08/20/92
ERP-140 APPENDIX 7	PERSONNEL SAFETY TEAM CANCELLED - REPLACED BY PIMS PRINTOUTS ISSUED MONTHLY PER RT/ERP-2	( )	/ /	17	08/20/92
ERP-140 APPENDIX 8	COMPANY CONSULTANTS AND CONTRACTORS CANCELLED - INCLUDED IN EMERGENCY TELEPHONE DIRECTORY	( )	/ /	9	08/20/92
ERP-140 APPENDIX 9	NEARBY PUBLIC AND INDUSTRIAL USERS OF DOWNSTREAM WATER CANCELLED - INCLUDED IN EMERGENCY TELEPHONE DIRECTORY	( )	/ /	11	08/20/9[illegible]
ERP-200	EMERGENCY DIRECTOR (ED)	(101)	/ /	10	12/07/93
ERP-200 APPENDIX 1	UNUSUAL EVENT FORMS	(101)	/ /	0	03/25/93
ERP-200 APPENDIX 2	ALERT FORMS	(101)	/ /	0	03/25/93
ERP-200 APPENDIX 3	SITE AREA EMERGENCY FORMS	(101)	/ /	0	03/25/93
ERP-200 APPENDIX 4	GENERAL EMERGENCY FORMS	(101)	/ /	0	03/25/93
ERP-200 APPENDIX 5	EVENT TERMINATION FORMS	(101)	/ /	0	03/25/93
ERP-200 APPENDIX 6	RECOVERY PHASE FORMS	(101)	/ /	0	12/07/93
ERP-205	EMERGENCY PREPAREDNESS COORDINATOR/TSC	(101)	/ /	3	10/14/

Number	Title	Sponsor Number	Review Date	Rev. No.	Revision Date
ERP-206	SUPPORT SERVICES GROUP	(101)	/ /	1	07/26/93
ERP-210	EMERGENCY RESPONSE MANAGER (ERM) CANCELLED - REPLACED BY ERP-C-1200	( )	/ /	3	04/03/92
ERP-215	PLANNING & SCHEDULING COORDINATOR (P&SC) CANCELLED - NO REPLACEMENT	( )	/ /	0	04/02/92
ERP-220	OPERATIONS SUPPORT CENTER (OSC) OPERATIONS PERSONNEL	(101)	/ /	4	08/14/91
ERP-230	OPERATIONS SUPPORT CENTER (OSC) ACTIVATION	(101)	/ /	10	06/23/93
ERP-230 APPENDIX 1	PERSONNEL EXPOSURE LOG OPERATIONS SUPPORT CENTER (OSC)	(101)	/ /	0	03/08/93
ERP-240	AUXILIARY OPERATIONS SUPPORT CENTER (AUX OSC) ACTIVATION CANCELLED - NO REPLACEMENT	( )	/ /	1	08/01/88
ERP-250	TECHNICAL SUPPORT CENTER (TSC) ACTIVATION CANCELLED - NO REPLACEMENT	( )	/ /	11	10/14/93
ERP-260	EMERGENCY OPERATIONS FACILITY (EOF) ACTIVATION CANCELLED - REPLACED BY ERP-C-1000	( )	/ /	9	04/03/92
ERP-270	ALTERNATE EMERGENCY OPERATIONS FACILITY (ALT EOF) ACTIVATION CANCELLED - NO REPLACEMENT	( )	/ /	2	04/02/92
ERP-300	DOSE ASSESSMENT TEAM LEADER (DATL)	(101)	/ /	5	10/27/93
ERP-305	DOSE ASSESSMENT GROUP LEADER (DAGL) CANCELLED - NO REPLACEMENT	( )	/ /	4	03/12/93

Number	Title	Sponsor Number	Review Date	Rev. No.	Revision Date
ERP-310	DOSE ASSESSMENT GROUP	(101)	/ /	6	03/12/93
ERP-315	OPERATION OF THE PEACH BOTTOM COMPUTER DOSE ASSESSMENT SYSTEM	(101)	/ /	7	04/21/93
ERP-316	CUMULATIVE POPULATION DOSE CALCULATIONS FOR AIRBORNE RELEASES - MANUAL METHOD CANCELLED - REPLACED BY ERP 315	( )	/ /	3	04/02/92
ERP-317	DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS CANCELLED - REPLACED BY ERP 101 AND ERP 200	( )	/ /	3	04/02/92
ERP-318	LIQUID RELEASE DOSE CALCULATIONS AT DOWNSTREAM WATER INTAKE FACILITIES CANCELLED - REPLACED BY ERP-360	( )	/ /	1	06/18/93
ERP-319	LIQUID RELEASE DOSE CALCULATIONS FOR FISH INGESTION CANCELLED - REPLACED BY ERP-360	( )	/ /	1	06/18/93
ERP-320	USE OF THE CONTAINMENT RADIATION MONITOR TO ESTIMATE RELEASE SOURCE TERM AND NOBLE GAS MONITOR READINGS CANCELLED - REPLACED BY ERP 315	( )	/ /	2	04/02/92
ERP-325	SHIFT DOSE ASSESSMENT PERSONNEL	(101)	/ /	0	04/21/93
ERP-330	FIELD SURVEY GROUP LEADER (FSGL)	(101)	/ /	7	03/25/93
ERP-340	FIELD SURVEY GROUP	(101)	/ /	4	03/25/93
ERP-340 APPENDIX 1	FIELD SURVEY DATA SHEET	(101)	/ /	0	03/25/9

Number	Title	Sponsor Number	Review Date	Rev. No.	Revision Date
ERP-350	THYROID DOSE COMMITMENT USING TCS AIR SAMPLING SYSTEM CANCELLED - REPLACED BY ERP 340 AND HP 446	( )	/ /	0	04/02/92
ERP-360	RADIOACTIVE LIQUID RELEASE	(101)	/ /	0	06/18/93
ERP-400	CHEMISTRY SAMPLING AND ANALYSIS TEAM LEADER (CSATL)	(101)	/ /	3	11/02/93
ERP-410	CHEMISTRY SAMPLING AND ANALYSIS TEAM	(101)	/ /	3	12/20/93*
ERP-500	SECURITY TEAM LEADER (STL)	(101)	/ /	6	03/12/93
ERP-510	PERSONNEL ACCOUNTABILITY	(101)	/ /	7	08/14/91
ERP-520	SECURITY TEAM ACTIVATION	(101)	/ /	3	05/21/92
ERP-600	PERSONNEL SAFETY TEAM LEADER (PSTL)	(101)	/ /	7	10/25/93
ERP-610	FIRST AID/SEARCH AND RESCUE GROUP CANCELLED - NO REPLACEMENT	( )	/ /	4	02/05/93
ERP-620	PLANT SURVEY GROUP	(101)	/ /	6	11/05/93
ERP-620 APPENDIX 1	HABITABILITY STATUS LOG SHEET	(101)	/ /	0	11/05/93
ERP-620 APPENDIX 2	ARM STATUS LOG	(100)	/ /	0	11/05/93
ERP-630	DOSIMETRY, BIOASSAY, AND RESPIRATORY PROTECTION GROUP CANCELLED - NO REPLACEMENT	( )	/ /	3	03/18/93
ERP-640	VEHICLE AND EVACUEE CONTROL GROUP	(101)	/ /	2	01/14/91
ERP-650	TRANSPORT OF CONTAMINATED INJURY OFF-SITE	(101)	/ /	4	06/18/93

Number	Title	Sponsor Number	Review Date	Rev. No.	Revision Date
ERP-660	ENTRY FOR EMERGENCY REPAIR AND OPERATIONS	(101)	/ /	6	06/18/93
ERP-670	EMERGENCY RADIATION EXPOSURE GUIDELINES AND CONTROLS	(101)	/ /	1	12/31/91
ERP-680	CONTROL OF THYROID BLOCKING POTASSIUM IODIDE (KI) TABLETS	(101)	/ /	2	12/31/91
ERP-700	TECHNICAL SUPPORT TEAM LEADER (TSTL)	(101)	/ /	7	09/22/93
ERP-710	TECHNICAL SUPPORT GROUP	(101)	/ /	7	09/22/93
ERP-800	DAMAGE REPAIR TEAM LEADER (DRTL)	(101)	/ /	2	04/21/93
ERP-810	DAMAGE REPAIR GROUP	(101)	/ /	4	08/14/[illegible]
ERP-900	RECOVERY PHASE IMPLEMENTATION CANCELLED - REPLACED BY ERP-C-1900	( )	/ /	1	04/03/92
ERP-910	RECEPTION AND ORIENTATION OF SUPPORT PERSONNEL CANCELLED - REPLACED BY ERP-C-1500	( )	/ /	1	04/03/92

END OF REPORT FOR ERP INDEX

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY RESPONSE PROCEDURE

APPROVED BY: _____ 12/20/93
RESPONSIBLE SUPT./DATE

ERP-410 CHEMISTRY SAMPLING AND ANALYSIS TEAM

1.0 RESPONSIBILITIES

1.1 The Chemistry Sampling and Analysis Group Leader (CSAGL) is responsible for:

1.1.1 Reporting to the Chemistry Sampling and Analysis Team Leader (CSATL) at the Technical Support Center (TSC).

1.1.2 Directing and coordinating activities of Chemistry Sampling and Analysis Group members.

1.1.3 Reporting results of Chemistry Sampling and Analysis Group activities to the CSATL.

1.1.4 Acting as the Accountability Coordinator for the Chemistry Group members.

1.2 The Chemistry Sampling and Analysis Group members are responsible for:

1.2.1 Reporting to preassigned locations.

1.2.2 Preparing for, obtaining, and analyzing chemistry samples.

1.2.3 Maintaining individual exposures ALARA.

2.0 INITIAL ACTIONS

NOTE: ATTACHMENT TITLED, "CHEMISTRY SAMPLING AND ANALYSIS GROUP FLOW CHART", MAY BE USED AS A GUIDE FOR THE FOLLOWING ACTIONS.

NOTE: PROCEDURAL STEPS ARE IN LOGICAL ORDER, HOWEVER STEPS MAY BE PERFORMED IN ANY LOGICAL SEQUENCE AS CONDITIONS DICTATE.

2.1 The CSAGL or designee shall:

NOTE: THE CHEMISTRY ACCOUNTABILITY CARD READER IS LOCATED AT THE PLANT EXIT DOOR ADJACENT TO THE TB 116' EAST ROLL UP DOOR. TO BE ACCOUNTED FOR BEING IN THE CHEMISTRY LAB, ONCE AN "ALERT" OR HIGHER CLASSIFICATION HAS BEEN DECLARED, EACH TEAM MEMBER'S SECURITY BADGE MUST BE PASSED THROUGH THE CARD READER ON THE PLANT SIDE. THE CARD READER MUST BE USED EACH TIME LEAVING AND RETURNING TO THE CHEMISTRY LAB.

2.1.1 Report and card in for accountability.
IF the plant computer is not functioning,
THEN use the accountability lists from ERP-510.

2.1.2 Direct group members to card into the accountability card reader.

2.1.3 Discuss with the CSATL the plant conditions and sampling assignments.

2.1.4 Direct Chemistry Sampling and Analysis Group members to log themselves on the attachment titled, "Personnel Exposure Log".

2.1.5 Contact the Plant Survey Group Leader (PSGL) and request:

2.1.5.1 Group members available exposure and respiratory qualifications (record on attachment titled "Personnel Exposure Log".

2.1.5.2 Radiological conditions and requirements briefing.

2.1.5.3 To request HP Technician(s) for sampling team(s).

2.1.6 Assemble the Chemistry Sampling and Analysis Group Members for briefing which shall include:

2.1.6.1 Emergency classification

2.1.6.2 Radiological conditions

2.1.6.3 Plant status

2.1.7 Assign and direct Group members to prepare facilities and equipment for sampling, including the following, as necessary:

2.1.7.1 Alternate Chemistry Sampling and Analysis Group leaders for Unit 1 Chemistry Lab.

2.1.7.2 Post Accident Sample Station (PASS)

2.1.7.3 Laboratory facilities for PASS sample analysis

2.1.7.4 Counting Room facilities for high level radiological samples

2.1.7.5 Liquid and Gas samples from various points

2.1.8 Make sampling assignments to team members to support sampling directed by the CSATL.

2.1.9 Brief team members on:

2.1.9.1 Sample points to be used

2.1.9.2 Access routes to sample points

2.1.9.3 Expected sample radioactivity concentrations, or exposure rates

2.1.10 Establish primary and backup communications methods.

2.2 The Chemistry Sampling and Analysis Team members shall:

2.2.1 Report to preassigned locations.

2.2.2 Card into the accountability card reader (see note under section 2.1).

2.2.3 Prepare all sample containers before sampling.

2.2.4 Review applicable procedures before beginning any operation.

2.2.5 Maintain their exposure ALARA. Report exposures reaching administrative limits or if exposure limits could prevent them from completing a task.

3.0 CONTINUING ACTIONS

3.1 The CSAGL or designee at the backup facility shall:

3.1.1 Initiate attachment titled, "Chemistry Check-Off List" for each sample requested.

3.1.2 Maintain accountability for all sample requests through attachment titled, "Sample and Analysis Logsheet".

3.1.3 Direct teams to obtain or analyze samples as requested by the CSATL.

3.1.4 Maintain awareness of status and progress of sampling groups and other chemistry group personnel.

3.1.5 Debrief sampling teams and direct them to record exposure information on the Personnel Exposure Log.

3.1.6 Review and approve all sample analyses and sample data.

3.1.7 Report all sample data and analyses results to the CSATL.

3.1.8 Report member radiation exposure status to CSATL. Request exposure limit extensions authorization, as required.

3.1.9 Keep team members advised of emergency classification and radiological conditions.

3.1.10 Provide the CSATL with progress reports, notification of significant problems, personnel needs and requests for technical assistance.

3.2 The Chemistry Sampling and Analysis Team Members shall:

3.2.1 Perform sampling and analysis in accordance with station procedures as directed by the the CSAGL.

3.2.2 Prepare and provide attachment titled, "Chemistry Check-Off List" to Group Leader for each sample taken.

3.2.3 Update exposure on the Personnel Exposure Log for each sample or analysis.

4.0 FINAL CONDITIONS

4.1 The CSAGL shall:

4.1.1 Direct team members to discontinue sampling and complete and turn in all samples, analyses and data sheets.

4.1.2 Direct restoration of facilities and equipment to normal status.

4.1.3 Organize and prepare records for transfer.

4.1.4 Re-assign Group members to non-emergency duties.

5.0 ATTACHMENTS AND APPENDICES

5.1 Attachment 1 - "Chemistry Sampling and Analysis Group Flow Chart"

5.2 Attachment 2 - "Personnel Exposure Log"

5.3 Attachment 3 - "Chemistry Check-Off List"

5.4 Attachment 4 - "Sample and Analysis Logsheet"

6.0 SUPPORTING INFORMATION

6.1 PURPOSE

This procedure defines the responsibilities and actions of the Chemistry Sampling and Analysis Group Leader and Group Members during an Emergency Response.

6.2 CRITERIA FOR USE

This procedure may be activated at any emergency level of classification, or at the discretion of the Emergency Director (ED).

6.3 REFERENCES

6.3.1 ERP-400, Chemistry Sampling and Analysis Team Leader (CSATL)

6.3.2 ERP-510, "Personnel Accountability"

6.3.3 NUREG-0654, Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

6.3.4 Nuclear Emergency Plan

6.4 COMMITMENT ANNOTATION

6.4.1 None

ATTACHMENT 1
CHEMISTRY SAMPLING AND ANALYSIS GROUP FLOW CHART
(Page 1 of 5)

INITIAL ACTIONS

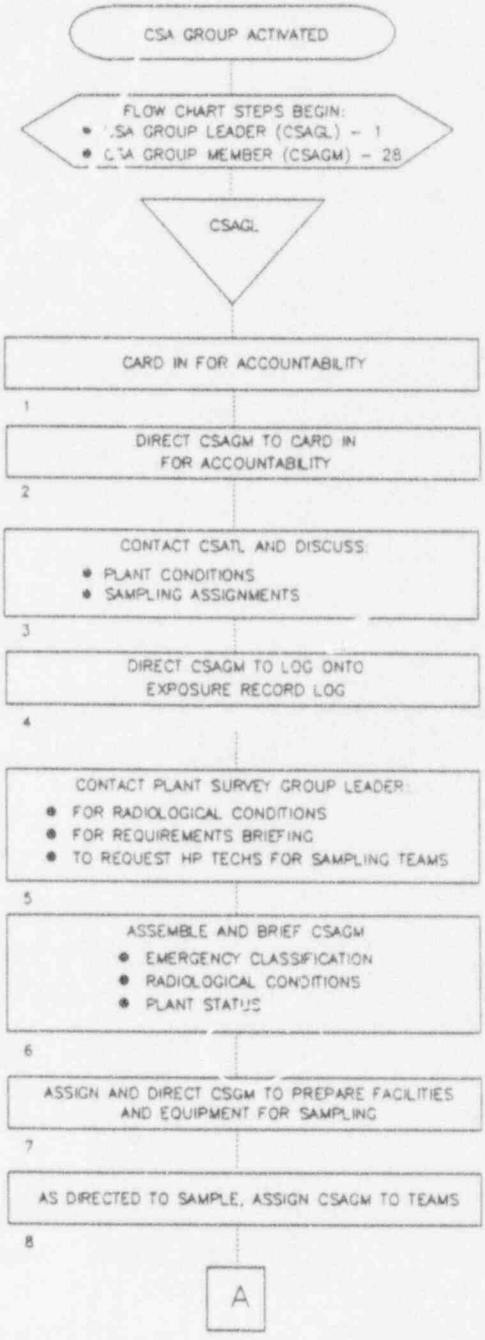
LEGEND

CSAGM – CHEMISTRY SAMPLING & ANALYSIS GROUP MEMBER

CSATL – CHEMISTRY SAMPLING & ANALYSIS TEAM LEADER

CSA – CHEMISTRY SAMPLING & ANALYSIS

CSAGL – CHEMISTRY SAMPLING & ANALYSIS GROUP LEADER



ATTACHMENT 1
CHEMISTRY SAMPLING AND ANALYSIS GROUP FLOW CHART
(Page 2 of 5)

LEGEND

CSAGM – CHEMISTRY SAMPLING & ANALYSIS GROUP MEMBER
CSA – CHEMISTRY SAMPLING & ANALYSIS
CSAGL – CHEMISTRY SAMPLING & ANALYSIS GROUP LEADER

CONTINUING ACTIONS

A

BRIEF TEAM MEMBERS ON:
- SAMPLE POINTS
- ACCESS ROUTES
- EXPOSURE RATES
- SAMPLE ACTIVITY
- PROCEDURES TO USE

9

ESTABLISH PRIMARY & BACKUP COMMUNICATIONS METHODS

10

STEP #11 DELETED – NO REPLACEMENT

INITIATE CHEMISTRY C.O.L. FOR EACH SAMPLE REQUEST

12

UTILIZE SAMPLE AND ANALYSIS LOG SHEET FOR SAMPLE ACCOUNTABILITY

13

DIRECT TEAMS TO SAMPLE OR ANALYZE

14

MAINTAIN AWARENESS OF CSA TEAMS' STATUS

15

DEBRIEF TEAMS UPON COMPLETION OF ASSIGNMENT

16

DIRECT CSAGM TO COMPLETE EXPOSURE RECORD LOG

17

REVIEW AND APPROVE SAMPLE DATA

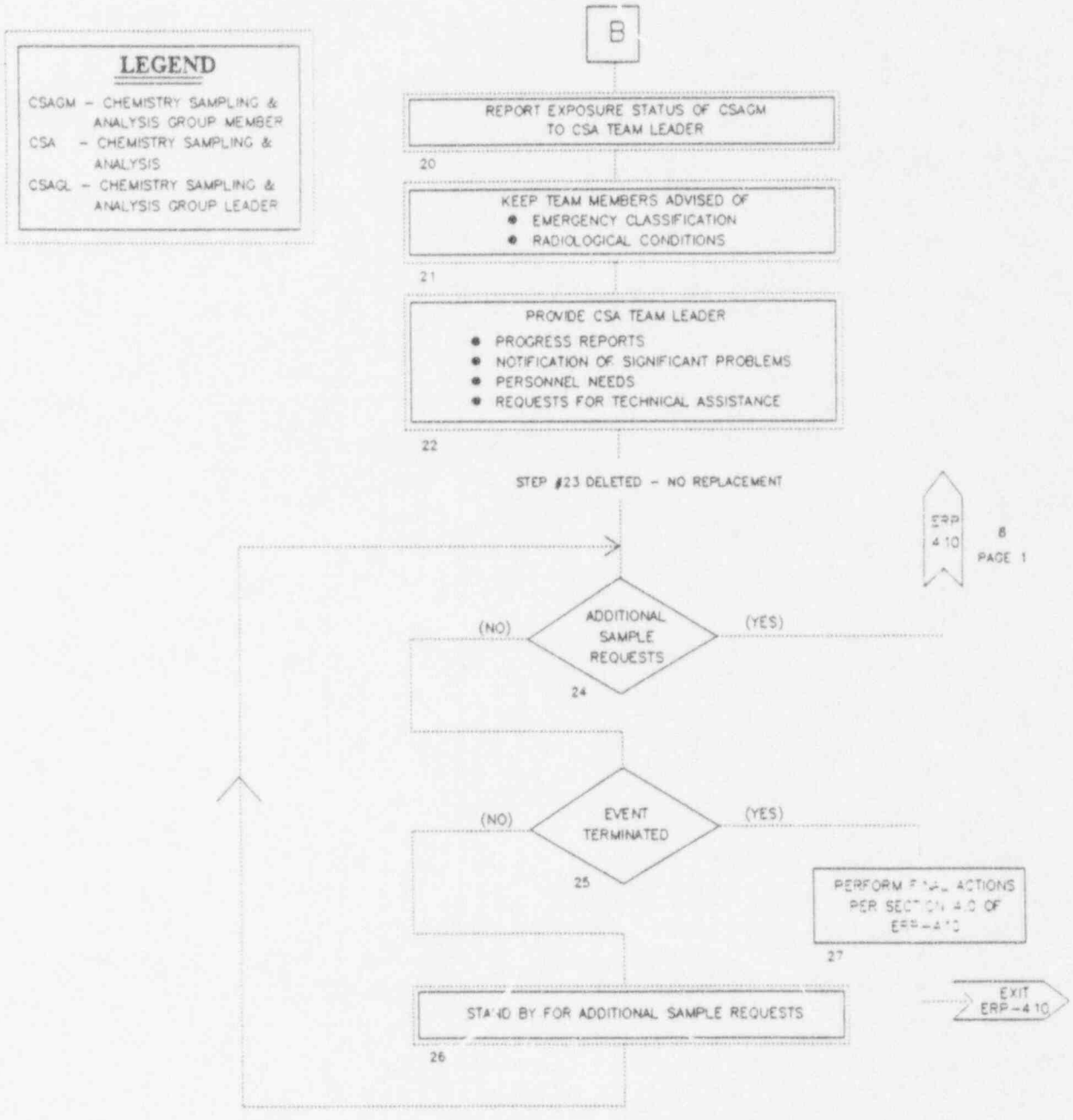
18

REPORT SAMPLE RESULTS TO CSA TEAM LEADER

19

B

ATTACHMENT 1
CHEMISTRY SAMPLING AND ANALYSIS GROUP FLOW CHART
(Page 3 of 5)



ATTACHMENT 1

CHEMISTRY SAMPLING AND ANALYSIS GROUP FLOW CHART

(Page 4 of 5)

INITIAL ACTIONS

CONTINUING ACTIONS

CSA GROUP ACTIVATED

CHEMISTRY SAMPLING AND ANALYSIS GROUP MEMBER (CSAGM)

CSAGM

REPORT TO PREASSIGNED LOCATION

28

CARD INTO THE ACCOUNTABILITY CARD READER

29

STEP #30 DELETED -- NO REPLACEMENT

PREPARE SAMPLE CONTAINERS

31

REVIEW APPLICABLE PROCEDURES

32

MAINTAIN EXPOSURE ALARA REPORT:
- BEFORE EXPOSURE REACHES ADMIN LIMITS
- EXPOSURE LIMITS PREVENT COMPLETING TASK

33

PERFORM SAMPLING AND ANALYSIS IN ACCORDANCE WITH PROCEDURES

34

PEREPARE CSA C.O.L. FOR EACH SAMPLE

35

UPDATE EXPOSURE RECORD LOG

36

C

LEGEND

CSAGM - CHEMISTRY SAMPLING & ANALYSIS GROUP MEMBER
CSA - CHEMISTRY SAMPLING & ANALYSIS
CSAGL - CHEMISTRY SAMPLING & ANALYSIS GROUP LEADER

ATTACHMENT 1

CHEMISTRY SAMPLING AND ANALYSIS GROUP FLOW CHART

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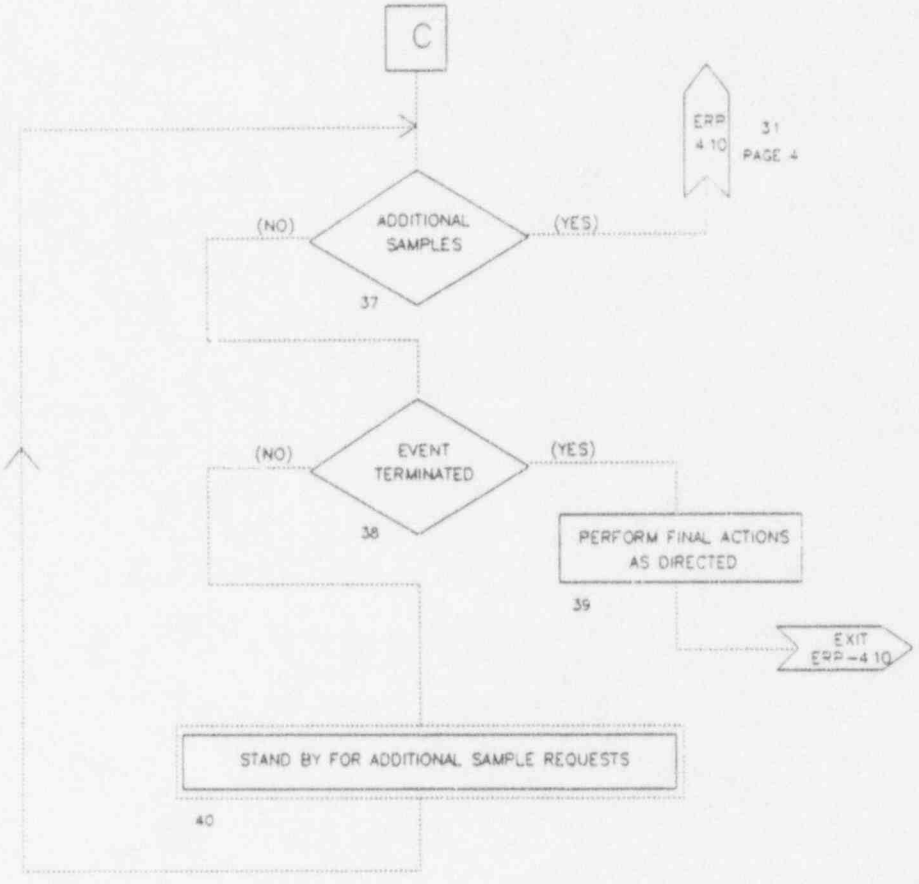

ATTACHMENT 2

PERSONNEL EXPOSURE LOG

DATE ___ - ___ - ___ TIME _________ COMPLETED BY ___________________

NAME		S.S.N _____ - _____ - _____		NRC-4 ON FILE Y OR N		RESPIRATOR QUALIFICATION U.V. - 4.5	
CURRENT BALANCE		EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.
EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	TOTAL EXPOSURE	BAL.

NAME		S.S.N _____ - _____ - _____		NRC-4 ON FILE Y OR N		RESPIRATOR QUALIFICATION U.V. - 4.5	
CURRENT BALANCE		EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.
EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	TOTAL EXPOSURE	BAL.

NAME		S.S.N _____ - _____ - _____		NRC-4 ON FILE Y OR N		RESPIRATOR QUALIFICATION U.V. - 4.5	
CURRENT BALANCE		EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.
EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	TOTAL EXPOSURE	BAL.

NAME		S.S.N _____ - _____ - _____		NRC-4 ON FILE Y OR N		RESPIRATOR QUALIFICATION U.V. - 4.5	
CURRENT BALANCE		EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.
EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	TOTAL EXPOSURE	BAL.

REMARKS:

ATTACHMENT 3

CHEMISTRY CHECK-OFF LIST

Sample Source:_____ Time Sample Requested:_____

Sample Type: _____ Time Results Reported:_____

Time of Sample:_____

Date:_____

Sampling:

Sample container pre-labeled _____

Lead carrying pig obtained _____

Sampling equipment assembled _____

Special handling tools obtained _____

Procedure reviewed _____

ERWP issued or HP available _____

Sample size required _____

Sample dose rate (contact) _____

Analysis:

Equipment assembled _____

Lab set up for analysis to minimize exposure _____

Procedure reviewed _____

Analysis requested: (attach results of analysis)		Analysis Completed
Geli scan	_____	_____
Chloride analysis	_____	_____
Boron analysis	_____	_____
Gas chromatography	_____	_____
Other (explain)	_____	_____

Sample volume used for analysis _____

ATTACHMENT 4

SAMPLE AND ANALYSIS LOGSHEET

Date	Sample Source	Sample* Type	Time Sample Requested	Time Sampled	Time Analysis Results Reported

*Sample Type:
- Charcoal
- Liquid
- Gas
- Particulate Filter
- Other (describe)

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ERP-200	EMERGENCY DIRECTOR (ED)	(101)	/ /	10	12/07/93
ERP-200 APPENDIX 1	UNUSUAL EVENT FORMS	(101)	/ /	0	03/25/93
ERP-200 APPENDIX 2	ALERT FORMS	(101)	/ /	0	03/25/93
ERP-200 APPENDIX 3	SITE AREA EMERGENCY FORMS	(101)	/ /	0	03/25/93
ERP-200 APPENDIX 4	GENERAL EMERGENCY FORMS	(101)	/ /	0	03/25/93
ERP-200 APPENDIX 5	EVENT TERMINATION FORMS	(101)	/ /	0	03/25/93
ERP-200 APPENDIX 6	RECOVERY PHASE FORMS	(101)	/ /	0	12/07/93
ERP-205	EMERGENCY PREPAREDNESS COORDINATOR/TSC	(101)	/ /	3	10/14/9

Number	Title	Sponsor Number	Review Date	Rev. No.	Revision Date
ERP-206	SUPPORT SERVICES GROUP	(101)	/ /	1	07/26/93
ERP-210	EMERGENCY RESPONSE MANAGER (ERM) CANCELLED - REPLACED BY ERP-C-1200	( )	/ /	3	04/03/92
ERP-215	PLANNING & SCHEDULING COORDINATOR (P&SC) CANCELLED - NO REPLACEMENT	( )	/ /	0	04/02/92
ERP-220	OPERATIONS SUPPORT CENTER (OSC) OPERATIONS PERSONNEL	(101)	/ /	4	08/14/91
ERP-230	OPERATIONS SUPPORT CENTER (OSC) ACTIVATION	(101)	/ /	10	06/23/93
ERP-230 APPENDIX 1	PERSONNEL EXPOSURE LOG OPERATIONS SUPPORT CENTER (OSC)	(101)	/ /	1	12/30/93*
ERP-240	AUXILIARY OPERATIONS SUPPORT CENTER (AUX OSC) ACTIVATION CANCELLED - NO REPLACEMENT	( )	/ /	1	08/01/88
ERP-250	TECHNICAL SUPPORT CENTER (TSC) ACTIVATION CANCELLED - NO REPLACEMENT	( )	/ /	11	10/14/93
ERP-260	EMERGENCY OPERATIONS FACILITY (EOF) ACTIVATION CANCELLED - REPLACED BY ERP-C-1000	( )	/ /	9	04/03/92
ERP-270	ALTERNATE EMERGENCY OPERATIONS FACILITY (ALT EOF) ACTIVATION CANCELLED - NO REPLACEMENT	( )	/ /	2	04/02/92
ERP-300	DOSE ASSESSMENT TEAM LEADER (DATL)	(101)	/ /	6	12/30/93*
ERP-305	DOSE ASSESSMENT GROUP LEADER (DAGL) CANCELLED - NO REPLACEMENT	( )	/ /	4	03/12/93

Number	Title	Sponsor Number	Review Date	Rev. No.	Revisio.. Date
ERP-310	DOSE ASSESSMENT GROUP	(101)	/ /	7	12/30/93*
ERP-315	OPERATION OF THE PEACH BOTTOM COMPUTER DOSE ASSESSMENT SYSTEM	(101)	/ /	8	12/30/93*
ERP-316	CUMULATIVE POPULATION DOSE CALCULATIONS FOR AIRBORNE RELEASES - MANUAL METHOD CANCELLED - REPLACED BY ERP 315	( )	/ /	3	04/02/92
ERP-317	DETERMINATION OF PROTECTIVE ACTION RECOMMENDATIONS CANCELLED - REPLACED BY ERP 101 AND ERP 200	( )	/ /	3	04/02/92
ERP-318	LIQUID RELEASE DOSE CALCULATIONS AT DOWNSTREAM WATER INTAKE FACILITIES CANCELLED - REPLACED BY ERP-360	( )	/ /	1	06/18/93
ERP-319	LIQUID RELEASE DOSE CALCULATIONS FOR FISH INGESTION CANCELLED - REPLACED BY ERP-360	( )	/ /	1	06/18/93
ERP-320	USE OF THE CONTAINMENT RADIATION MONITOR TO ESTIMATE RELEASE SOURCE TERM AND NOBLE GAS MONITOR READINGS CANCELLED - REPLACED BY ERP 315	( )	/ /	2	04/02/92
ERP-325	SHIFT DOSE ASSESSMENT PERSONNEL	(101)	/ /	0	04/21/93
ERP-330	FIELD SURVEY GROUP LEADER (FSGL)	(101)	/ /	8	12/30/93*
ERP-340	FIELD SURVEY GROUP	(101)	/ /	4	03/25/93
ERP-340 APPENDIX 1	FIELD SURVEY DATA SHEET	(101)	/ /	1	12/30/93*

Number	Title	Sponsor Number	Review Date	Rev. No.	Revision Date
ERP-350	THYROID DOSE COMMITMENT USING TCS AIR SAMPLING SYSTEM CANCELLED - REPLACED BY ERP 340 AND HP 446	( )	/ /	0	04/02/92
ERP-360	RADIOACTIVE LIQUID RELEASE	(101)	/ /	0	06/18/93
ERP-400	CHEMISTRY SAMPLING AND ANALYSIS TEAM LEADER (CSATL)	(101)	/ /	3	11/02/93
ERP-410	CHEMISTRY SAMPLING AND ANALYSIS TEAM	(101)	/ /	3	12/20/93
ERP-500	SECURITY TEAM LEADER (STL)	(101)	/ /	6	03/12/93
ERP-510	PERSONNEL ACCOUNTABILITY	(101)	/ /	7	08/14/91
ERP-520	SECURITY TEAM ACTIVATION	(101)	/ /	3	05/21/92
ERP-600	PERSONNEL SAFETY TEAM LEADER (PSTL)	(101)	/ /	8	12/30/93*
ERP-610	FIRST AID/SEARCH AND RESCUE GROUP CANCELLED - NO REPLACEMENT	( )	/ /	4	02/05/93
ERP-620	PLANT SURVEY GROUP	(101)	/ /	7	12/30/93*
ERP-620 APPENDIX 1	HABITABILITY STATUS LOG SHEET	(101)	/ /	0	11/05/93
ERP-620 APPENDIX 2	ARM STATUS LOG	(100)	/ /	0	11/05/93
ERP-630	DOSIMETRY, BIOASSAY, AND RESPIRATORY PROTECTION GROUP CANCELLED - NO REPLACEMENT	( )	/ /	3	03/18/93
ERP-640	VEHICLE AND EVACUEE CONTROL GROUP	(101)	/ /	2	01/14/91
ERP-650	TRANSPORT OF CONTAMINATED INJURY OFF-SITE	(101)	/ /	4	06/18/93

Number	Title	Sponsor Number	Review Date	Rev. No.	Revision Date
ERP-660	ENTRY FOR EMERGENCY REPAIR AND OPERATIONS	(101)	/ /	7	12/30/93*
ERP-670	EMERGENCY RADIATION EXPOSURE GUIDELINES AND CONTROLS	(101)	/ /	2	12/30/93*
ERP-680	CONTROL OF THYROID BLOCKING POTASSIUM IODIDE (KI) TABLETS	(101)	/ /	3	12/30/93*
ERP-700	TECHNICAL SUPPORT TEAM LEADER (TSTL)	(101)	/ /	7	09/22/93
ERP-710	TECHNICAL SUPPORT GROUP	(101)	/ /	7	09/22/93
ERP-800	DAMAGE REPAIR TEAM LEADER (DRTL)	(101)	/ /	2	04/21/93
ERP-810	DAMAGE REPAIR GROUP	(101)	/ /	4	08/14/91
ERP-900	RECOVERY PHASE IMPLEMENTATION CANCELLED - REPLACED BY ERP-C-1900	( )	/ /	1	04/03/9
ERP-910	RECEPTION AND ORIENTATION OF SUPPORT PERSONNEL CANCELLED - REPLACED BY ERP-C-1500	( )	/ /	1	04/03/92

END OF REPORT FOR ERP INDEX

PECO ENERGY COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY RESPONSE PROCEDURE

APPROVED BY: _____ 12/30/93
RESPONSIBLE SUPT./DATE

ERP-101 CLASSIFICATION OF EMERGENCIES

1.0 RESPONSIBILITIES:

1.1 Shift Management is responsible for:

1.1.1 Recognizing
AND classifying event OR condition.

1.1.2 Assuming duties of Emergency Director.

1.2 Plant Manager
OR designated alternate is responsible for:

1.2.1 Reporting to Technical Support Center
OR Control Room.

1.2.2 Relieving acting Emergency Director
AND continuing to implement procedure.

****
* CAUTION: *
* *
* THE JUDGEMENT OF THE EMERGENCY DIRECTOR IS VITAL FOR THE PROPER *
* CONTROL OF AN EMERGENCY. *
* *
****

2.0 INITIAL ACTIONS

NOTE:

ATTACHMENT 1, CLASSIFICATION OF EMERGENCIES FLOW CHART, MAY BE USED AS A GUIDE FOR THE FOLLOWING ACTIONS.

NOTE:

IDENTIFICATION AND CLASSIFICATION OF EMERGENCIES SHOULD BE ACCOMPLISHED WITHIN 15 MINUTES AFTER THE APPLICABLE EMERGENCY ACTION ACTION LEVELS (EAL'S) ARE MET.

2.1 Shift Management shall:

2.1.1 IF an event trigger is known to be spurious, or an invalid indication of either the associated emergency classification or the plant condition occurs, THEN do not classify (see paragraph 6.3).

2.1.2 Select appropriate Emergency Classification Table(s) for observed event OR condition known.

EMERGENCY CLASSIFICATION TABLE INDEX

RADIATION EVENT	High Estimated Release Rates	Table 5
	High Rx Coolant Activity	Table 11
	High Containment Radiation	Table 11
	High Off Gas Radiation	Table 11
	High Main Stack Radiation	Table 5
	High Vent Stack Radiation	Table 5
	Unexpected Radiation	Table 5
	Spent Fuel Damage	Table 11
	Liquid Release	Table 5
REACTOR OR PLANT EVENT	ECCS Initiation	Table 15
	Failure to Scram	Table 15
	Rx Scram with Low Level	Table 2
	Rx Coolant Leakage	Table 15
	Loss of Primary Containment	Table 4
	Loss of Secondary Containment	Table 9
	Loss of Control Room Annunciators	Table 10
	Loss of Tech. Spec. Instrumentation	Table 10
	Loss of Power	Table 8
	Stuck Relief Valve	Table 15
	Turbine Failure	Table 15
SITE EVENT	Aircraft Crash	Table 12
	Any Explosion	Table 12
	Bomb or Sabotage Threat	Table 14
	Control Room Evacuation	Table 13
	Earthquake	Table 7
	Fire	Table 6
	Hostage or Extortion	Table 14
	Hurricane or Tornado	Table 7
	Loss of Communications	Table 10
	Loss of Conowingo Dam	Table 7
	Loss of Meteorological Instrumentation	Table 10
	Personnel Injury	Table 3
	Security Threat	Table 14
	Toxic or Flammable Gas	Table 12

3.0 CONTINUING ACTIONS

3.1 IF emergency condition(s) dictate,
THEN escalate OR de-escalate emergency classification.

NOTE:

IT IS PREFERABLE TO OBTAIN CONCURRENCE OF EMERGENCY RESPONSE MANAGER FOR DE-ESCALATION OR ENTRY INTO THE RECOVER PHASE.

4.0 FINAL CONDITIONS

4.1 Assume role of Emergency Director
AND implement ERP-200, Emergency Director,
until relieved.

5.0 ATTACHMENTS AND APPENDICES

5.1 Attachment 1 - Classification of Emergencies Flow Chart

5.2 Attachment 2 - Emergency Classification Tables 1 thru 15

6.0 SUPPORTING INFORMATION

6.1 PURPOSE

6.1.1 To provide the method for classifying an event or condition into one of four (4) emergency classifications as described in the Emergency Plan.

6.1.2 To provide pre-determined Protective Action Recommendations (PAR's) for specific plant conditions whenever a General Emergency is declared.

6.2 CRITERIA FOR USE

Implement this procedure whenever Shift Management determines conditions meet the Emergency Classification criteria.

PAR information provided in the tables, is expected to be used by the ED when an event rapidly progresses to a General Emergency. Additionally, PAR information may be obtained from ERP-315 computer printout or the Dose Assessment Team Leader. In either case, it is expected that the ED will use the most conservative PAR available.

COMM 6.5.4 Whenever the Emergency Operations Facility (EOF) is activated and the Emergency Response Manager (ERM) is in charge, then all PAR recommendations from the ED should be submitted to the ERM.

NOTE:

ISSUANCE OF A PAR AUTOMATICALLY CAUSES A GENERAL EMERGENCY CLASSIFICATION AND CONVERSELY A GENERAL EMERGENCY CLASSIFICATION REQUIRES THE ISSUANCE OF A PAR.

6.3 The following guidance is provided to assist the Emergency Director (ED) in making emergency classifications.

COMM 6.5.1

In most cases, the emergency classification process is a straight-forward comparison of important plant parameters to the emergency action levels (EAL's). The instruments and annunciators referred to in the Emergency Classification Tables are presented as primary indicators and should be validated by plant conditions or event conditions.

A broad spectrum of discretion in classifying events is provided to the ED under the "General Conditions" category. In using the "General Conditions" category and in classifying emergencies under circumstances which are not straight-forward use of the EAL's, the ED should be mindful that an approach is needed which is conservative with respect to public, plant, and personnel safety and with respect to ensuring the adequacy of personnel and technical support. Conservative decisions must be made if the ED has any doubt regarding the health and safety of the public.

The ED should also be mindful that declaring Unusual Events or Alerts provide the Company and off-site agencies the opportunity for early information regarding the event and for early activation of resources and should be considered a "no adverse consequence" decision. Conversely, not declaring an Unusual Event or Alert when there is credible (but, not clear) bases for doing so, would appear to be less than open or candid and could have serious adverse consequences.

At the Site Area and General Emergency levels, clearly the threat to the plant and to the public is at a heightened level. Rapid application of resources and preparation for providing for the public health and safety are appropriate. Because of the magnitude of resource mobilization and the potential disruption of normal public activities, an overly conservative or an inappropriately early declaration of these levels is not advisable.

In general, the EAL's are specific values of parameters and do not consider trends, rates of change, or status changes in equipment availability. In the event of rapidly changing parameters trending toward an increased emergency classification, the ED can appropriately decide that the higher level EAL will be exceeded and escalate the classification early. In the event of trends toward a decreased emergency classification, parameter values must be below the EAL's to de-escalate.

In the event of a "spike" which rapidly exceeds and then decreases below an EAL, entry into the Emergency Plan or escalation to the higher classification "in retrospect" is not appropriate unless the "spike" is indicative of continuing degrading conditions which will lead to an escalated emergency classification level. This statement does not apply if the EAL includes a "spike". Spurious alarms or parameters which are known to be invalid indicators of actual plant conditions or of the emergency classification, should not be used to declare emergency classifications.

6.4 REFERENCES

6.4.1 ERP-200, "Emergency Director (ED)"

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

6.4.3 Nuclear Emergency Plan

6.4.4 Common Nuclear Procedure CNP LR-C-6, "Identification and Evaluation of Potentially Reportable Items and Events of Potential Public Interest"

6.4.5 EPA-400, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents"

6.4.6. Regulatory Guide 1.109, "Calculation of Annual Dose to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10CRF Part 50, Appendix I"

6.4.7 Nuclear Management and Resources Council (NUMARC) Graded Response NUMARC /NESP-005

6.4.8 U. S. Nuclear Regulatory Commission Response Technical Manual RTM-91

6.4.9 SE-5, "Earthquake - Procedure"

6.4.10 SE-12, "Injury Response"

6.4.11 ERP-650, "Transport of Contaminated Injury Off-Site"

6.4.12 S067.7.A, "Verification of Suspected Earthquake or Seismic System Activation"

6.5 COMMITMENT ANNOTATION

6.5.1 T01934 (section 6.3)

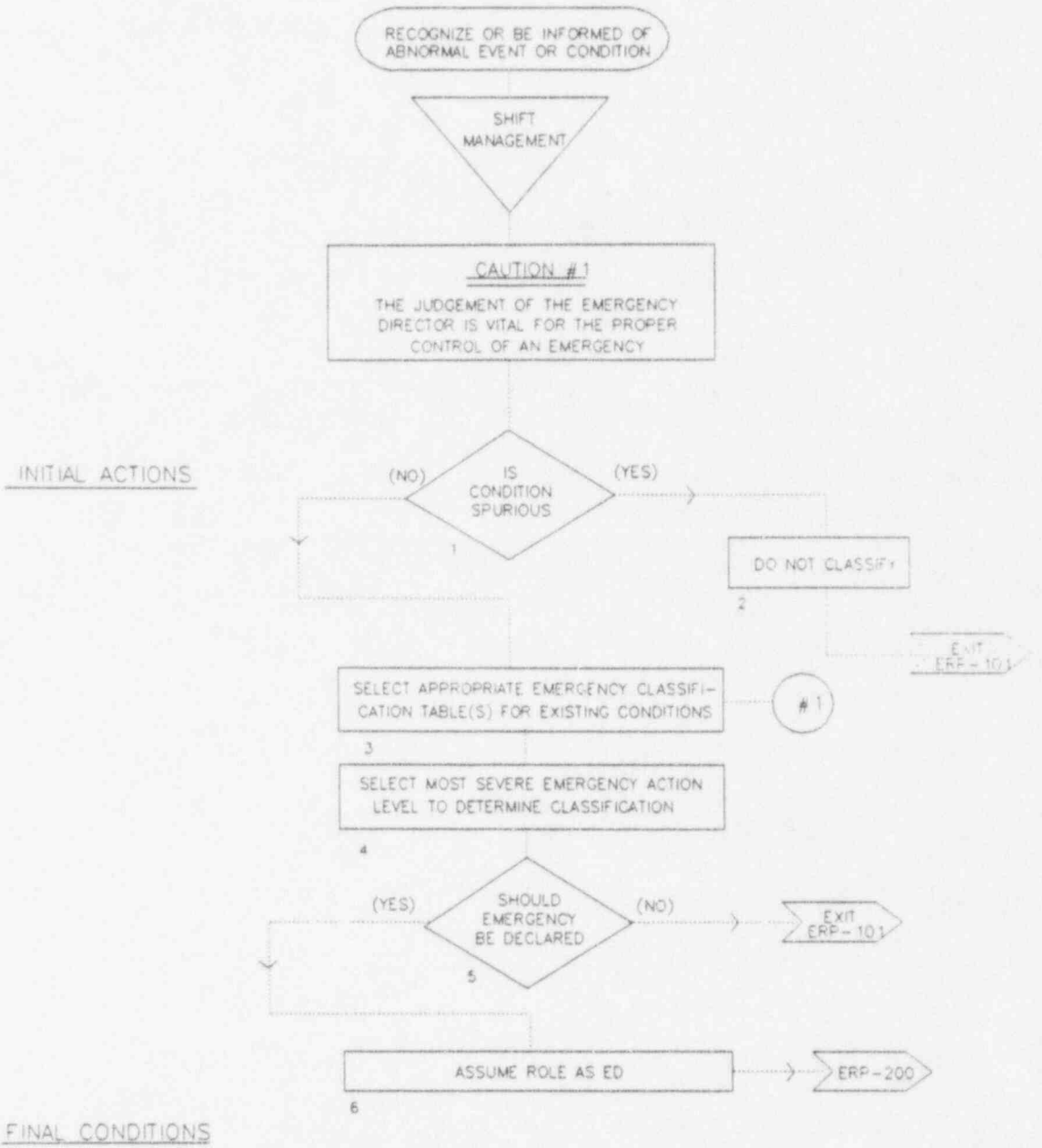
6.5.2 T00349 (all sections)

6.5.3 T00826 (Table 11)

6.5.4 T02540 (section 6.2)

6.5.5 T02541 (Table 2)

ATTACHMENT 1
CLASSIFICATION OF EMERGENCIES FLOW CHART
(Page 1 of 1)



NOTES

#1 IDENTIFICATION AND CLASSIFICATION OF EMERGENCIES SHOULD BE ACCOMPLISHED WITHIN 15 MINUTES AFTER THE APPLICABLE EMERGENCY ACTION LEVELS ARE MET

TABLE 1
GENERAL CONDITIONS

NOTE:

This table is to be used as a guide for "big picture" emergency classification.
IF conditions listed are met
AND specific EALs of other tables do not address current emergency conditions,
THEN classify using this table.

UNUSUAL EVENT	1) Situation threatens normal level of plant safety. No releases of radioactive material off-site are expected.
ALERT	1) Situation does or could represent a substantial degradation in the level of plant safety 2) Conditions exist that warrant precautionary activation of Technical Support Center and placing Emergency Operations Facility and other key emergency personnel on standby 3) Release of radioactive material warrants off-site response or monitoring, but does not require protective actions.
SITE AREA EMERGENCY	1) The level of safety has or could be degraded to the point of losing a plant function needed to protect the public 2) Conditions exist that warrant: (a) Activation of EOF/ENC AND (b) Activation of off-site monitoring teams OR Protective measures recommendations to public near the site 3) A significant release of radioactive material has occurred or could take place onsite or near the site boundary.
GENERAL EMERGENCY	1) Substantial core damage AND loss of, or high potential for loss of primary containment integrity. 2) Conditions exist that warrant all on-site and off-site emergency facilities being activated to aid in implementation of protective actions. 3) A significant release of radioactive material has occurred or could take place offsite in a short period of time. 4) Protective actions recommendations for off-site areas are made for PBAPS. * PAR evacuate a full 360 degrees for 2 miles evacuate affected and 2 adjacent sectors for 2-5 miles

TABLE 2
UNPLANNED SHUTDOWN (SCRAM)

UNUSUAL EVENT	An unplanned shutdown (scram) is an Event of Potential Public Interest, but is not by itself an Emergency Plan entry condition (Refer to CNP LR-C-6).
ALERT	1) Scram condition with Reactor level at or below triple low level (-160") {LI-2(3)-02-3-091} AND Containment pressure >1 psig but <10 psig {LI-2(3)-02-3-113} {PR-2-(3)508}
SITE AREA EMERGENCY	1) Scram condition with Reactor level at or below triple low level (-160") {LI-2(3)-02-3-091} AND Containment pressure 10 psig or greater {LI-2(3)-02-3-113} {PR-2-(3)508}
GENERAL EMERGENCY	1) Scram Condition with Reactor level <-226" on the active fuel range level for 3 minutes {LI-2(3)-02-3-091} AND Containment pressure >20 psig {LI-2(3)-02-3-113} {PR-2(3)-508}
COMM 6.5.5	* PAR evacuate a full 360 degree for 2 miles evacuate affected and 2 adjacent sectors for 2-5 miles

TABLE 3
PERSONNEL INJURY

UNUSUAL EVENT	1) Injury with excess radiation exposure or contamination requiring transportation to an off-site medical facility. NOTE: INJURED PERSONNEL TRANSPORTED OFFSITE SHALL MEET ALL UNCONTAMINATED RELEASE REQUIREMENTS OR BE CLASSIFIED AS CONTAMINATED. SEE ALSO SE-12 AND ERP-650.
ALERT	N/A
SITE AREA EMERGENCY	N/A
GENERAL EMERGENCY	N/A

TABLE 4
LOSS OF PRIMARY CONTAINMENT INTEGRITY
(WHEN PRIMARY CONTAINMENT IS REQUIRED BY TECHNICAL SPECIFICATIONS)

UNUSUAL EVENT	1) Primary Containment leak rate greater than the requirement of Tech. Spec. 4.7.A.2 as identified by Tech. Staff. 2) Inability to maintain Primary Containment pressure above 0.25 psig (not due to lack of nitrogen) per Tech. Spec. 3.7.A.2. {PR-2(3)508} 3) Failure of a Primary Containment Penetration to isolate due to a valid isolation condition (both valves in a two valve penetration fail to close).
ALERT	1) Inability to maintain Primary Containment pressure above 0.25 psig with indication of high radiation (1mr/hr) on the Rx. Bldg. Zone Vent Exhaust. {PR-2(3)508} {RR-2(3)-17-455} 2) Torus room flood (6 inches) with a corresponding level decrease in the Torus. {panel 2(3)24, alarm E-5} {panel 2(3)OC003, LI-2(3)919}
SITE AREA EMERGENCY	1) Primary Containment radiation >4.0E+2 R/hr on two independent indications with Main Stack radiation >3.0E+7 cps. {RI-8(9)103A/C} {RI-8(9)103B/ {RR-0-17-051} 2) Primary Containment radiation >4.0E+2 R/hr on two independent indications with Rx. Bldg. Vent radiation >1.7E+4 cpm. {RI-8(9)103A/C} {RI-8(9)103B/D} {RR-2(3)979} 3) Primary Containment radiation >4.0E+3 R/hr on two independent indications with a known or probable failure of Primary Containment Integrity. {RI-8(9)103A/C} {RI-8(9)103B/D}
GENERAL EMERGENCY	1) Primary Containment radiation >4.0E+4 R/hr on two independent indications with a known or probable failure of Primary Containment Integrity. {RI-8(9)103A/C} {RI-8(9)103B/D} (for Primary Containment Intact, see Table 11) * PAR evacuate a full 360 degree for 2 miles evacuate affected and 2 adjacent sectors for 2-5 miles 2) Primary Containment radiation >3.0E+5 R/hr on two independent indications with a known or probable failure of Primary Containment Integrity. {RI-8(9)103A/C} {RI-8(9)103B/D} (for Primary Containment Intact, see Table 11) *PAR evacuate a full 360 degree for 5 miles evacuate affected and 2 adjacent sectors for 5-10 miles

TABLE 5
RADIOACTIVE RELEASE

NOTE:

CDE = COMMITTED DOSE EQUIVALENT
TEDE = TOTAL EFFECTIVE DOSE EQUIVALENT
TPARD = TOTAL PROTECTIVE ACTION RECOMMENDATION DOSE
BASIS EPA-400, "MANUAL OF PROTECTIVE ACTION GUIDES AND PROTECTIVE ACTIONS FOR NUCLEAR INCIDENTS"

UNUSUAL EVENT	1) Gaseous release exceeding Tech. Spec. 3.8.c.1 from: a) Main Stack Spike > 1.8E+04 cps OR b) Rx. Bldg. Vent Spike > 3.0E+05 cpm OR c) Main Stack Spike > 6.0E+03 cps AND Rx. Bldg. Vent Spike > 1.0E+05 cpm 2) Liquid release exceeding Tech. Spec. 3.8.B.1 3) Iodine Release exceeding Tech. Spec. 3.8.c.1.B
ALERT	1) Gaseous release exceeding the following: a) Main Stack Spike > 1.8E+05 cps OR b) Rx. Bldg. Vent Spike > 1.1E+06 cpm OR c) Main Stack Spike > 6.0E+04 cps AND Rx. Bldg. Vent Spike > 1.0E+06 cpm 2) Calculated dose rate ≥ 0.57 mRem/hr TPARD (from 15 min. avg.) 3) Calculated dose rate ≥ 1.7 mRem/hr child thyroid CDE using actual sample data. 4) Unexpected radiation levels increasing by a factor of 1000 using direct radiation readings (survey or installed equipment) within any facility structure. 5) Unexpected airborne contamination increasing by a factor of 1000 using direct radiation readings (survey or installed equipment) within any facility structure.
SITE AREA EMERGENCY	1) Main Stack release > 3.5E+9 cps for > 20 min. 2) Rx. Bldg. Vent release > 1.9E+6 cpm for > 20 min. 3) Projected total dose ≥ 100 mRem TPARD. 4) Projected thyroid dose ≥ 500 Rem child thyroid CDE. 5) Actual dose ≥ 25 mRem/hr TEDE. 6) Measured offsite air concentration ≥ 6.5N8 uCi/cc iodine.
GENERAL EMERGENCY	1) Main Stack release > 3.5E+10 cps for > 20 min. 2) Rx. Bldg. Vent release > 1.9E+7 cpm for > 20 min. 3) Projected total dose ≥ 1000 mRem TPARD. 4) Projected thyroid dose ≥ 5000 mRem child thyroid CDE. 5) Projected skin dose ≥ 50,000 mRem. 6) Actual dose ≥ 250 mRem/hr TEDE. 7) Measured offsite air concentration ≥ 6.5N7 uCi/cc iodine. * PAR evacuate 360 degrees for 5 miles evacuate affected and 2 adjecent sectors for 5-10 miles

TABLE 6
FIRE

UNUSUAL EVENT	1) Fire in protected area lasting 10 minutes or more after initial attempts to extinguish it.
ALERT	1) Fire which has lasted over 20 minutes after initial attempts to extinguish it and which could make any of the following safety systems INOPERABLE: - ADS - ECW - ESW - HPCI - HPSW - PCIS - RCIC - SBGTS - SLC - RHR - RPS - Core Spray - Control Rod Drive HCU's - Control Room Ventilation - 2 Emergency Diesel Generators - Loss of Emergency Switchgear - Primary Containment - Secondary Containment
SITE AREA EMERGENCY	1) Fire which removes those Safety Systems required to perform a single plant function (i.e., both HPCI & ADS when required, all of Low Pressure ECCS when required).
GENERAL EMERGENCY	1) Fire which causes damage to plant systems sufficient to lead to other General Emergency conditions (e.g., LOCA symptoms, ECCS, or containment failure).

TABLE 7
SEVERE NATURAL PHENOMENA

UNUSUAL EVENT	1) Earthquake felt in plant or detected and confirmed on station seismic instrumentation per SO 67.7.A. 2) Conowingo pond level less than 104 feet without prior notification by the Power Director. {LI-2(3)278A,B,C} 3) Conowingo pond level greater than 113 feet with predicted flow in excess of 840,000 cfs. {LI-2(3)278A,B,C} 4) Hurricane or tornado, forecasted to hit the station with sustained winds of 75 mph or greater, as notified by the Power Director.
ALERT	1) "OPERATING BASIS EARTHQUAKE" exceeded per SE-5 and felt in the plant. 2) An uncontrollable loss of Conowingo pond level as confirmed by the Power Director. 3) Conowingo pond level greater than 114 feet as confirmed by the Power Director. 4) Hurricane or tornado which strikes the power block with identifiable plant damage.
SITE AREA EMERGENCY	1) "MAXIMUM CREDIBLE EARTHQUAKE" detected on station seismic instrumentation (0.12g) per Tech. Spec. 5.6. 2) Conowingo pond level less than 87 feet as confirmed by the Power Director. 3) Conowingo pond level greater than 115 feet as confirmed by the Power Director.
GENERAL EMERGENCY	N/A

TABLE 8
LOSS OF POWER

UNUSUAL EVENT	1) All offsite power to the emergency busses unavailable for >60 seconds. 2) All four diesel generators unavailable when required for >60 seconds.
ALERT	1) Loss of all offsite power with failure of all four diesel generators to energize their busses. 2) Loss of DC power as evidenced by less than 105 volts on all four 125 V distribution panels. (panel 2(3)09, alarms C-3 & C-4) (panel 2(3)20, alarms H-3 & H-4)
SITE AREA EMERGENCY	1) Loss of all offsite power for >15 minutes with failure of all four diesel generators to energize their busses for >15 minutes. 2) Loss of DC power for longer than 15 minutes as evidenced by less than 105 volts on all four 125 V distribution panels. (panel 2(3)09, alarms C-3 & C-4) (panel 2(3)20, alarms H-3 & H-4)
GENERAL EMERGENCY	N/A

TABLE 9
SECONDARY CONTAINMENT INTEGRITY

UNUSUAL EVENT	1) Loss of secondary containment integrity for greater than 12 hours when Secondary Containment is required by Technical Specifications.
ALERT	N/A
SITE EMERGENCY	N/A
GENERAL EMERGENCY	N/A

TABLE 10
INSTRUMENT OR COMMUNICATIONS FAILURE

UNUSUAL EVENT	1) Loss of communications capability including (refer to CNP LR-C-6) Loss of the ENS Network AND Loss of the OMNI Network AND Loss of the GTE System 2) Loss of ALL meteorological instrumentation (refer to CNP LR-C-6) 3) Loss of assessment capability from Loss of radiation monitoring OR Loss of accident monitoring OR Loss of effluent monitoring requiring Rx shutdown per Tech. Spec. Table 3.1.1 or Tech. Spec. 3.6.C Tech. Spec. Table 3.2.A or Tech. Spec. 3.7.A.6 Tech. Spec. Table 3.2.B or Tech. Spec. 3.8.C.6 Tech. Spec. Table 3.2.C or Tech. Spec. 3.8.C.7b Tech. Spec. Table 3.2.F or Tech. Spec. Table 3.2.G 4) Loss of the Safety Parameter Display System (SPDS) to perform its required function and simultaneous loss of plant process computer for greater than 24 hours.
ALERT	1) Loss of most or all alarms (annunciators).
SITE AREA EMERGENCY	1) Loss of most or all alarms (annunciators) with plant transient in progress.
GENERAL EMERGENCY	N/A

TABLE 11
FUEL DAMAGE

UNUSUAL EVENT COMM (6.5.3)	1) Off-gas radiation increase of 500 mR/hr within 30 minutes 2) Off-gas radiation > 2.5E+03 mR/hr {RR-2(3)-17-152} 3) Reactor coolant activity > 4 uCi/gm dose equivalent I-131 per Tech. Spec. 3.6.B.1.
ALERT	1) Containment radiation > 4.0E+02 R/hr {RI-8(9)103 A/C} on two independent indicators {RI-8(9)103 B/D} 2) Off-gas radiation > 2.5E+04 mR/hr {RR-2(3)-17-152} 3) Reactor coolant activity > 300 uCi/gm dose equivalent I-131 with a Rx scram from main steam line high radiation. 4) Spent fuel damage resulting in refuel floor high radiation OR refuel floor ventilation exhaust {RIS-2(3)-17-458(A,B,C,D)} high radiation. {RR-2-(3)-17-456}
SITE AREA EMERGENCY	1) Containment radiation > 4.0E+03 R/hr {RI-8(9)103 A/C} on two independent indicators. {RI-8(9)103 B/D} 2) Major spent fuel damage or uncovering of spent fuel confirmed by high fuel floor {U/2 ARM 3-7,3-8,3-9,3-10} radiation levels AND {U/3 ARM 7-9,7-10,7-11,7-12} (a) observation OR (b) refuel floor high radiation OR {RIS-2(3)-17-458(A,B,C,D)} (c) refuel floor ventilation exhaust {RR-2(3)-17-456} high radiation
GENERAL EMERGENCY	1) Containment radiation > 4.0E+04 R/hr {RI-8(9)103 A/C} on two independent indications {RI-8(9)103 B/D} with containment pressure > 10 psig {PR-2(3)508} (for a known or probable failure of Primary Containment, see Table 4) * PAR - evacuate a full 360 degrees for 2 miles - evacuate affected and 2 adjacent sectors for 2-5 miles 2) Containment radiation > 3.0E+05 R/hr {RI-8(9)103 A/C} on two independent indications {RI-8(9)103 B/D} with containment pressure > 10 psig {PR-2(3)508} (for a known or probable failure of Primary Containment, see Table 4) * PAR - evacuate a full 360 degrees for 5 miles - evacuate affected and 2 adjacent sectors for 5-10 miles

TABLE 1?
OTHER HAZARDS TO STATION OPERATION

UNUSUAL EVENT	1) Aircraft crash on or near site OR unusual aircraft activity over facility 2) Significant explosion on or near site 3) Significant toxic gas OR flammable gas release on or near site.
ALERT	1) Aircraft crash OR missile impact within the protected area. 2) Significant explosion within the protected area affecting plant operation. 3) Uncontrolled significant release of toxic or flammable gas within the protected area.
SITE AREA EMERGENCY	HAZARDS WITH EITHER UNIT NOT IN COLD SHUTDOWN 1) Aircraft crash OR missile impact with major damage in any vital area. 2) Explosion causing severe damage to 2 or more diesel generators OR to ECCS equipment such that the systems required to perform a single plant function become inoperable (i.e., both HPCI & ADS when required, all of low pressure ECCS when required). 3) Uncontrolled release of toxic or flammable gas detected in the Control Room (e.g., Chlorine, Cardox).
GENERAL EMERGENCY	N/A

TABLE 13
CONTROL ROOM EVACUATION

UNUSUAL EVENT	N/A
ALERT	1) Evacuation of Main Control Room is anticipated OR required AND control is established at Remote Shutdown Panels or Alternative Shutdown Panels.
SITE AREA EMERGENCY	1) Evacuation of Main Control Room AND control of Reactor Shutdown Systems is not established at Remote Shutdown Panels or Alternative Shutdown Panels in 15 minutes.
GENERAL EMERGENCY	N/A

TABLE 14
THREAT TO SECURITY

UNUSUAL EVENT	1) Credible sabotage or bomb threat 2) Credible intrusion and attack threat 3) Attempted intrusion and attack 4) Attempted sabotage discovered 5) Hostage situation or extortion threat.
ALERT	1) Actual attack and intrusion into a protected area 2) Suspected bomb or sabotage device discovered.
SITE AREA EMERGENCY	1) Imminent loss of physical control of the facility with imminent occupation of the Control Room or other vital areas.
GENERAL EMERGENCY	1) Actual loss of physical control of the facility with occupation of the Control Room or other vital areas. * PAR evacuate 360 degrees for 2 miles

NOTE:

"CREDIBLE THREAT" MEANS (1) PHYSICAL EVIDENCE SUPPORTING THE THREAT EXISTS, (2) INFORMATION INDEPENDENT FROM THE ACTUAL THREAT MESSAGE EXISTS, THAT SUPPORTS THE THREAT, OR (3) A SPECIFIC GROUP OR ORGANIZATION CLAIMS RESPONSIBILITY FOR THE THREAT.

TABLE 15
PLANT SYSTEMS/EQUIPMENT OPERATIONS FAILURE

UNUSUAL EVENT	1) Reactor Coolant Leakage greater than the limits of Tech. Spec. 3.6.C.1. 2) ECCS initiated due to a valid signal and injecting, OR should have resulted in ECCS injection into the vessel (Core Spray, RHR or HPCI). 3) Stuck open relief valve OR safety valve. 4) Turbine rotating component failure causing rapid plant shutdown.
ALERT	1) Reactor Coolant Leakage greater than 50 gpm. 2) Cold shutdown unattainable. 3) Failure to initiate a scram when required via the reactor protection system AND via Rx mode switch AND via manual scram pushbuttons AND via alternate rod insertion (ARI). 4) Scram condition AND the Rx is not shutdown. 5) Turbine failure causing casing penetration.
SITE AREA EMERGENCY	1) Hot shutdown unattainable. 2) Scram condition, Rx not shutdown AND torus temperature above 110 degrees F.
GENERAL EMERGENCY	N/A

APPENDIX 1
EMERGENCY NOTIFICATION TELEPHONE LIST

APPROVED BY: T E G 12/30/93
RESPONSIBLE SUPT./DATE

USE THIS FORM IN CONJUNCTION WITH THE EMERGENCY NOTIFICATION FORM FROM ERP-200.

EMERGENCY CLASSIFICATION ☐ UNUSUAL EVENT ☐ SITE AREA EMERGENCY
☐ ALERT ☐ GENERAL EMERGENCY

Time Notification Initiated: _____ Date: _____

Dial Conference call Code 33 on OMNI phone 211, 212 or 218.
As each agency answers, request they hold the line.
WHEN all agencies have answered,
OR no other answers are received,
THEN transmit message. Roll call agencies which answered to ensure they received
AND understood message.
IF any agency failed to pickup,
THEN dial individual OMNI ext. or backup telephone number to complete notification.

PERSONNEL/AGENCIES TO BE NOTIFIED WITHIN 15 MINUTES	PHONE NUMBERS	TIME AM/PM	PERSON NOTI-FIED
1. YORK COUNTY EMERGENCY MANAGEMENT AGENCY	OMNI ext. 219 After 4:00 PM 9-854-5571 9-843-5111		
2. PENNSYLVANIA EMERGENCY MANAGEMENT AGENCY (PEMA)	OMNI ext. 216 or 9-783-8150		
3. HARFORD COUNTY DIVISION OF EMERGENCY OPERATIONS	OMNI ext. 214 or 9-410-838-5800 or 9-410-838-3333		
4. CECIL COUNTY EMERGENCY MANAGEMENT & CIVIL DEFENSE AGENCY	OMNI ext. 215/234 or 9-410-398-2222 3815 or 1350		
5. MARYLAND EMERGENCY MANAGEMENT AGENCY	OMNI ext. 213 or 9-410-486-4422		
6. LANCASTER COUNTY EMERGENCY MANAGEMENT AGENCY OR POLICE DISPATCHER	OMNI ext. 217 or 9-299-8373 or 9-299-8374 9-299-4321		
7. CHESTER COUNTRY DEPARTMENT OF EMERGENCY SERVICES	OMNI ext. 218 or 9-215-344-6160		

APPENDIX 1
EMERGENCY NOTIFICATION TELEPHONE LIST

NOT INCLUDED IN THE CODE 33 CONFERENCE CALL

8. MARYLAND RADIOLOGICAL HEALTH PROGRAM (RHP)	OMNI ext. 235 or OMNI ext. 292 8 A.M. to 4 P.M. 9-410-631-3300 after 4:30 P.M. or Holidays 9-410-243-8700		

NOTE:

IF EMERGENCY RESPONSE FACILITIES ARE REQUIRED TO BE STAFFED, THEN ERP-140 SHOULD BE INITIATED BEFORE PERFORMING REMAINDER OF NOTIFICATIONS.

ENTER/UPDATE EMERGENCY ASPEN MESSAGE | INITIAL _____

PERSONNEL/AGENCIES TO BE NOTIFIED AFTER 15 MINUTE NOTIFICATIONS HAVE BEEN COMPLETED	PHONE NUMBERS	TIME AM/PM	PERSON NOTI-FIED
PLANT MANAGEMENT 1. (IF NOT ALREADY PRESENT) G. H. GELLRICH, SR. MGR. - OPERATIONS AND G. D. EDWARDS, PLANT MANAGER AND G. R. RAINEY V.P.- PBAPS	HOME: [redacted] OFFICE: 4245 BEEPER: [redacted] ACCESS NUMBER: 502124 HOME: [redacted] OFFICE: 4244 BEEPER: [redacted] ACCESS NUMBER: 502120 HOME: [redacted] OFFICE: 4000 BEEPER: [redacted] ACCESS NUMBER: 502334		

APPENDIX 1
EMERGENCY NOTIFICATION TELEPHONE LIST

PERSONNEL/AGENCIES TO BE NOTIFIED AFTER 15 MINUTE NOTIFICATIONS HAVE BEEN COMPLETED (CONT.)	PHONE NUMBERS	TIME AM/PM	PERSON NOTI-FIED
2. MANAGER PUBLIC INFORMATION PRIMARY: NEIL MCDERMOTT OR ALTERNATES: J. WILLIAM JONES OR MICHAEL WOOD OR ASK FOR PUBLIC INFORMATION REPRESENTATIVE ON CALL	HOME: [redacted] OFFICE: 801-4122 OR 9-215-841-4122 BEEPER [redacted] ACCESS NO: 502292 HOME: [redacted] OFFICE: 801-4129 BEEPER: [redacted] ACCESS NO: 502291 HOME: [redacted] OFFICE: 801-4125 BEEPER: [redacted] ACCESS NO: 502293 24 HRS: 801-5555 OR 9-215-841-5555		
3. LOAD DISPATCHER	801-5141 OR 9-215-841-5555		
4. NRC RESIDENT (NOTIFY ONE) WAYNE SCHMIDT PAUL BONNETT RAYMOND LORSON	OFFICE: 4213 HOME: [redacted] BEEPER [redacted] ACCESS NUMBER: 502172 HOME: [redacted] HOME: [redacted]		
5. BUREAU OF RADIATION PROTECTION (BRP)	OMNI PHONE EXT. 236 (8:00 AM TO 4:00 PM) 9-787-2163 (8:00 AM TO 4:30 PM)		

APPENDIX 1
EMERGENCY NOTIFICATION TELEPHONE LIST

PERSONNEL/AGENCIES TO BE NOTIFIED AFTER 15 MINUTE NOTIFICATIONS HAVE BEEN COMPLETED	PHONE NUMBERS	TIME AM/PM	PERSON NOTI-FIED
6. EMERGENCY PREPAREDNESS PRIMARY: A.E. DAUGHERTY OR ALTERNATE: D.E. MCCOMSEY OR ALTERNATE: N.D. YOST	HOME: [redacted] OFFICE: 4920 BEEPER: [redacted] ACCESS NUMBER: 502121 HOME: [redacted] OFFICE: 4052 BEEPER: [redacted] ACCESS NUMBER: 502222 HOME: [redacted] OFFICE: 4340 BEEPER: [redacted] ACCESS NUMBER: 502102		
7. PENNSYLVANIA STATE POLICE, YORK BARRACKS	OMNI PHONE EXT. 284, OR 9-428-1011		
AGENCIES TO BE NOTIFIED AFTER ALL OTHER NOTIFICATIONS HAVE BEEN COMPLETED BUT WITHIN TWO HOURS FOR AN ALERT OR HIGHER CLASSIFICATION.	PHONE NUMBERS	TIME AM/PM	PERSON NOTI-FIED
1. AMERICAN NUCLEAR INSURERS (ANI)	9-203-561-3433 EXT. 500		
2. INSTITUTE OF NUCLEAR POWER OPERATIONS (INPO) DUTY OFFICER (24-HR)	9-404-953-0904, 0922 OR SWITCHBOARD 9-404-644-8000		

Notification Completed By: _____ Time/Date: _____
Communicator

Reviewed By: _____
Emergency Director

Forward this Appendix and the Emergency Notification Form from ERP-200 to the EP Supervisor for review:

_____ _____
Name Time/Date

APPENDIX 1
PERSONNEL EXPOSURE LOG
OPERATIONS SUPPORT CENTER (OSC)

APPROVED BY: 12/30/93
RESPONSIBLE SUPT./DATE

DATE ___ - ___ - ___ TIME ________ COMPLETED BY ________________

NAME		S.S.N ___ - ___ - ___		NRC-4 ON FILE Y OR N		RESPIRATOR QUALIFICATION U.V. - 4.5	
CURRENT BALANCE		EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.
EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	TOTAL EXPOSURE	BAL.
NAME		S.S.N ___ - ___ - ___		NRC-4 ON FILE Y OR N		RESPIRATOR QUALIFICATION U.V. - 4.5	
CURRENT BALANCE		EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.
EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	TOTAL EXPOSURE	BAL.
NAME		S.S.N ___ - ___ - ___		NRC-4 ON FILE Y OR N		RESPIRATOR QUALIFICATION U.V. - 4.5	
CURRENT BALANCE		EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.
EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	TOTAL EXPOSURE	BAL.
NAME		S.S.N ___ - ___ - ___		NRC-4 ON FILE Y OR N		RESPIRATOR QUALIFICATION U.V. - 4.5	
CURRENT BALANCE		EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.
EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	EXPOSURE RECEIVED	BAL.	TOTAL EXPOSURE	BAL.
REMARKS:							

A:\FL\DATA\230APP1

FORWARD THIS APPENDIX TO THE EMERGENCY PREPAREDNESS COORDINATOR OR THE SITE EMERGENCY PREPAREDNESS SUPERVISOR

PHILADELPHIA ELECTRIC COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY RESPONSE PROCEDURE

APPROVED BY: _____ 12/30/95
RESPONSIBLE SUPT./DATE

ERP-300 DOSE ASSESSMENT TEAM LEADER (DATL)

1.0 RESPONSIBILITIES

1.1 Coordinating and directing the activities of the Dose Assessment Group (DAG) and the Field Survey Group Leader (FSGL) until the Emergency Operations Facility (EOF) is operational and the Dose Assessment responsibilities are requested to be turned over to the EOF.

1.2 Assisting the Emergency Director (ED) in the determination of Protective Action Recommendations (PARs) based on dose projections.

COMM 1.3 6.4.1 If requested, providing a communicator to the Nuclear Regulatory Commission (NRC) for dose assessment items on a dedicated phone line.

2.0 INITIAL ACTIONS

NOTE:

ATTACHMENT TITLED, "DOSE ASSESSMENT TEAM LEADER (DATL) FLOW CHART" MAY BE USED AS A GUIDE FOR THE FOLLOWING ACTIONS.

2.1 Upon notification of an Alert or higher classification, the DATL shall:

2.1.1 IF automated callout system is not operable or no dose assessment group member (DAGM) responds, THEN contact a DAGM using the ERO Call Out List.

2.1.2 Report to the TSC and sign in on TSC ERO Sign-In Board.

2.1.3 Notify the ED of arrival and obtain plant conditions information.

2.1.4 Brief Dose Assessment Group on current plant conditions.

2.1.5 Receive initial briefings from the DAG and FSGL with respect to the readiness of their functions and make initial assignments.

2.1.6 Direct actions of the DAG including:

2.1.6.1 Dose projections based on actual conditions.

2.1.6.2 Dose projections based upon anticipated conditions.

2.1.6.3 PMS operations

2.1.6.4 Operation of the dose assessment computer

2.1.7 Assist in coordinating actions of the FSG.

2.1.8 If requested, provide a communicator to the NRC.

2.1.9 Determine the appropriate evacuation assembly area (North Sub, Conference Center, Delta Service Building) based on wind direction AND inform the Security Team Leader.

2.1.10 Contact shift dose assessment personnel and receive turnover of dose assessment duties.

2.1.11 Advise the ED of Dose Assessment Team status.

3.0 CONTINUING ACTIONS

****
*
*CAUTION: THE DATL SHOULD ALWAYS BE PREPARED TO ISSUE PROTECTIVE ACTION *
* RECOMMENDATIONS (PARs) BASED ON ACTUAL DOSE PROJECTIONS OR FIELD *
* MEASUREMENT. *
* *
* IN THE EVENT A GENERAL EMERGENCY IS DECLARED AND EOF IS NOT *
* ACTIVATED, THE DATL MUST HAVE A PAR BASED ON OFFSITE DOSE FOR THE *
* EMERGENCY DIRECTOR, READILY AVAILABLE SO THAT THE FINAL PAR CAN *
* BE ISSUED TO THE STATES WITHIN 15 MINUTES OF THE EMERGENCY *
* DECLARATION. *
* *
****

NOTE:

ADMINISTRATION OF KI AND ALARA CONSIDERATION FOR FIELD SURVEY GROUP MEMBERS SHOULD BE CONSIDERED A PRIORITY.

3.1 Coordinate activities with the FSGL including:

3.1.1 Ensure that field verification surveys are conducted.

3.1.2 Information on tracking plume.

3.1.2.1 Proper stability class for plume overlay selection.

3.1.2.2 Projected plume shine dose rates, and touchdown areas.

3.1.2.3 Meteorological data changes.

3.1.3 Discussion of differences between field survey results and projections including:

3.1.3.1 plume centerline measurement vs. projected path.

3.1.3.2 continuous vs. puff release

3.1.3.3 plume arrival time vs. time of survey

3.1.3.4 changes in wind speed

3.1.4 Discussion of additional field survey measurement including if team should:

3.1.4.1 Obtain air samples within the plume.

3.1.4.2 Obtain additional exposure rate measurements within the plume.

3.1.4.3 Characterize the spread of the plume in lateral direction.

3.1.4.4 Return air sample to Unit 1 for analysis.

3.2 IF dose projections or actual field data indicate field team Iodine >2000 DAC-hr
THEN consider field team KI administration per ERP-680.

3.3 Consider PARs based upon evaluation of factors relevant to the PAR decision process, trends in plant indicators, and dose projections, when available, utilizing attachment titled, "Protective Action Recommendation".

3.4 IF a General Emergency is declared,
AND EOF is not activated,
THEN evaluate Dose Assessment Computer print outs to develop a PAR.

3.5 After a PAR is made, continue to evaluate radiological conditions, meteorological conditions and dose projections and refine or adjust PARs as appropriate.

3.6 Evaluate radiological conditions against ERP-101 Emergency Action Level Guides and notify the ED of changes which might impact the emergency classification.

3.7 Depending upon plant status, the DATL may request the Chemistry Sampling and Analysis Team Leader to:

3.7.1 Request a main stack sample for isotopic breakdown information.

3.7.2 Request a Post Accident Sampling System (PASS) sample for isotopic breakdown information.

3.8 IF notified by FSGL that offsite iodine concentration exceeds 6.5N7 uCi/cc,
THEN calculate child thyroid dose rate (mrem/hr) = iodine concentration (uCi/cc) x 1.94 x 10^9
AND report offsite thyroid dose to ED.

3.9 IF offsite dose or dose projections indicate

a. Offsite Dose > 1000 mrem TPARD
OR

b. Offsite Thyroid Dose > 5000 mrem child CDE

THEN immediately inform ED of General Emergency condition.

NOTE:

THE FOLLOWING PROTECTIVE MEASURE SHOULD BE CONSIDERED ONLY AFTER SAMPLE DATA VERIFIES THE PRESENCE OF IODINE.

3.10 IF projected or actual iodine deposition is > 0.13 uCi/m^2 (> 1.5 rem ingestion dose)
THEN recommend sheltering all animals and putting them on stored food and water.

NOTE:

THE FOLLOWING PROTECTIVE MEASURE SHOULD BE CONSIDERED ONLY AFTER FIELD SURVEY DATA INDICATING IODINE DEPOSITION > 1.3 uCi/m^2 IS RECEIVED AND VERIFIED.

3.11 IF actual field samples indicate iodine deposition is > 1.3 uCi/m^2, (> 15 Rem ingestion dose), THEN recommend restriction of food supply from affected areas.

3.12 Evaluate liquid releases by directing DAG to implement ERP-360, "Radioactive Liquid Release".

3.13 Keep the ED apprised of all changes in release rates, dose projections, field survey results and PARs.

3.14 Continue to direct the overall efforts of the Dose Assessment Team and Field Survey Group.

3.15 Assist FSGL with thyroid exposure estimates (DAC-hours) for field survey team members.

3.16 Continue to brief the DAG on changing plant status and new dose assessment.

NOTE:

AFTER TURNOVER TO EOF DATL: 1) TSC DATL SHOULD REMAIN IN CONTACT WITH EOF DAGL TO ACT IN AN ADVISORY/CONSULTING CAPACITY. 2) TSC DATL NEED NOT MAINTAIN FULL STAFFING AFTER TURNOVER. 3) ALL DOSE ASSESSMENT INFORMATION SHOULD BE DISSEMINATED FROM THE EOF.

3.17 WHEN turnover to EOF is requested, THEN provide briefing using attachment titled, "Dose Assessment Turnover Sheet".

3.18 Once the EOF has taken over the dose assessment function, the TSC DATL shall:

3.18.1 Communicate changes in plant conditions to EOF Dose Assessment Group Leader (DAGL).

3.18.2 Periodically obtain updated dose projection and field survey information from the EOF.

3.18.3 Assist the EOF DAGL in evaluating the release path and assessing radiological conditions as requested.

3.18.4 Provide current radiological information to the ED as requested.

4.0 FINAL CONDITIONS

4.1 The ED has determined that the TSC dose assessment function is no longer required.

4.2 The TSC DATL shall:

4.2.1 Compile all paperwork and submit to the TSC Emergency Preparedness Coordinator.

4.2.2 Return all equipment to its initial status.

4.2.3 Participate in facility debrief.

5.0 ATTACHMENTS AND APPENDICES

Attachment 1 - "Dose Assessment Team Leader (DATL) Flow Chart"

Attachment 2 - "Protective Action Recommendation"

Attachment 3 - "Dose Assessment Turnover Sheet"

6.0 SUPPORTING INFORMATION

6.1 PURPOSE

6.1.1 To identify the responsibilities and activities of the Dose Assessment Team Leader.

6.2 CRITERIA FOR USE

6.2.1 An Alert or higher emergency classification has been declared in accordance with ERP-101.

6.3 REFERENCES

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

6.3.2 ERP-101, "Classification of Emergencies"

6.3.3 ERP-310, "Dose Assessment Team"

6.3.4 ERP-315, "Operation of the Peach Bottom Computer Dose Assessment System"

6.3.5 ERP-360, "Radioactive Liquid Release"

6.3.6 ERP-C-1300, "EOF Dose Assessment Team Leader"

6.4 COMMITMENTS

6.4.1 Commitment number T00322

ATTACHMENT 1
DOSE ASSESSMENT TEAM LEADER (DATL) FLOW CHART
(Page 1 of 4)

INITIAL ACTIONS

AN ALERT OR HIGHER CLASSIFICATION HAS BEEN DECLARED

REPORT TO TSC AND SIGN IN

NOTIFY EMERGENCY DIRECTOR OF ARRIVAL

OBTAIN PLANT STATUS FROM EMERGENCY DIRECTOR

OBTAIN INITIAL BREIFING FROM
- DOSE ASSESSMENT GROUP
- FIELD SURVEY GROUP LEADER

PROVIDE INITIAL DIRECTION TO
- DOSE ASSESSMENT GROUP
- FIELD SURVEY GROUP LEADER

IF REQUESTED, ASSIGN COMMUNICATOR FOR HEALTH PHYSICS NETWORK

RECEIVE TURNOVER FROM SDA PERSONNEL

ADVISE ED OF TEAM STATUS

#1

#2

A

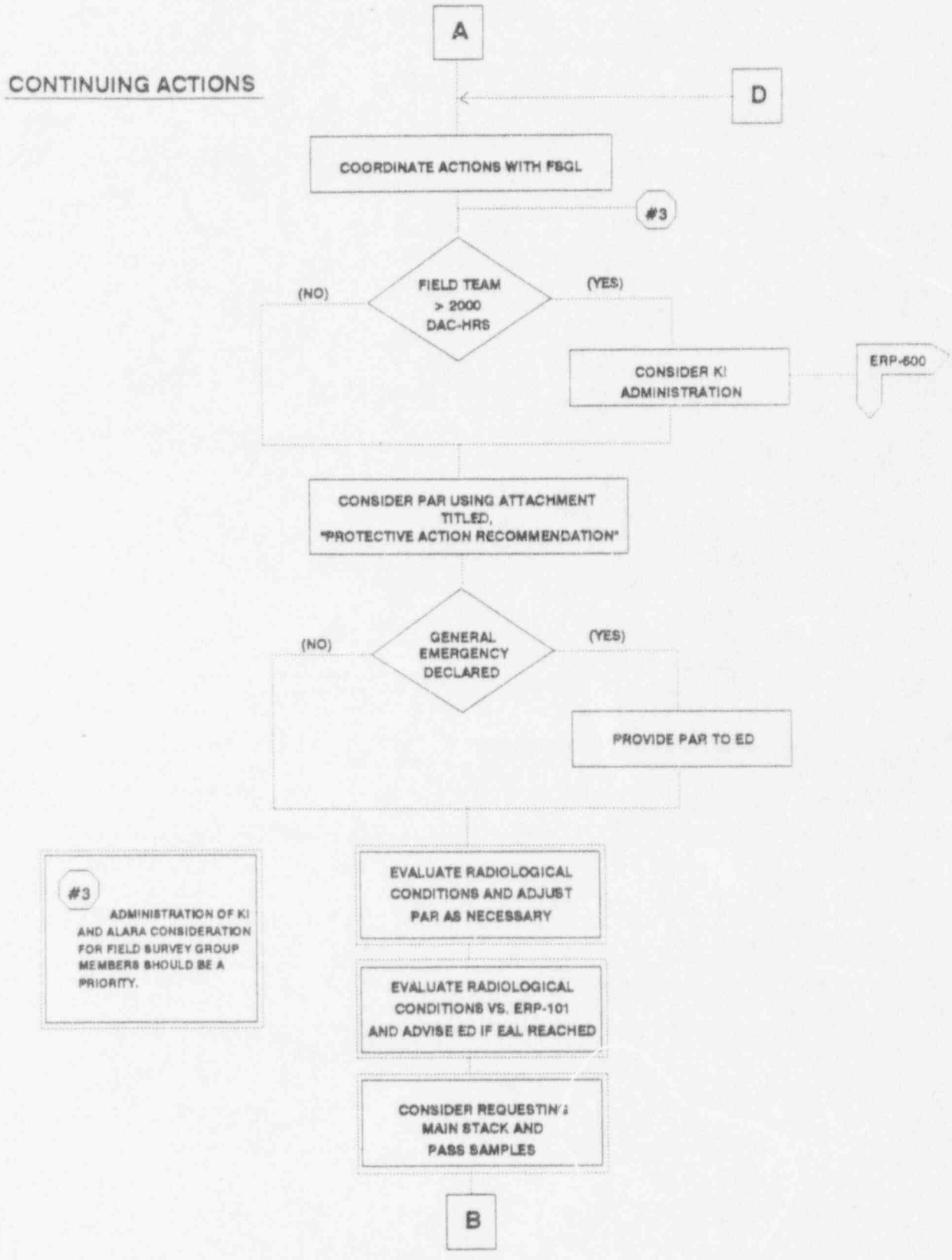
NOTES AND CAUTIONS

#1 THE DOSE ASSESSMENT TEAM LEADER SHOULD ALWAYS BE PREPARED TO ISSUE PROTECTIVE ACTION RECOMMENDATIONS (PARs)

#2 IN THE EVENT A GENERAL EMERGENCY IS DECLARED AND THE EOF IS NOT ACTIVATED, THE DOSE ASSESSMENT TEAM LEADER MUST HAVE A PAR FOR THE EMERGENCY DIRECTOR READILY AVAILABLE SO THAT THE FINAL PAR CAN BE ISSUED TO THE STATES WITHIN 15 MINUTES OF THE EMERGENCY DECLARATION

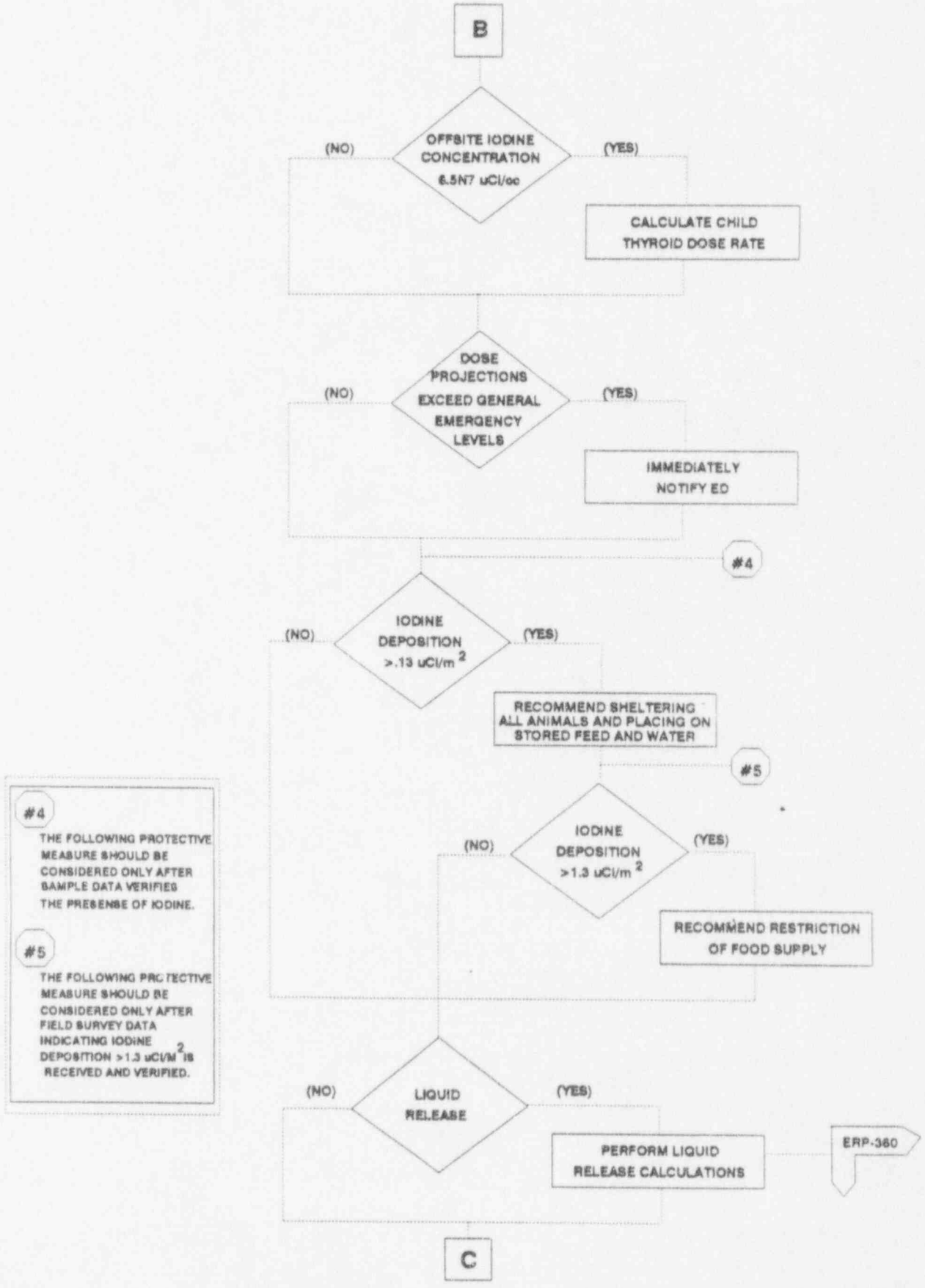
ATTACHMENT 1
DOSE ASSESSMENT TEAM LEADER (DATL) FLOW CHART

(Page 2 of 4)



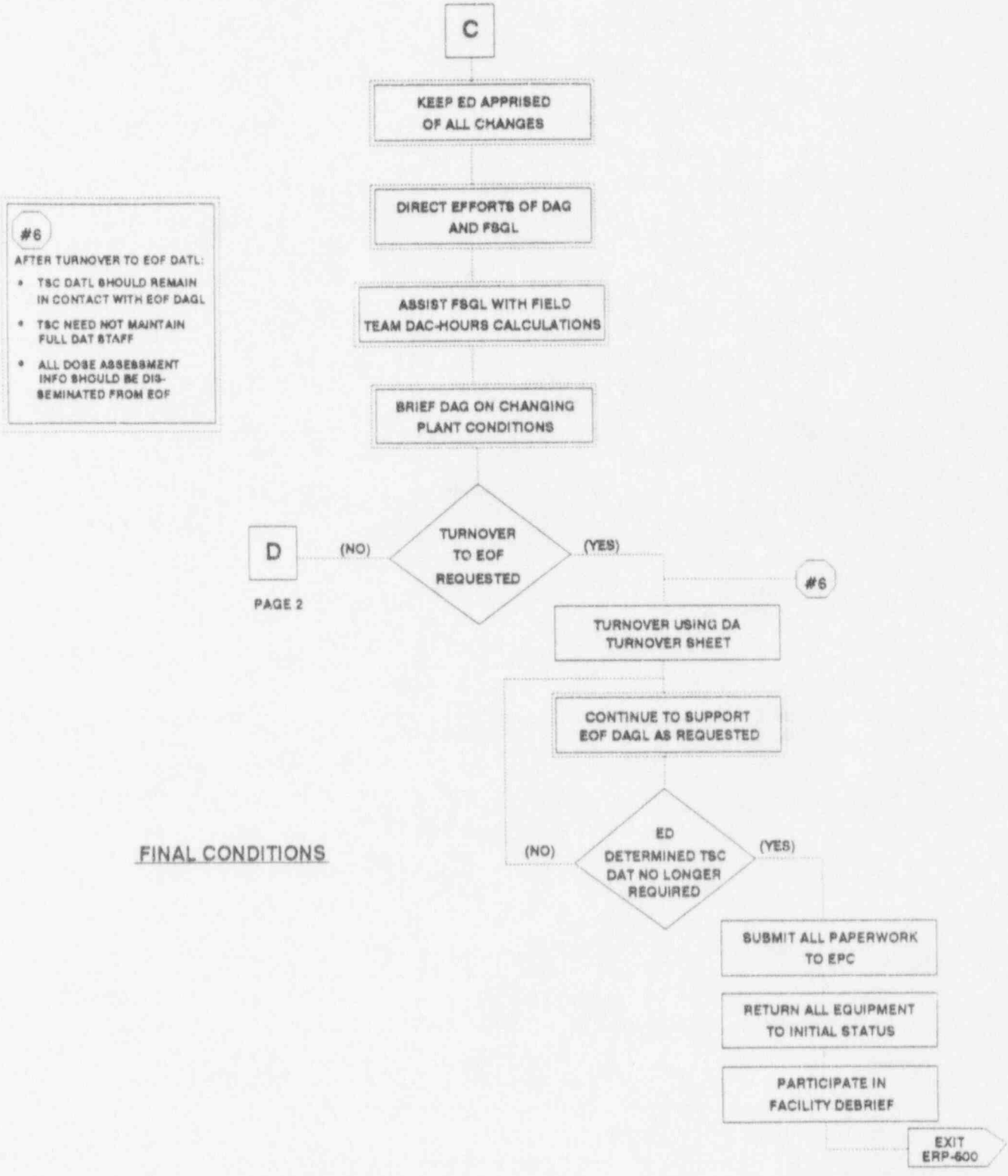
ATTACHMENT 1
DOSE ASSESSMENT TEAM LEADER (DATL) FLOW CHART

(Page 3 of 4)



ATTACHMENT 1
DOSE ASSESSMENT TEAM LEADER (DATL) FLOW CHART

(Page 4 of 4)



FINAL CONDITIONS

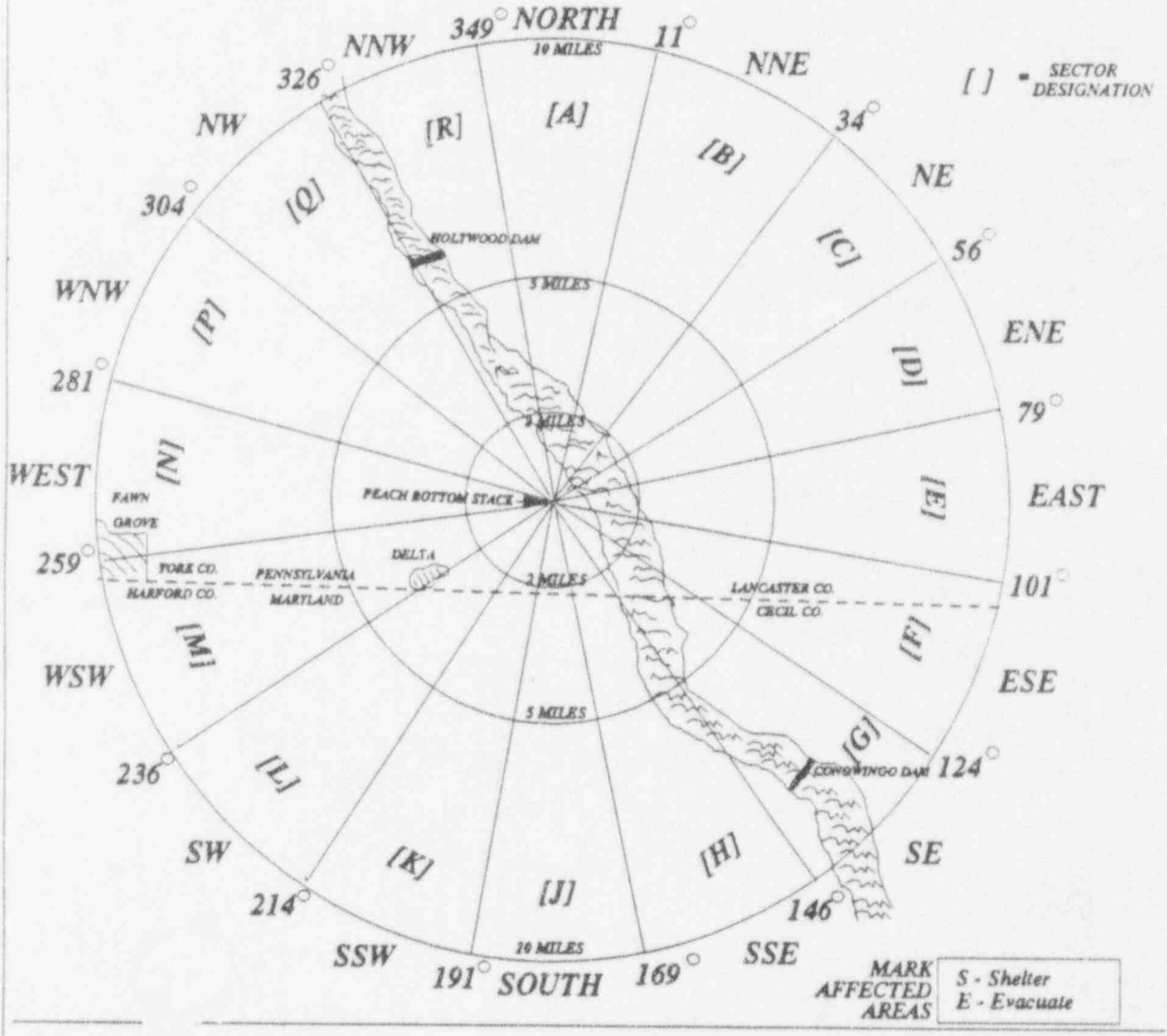
ATTACHMENT 2
PROTECTIVE ACTION RECOMMENDATION

NOTE: INFO DEVELOPED FROM ERP-101 TABLES, ERP-315 COMPUTER PRINT-OUT, AND METEOROLOGICAL DATA AS AVAILABLE.

Windspeed: _____ mph Direction: _____° (From) _____° (To) Dose Ratio: _____ * (From CDM)

ACTIONS RECOMMENDED TO STATES

Area	Protective Actions (Circle)			Sectors (Designate)
0-2 miles	NONE	SHELTER	EVACUATE	ALL
2-5 miles	NONE	SHELTER	EVACUATE	
5-10 miles	NONE	SHELTER	EVACUATE	



These protective actions are based on: ☐ plant status ☐ dose projections

ADDITIONAL CONSIDERATIONS/COMMENTS: _____

RECOMMENDED BY: _____ (ED) Date: _____ Time: _____

* USE LARGEST DOSE RATIO VALUE FROM PAGE 1 OF CDM PRINTOUT

ATTACHMENT 3

DOSE ASSESSMENT TURNOVER SHEET
(Page 1 of 1)

Turnover of dose assessment responsibility from one Dose Assessment team/location to another Dose Assessment team/location should include the transmittal of any available information listed below:

1. Time of reactor trip/scram _____
2. Plant Status

   _____
3. Release Point _____
4. Start time of release _____
5. Estimated duration of release _____
6. (Potential) release type (ground, elevated) _____
7. Method(s) used to calculate doses _____
8. (PBAPS ONLY) Pressure Correction Factor
9. Source term basis _____
10. Site evacuation assembly area _____
11. Results of dose calculations, based on dose projection, Protective Action Recommendation.

    _____

    _____

    _____

    _____

    _____
12. Field Survey Group Leader turnover complete ? (Y/N) _____
13. Phone # where "relieved" Dose Assessment Team Leader can be reached.

    _____

_____ _____
Completed By Date/Time

PECO ENERGY COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY RESPONSE PROCEDURE

APPROVED BY: _____ 12/30/93
RESPONSIBLE SUPT./DATE

ERP-310 DOSE ASSESSMENT GROUP

1.0 RESPONSIBILITIES

1.1 The Dose Assessment Group responds to their assigned emergency facility and reports to the Dose Assessment Team Leader (DATL).

1.2 The Dose Assessment Group shall notify the Shift Dose Assessment personnel when able to assume dose assessment duties.

1.3 Dose Assessment Group Members (DAGM) are responsible for the operation of the Dose Assessment System (DAS), to include:

1.3.1 Operation of the Peach Bottom Dose Assessment System in accordance with ERP procedures.

1.3.2 Quality assurance reviews of all input data and generated dose projection information.

1.3.3 Discussing ramifications of projected dose results.

COMM 6.4.1

1.3.4 Communicating on Health Physics Network to the Nuclear Regulatory Commission (NRC) for Dose Assessment items.

1.3.5 Reporting dose assessment information to the DATL.

1.4 DAGM's are responsible for obtaining necessary DAS input data from the plant monitoring system to include:

1.4.1 Main stack and roof vent radiation reading.

1.4.2 Main stack and roof vent flow rate.

1.4.3 Current meteorological information.

2.0 INITIAL ACTIONS

NOTE:

ATTACHMENT TITLED, DOSE ASSESSMENT GROUP FLOW CHART MAY BE USED AS A GUIDE FOR THE FOLLOWING ACTIONS.

2.1 Upon notification of Alert or higher classification, the dose assessment group shall report to the DATL at the TSC and be briefed on responsibilities, plant conditions and status (including time of scram).

2.2 Verify the Dose Assessment Computers are operable and that supplies are available.

2.3 Obtain initial radiological effluent monitor, ventilation flow rate and meteorological parameters (i.e., wind direction, wind speed and temperature difference).

2.4 The Dose Assessment Group (DAG) shall discuss the following with Shift Dose Assessment Personnel (SDAP).

2.4.1 Previous dose projections performed.

2.4.2 Present readiness status of the Dose Assessment Team.

2.4.3 Approximate time that the dose assessment duties should be transferred to the TSC.

2.5 Provide the Field Survey Group Leader (FSGL) with meteorological conditions to expedite overlay selection and plume definition.

2.6 Run a dose projection model to establish initial projected doses and plume touchdown location using ERP-315, "Operation of the Peach Bottom Computer Dose Assessment System".

2.7 Prepare data for use by the Status Board Keeper.

2.8 Perform quality assurance actions on all projected dose calculations. These include:

2.8.1 Verification of source data

2.8.2 Verification of input to dose model

2.8.3 Evaluation of output of dose model

2.8.4 Correct Dose Assessment System input based on resolution of discrepancies, if required.

2.9 Provide the DATL with initial dose projection information and operational status of the group.

2.10 If required, communicate on the Health Physics Network to the Nuclear Regulatory Commission (NRC) for Dose Assessment items until relieved by Health Physics Support Liaison.

3.0 CONTINUING ACTIONS

3.1 The Dose Assessment Group Members shall:

3.1.1 Continue the acquisition of meteorological and radiological data, and transmittal of selected data to the DATL and Status Board Keeper.

3.1.2 Perform the following calculations, as required/requested by the DATL.

3.1.2.1 Class A model calculation using ERP-315, "Operation of Peach Bottom Computer Dose Model" for information on plume exposure.

3.1.2.2 Back-calculate option on main menu to evaluate source term based on field readings.

3.1.3 For radioactive liquid releases, calculate doses for various pathways using ERP-360, as required/requested by DATL.

3.1.4 Perform quality assurance actions on all projected dose calculations.

3.1.5 Review and provide the DATL with all dose projection information.

3.1.6 If dose projections indicate releases exceed or will result in off-site doses exceeding background levels, advise DATL that field teams should be dispatched.

3.2 Continue to acquire main stack and roof vent monitor and flow rate information.

3.3 Turn over dose assessment function to the EOF Dose Assessment Team as directed by the DATL.

4.0 FINAL CONDITIONS

4.1 IF shift change is required prior to deactivation of the TSC Dose Assessment Group
THEN turnover responsibilities to a relief team.

4.2 Upon deactivation of the TSC Dose Assessment Group, and as directed by the DATL, the Dose Assessment Group members shall:

4.2.1 Compile all analytical information and maps for subsequent report preparation.

4.2.2 Ensure all instrumentation is operative and returned to its initial status.

4.2.3 Debrief with DATL and submit all records.

5.0 ATTACHMENTS AND APPENDICES

5.1 Attachment 1, "Dose Assessment Group Flow Chart"

6.0 SUPPORTING INFORMATION

6.1 PURPOSE

To identify the activities and responsibilities of each member of the Dose Assessment Group.

6.2 CRITERIA FOR USE

An Alert or higher level emergency has been declared.

6.3 REFERENCES

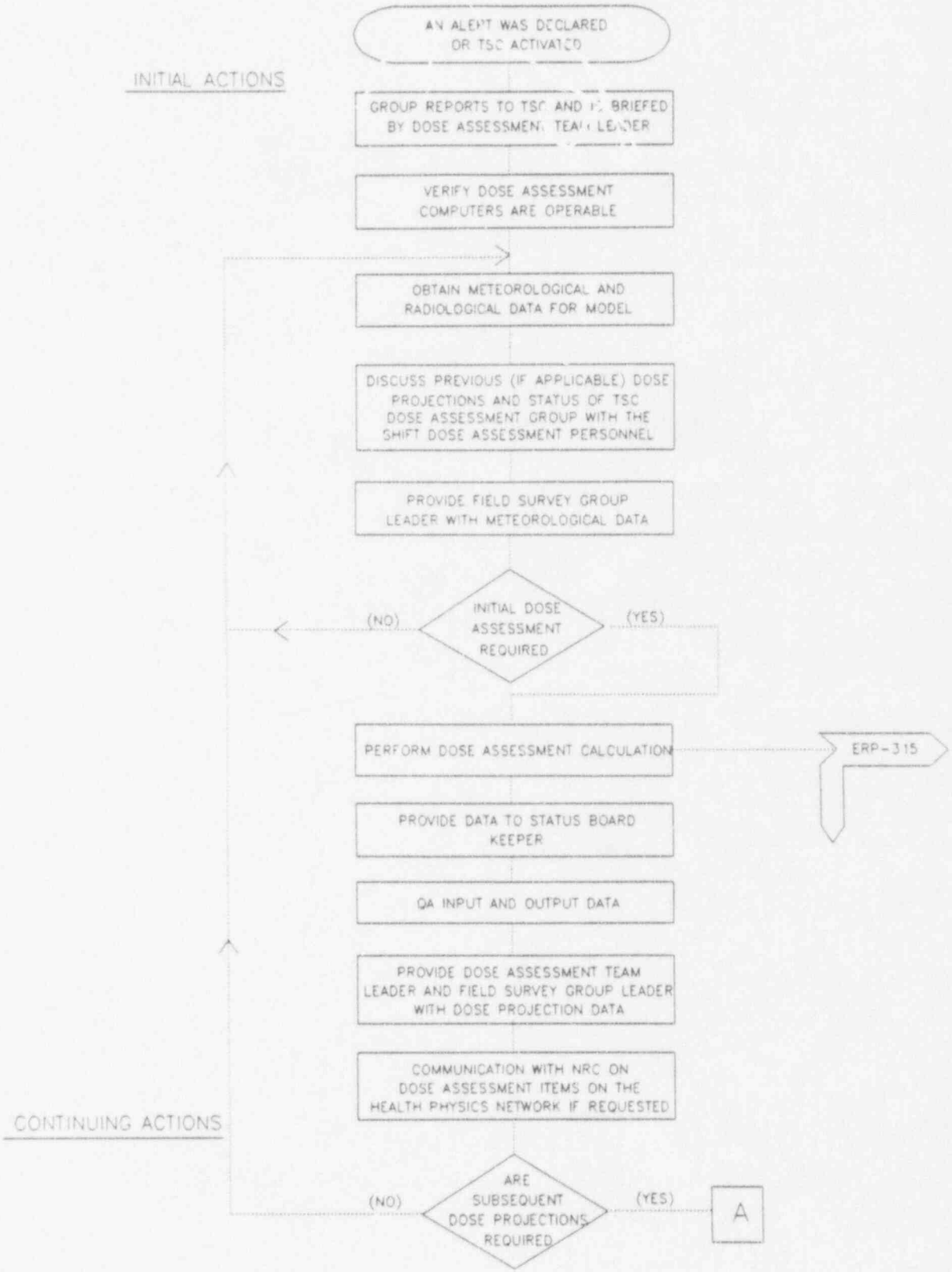
6.3.1 ERP-315, "Operation of Peach Bottom Computer Dose Model"

6.3.2 ERP-360, "Radioactive Liquid Releases"

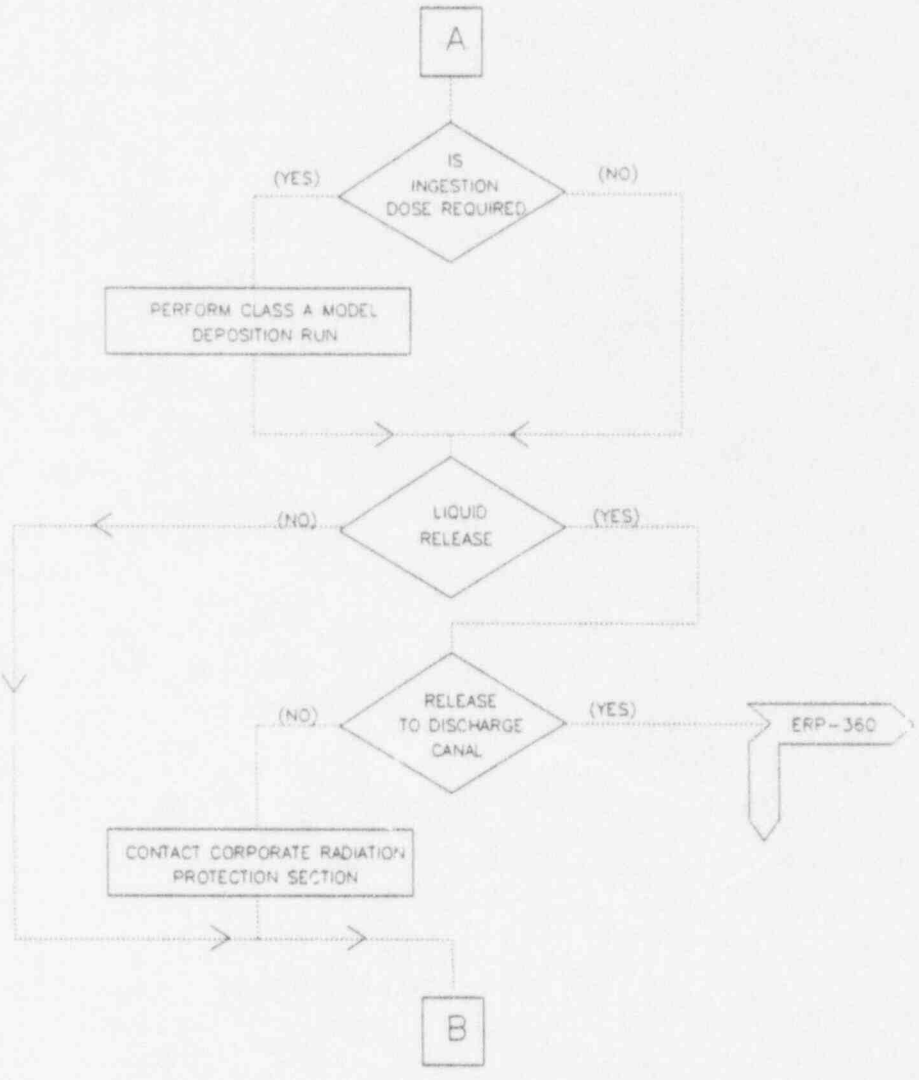
6.4 COMMITMENT ANNOTATION

6.4.1 Commitment number T00322

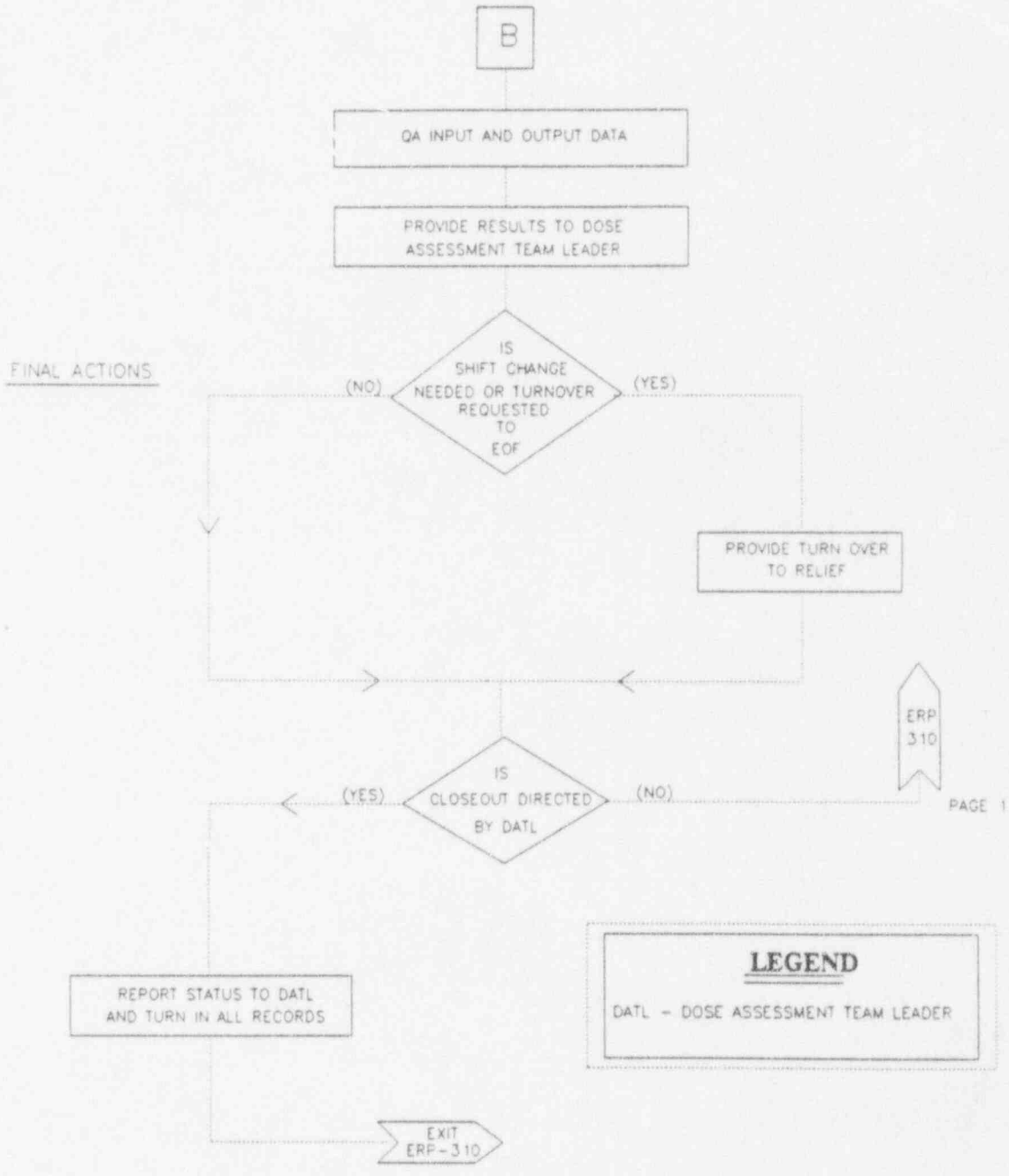
ATTACHMENT 1
DOSE ASSESSMENT GROUP FLOW CHART
(Page 1 of 3)



ATTACHMENT 1
DOSE ASSESSMENT GROUP FLOW CHART
(Page 2 of 3)



ATTACHMENT 1
DOSE ASSESSMENT GROUP FLOW CHART
(Page 3 of 3)



PECO ENERGY COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY RESPONSE PROCEDURE

MASTER

APPROVED BY: D. E. Myers 12/30/93
RESPONSIBLE SUPT./DATE

ERP-315 OPERATION OF THE PEACH BOTTOM COMPUTER DOSE ASSESSMENT SYSTEM
(This procedure is a complete rewrite)

1.0 RESPONSIBILITIES

1.1 The Shift Dose Assessment Person (SDAP) is responsible for dose assessment functions until the Dose Assessment Group is assembled and turn-over is completed.

1.2 The Dose Assessment Team Leader (DATL) is responsible for relieving the SDAP of Dose Assessment duties and directing the use of the Dose Assessment System (DAS).

1.3 The Dose Assessment Group members are responsible for collecting input data and operation of the Dose Assessment System (DAS) in accordance with Plant Monitoring System (PMS) and MESOREM, Jr. Atmospheric Dispersion and Dose Assessment System User's Manual.

2.0 INITIAL ACTIONS

> NOTE
>
> ATTACHMENT TITLED, "OPERATION OF PEACH BOTTOM COMPUTER DOSE ASSESSMENT SYSTEM FLOW CHART" MAY BE USED AS A GUIDE FOR THE FOLLOWING ACTIONS. ADDITIONAL INFORMATION ON DAS OPERATION IS AVAILABLE IN THE MESOREM, JR. ATMOSPHERIC DISPERSION AND DOSE ASSESSMENT SYSTEM USER'S MANUAL.

2.1 Activate computers used for dose assessment.

2.1.1 Turn on computer power.

2.1.2 IF computer and printer do not activate THEN ensure individual switches are turned on.

2.1.3 Verify paper is loaded in adequate supply.

2.1.4 Log onto the Computer Dose Assessment System.

2.1.4.1 For SDAP:
a. Password = PECO
b. User ID = 777777

2.1.4.2 For Dose Assessment Group:
a. Password = PECO
b. User ID = 555555

NOTE

THE PASSWORD AND USER ID FOR THE SHIFT DOSE ASSESSMENT PERSONNEL WILL ALLOW ACCESS TO AUTO MODE A, FAST MODE A AND ESTIMATION OF SOURCE TERM ONLY.

TO PERFORM DOSE PROJECTIONS DURING ACCIDENT CONDITIONS, AUTO MODE A, FAST MODE A OR MODE A SHALL BE EXECUTED.

CM 6.4.2 2.2 Complete appropriate section(s) of attachment titled, "Input Parameters".
IF actual values are not available
THEN use default values given on attachment.

2.3 Execute the Dose Assessment System per Section 3.

3.0 CONTINUING ACTIONS

3.1 SDAP shall perform dose projections by selecting either, Fast Mode A or Auto Mode A.

3.1.1 For Auto Mode A, see attachment titled, "Common Dose Model Auto Mode A".

3.1.2 For Fast Mode A, see attachment titled, "Common Dose Model Fast Mode A".

3.1.3 Verify all data inputs on printout match data sheet.

3.1.4 Advise Shift Manager of results of dose projection.

3.1.5 Repeat dose projections as new information becomes available until relieved by the Dose Assessment Group.

3.2 Dose Assessment Group shall perform dose projections by selecting either Auto Mode A, Fast Mode A or Mode A.

3.2.1 For Auto Mode A, see attachment titled, "Common Dose Model Auto Mode A".

3.2.2 For Fast Mode A, see attachment titled, "Common Dose Model Fast Mode A".

3.2.3 For Fast Mode A, select F2, execute Dispersion Model, from the command menu and see attachment titled, "Common Dose Model Fast Mode A".

3.2.4 IF evaluating source term based on field survey data THEN select F5, Back Calculate Source Term from the Command Menu
AND enter data in response to system prompts.

4.0 FINAL CONDITIONS:

4.1 The potential for and/or actual airborne release has been alleviated.

4.2 The DATL has determined that dose projection information is no longer necessary.

4.3 All records are compiled for final review and filing.

5.0 ATTACHMENTS AND APPENDICES

5.1 Attachment 1 - "Operation of Peach Bottom Computer Dose Assessment System Flow Chart"

5.2 Attachment 2 - "Input Parameters"

5.3 Attachment 3 - "Common Dose Model Auto Mode A"

5.4 Attachment 4 - "Common Dose Model Fast Mode A"

5.5 Attachment 5 - "Common Dose Model Mode A"

5.6 Attachment 6 - "Meteorological Parameter Resources"

5.7 Attachment 7 - "Classification of Atmospheric Stability by Delta Temperature or Sigma Theta"

6.0 SUPPORTING INFORMATION

6.1 PURPOSE

To provide directions for using the Peach Bottom Computer Dose Assessment System.

6.2 CRITERIA FOR USE

This procedure shall be implemented when an Alert or higher level emergency has been declared in accordance with ERP-101, Classification of Emergencies, or at the discretion of the Emergency Director.

6.3 REFERENCES

6.3.1 Nuclear Emergency Plan

6.3.2 10CFR20, Appendix B

6.3.3 10CFR50, Appendix I

6.3.4 ERP-101, "Classification of Emergencies"

6.3.5 ERP-300, "Dose Assessment Team Leader"

6.3.7 Regulatory Guide 1.109, "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10CFR50", Rev. 1, October 1977

6.3.8 LFE Corporation, "Process Control Division, Ventilation Radiation Monitoring System, MQ-216"

6.3.9 NUREG/CR-3344, MESOI Version 2.0: "An Interactive Mesoscale Lagrangian Puff Dispersion Model with Deposition and Decay"

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

6.3.11 SAND 77-1725, "Public Protection Strategies for Potential Nuclear Reactor Accidents: Sheltering Concepts with Existing Public and Private Structures"

6.3.12 MESOREM, Jr. Atmospheric Dispersion and Dose Assessment System, User's Manual

6.4 COMMITMENTS

6.4.1 T01935 (refers to entire procedure)

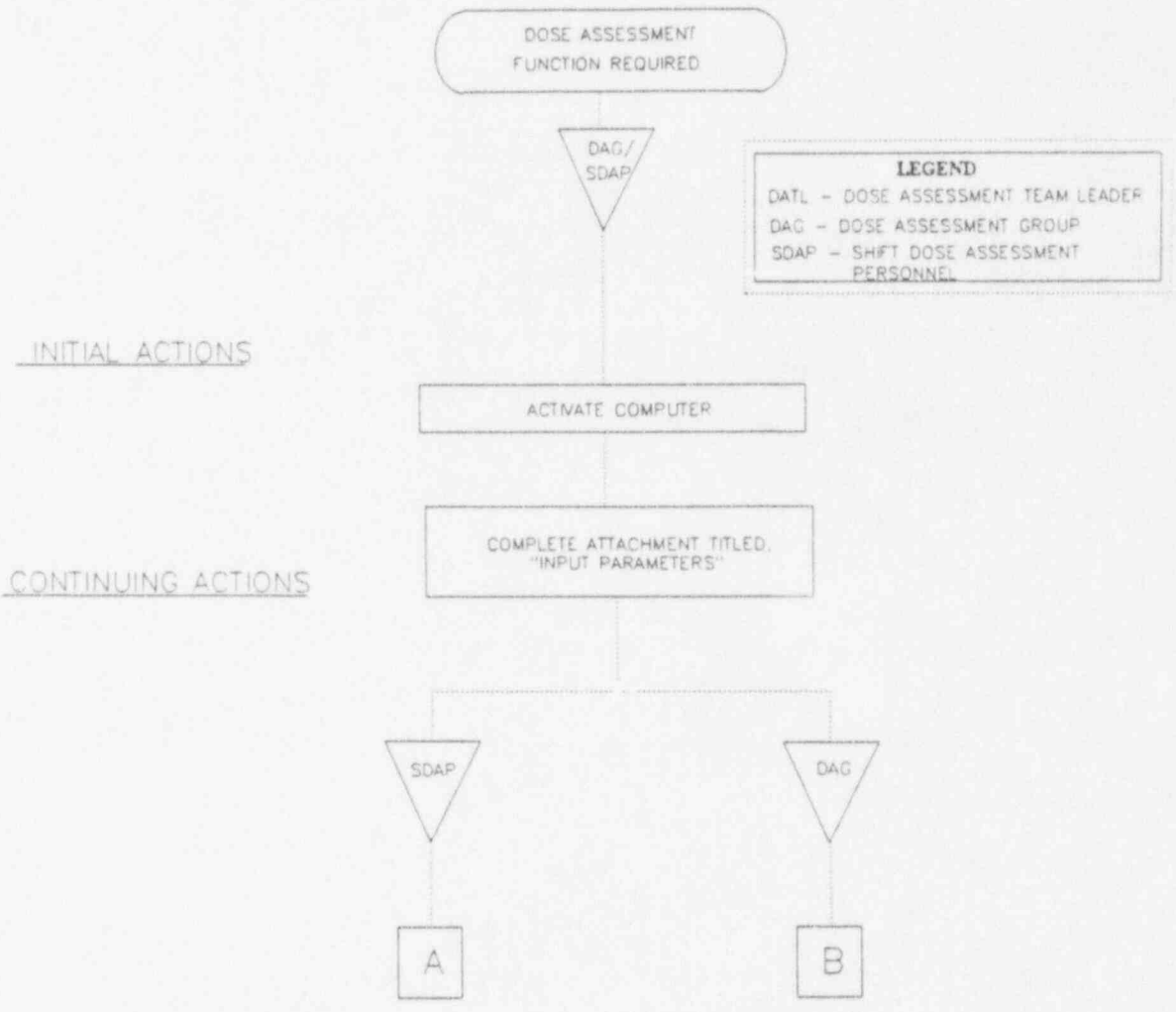
6.4.2 T02541 (section 2.2)

ATTACHMENT 1

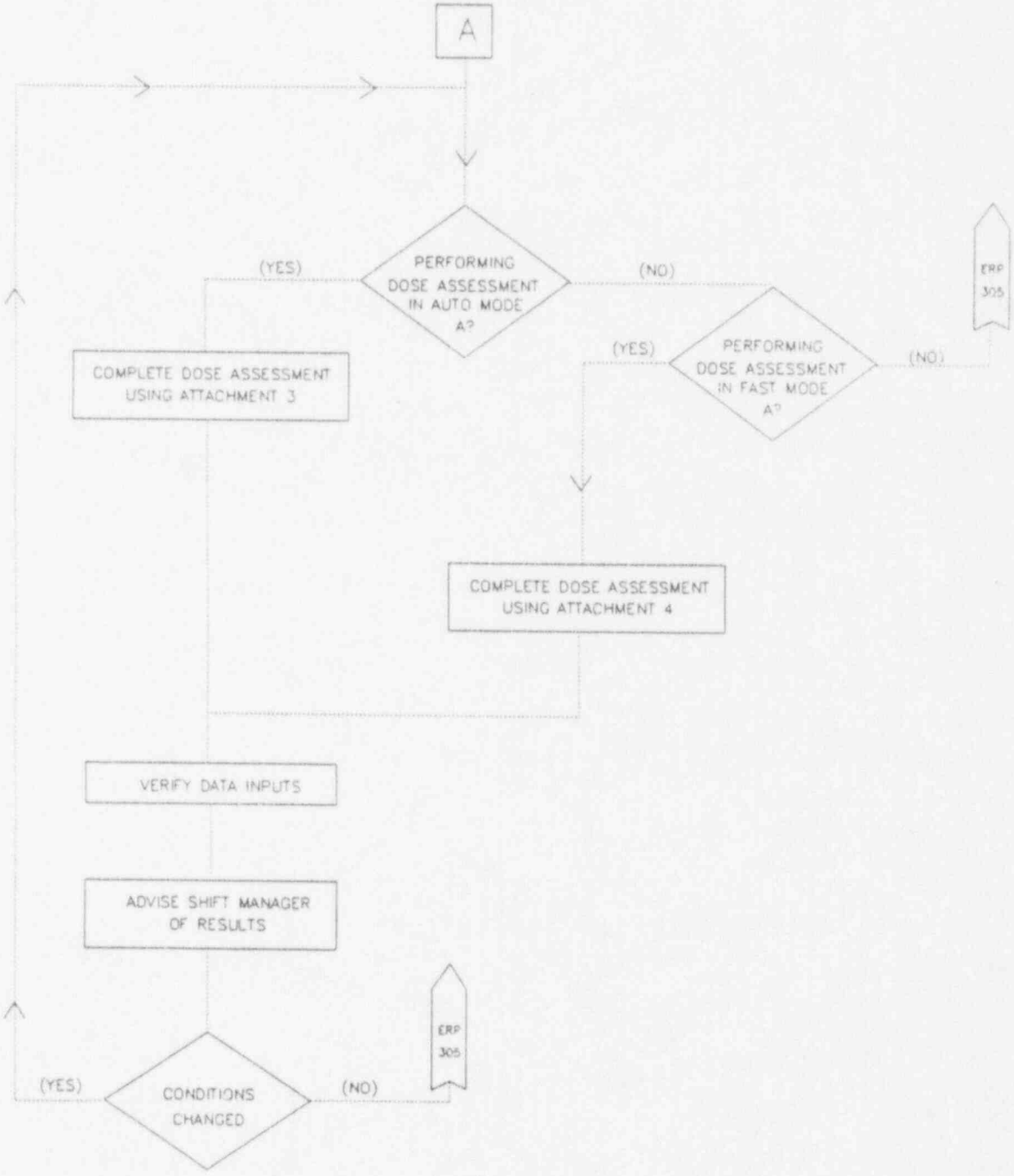
OPERATION OF PEACH BOTTOM COMPUTER DOSE MODEL

FLOW CHART

(Page 1 of 3)



ATTACHMENT 1
OPERATION OF PEACH BOTTOM COMPUTER DOSE MODEL
FLOW CHART
(Page 2 of 3)

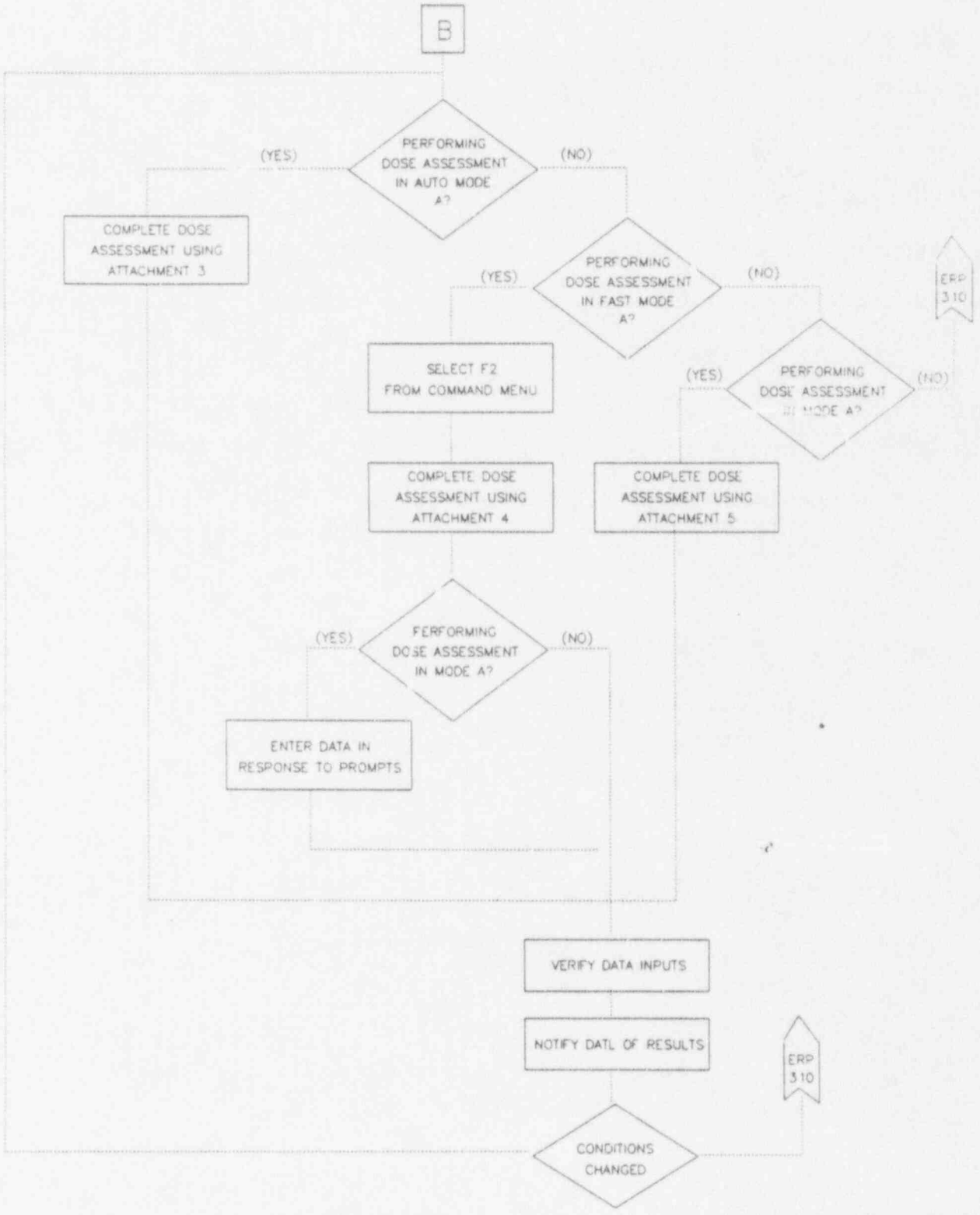


ATTACHMENT 1

OPERATION OF PEACH BOTTOM COMPUTER DOSE MODEL

FLOW CHART

(Page 3 of 3)



ATTACHMENT 2
INPUT PARAMETERS
(Page 1 of 5)

PART 1. Information required for any dose projection.

I. EVENT INFORMATION

Time of Release in Military Format _____:_____ (HH:MM)

Date of Release in Standard Format _____/_____/_____ (MM/DD/YY)

Night or Day? _____ (N or D)

Adverse Weather or Normal Weather? _____ (A or N)

Estimated Release Duration: _____:_____ (HH:MM) (Default Value 4:00)

Has the Release been in Progress? _____ (Y or N)

- If Yes: Time Release has been in Progress _____:_____ (HH:MM)

- If No: Time Until Release Begins: _____:_____ (HH:MM)

Has the Reactor reached 0% Power? _____ (Y or N)

Time of Reactor reaching 0% Power _____:_____ (HH:MM)

Account for Wet Deposition? _____ (Y or N)

Release Points (check one or more)

_____ Unit 2 Rx Building Vent Stack

_____ Unit 3 RX Building Vent Stack

_____ Unit 2 Torus Hardened Vent

_____ Unit 3 Torus Hardened Vent

_____ Main Stack

_____ Unmonitored Release

Simultaneous Release? _____ (Y or N)

ATTACHMENT 2
INPUT PARAMETERS
(Page 2 of 5)

Pressure Correction Factor _____ (check which parameter used)

_____ ST-C-095-862-2 "Instantaneous Noble Gas Release and Surveillance Log" (Use the pressure correction factor which corresponds to the count rate meter used above)

_____ Default Value 1.1

Standby Gas Treatment Efficiency 99.97

PART 2. Information required only if Auto Mode A is unavailable.

I. METEOROLOGICAL PARAMETERS

(For backup or alternate source inputs, refer to the attachment titled, "Meteorological Parameter Resources")

For Unit 2 Vent Stack Release or Unit 3 Vent Stack Release or Unit 2 Torus Hardened Vent Release or Unit 3 Torus Hardened Vent Release

Wind Speed _____ mph from Tower 2, 75 ft.

Wind Direction _____ from Tower 2, 75 ft.

Delta Temperature _____ degs F from Tower 2, 315' - 33'

Ambient Temperature _____ degs F for Tower 2, 33 ft.

Precipitation _____ (60 minute total from MET screen or 'N' = not available)

ATTACHMENT 2
INPUT PARAMETERS
(Page 3 of 5)

For Main Stack Release

Wind Speed _____ mph from Tower 2, 320 ft.

Wind Direction _____ from Tower 2, 320 ft.

Delta Temperature _____ degs F from Tower 2, 316' - 33'

Ambient Temperature _____ degs F for Tower 2, 33 ft.

Precipitation _____ (60 minute total from MET screen or 'N' = not available)

For Unmonitored Release

Wind Speed _____ mph from River Tower

Wind Direction _____ from River Tower

Delta Temperature _____ degs F from Tower 2, 316' - 33'

Ambient Temperature _____ degs F for Tower 2, 33 ft.

Precipitation _____ (60 minute total from MET screen or 'N' = not available)

III. EFFLUENT PARAMETERS

For Unit 2 Vent Stack Release

Count Rate _____ cpm (check which parameter used)

_____ Normal Range RIS-2979A panel 20C010
_____ Normal Range RIS-2979B panel 20C010
_____ High Range RE-7127A panel 20C010

Flow Rate _____ cfm (FR-2805, panel 20C010)

For Unit 3 Vent Stack Release

Count Rate _____ cpm (check which parameter used)

_____ Normal Range RIS-3979A panel 30C010
_____ Normal Range RIS-3979B panel 30C010
_____ High Range RE-7127B panel 30C010

Flow Rate _____ cfm (FR-3805, panel 30C010)

ATTACHMENT 2
INPUT PARAMETERS
(Page 4 of 5)

For Unit 2 Torus Hardened Vent Release

Count Rate _____ cpm (RIS-80291, panel 20C010)

Torus Pressure _____ psig (check which parameter used)

_____ PI-4952, panel 20C484A
_____ PI-4953, panel 20C484B

For Unit 3 Torus Hardened Vent Release

Count Rate _____ cpm (RIS-90291, panel 30C010)

Torus Pressure _____ psig (check which parameter used)

_____ PI-5952, panel 30C484A
_____ PI-5953, panel 30C484B

For Main Stack Release

Count Rate _____ cps (check which parameter used)

_____ Normal Range RIS-0-17-050A, panel 00C014
_____ Normal Range RIS-0-17-050B, panel 00C014
_____ High Range RE-7127C, panel 00C014

Flow Rate _____ cfm (FR-0470, panel 30C010)

PART 3. Information required for known isotopic projections.

I. Isotopic Breakdown

If known, enter sample results.

Kr 83m	_____	Xe 131m	_____
Kr 85m	_____	Xe133m	_____
Kr 85	_____	Xe 135m	_____
Kr 87	_____	Xe 135	_____
Kr 88	_____	Xe 137	_____
Kr 89	_____	Xe 138	_____

Total Nobel Gas Concentration _____ uCi/cc

ATTACHMENT 2
INPUT PARAMETERS
(Page 5 of 5)

I-131 _____ I-133 _____ I-135 _____

I-132 _____ I-134 _____

Total Iodine Concentration _____ uCi/cc

V. Unknown Isotopic Breakdown for Unmonitored Release

Field Survey Whole Body Dose Rate _____ mr/hr

Field Survey Thyroid Dose Rate _____ mr/hr

Distance from the plant to where the field survey readings were obtained _____ miles.

Angle between the field reading location and 0 degrees North _____

Angle is positive in the clockwise direction and must be 180 degrees from the wind direction already inputed.

ATTACHMENT 3
USE OF COMMON DOSE MODEL AUTO MODE A
(Page 1 of 4)

1. From Mode A or Auto A Menu Choose;

   a. F3 -- Auto Mode A - Initiate automatic data collection

2. Choose DBA from Accident Menu

3. Answer the following prompts:

   a. Enter the time of the release in military format
      (Current system time = <ENTER> = 07:42)

   b. Enter the date of the release in standard format
      (Current system time = <ENTER> = 09/23/93):

   c. Night or Day?
      (N or D, <ENTER> = D):

   d. Adverse Weather or Normal Weather?

      (A or N, <ENTER> = N):

   e. Enter estimated release duration.
      (00:01 to 999:00, <ENTER> = 4: 0):

> NOTE:
>
> TO USE AUTO MODE A THE FOLLOWING PROMPT MUST BE ANSWERED "Y", OTHERWISE, YOU WILL BE PROMPTED TO SWITCH TO FAST MODE A. (AUTO DATA COLLECTION CANNOT HAPPEN FOR A RELEASE THAT HAS NOT YET OCCURRED).

   f. Has the release been in progress?
      (Y or N, <ENTER> = N): Y

   g. Time the release has been in progress.
      (Format is (HH:MM), <ENTER> = 0: 0):

   h. When did the reactor reach 0% power?

      1. Date = <ENTER> = 09/23/93:
      2. Time in 24 hour format = <ENTER> = (00:00)
         Time since reactor shutdown will be displayed

   i. Do you wish the model to account for wet disposition?
      (Y or N, <ENTER> = N):

Select appropriate tower/sensor data from this table

ATTACHMENT 3
USE OF COMMON DOSE MODEL AUTO MODE A
(Page 2 of 4)

NOTE:

METEOROLOGICAL AND RADIOLOGICAL DATA FOR THE TIME IN QUESTION WILL BE DISPLAYED. ANY OF THIS DATA CAN BE EDITED BY THE USER. ANY DATA MARKED WITH A CHECK MARK ( ) TO THE LEFT IS BAD DATA AND WILL NOT BE USED BY THE SYSTEM. THE BAD DATA MARK CAN BE REMOVED BY PRESSING ALT-B WITH THE CURSOR ON THAT DATA. THIS WILL CAUSE THE PROGRAM TO USE THAT DATA AS GOOD DATA. DATA MARKED WITH AN "R" IS DATA THAT IS OUT OF RANGE. THIS DATA CANNOT BE USED BY THE PROGRAM AND MUST BE CORRECTED.

The Auto Mode A Screen is then displayed:

j. View data and press F10 to continue.

1. If any of the data points are out of range, a warning will be displayed at the bottom of the screen and the cursor will go to the bad data point. This situation must b corrected before continuing.

2. If any met data points are displayed as "bad data", the backup sensor will be used by the program. If rad data for the release point in question is bad, or if all of a particular met quantity is bad, Auto Mode A will cease and the operator will be forced to use Fast Mode A or Mode A.

k. Choose release point from release point menu.

1. Met Data that will be used will be displayed.

l. Enter whether isotopic breakdown is known or unknown at breakdown menu.

1. If unknown isotopic breakdown.

For PBAPS Main Stack, (For other release pts, no SGTS prompt)

Enter the current pressure correction factor.
Range is [.0000 to 2.000] - **Use the default value unless**
[<ENTER> = 1.100] **instructed otherwise.**

Enter the current stand-by-gas-treatment efficiency.
Range is [.0000 to 99.99] - **Use the default value unless**
[<ENTER> = 99.97] **instructed otherwise.**

ATTACHMENT 3
USE OF COMMON DOSE MODEL AUTO MODE A
(Page 3 of 4)

NOTE:

DEPENDING ON RELEASE POINT AND ANSWERS TO THESE PROMPTS, SEVERAL PROMPTS WILL APPEAR CONCERNING THE RELEASE PATH. THESE ARE USED TO DETERMINE THE NOBEL GAS TO IODINE RATIO AND ALL HAVE "UNKNOWN" AS AN OPTION. THIS PROMPT IS AN EXAMPLE:

IS THIS RELEASE FROM DRYWELL ATMOSPHERS, SUPPRESSION CHAMBER ATMOSPHERE, OR OTHER?
(D, S, O, UNKNOWN = O <ENTER> = O):

2. If known isotopic breakdown,

   a. Enter the current pressure correction factor.
   Range is [.0000 to 2.000]
   [<ENTER> = 1.100]:

   b. Then choose from isotope mix menu:

   Isotopic Mix in Percentages (%)
   Isotopic Mic in Concentration (uCi/cc)
   Isotopic Mix in Release Rate (uCi/sec)

   c. How long after scram was the sample taken?
   (Enter 00:00 if the sample was taken before the scram)
   (Make sure a colon ":" separates the hours and minutes)
   (Format is (HH:MM), <ENTER> = 0: 0):

   d. Enter each noble gas and iodine isotope: (in units chose at menu)

   e. Enter total iodine concentration (uCi/cc).
   Range is (.0000 to 1.0000E+08)
   (<ENTER> = .0000):

   f. Do you wish to enter additional isotopes?
   (Y or N, <ENTER> = N): Y

   g. If answered "Y", additional isotopes may be entered.

ATTACHMENT 3
USE OF COMMON DOSE MODEL AUTO MODE A
(Page 4 of 4)

NOTE:

ADDITIONAL NUCLIDES MAY BE ENTERED BY SYMBOL, MASS NUMBER, AND RELEASE RATE IN UCI/CC. A MAXIMUM OF UP TO 33 NUCLIDES MAY BE ENTERED. ENTER THE SYMBOL UP TO 2 LETTERS AT THE FIRST PROMPT, THE ATOMIC WEIGHT UP TO 3 DIGITS AT THE SECOND PROMPT ALONG WITH THE CHARACTER "M" IF THE NUCLIDE IS IN THE METASTABLE STATE.

(I.E XE <-- AT THE FIRST PROMPT
133M <-- AT THE SECOND PROMPT)

h. Enter the nuclide symbol. (<ENTER> = No other radionuclides):

i. Enter nuclide mass number, including M for metastable:

j. Enter the amount of release in uCi/cc.
Range is (.0000 to 1.0000E+20)
(<ENTER> = .0000):

k. View isotopic breakdown.

3. Would you like an automatic dump to the printer?
(Y or N, <ENTER> = Y):
Output will be produced designated location.

4. Will this be a simultaneous release?
(Y or N, <ENTER> = N):

5. Receptor Display Menu will appear.

NOTE:

THESE OPTIONS ARE SELF EXPLANATORY EXCEPT FOR F7 RECEPTOR INFORMATION. THIS OPTION GIVES THE OPPORTUNITY TO DISPLAY ALL INFORMATION FOR A PARTICULAR RECEPTOR.

TPARD = TOTAL PROTECTIVE ACTION RECOMMENDED DOSE = EXTERNAL DOSE + ADULT CEDE + 4 DAY.

4DAY = SHINE DOSE FROM 4 DAYS' EXPOSURE TO GROUND DEPOSITION FROM RELEASE.

PAT = PLUME ARRIVAL TIME

DOSE RATIO = RATION OF EXTERNAL DOSE + CEDE (TEDE) TO EXTERNAL DOSE. THIS RATION GIVES A METHOD TO ESTIMATE TEDE FROM EXTERNAL DOSE (DRD READING). USED PRIMARY FOR FIELD TEAM DOSE ESTIMATION.

ATTACHMENT 4
COMMON DOSE MODEL FAST MODE A

1. Select F1, Fast Mode A, from the Command Menu.

2. IF isotopic breakdown unknown
THEN select F1, Loss of Coolant Accident;
IF isotopic breakdown is known
THEN select F10, MCA Data

3. Enter data recorded on attachment titled "Input Parameters" in response to system prompts and menus.

4. Ensure appropriate device is selected for printer output.

5. Make appropriate printout selection.

6. IF a release is in progress from more than one release point
THEN enter a "Y" after the prompt, "Will this be a simultaneous release?"
AND repeat from step 3.1.2 until data for all release points has been entered.

7. IF specific receptor data is desired,
THEN select the appropriate receptor from the Receptor Display Menu
OR select Q to leave the menu.

8. IF another dose projection is desired,
THEN respond "Y" to the prompt
OR respond "N" to leave the system.

ATTACHMENT 5
COMMON DOSE MODEL MODE A

1. Select F1, update data, from the command menu.

2. Select files to be updated from File Menu.

3. Enter data recorded on attachment titled, "Input Parameters", in response to system prompts and menus.

4. Once all files have been updated, select "Q" to return to the Command Menu.

5. Select F2, Execute Dispersion Model, from the Command Menu.

6. Select F2, Mode A, from Mode A Menu.

7. Make appropriate printout selection.

8. Respond to prompts to calculate a simultaneous release, view specific receptor data, run another dose projection, or exit the system, as desired.

ATTACHMENT 6
METEOROLOGICAL PARAMETER RESOURCES
(Listed in order of preference)

1. MCR Strip Charts (Control Room Only)

2. Plant Monitoring System (PMS) (Primary for TSC)

Select appropriate tower/sensor data from this table

Release Point		PMS		PMS
MAIN STACK	Primary	Screen	Backup	Screen
Wind Speed (mph)	Twr 2-320'	MET	Twr 2-75'	MET
Wind Direction (Deg Azm)	Twr 2-320'	MET	Twr 2-75'	MET
Delta Temperature (Deg F)	Twr 2-316'-33'	MET	Twr 2-150'-33'	MET
Sigma Theta (Deg. Azm)	Twr 2-75'	MET	None	MET
Ambient Temperature (Deg F)	Twr 2-33'	MET	None	MET
Precipitation (in/hr)	Twr 2	MET	Twr A	MET
VENT STACK				
Wind Speed (mph)	Twr 2-75'	MET	Twr 2-320'	MET
Wind Direction (Deg Azm)	Twr 2-75'	MET	Twr 2-320'	MET
Delta Temperature (Deg F)	Twr 2-316'-33'	MET	Twr 2-150'-33'	MET
Sigma Theta (Deg. Azm)	Twr 2-75'	MET	None	MET
Ambient Temperature (Deg F)	Twr 2-33'	MET	None	MET
Precipitation (in/hr)	Twr 2	MET	Twr A	MET
UNMONITORED RELEASE				
Wind Speed (mph)	River Twr 33'	MET	Twr 2-75'	MET
Wind Direction (Deg Azm)	River Twr 33'	MET	Twr 2-75'	MET
Delta Temperature (Deg F)	Twr 2-316'-33'	MET	Twr 2-150'-33'	MET
Sigma Theta (Deg. Azm)	Twr 2-75'	MET	None	MET
Ambient Temperature (Deg F)	Twr 2-33'	MET	None	MET
Precipitation (in/hr)	Twr 2	MET	Twr A	MET

3. National Weather Service

1 - Wilmington NWS: 1-302-573-6143 Date/Time:_____
2 - Philadelphia NWS: 1-609-261-6603
3 - Baltimore NWS: 1-410-962-2177

Obtain the following meteorological parameters:

Wind Direction (WD30)	_____	deg. az.
Wind Speed (WD30)	_____	knots
Cloud Cover (CLCVR)	_____	tenths
Cloud Ceiling (CLCEG)	_____	ft
Ambient Temperature	_____	deg. F
Precipitation	_____	in/hr

Forecast:

NWS Contact: _____

Initial _____

ATTACHMENT 7
CLASSIFICATION OF ATMOSPHERIC STABILITY BY
DELTA TEMPERATURE OR SIGMA THETA

Delta T (Deg F)		Sigma Theta (Deg)		
Primary 330-33 ft.	Backup 150-33 ft.	Stack - 320' Dev Vent - 75' Dev Ground-River Dev	Stability Description	Pasquill-Stability Class
< - 3.0	< - 1.3	> 22.5	Extremely Unstable	A
-2.0 to -2.7	-1.2 to -1.1	17.5 to 22.4	Moderately Unstable	B
-2.6 to -2.4	-1.0	12.5 to 17.4	Slightly Unstable	C
-2.3 to -0.8	-0.9 to -0.4	7.5 to 12.4	Neutral	D
-0.7 to 2.3	-0.3 to 0.9	3.8 to 7.4	Slightly Stable	E
2.4 to 6.2	1.0 to 2.5	2.1 to 3.7	Moderately Stable	F
> 6.3	> 2.6	< 2.1	Extremely Stable	G

PECO ENERGY COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY RESPONSE PROCEDURE

APPROVED BY: [signature] 12/30/93
RESPONSIBLE SUPT./DATE

ERP-330 FIELD SURVEY GROUP LEADER (FSGL)

1.0 RESPONSIBILITIES

1.1 The Field Survey Group Leader (FSGL) is responsible for reporting to the Dose Assessment Team Leader (DATL) when the Technical Support Center (TSC) is activated. If the DATL has not yet reported, the FSGL should contact the Shift Dose Assessment Personnel for data until the DATL arrives.

1.2 The FSGL is responsible for directing the overall effort of the Field Survey Group. These responsibilities include activation, briefing, deployment, data collection, personnel safety, exposure control, decontamination and turnover to EOF as appropriate.

1.3 The FSGL is responsible for providing field measurements and other relevant information to the DATL.

1.4 The FSGL is responsible for implementing requests for field surveys from the DATL.

2.0 INITIAL ACTIONS

NOTE

ATTACHMENT TITLED, "FIELD SURVEY GROUP LEADER (FSGL) FLOW CHART", MAY BE USED AS A GUIDE FOR THE FOLLOWING ACTIONS.

2.1 Upon notification of an Alert or higher classification, the FSGL shall:

2.1.1 Report to the TSC and sign in.

2.1.2 Determine the number of vehicles required and if personal vehicle use is necessary.

2.1.3 Request Field Survey Group members pick up vehicles.

2.1.4 Participate in a briefing held by the DATL and DAG on plant status and initial assignments.

2.2 As Field Survey Group members arrive, the FSGL shall:

2.2.1 Complete attachment titled, "Turnover Checklist".

2.2.2 Assign members to Field Survey Teams, each consisting of at least two (2) members, designating a lead individual for each team, and a driver.

2.2.3 Assign and brief an individual to serve as a Status Board/Log Book Keeper as necessary.

2.2.4 Assign Field Survey Team Members to perform initial actions in accordance with ERP-340, Field Survey Group.

2.3 The FSGL shall, in preparation for deployment of Field Survey Teams and development of an overall sampling plan:

2.3.1 Obtain from the DATL, current data as follows:

2.3.1.1 Meteorology (wind speed, direction, stability class)

2.3.1.2 Dose ratio

2.3.1.3 Effluent source and release rate

2.3.1.4 Projected maximum ground level exposure rate

2.3.1.5 Projected plume characteristics and arrival times

2.3.2 Select the proper X/Q overlay and mount it on the vertical offsite map oriented in the current wind direction.

2.3.3 Mark or highlight the pre-established sample locations identified by a compass point designation and a distance that are co-axial with the projected plume trajectory.

2.3.4 Calculate, or obtain from DATL, the time-of-flight for the projected plume to reach each designated sample location using:

$$\frac{\text{Distance (miles)}}{\text{Wind Speed (miles/hr)}} \times 60 \frac{\text{min}}{\text{hr}} = \text{Arrival time (minutes)}$$

2.3.5 Select appropriate initial deployment points for each Field Survey Team.

2.3.6 Plan routing for Field Survey Team to each sample point, considering avoidance of the potential plume.

2.3.7 Determine the number of Field Survey Teams to be initially deployed.

****
* CAUTION *
*
* THE EXPOSURE OF THE FIELD SURVEY GROUP MEMBERS SHOULD *
* BE LIMITED TO NORMAL DOSE LIMITS. EXPOSURE EXCEEDING *
* THESE LIMITS SHALL BE AUTHORIZED IN ACCORDANCE WITH *
* ERP-670, "EMERGENCY RADIATION EXPOSURE GUIDELINES *
* AND CONTROLS". *
*
****

2.3.8 The FSGL shall contact the Personnel Safety Team Leader (PSTL) and establish radiation exposure limits, dosimetry requirements and protective measures to be used by Field Survey Group members performing field surveys.

2.3.9 Advise the DATL of initial team deployment locations and PSTL recommendations for FSG members.

2.4 The FSGL shall conduct a briefing with each Field Survey Team immediately prior to initial deployment. The briefing shall include discussion of available information on attachment titled, "Briefing C.O.L.".

2.4.1 Duties and responsibilities

2.4.2 Emergency classification

2.4.3 Projected Plume information

2.4.4 Initial deployment points and escape routes

2.4.5 Radiation exposure limits

2.4.6 Personnel protective equipment and dosimetry

2.4.7 Field survey, and sample equipment to be utilized

2.4.8 Assigned identification code for each team

2.4.9 Verify that equipment checklist is complete (Correct deficiencies prior to deployment)

2.5 The FSGL shall deploy teams, as directed, in accordance with the sampling plan developed in 2.3.

2.6 The FSGL shall provide Group status to the DATL.

3.0 CONTINUING ACTIONS

> NOTE
>
> UPON ACTIVATION OF EOF, EOF FSGL WILL ASSUME CONTROL OF FIELD SURVEY. AFTER THAT TIME, TSC FSGL MAY REMAIN IN AN ADVISORY/CONSULTING CAPACITY.

3.1 The FSGL shall:

3.1.1 Consider the following objectives in deployment of Field Survey Teams:

3.1.1.1 Confirmation of dose projections

3.1.1.2 Confirmation of plume direction and speed

3.1.1.3 Confirmation of plume dispersion

3.1.1.4 Minimization of Field Survey Team Member exposures

3.1.2 Confer frequently with DATL.

3.1.3 Advise and brief Field Survey Teams approximately every 30 minutes on:

3.1.3.1 Plant status

3.1.3.2 Emergency classification

3.1.3.3 Radiological conditions

3.2 The FSGL should control Field Survey Teams using the guidance that follows, in order to locate and characterize the plume:

3.2.1 Direct Field Survey teams in accordance with overall sampling plan developed in step 2.3, to confirm the projected plume exposure pathway so as to identify arrival time of the plume leading edge, plume centerline and plume boundaries as necessary.

3.2.2 Direct Field Survey Teams to remain in low background radiation areas between surveys and while counting any air samples or ground contamination wipes.

3.2.3 The FSGL shall manage incoming field survey data by taking the following steps:

3.2.3.1 Coordinate data received from the Field Survey Teams using attachment titled, "FSGL Data Record".

3.2.3.2 Ensure that Field Survey teams provide accurate location information with radiation measurements.

NOTE

UPON RECEIPT OF AIR SAMPLE DATA 6.5N7 UCI/CC, IMMEDIATELY NOTIFY DATL TO CONSIDER PAR BASED ON THYROID EXPOSURE.

3.2.4 Discuss differences and evaluation of actual vs. projected dose readings with the DATL.

3.2.5 Discuss with the DATL if a team should:

3.2.5.1 Verify plume sample results.

3.2.5.2 Verify plume footprint is as anticipated.

3.2.5.3 Return air sample or ground contamination wipes to Unit 1 for analysis.

3.3 If the release has occurred as a puff (10 minutes or less duration) based on effluent monitor or other indications, the FSGL shall discuss with the DATL if the team should move downwind, beyond other teams, or remain to measure ground deposition or radioiodine concentrations.

3.4 If the release is determined to be continuous (10 minutes or more duration) the FSGL shall discuss with the DATL if the Field Survey Team should remain to measure exposure rate, ground contamination, radioiodine concentrations and extent of lateral plume spread.

3.4.1 Relevant factors to consider in discussion with the DATL include:

3.4.1.1 Magnitude of release

3.4.1.2 Near-site protective actions taken by the local population

3.4.1.3 Need for downwind survey coverage

3.5 Repeat deployment considerations as projected plume approaches each sample team field location, using steps 3.1 to 3.4.

3.6 The FSGL shall adjust to changing conditions by:

3.6.1 Deploying each team downwind at, or beyond, other teams in a leapfrog fashion when required upwind characterizations have been completed.

3.6.2 Using field measurement information and observations to update plume speed and direction.

3.6.3 Repositioning the plume overlay to conform to wind direction changes.

NOTE

WIND DIRECTION CHANGES OF GREATER THAN OR EQUAL TO 10 DEGREES AND/OR CHANGES IN STABILITY CLASSIFICATION MAY REQUIRE REALIGNMENT OF DEPLOYMENT STRATEGIES.

3.6.4 Selecting the proper plume overlay and mounting it on the off-site map whenever Dose Assessment determines the stability class has changed.

3.6.5 Modifying team deployment as necessary based on revised plume parameters.

3.7 The FSGL shall take the following steps to control Field Survey Team Members radiation exposure:

3.7.1 Obtain exposure histories from Field Survey Team Members at intervals appropriate to field condition.

3.7.2 Anticipate relief needs based on working time and radiological conditions.

3.7.3 When exposure limits may impact operations, advise the DATL and request dose extensions.

3.7.4 Request DATL support in consideration of administration of Potassium Iodide to field teams if actual or projected field team iodine DAC-hr exceeds 2000 DAC-hrs.

3.8 IF additional Field Survey personnel are needed, THEN request PSTL to supply additional personnel as needed.

3.9 The FSGL shall:

3.8.1 Report problems, equipment malfunctions, and injuries to the DATL.

3.8.2 Request a sample runner, if needed, from the DATL.

3.10 When requested, the FSGL shall brief a replacement FSGL using attachment titled, "Turnover Checklist".

4.0 FINAL ACTIONS

4.1 The FSGL shall instruct each Field Survey team to:

4.1.1 Survey, package and label all field samples.

4.1.2 Survey vehicle for contamination.

4.1.3 Survey equipment for contamination.

4.1.4 Survey personnel for contamination.

4.1.5 Report to vehicle decontamination area, if necessary.

4.1.6 Label and wrap contaminated items in plastic.

4.1.7 Report to personnel decontamination facility, if necessary.

4.1.8 Complete survey forms and records.

4.1.9 Report final dosimeter readings.

4.2 The FSGL shall estimate inhalation exposure to radionuclides in DAC-hours for each team member.

4.3 The FSGL shall ensure that final radiation exposure results are recorded.

4.4 The FSGL shall determine, in discussion with DATL, the need for any dosimetry studies, or bioassay tests and forward appropriate requests to the PSTL.

4.5 The FSGL shall ensure all records, analytical information, logs and survey forms are completed and have been gathered for subsequent report preparation.

4.6 IF the emergency is terminated, OR IF directed by the DATL, THEN the FSGL shall deactivate field teams.

4.7 WHEN informed by the DATL, the TSC FSGL shall transfer control of field survey teams to the EOF FSGL using attachment titled, "Turnover Checklist".

4.8 The FSGL shall participate in a final debriefing with the DATL as requested.

5.0 ATTACHMENTS AND APPENDICES

5.1 Attachment 1 - "Field Survey Group Leader (FSGL) Flow Chart"

5.2 Attachment 2 - "Briefing C.O.L."

5.3 Attachment 3 - "Turnover Checklist"

5.4 Attachment 4 - Field Survey Group Leader Data Record

6.0 SUPPORTING INFORMATION

6.1 PURPOSE

6.1.1 To identify the activities of the FSGL and interfaces with other emergency response team personnel.

6.2 CRITERIA FOR USE

6.2.1 An Alert or higher level emergency has been declared or the Field Survey team is activated by the ED or DATL.

6.3 REFERENCES

6.3.1 ERP-340, "Field Survey Group"

6.3.2 ERP-670, "Emergency Radiation Exposure Guidelines and Controls"

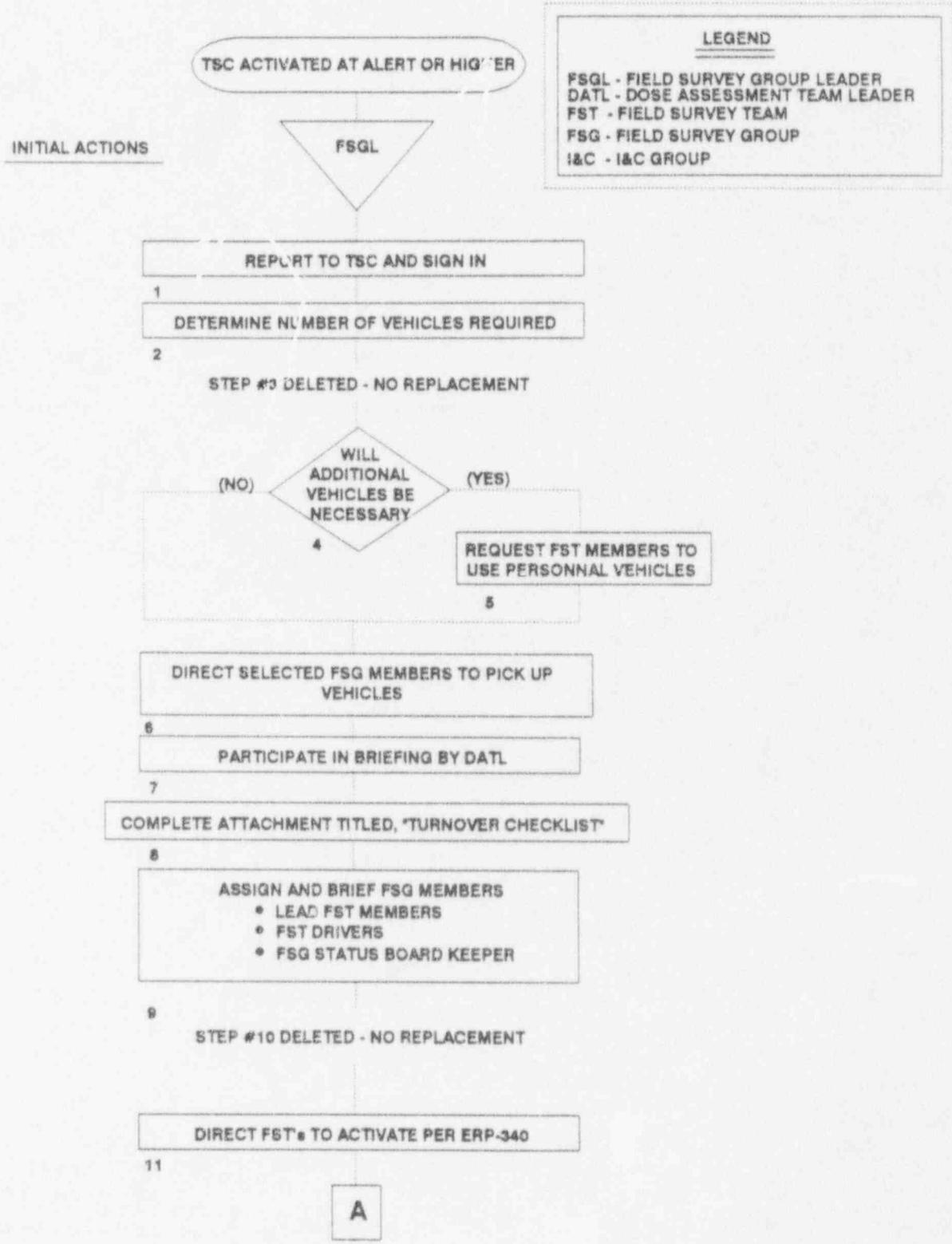
6.4 COMMITMENT ANNOTATION

6.4.1 None

ATTACHMENT 1

FIELD SURVEY GROUP LEADER (FSGL) FLOW CHART

(Page 1 of 5)



ATTACHMENT 1
FIELD SURVEY GROUP LEADER (FSGL) FLOW CHART
(Page 2 of 5)

A

OBTAIN FROM DATL INFORMATION AS NECESSARY
- METEOROLOGY
- SOURCE DATA
- DOSE PROJECTIONS
- PLUME TOUCHDOWN

12

SELECT AND MOUNT OVERLAY

13

IDENTIFY SAMPLE LOCATIONS ON WALL MAP

14

CALCULATE PLUME TRANSIT TIME TO EACH SAMPLE LOCATION

15

SELECT FST INITIAL DEPLOYMENT POINTS

16

PLAN FST ROUTING TO AVOID PLUME

17

DETERMINE NUMBER OF TEAMS TO INITIALLY DEPLOY

18

#2

CONTACT PSTL FOR PERSONNEL SAFETY MEASURES

19

ADVISE DATL OF SAMPLE TEAM DEPLOYMENT PLAN

20

BRIEF EACH FST PRIOR TO DEPLOYMENT AND COMPLETE ATTACHMENT TITLED, "BRIEFING C.O.L."

21

DEPLOY TEAMS TO INITIAL LOCATIONS

22

PROVIDE GROUP STATUS TO DATL

23

B

LEGEND

DATL - DOSE ASSESSMENT TEAM LEADER
FST - FIELD SURVEY TEAM

NOTES & CAUTIONS

#2 THE EXPOSURE OF FSG MEMBERS SHALL BE LIMITED TO THE VALUES IN APPENDIX 1. EXPOSURE EXCEEDING THESE LIMITS SHALL BE AUTHORIZED BY THE ED PER ERP-670.

ATTACHMENT 1
FIELD SURVEY GROUP LEADER (FSGL) FLOW CHART
(Page 3 of 5)

CONTINUING ACTIONS

B

CONSIDER OBJECTIVES OF FST DEPLOYMENT IN MOVEMENT OF FST's

24 CONFER WITH DATL OFTEN

25 ADVISES AND BRIEFS FST's ON CHANGING CONDITIONS APPROXIMATELY EVERY 30 MINUTES

26 DIRECT FST TO SURVEY PLUME ALONG A SPECIFIED ROUTE AND DESIGNATE READING INTERVALS

27 DIRECT FST TO REMAIN IN LOW BACKGROUND AREA WHENEVER POSSIBLE

28 EVALUATE RESULTS AND PROVIDE TO DATL

29 COMPARE RESULTS TO DOSE PROJECTIONS

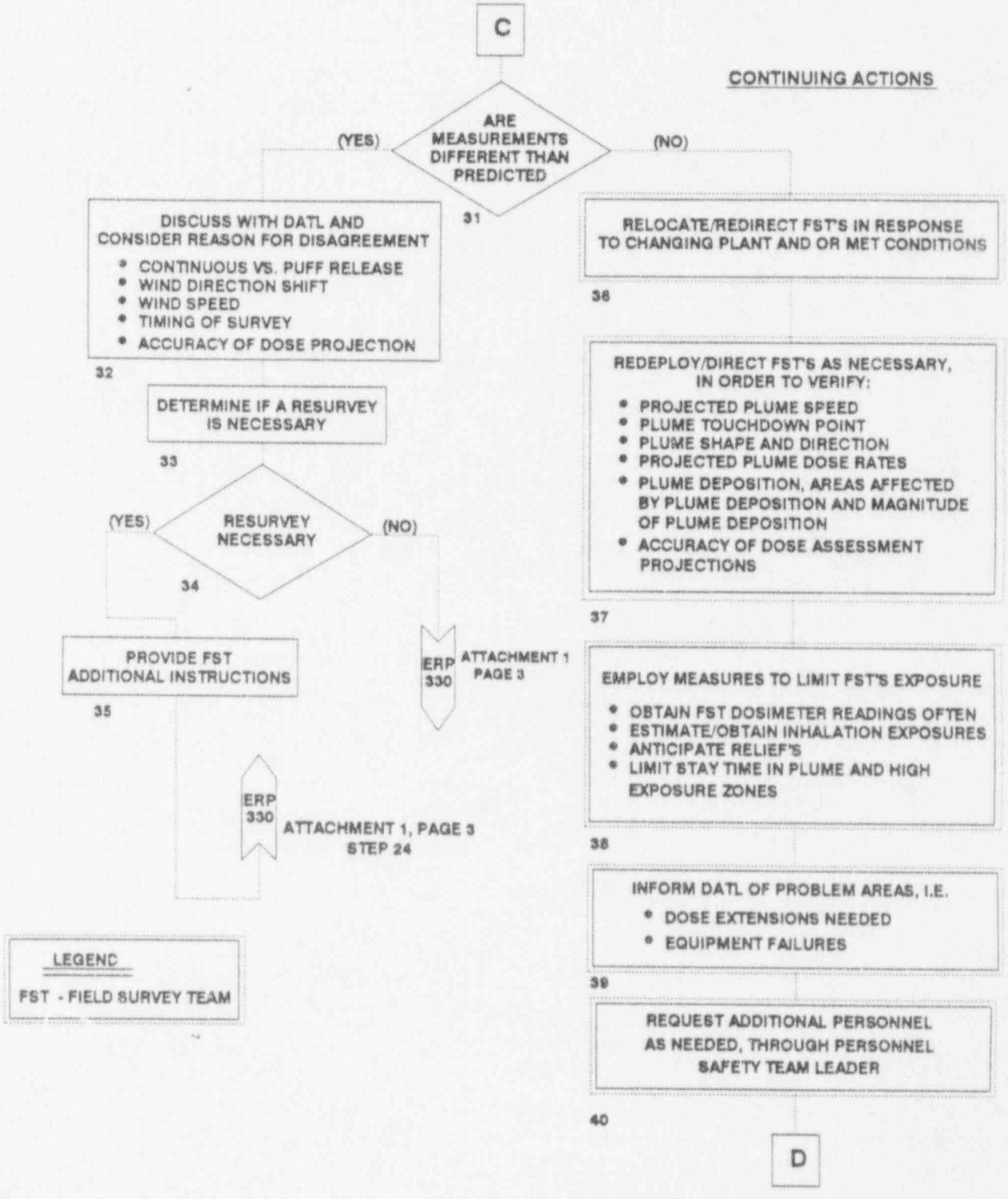
30

C

LEGEND

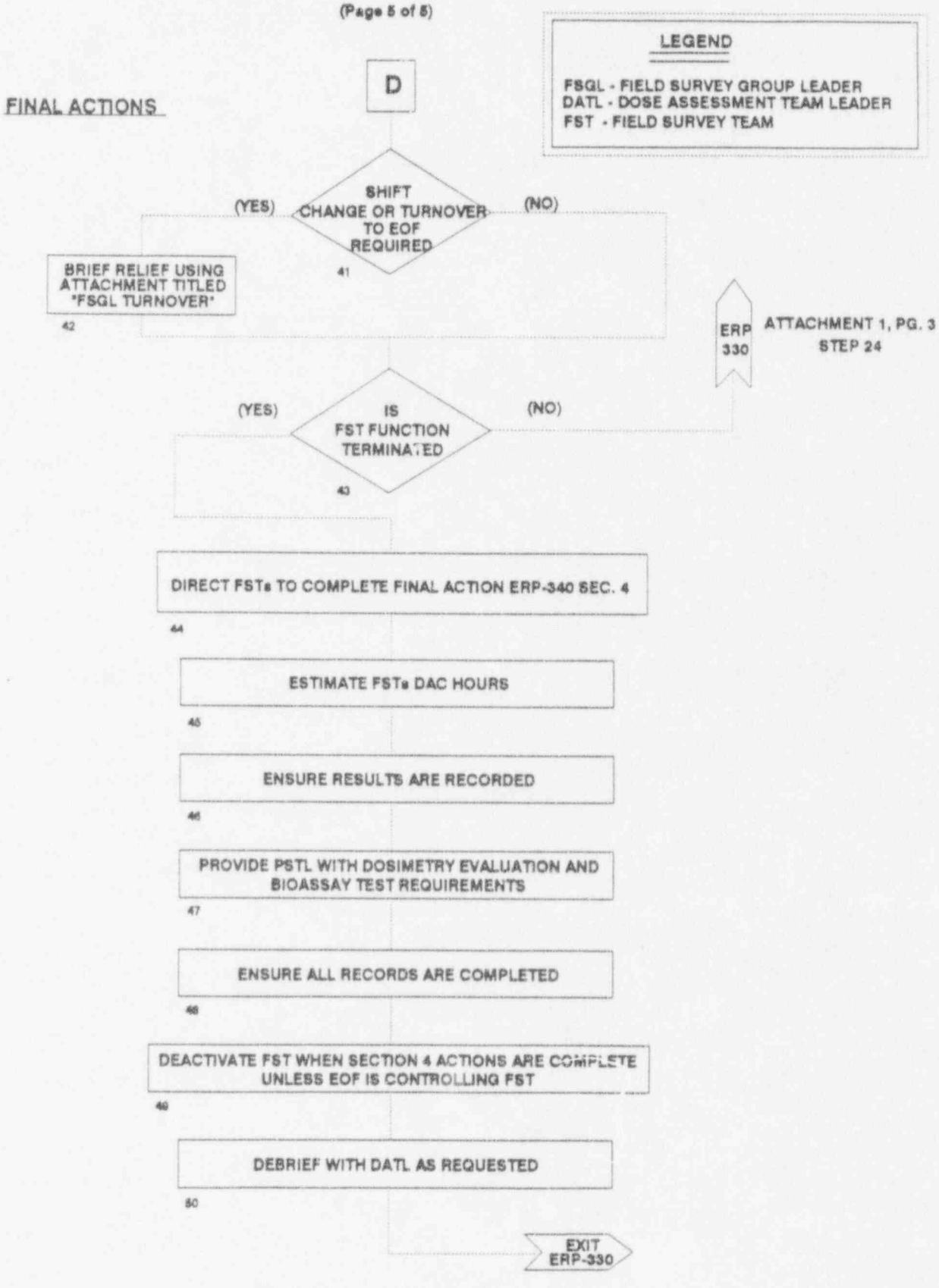
DATL - DOSE ASSESSMENT TEAM LEADER
FST - FIELD SURVEY TEAM

ATTACHMENT 1
FIELD SURVEY GROUP LEADER (FSGL) FLOW CHART
(Page 4 of 5)



ATTACHMENT 1
FIELD SURVEY GROUP LEADER (FSGL) FLOW CHART

(Page 5 of 5)



ATTACHMENT 2

BRIEFING C.O.L.

1. Team Check Out (for each team)

Survey Equipment Operational _____

Radio Check Satisfactory _____

Protective Clothing Available _____

DRD (200 mR & 5R) _____ Zeroed? _____

TLD _____

Backup phones TSC ext. 4295 EOF 215-380-3847

Vehicles checked out _____

Fuel Level Sat. _____

2. Team Briefing (for each team)

Plant Conditions _____

Meteorological Data _____

Release Date _____

Plume Boundaries _____

Dose Projections _____

Initial Deployment Location _____

ATTACHMENT 3

TURNOVER CHECKLIST

_____
DATE/TIME

1. Were teams requested? Y or N _____

2. Team Status

Team Color	Team Members	Current Quarterly Exposure	DAC/ Hours	Location	Checklist Complete
BLUE					
GREEN					
RED					
YELLOW					

NOTE

Checklist includes: Satisfactory checks for vehicle, instrument, emergency DRD and radio.

3. Release in progress? Y or N _____

4. Current meteorological date:

Time: _____

Windspeed: _____

Direction: From _____ To _____

Stability Class: _____

5. Dose Ratio: _____

6. Comments: _____

_____

_____

_____

ATTACHMENT 4

FIELD SURVEY GROUP LEADER DATA RECORD

NOTE

FIELD SURVEY TEAM SURVEYS/SAMPLES CRITERIA MAY BE MODIFIED USING YOUR DISCRETION BASED ON ACCIDENT CONDITIONS.

GROUP LEADER NAME _____
LOCATION: TSC OR EOF
DATE: _____

1	2	3	4	5	6	7	A	B
TEAM #	LOCATION	TIME	OPEN WINDOW WAIST (MR)	CLOSED WINDOW WAIST (MR)	SMEAR (CPM)	IODINE (W/O FILTER) UCI/CC	HIGHEST QTR. TEAM MEMBER EXPOSURE (MR)	PARTICULATE (FILTER) CPM

APPENDIX 1
FIELD SURVEY DATA SHEET

APPROVED BY: _____ 12/3/93
RESPONSIBLE SUPT./DATE

NOTE:
FULL SAMPLE/SURVEY IS REQUIRED FOR EACH SAMPLE LOCATION UNLESS OTHERWISE DIRECTED BY FIELD SURVEY GROUP LEADER.

Transmit numbered items and other data as requested without stating reading units.

1 SURVEY TEAM # _____ DATE _____

2 LOCATION _____

3 TIME _____

RADIATION MEASUREMENT

Instrument _____
Inst. # _____
Cal. Due _____
Note: GM Detector used up to 2 mr/hr

4 Open window _____ mr
5 Closed window _____ mr > Waist

Instrument _____
Inst. # _____
Cal. Due _____
Note: Ion Chamber used above to 2 mr/hr

CONTAMINATION MEASUREMENT
(Large Area Wipe)

Count in low background area

		Smear Location
6	_____ cpm	_____
6	_____ cpm	_____
6	_____ cpm	_____
6	_____ cpm	_____

AIR SAMPLE MEASUREMENT

Count in low background area

Time Off (approx.) _____ Time On _____

Particulate Iodine Cartridge

Background _____ cpm — Air Sampler # _____
Filter _____ cpm — Cal. Due _____
w/o Filter _____ cpm — Instrument _____
Volume _____ cu. ft. (12 cu. ft. or as directed) — Instrument # _____
Cal. Due _____

AIR SAMPLE CALCULATION

7 _____ uCi/cc = (Iodine Cartridge) $\frac{\text{NET CPM (CPM - BACKGROUND)}}{\text{SAMPLE VOLUME (FT.}^3\text{)}}$

CONVERSION FACTOR 9.05P7 $\frac{\text{CPM - CC}}{\text{FT.}^3\text{ - uCi}}$

CONVERSION FACTOR BASIS

A. Instrument Efficiency for I-131 = .15% cpm/dpm
B. Collection Efficiency = 96%
C. Conversion Factor cc to $ft.^3$ = 2.832P4 cc/$ft.^3$
D. Conversion Factor dpm to uCi = 2.22P6 dpm/uCi

EXPOSURE:
Driver DRD Reading _____ HP DRD Reading _____

Iodine DAC-hr = $\left(\frac{⑦\ \text{uCi/cc}}{2\ \text{NB}} \times \text{hours spent in plume} \right)$ + Previous DAC-hr

IF TEAM DAC-HR IODINE EXCEEDS 750, NOTIFY FSGL IMMEDIATELY.

A:\FL\340APP1

PECO ENERGY COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY RESPONSE PROCEDURE

APPROVED BY: [signature] 12/30/93
RESPONSIBLE SUPT./DATE

ERP-600 PERSONNEL SAFETY TEAM LEADER (PSTL)

1.0 RESPONSIBILITIES

1.1 Managing and Coordinating the Personnel Safety Teams.

1.2 Establishing safety measures for emergency workers to include radiation and inhalation exposure controls.

1.3 Reporting to the Emergency Director (ED).

COMM 6.4.1 1.4 If requested, providing a communicator on a dedicated phone line to the Nuclear Regulatory Commission (NRC).

1.5 Ensuring that habitability surveys are conducted for occupied facilities during emergency conditions.

2.0 INITIAL ACTIONS

NOTE: ATTACHMENT TITLED, "PSTL FLOW CHART" MAY BE USED AS A GUIDE FOR THE FOLLOWING ACTIONS.

2.1 The Personnel Safety Team Leader (PSTL) shall:

2.1.1 Report to the Technical Support Center (TSC).

2.1.2 Obtain a briefing from the Health Physics Shift Supervisor.

2.1.3 Obtain a briefing from the ED.

NOTE: THE PSTL DIRECTS ACTIVITIES OF THE PERSONNEL SAFETY TEAM GROUPS:

a. PLANT SURVEY GROUP (ERP-620)
b. VEHICLE AND EVACUEE CONTROL GROUP (ERP-640)

2.1.4 The PSTL shall contact each Group Leader and:

2.1.4.1 Obtain the status of the group.

2.1.4.2 Direct each group to activate and perform initial actions.

2.1.4.3 Provide each Group Leader information on:

a. Planned emergency activities

b. Plant conditions

c. Emergency classification

d. Protective action recommendations

e. Anticipated group activities and priorities

2.1.5 The PSTL shall request each Group Leader provide a status update when initial actions are complete and team is ready.

2.1.6 The PSTL shall:

2.1.6.1 Allocate and assign available HP personnel to the various group functions as necessary.

2.1.6.2 Assign individual(s), as necessary, to:

a. Assign an individual to perform habitability duties.

b. Man the TSC radiological status board.

c. Serve as Personnel Safety Team Communicators.

d. Act as a PSTL assistant.

e. If requested, provide a communicator to the NRC.

2.1.7 The PSTL shall direct the Status Board Keeper to obtain and post ARM readings and plant survey data as it becomes available.

2.1.8 When all Personnel Safety Team Group Leaders have reported back, brief the ED on staffing, readiness, initial actions and plant radiological conditions.

2.1.9 The PSTL shall confer with other Team Leaders and:

2.1.9.1 Provide them with facility radiological conditions.

2.1.9.2 Advise them of conditions which may affect their operations.

2.1.9.3 Advise them if their operations may impact adversely on personnel radiological safety.

2.1.9.4 Remain cognizant of planned activities of other teams.

2.2 The person assigned habitability duties shall:

2.2.1 Initial habitability check including radiation and contamination surveys as necessary.

2.2.2 Initiate operation of habitability monitoring equipment.

NOTE: INITIATING OPERATION REQUIRES PHYSICAL INSPECTIONS, RESPONSE CHECKS AND CALIBRATION VERIFICATION.

2.2.3 Set radiation and airborne contamination equipment alarms to the desired set points.

2.2.4 Complete attachment titled, "Habitability Check-Off List".

2.2.5 Record survey results on attachment titled, "Habitability Status Log Sheet".

2.2.6 Notify Team Leader of habitability survey results.

2.2.7 Upon notification of alarms:

2.2.7.1 Proceed to the affected area.

2.2.7.2 Take action to mitigate the effects of any condition impacting on the immediate health and safety of personnel occupying the effected area.

2.2.7.3 Perform radiation, contamination and air sampling, as required.

2.2.7.4 Report results and any actions taken to the PSTL.

2.2.7.5 Complete plant survey forms.

2.2.7.6 Enter results on attachment titled, "Habitability Status Log Sheet".

2.2.7.7 Continue habitability surveys in the area at intervals specified by the Team Leader.

3.0 CONTINUING ACTIONS

3.1 If an evacuation is ordered, the PSTL shall:

3.1.1 Assign or direct PSGL to assign qualified individual to assume Vehicle and Evacuee Control Group Leader duties (V&ECGL).

3.1.2 Determine appropriate evacuation assembly area.

3.1.3 Determine if vehicle/evacuee surveying will be necessary.

3.1.4 Brief the Vehicle and Evacuee Control Group Leader.

3.1.5 Direct the Vehicle and Evacuee Control Group Leader to implement ERP-640.

3.1.6 Coordinate this activity with the Security Team Leader (STL).

3.1.7 Advise the ED of the status of any evacuation.

3.2 IF search and rescue operations are initiated, THEN:

3.2.1 If time permits, estimate probable exposure of Medical Response Team members and establish exposure limits. If exposure may approach or exceed NRC limits, implement ERP-670, Emergency Radiation Exposure Guidelines and Controls.

3.2.2 Inform STL and Plant Survey Group Leader (PSGL) that utilization of emergency exits is permissible to decrease response time.

3.2.3 Coordinate entries with the STL and Technical Support Team Leader (TSTL).

3.3 IF a contaminated injured person is transported offsite THEN:

3.3.1 Establish contact with the appropriate off-site medical facility.

3.3.2 Verify that transported personnel arrive at the medical facility.

3.3.3 Notify ED of personnel arrival at medical facility.

3.4 The PSTL shall evaluate the need for inhalation exposure controls and evaluate the need for additional equipment and/or personnel to achieve the desired exposure controls.

3.4.1 IF elevated levels of radioiodine in air samples are identified, or if fuel damage has occurred, the PSTL shall evaluate use of Potassium Iodide (KI) for thyroid blocking by:

NOTE: KI TABLET PRIMARY INVENTORY IS MAINTAINED IN THE UNIT 1 FIRST FLOOR EMERGENCY RESPONSE EQUIPMENT ROOM'S MISCELLANEOUS EQUIPMENT LOCKER. THE TAKING OF KI TABLETS IS VOLUNTARY FOR EACH INDIVIDUAL INVOLVED.

3.4.1.1 Determining the need for administration of KI by completing Attachment 2, Potassium Iodide Worksheet of ERP-680, Control of Thyroid Blocking (KI) Tablets, for each individual entering an affected area.

3.4.1.2 Making recommendations to the ED when KI is needed and obtaining authorization in accordance with ERP-680 prior to administration.

3.4.1.3 Assigning Group Members(s) to complete attachments of ERP-680 and to administer the tablets.

****
*CAUTION: WHEN AIR PURIFYING RESPIRATORS ARE NECESSARY FOR ENTRIES, *
* REPLACE THE STANDARD FILTER CARTRIDGES WITH GMR-I PARTICULATE- *
* CHARCOAL-FILTER CANISTERS. SOME PROTECTION IS PROVIDED, *
* HOWEVER NO ADDITIONAL PROTECTION FACTOR SHALL BE CREDITED. *
****

3.4.1.4 Ensure that the KI is administered in the proper dosage and for the proper number of doses.

3.4.2 If additional services are determined to be required to support supplemental dosimetry issue, bioassay or respiratory protection, the PSTL shall:

3.4.2.1 Determine what services will be required.

3.4.2.2 Contact the Dosimetry Supervisor (Plant Services) and request any additional support that may be needed such as:

a. Assigning, retrieval, and processing dosimetric devices.

b. Reporting personnel exposures.

c. Coordinating and conducting whole body counting and bioassay.

d. Ensuring adequate supply of respiratory protection equipment to include filter respirators, SCBA tanks, operation of the respirator decon facility, respirator filters and iodine cartridges.

e. issuing supplemental dosimetry.

f. collection of bioassay samples.

g. processing and arranging for offsite analysis of bioassay samples.

3.5 When requested to establish exposure limits and personnel protective measures for entries into affected areas, the PSTL shall:

NOTES:

1. ALL EMERGENCY CONDITION ENTRIES TO POTENTIAL OR ACTUAL AFFECTED AREAS ARE TO BE PERFORMED WITH HP SUPPORT. THIS INCLUDES TRANSIT ON THE SITE, DISPATCH OF SECURITY PERSONNEL, AND OTHER PERSONNEL MOVEMENTS.

2. EXPOSURE IN EXCESS OF PBAPS ADMINISTRATIVE EXPOSURE LIMITS REQUIRE AUTHORIZATION IN ACCORDANCE WITH ERP-670, "EMERGENCY RADIATION EXPOSURE GUIDELINES AND CONTROLS".

3.5.1 Obtain and evaluate radiological conditions.

3.5.2 Inform the ED when radiological conditions may interfere with a planned entry.

3.5.3 Verify exposure limits and corresponding stay times for work are established.

3.5.4 Inform the Plant Survey Group Leader (PSGL) of:

a. Planned activities

b. Plant status

c. Priority of activities

3.5.5 Consider radiological conditions and how changes in plant status will effect those conditions.

3.5.6 Inform the ED of significant exposures, uptakes, or skin contamination problems which have occurred during entries.

3.6 If services are required of the Plant Survey Group, the PSTL shall:

3.6.1 Provide the PSGL with the areas to be surveyed or HP coverage requirements.

3.6.2 Direct the PSGL to have surveys performed or HP coverage assigned.

3.6.3 Direct the PSGL to have status and results of the surveys reported to the TSC on a periodic basis.

3.6.4 Maintain periodic communication with the PSGL.

3.7 If notified of a fire, the PSTL shall:

****
*
*WARNING: A FIRE IN A RADIOLOGICALLY CONTROLLED AREA MAY CREATE AN *
* UNMONITORED RELEASE OF AIRBORNE RADIOACTIVITY. *
*
****

3.7.1 Ensure HP coverage at the fire site.

3.7.2 Advise the Dose Assessment Team Leader (DATL) that a fire situation exists.

3.8 When requested to perform an exposure authorization evaluation, the PSTL shall:

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

3.8.1 Review all requests for emergency exposure in excess of PBAPS Administrative limits and prepare documentation for approval of the ED in accordance with ERP-670.

3.8.2 Forward the documentation, together with recommendations, to the ED.

3.8.3 Notify the PSGL of approval.

3.8.4 Ensure that each exposure in excess of guides or regulatory limits is promptly brought to the attention of the ED.

3.9 The PSTL shall, on a continuing basis:

3.9.1 Brief the ED on:

a. Personnel Safety Team actions

b. Radiological problems

c. Personnel injuries

d. Medical transports

e. Site evacuation status

3.9.2 Evaluate need for additional support personnel for shift coverage.

3.9.2.1 Initiate call in or request additional personnel from ED as necessary.

3.9.3 Remain cognizant of all plant and on-site radiological conditions.

3.9.4 Consult with Industrial Risk Management representative in assessing any non-radiological hazards.

3.9.5 Review habitability status and trends for all site emergency facility locations and compare survey results with attachment titled, "Habitability Guidelines Essential Facilities".

3.9.6 Consider the effect of plant conditions on continued habitability.

3.9.7 Evaluate the need for implementation of additional protective measures.

3.9.8 Coordinate on-site resource support.

3.9.9 IF offsite medical assistance has been requested THEN notify the Control Room AND hospital as additional information becomes known or changes develop in the medical and/or

radiological condition of the injured.

3.10 Upon relief, provide turnover briefing covering:

a. Radiological data

b. Personnel injury and contamination information

c. Task assignments

d. Number of HP personnel available and their assignments

e. Site Evacuation status

f. Problem areas

g. Requirements for manpower and equipment

3.11 Personnel Safety Team Member conducting habitability surveys shall:

3.11.1 Conduct surveys at frequency specified by Team Leader and in accordance with attachment titled, "Habitability Check-Off List".

3.11.2 Report results to the Team Leader.

3.11.3 Record results on attachment titled, "Habitability Status Log Sheet".

3.11.4 Continue periodic checks in accordance with attachment titled, "Habitability Check-Off List".

4.0 FINAL CONDITIONS

4.1 If ordered to deactivate the Personnel Safety Team, the PSTL shall:

4.1.1 Instruct group leaders to:

4.1.1.1 Enforce housekeeping measures.

4.1.1.2 Inventory supplies for replacement.

4.1.1.3 Collect and identify records for review and filing.

4.1.1.4 Return areas to non-emergency status or implement radiological control of areas as necessary.

4.1.2 Provide a list of required supplies to the Site Emergency Planning Coordinator.

4.1.3 Direct the Plant Survey Group Leader to:

4.1.3.1 Establish and define radiologically controlled areas in the facility.

4.1.3.2 Deactivate the Plant Survey Group.

4.1.4 Direct the Vehicle and Evacuee Control Group Leader to:

4.1.4.1 Complete decontamination of personnel, vehicles and equipment to procedural limits.

4.1.4.2 Terminate Site Evacuation preparations.

4.1.4.3 Deactivate the Vehicle and Evacuee Control Group function.

4.2 If any entries for emergency repair or operation were made, the PSTL shall ensure that:

4.2.1 Emergency repair and operation teams have completed duties and are accounted for.

4.2.2 Dosimetry devices are collected and are being evaluated.

4.2.3 Individuals involved in entries are being debriefed by HP personnel for evaluation and identification of follow-up actions.

4.3 If Emergency Radiation Exposure Guidelines and Controls were implemented, the PSTL shall:

4.3.1 Forward to the Medical Director information about all exposures, in excess of company guides or NRC limits.

4.3.2 Ensure that each exposure evaluation and report on the exposures in excess of NRC limits emergency exposure includes all sections of ERP-670, "Emergency Exposure Authorization Form". These reports shall be completed in accordance with 10CFR20.2203 and forwarded to the Engineer-In-Charge, Licensing, for submittal to the NRC.

4.3.3 Ensure that all emergency exposure data are forwarded for incorporation into the radiation exposure records.

4.3.4 Ensure that all personnel are notified about their exposure.

4.3.5 Ensure that appropriate supervisory personnel are notified about any exposure restrictions for these individuals.

4.4 In the event that KI tablets were administered, the PSTL shall:

4.4.1 Forward KI Administration Record Forms to the MD.

4.4.2 Retain KI Worksheets for records management.

4.4.3 Ensure that KI Consent Forms and Instructions and Record Sheets for persons receiving KI are retained for records management.

4.4.4 Ensure the ED has been notified of all persons who received KI.

4.5 Direct the Habitability Tech to:

4.5.1 Secure all operating equipment

4.5.2 Return all monitoring equipment to it's proper location

4.5.3 Collect and turn over all attachments and forms to the PSTL.

5.0 ATTACHMENTS AND APPENDICES

5.1 Attachment 1 - "Personnel Safety Team Leader (PSTL) Flow Chart"

5.2 Attachment 2 - "Habitability Check-Off List"

5.3 Attachment 3 - "Habitability Status Log Sheet"

5.4 Attachment 4 - "Habitability Guidelines Essential Facilities"

6.0 SUPPORTING INFORMATION

6.1 PURPOSE

This procedure defines the duties, responsibilities and interfaces of the PSTL.

6.2 CRITERIA FOR USE

Portions of this procedure may be activated at any emergency event classifications, or at the discretion of the ED.

6.3 REFERENCES

6.3.1 Code of Federal Regulations, Title 10, Energy, Part 20 Standards for Protection Against Radiation

6.3.2 ERP-230, "Operations Support Center (OSC) Activation"

6.3.3 ERP-620, "Plant Survey Group"

6.3.4 ERP-640, "Vehicle and Evacuee Co[illegible] Group"

6.3.5 ERP-650, "Transport of Contamina[illegible]jury Off-Site"

6.3.6 ERP-660, "Entry for Repair and Operations"

6.3.7 ERP-670, "Emergency Radiation Exposure Guidelines and Controls"

6.3.8 ERP-680, "Control of Thyroid Blocking Potass[illegible]dine (KI) Tablets"

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

6.3.11 NUREG-0696, "Functional Criteria for Emergency Response Facilities"

6.3.12 Nuclear Emergency Plan

6.4 COMMITMENTS

6.4.1 Commitment number T00322

ATTACHMENT 1
PERSONNEL SAFETY TEAM LEADER (PSTL) FLOW CHART

(Page 1 of 14)

INITIAL ACTIONS

TSC ACTIVATION

PERSONNEL SAFETY TEAM LEADER

REPORT TO TSC

OBTAIN BRIEFING FROM SHIFT HP SUPERVISOR

RECEIVE BRIEFING FROM EMERGENCY DIRECTOR

ASSIGN TEAM MEMBERS AS NECESSARY TO PERFORM SUPPORT FUNCTIONS

BRIEF TEAM MEMBERS ON DUTIES AND RESPONSIBILITIES

HAS AN ON-SITE EVACUATION BEEN ORDERED OR EXPECTED

(NO)

(YES)

ERP 600 PAGE 6 OF ATTACHMENT 1

CONTACT EACH GROUP LEADER TO OBTAIN STATUS OF GROUP

#13

DIRECT GROUP LEADER TO ACTIVATE PER APPROPRIATE PROCEDURE

BRIEF EACH GROUP LEADER

REQUEST READINESS REPORT FROM EACH GROUP LEADER

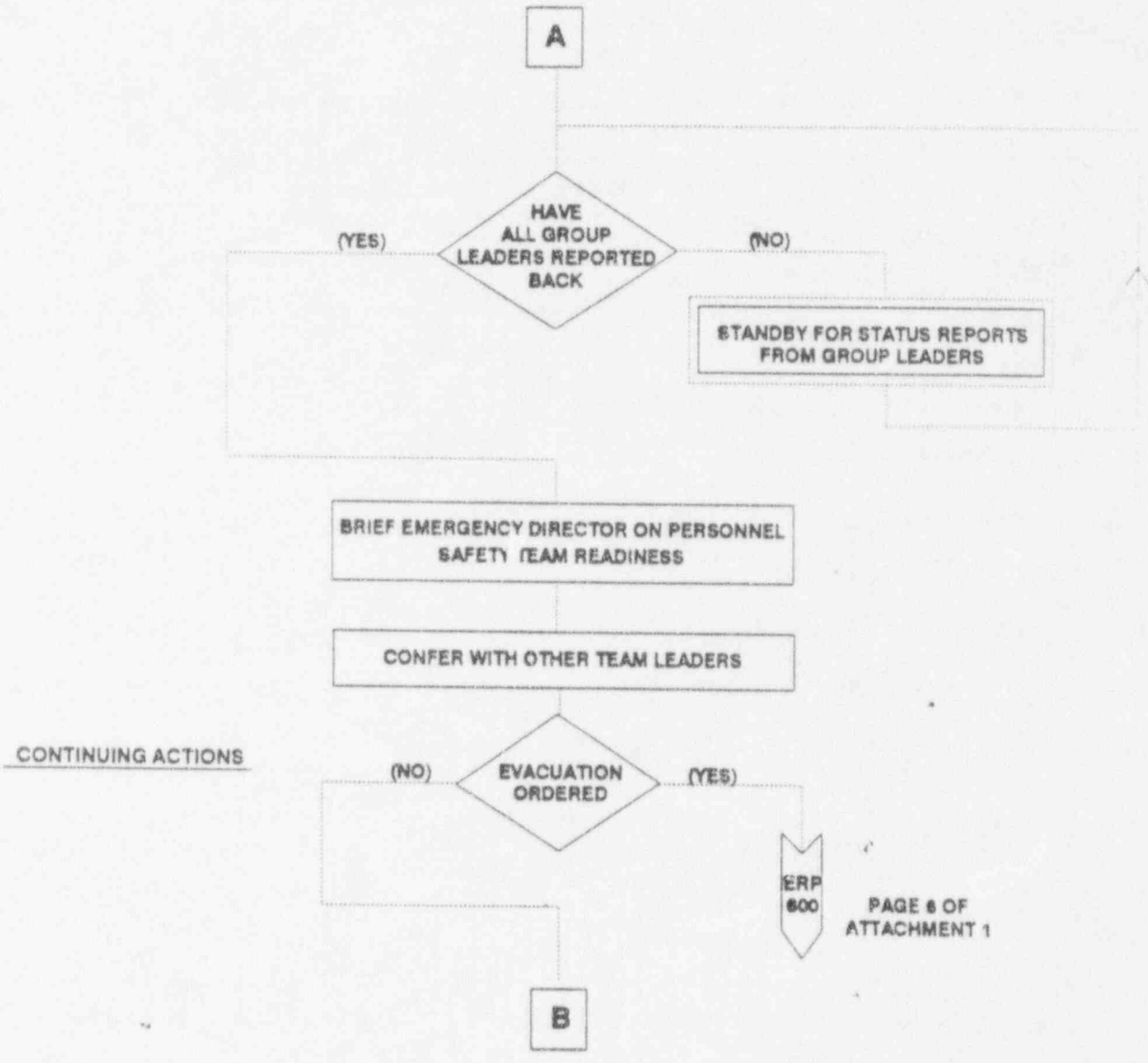
A

NOTES AND CAUTIONS

#13 THE PSTL IS RESPONSIBLE FOR ACTIVITIES OF THE PERSONNEL SAFETY GROUPS:

- PLANT SURVEY GROUP (ERP-620)
- EVACUATION ASSEMBLEY GROUP (ERP-640)

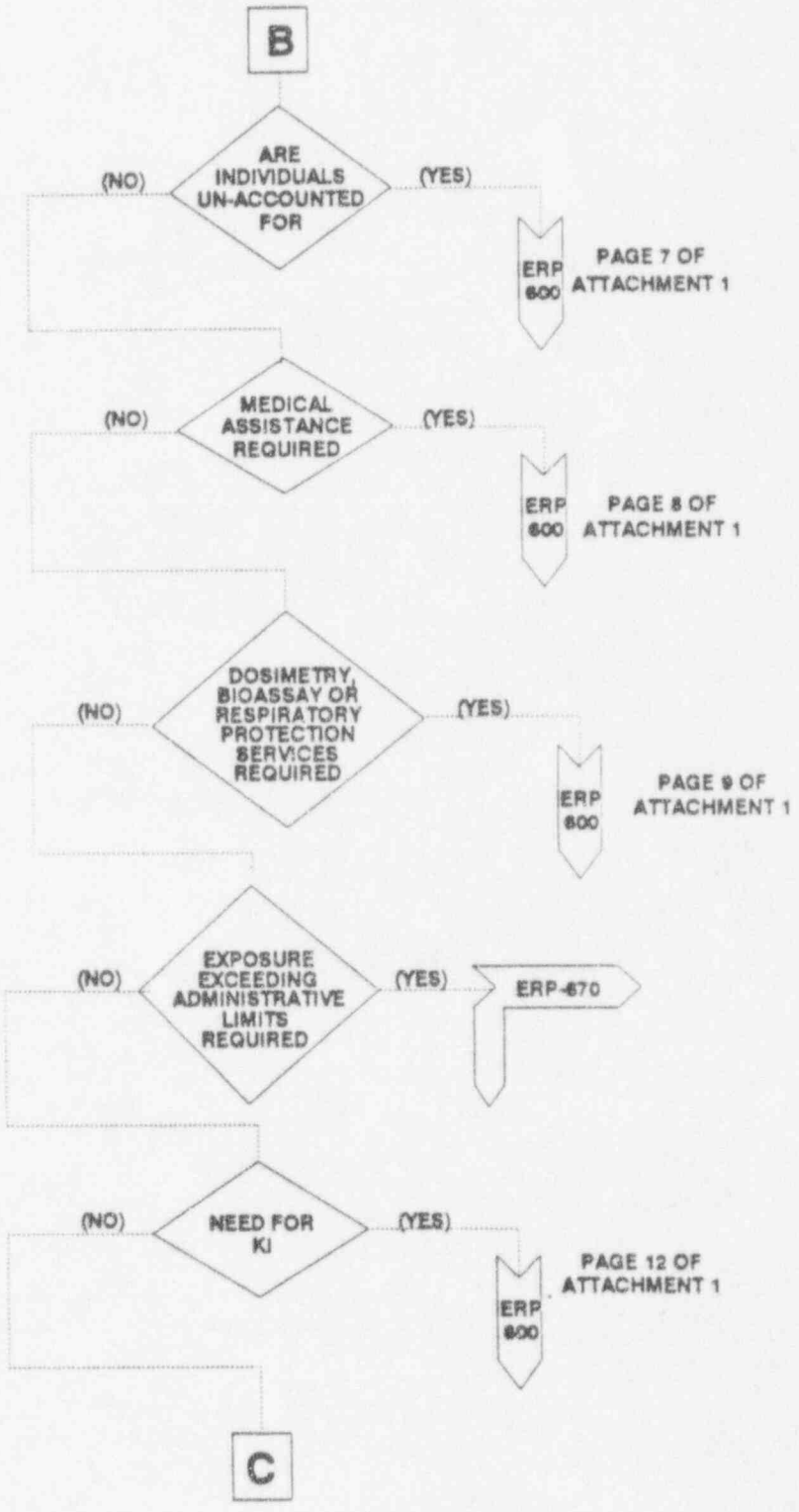
ATTACHMENT 1
PERSONNEL SAFETY TEAM LEADER (PSTL) FLOW CHART
(Page 2 of 14)



ATTACHMENT 1

PERSONNEL SAFETY TEAM LEADER (PSTL) FLOW CHART

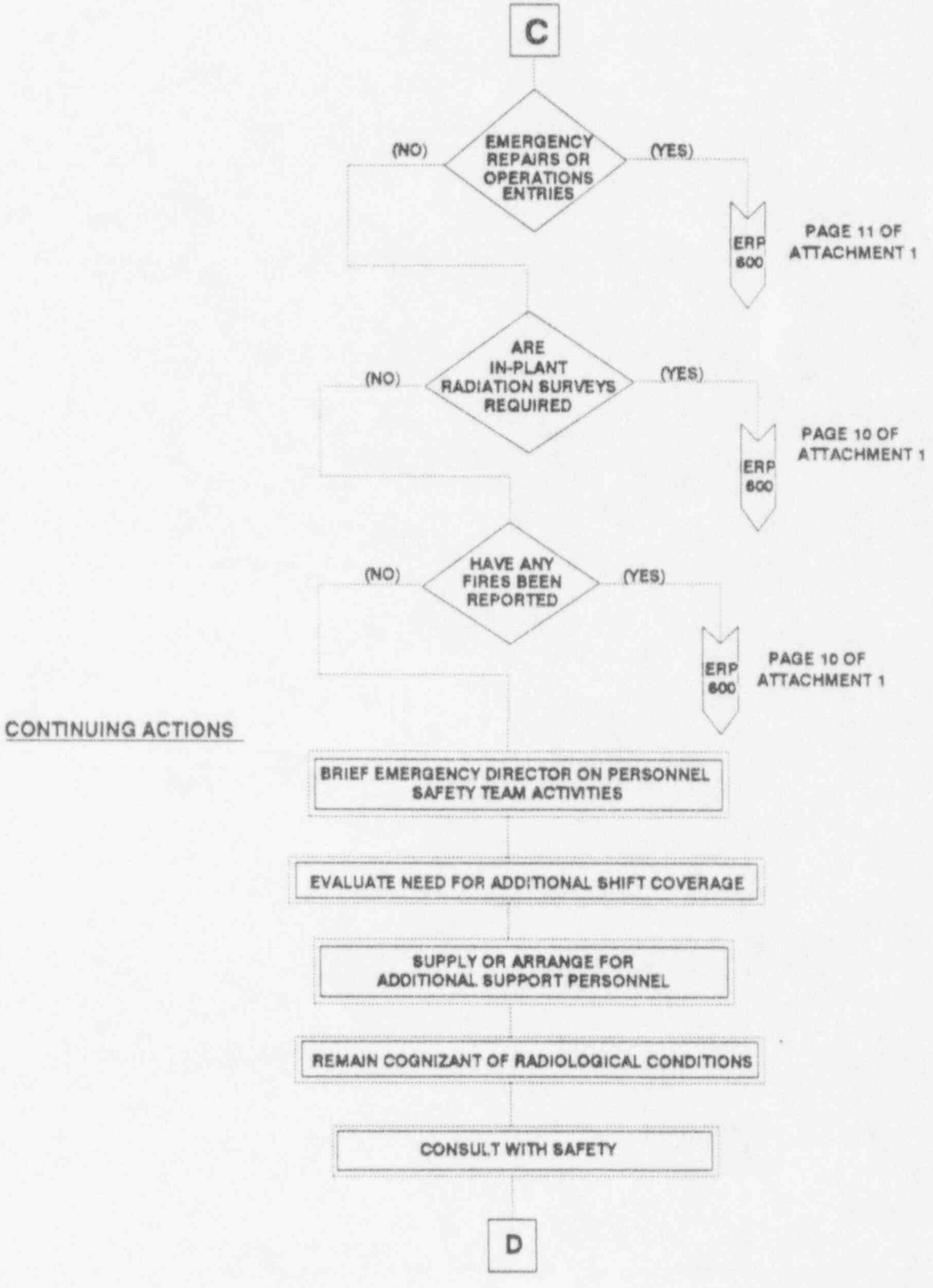
(Page 3 of 14)



ATTACHMENT 1

PERSONNEL SAFETY TEAM LEADER (PSTL) FLOW CHART

(Page 4 of 14)



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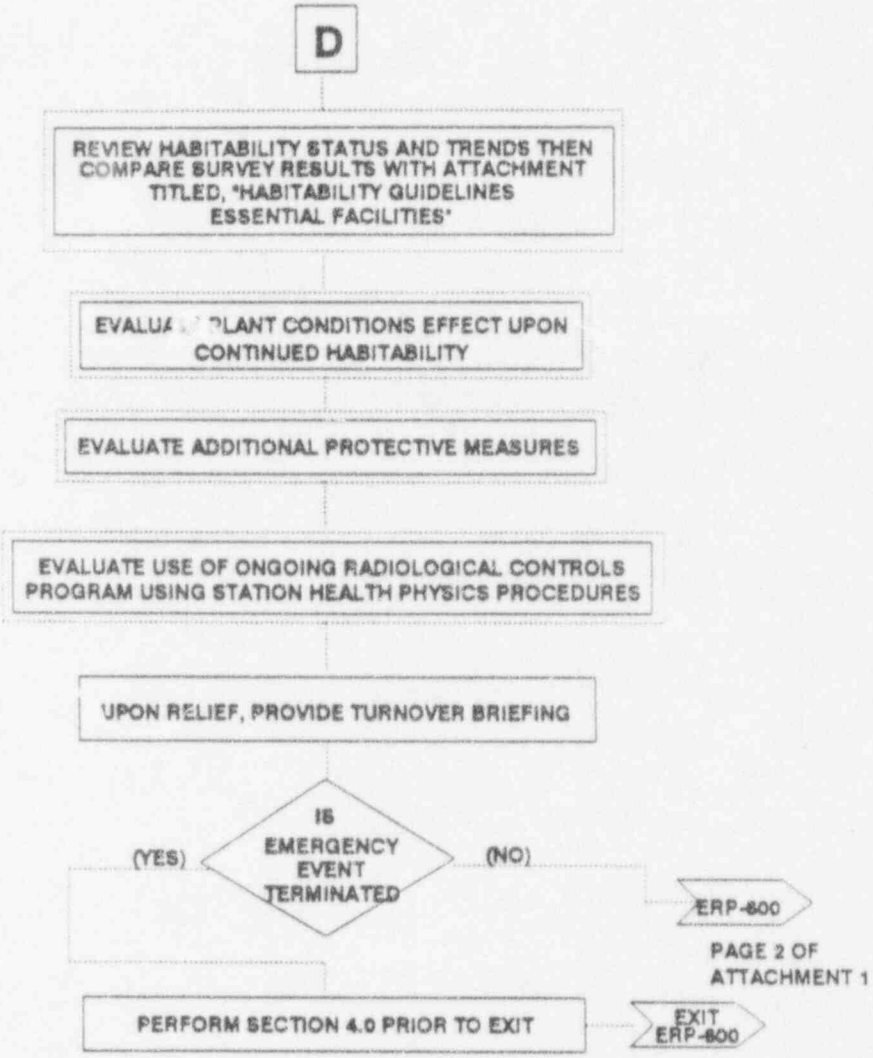
PERSONNEL SAFETY TEAM LEADER (PSTL) FLOW CHART
(Page 5 of 14)



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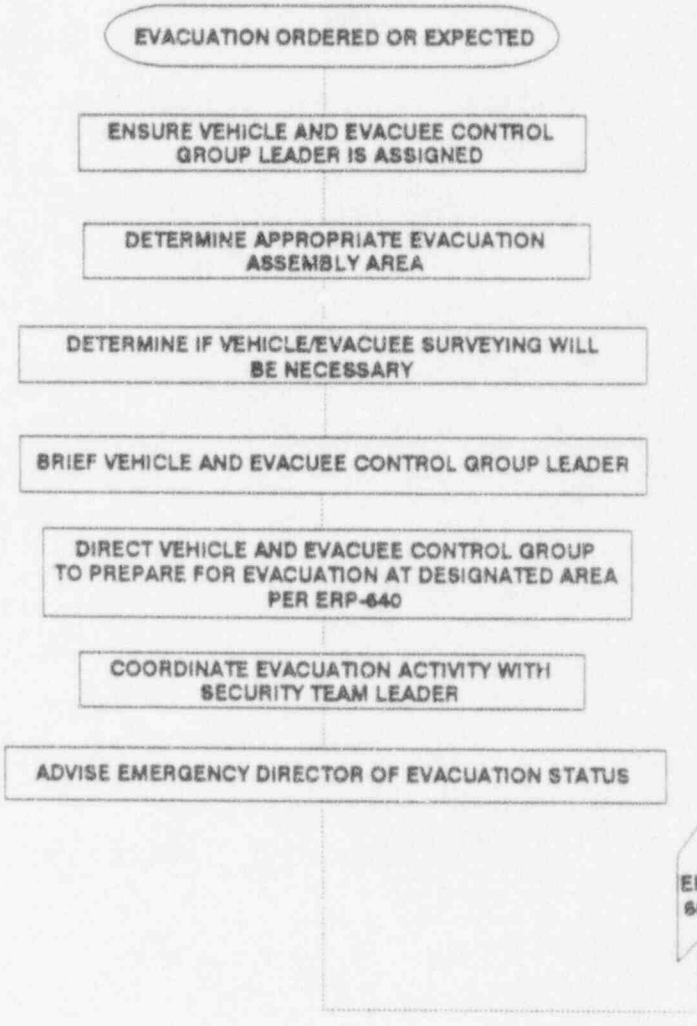
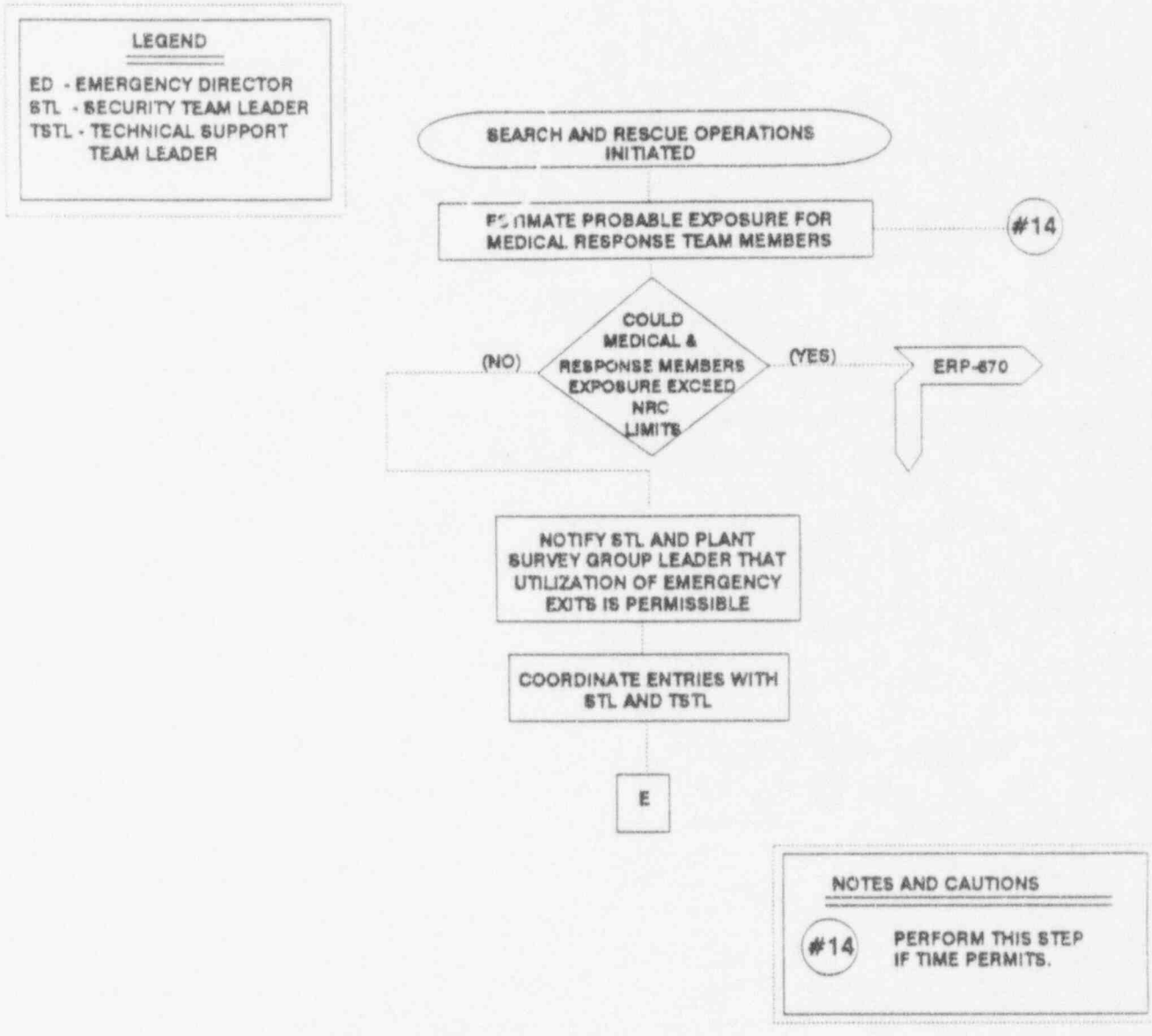
(Page 6 of 14)



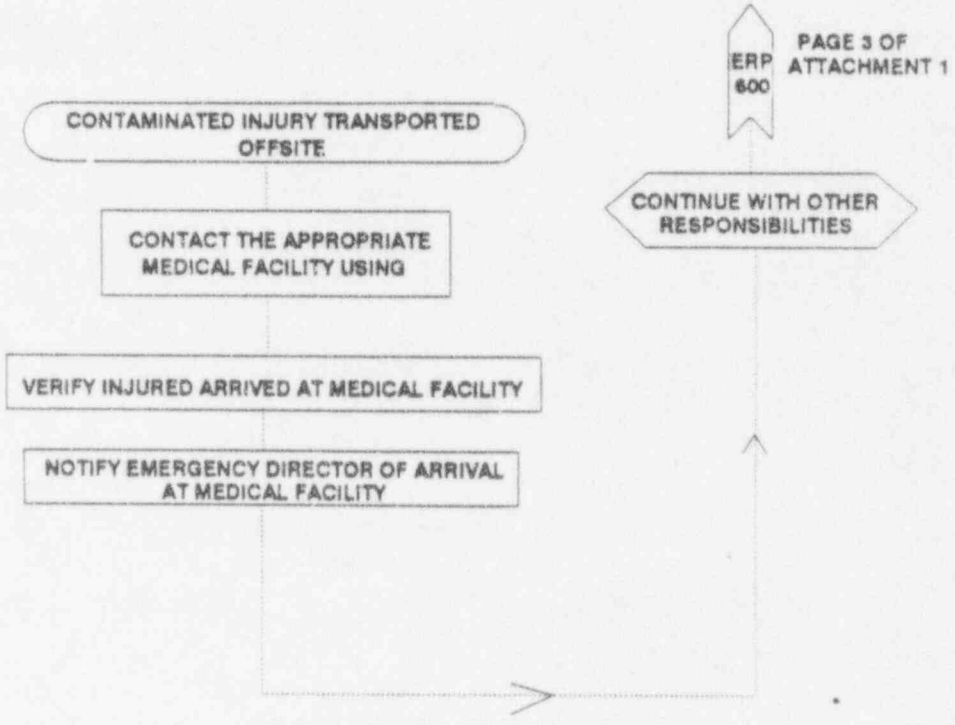
ATTACHMENT 1

PERSONNEL SAFETY TEAM LEADER (PSTL) FLOW CHART

(Page 7 of 14)



ATTACHMENT 1
PERSONNEL SAFETY TEAM LEADER (PSTL) FLOW CHART
(Page 8 of 14)



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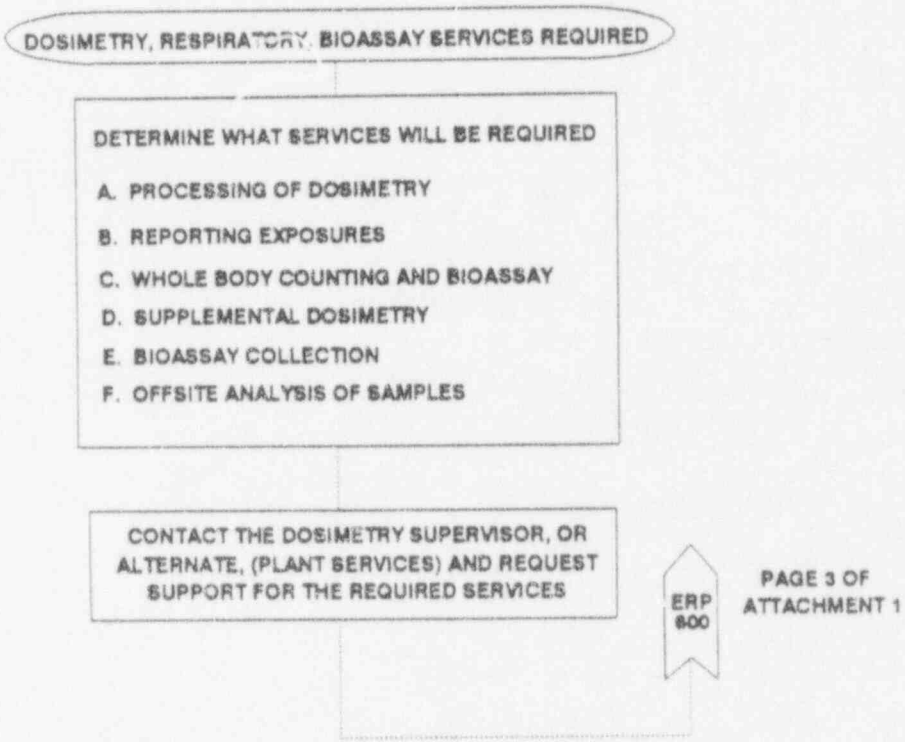
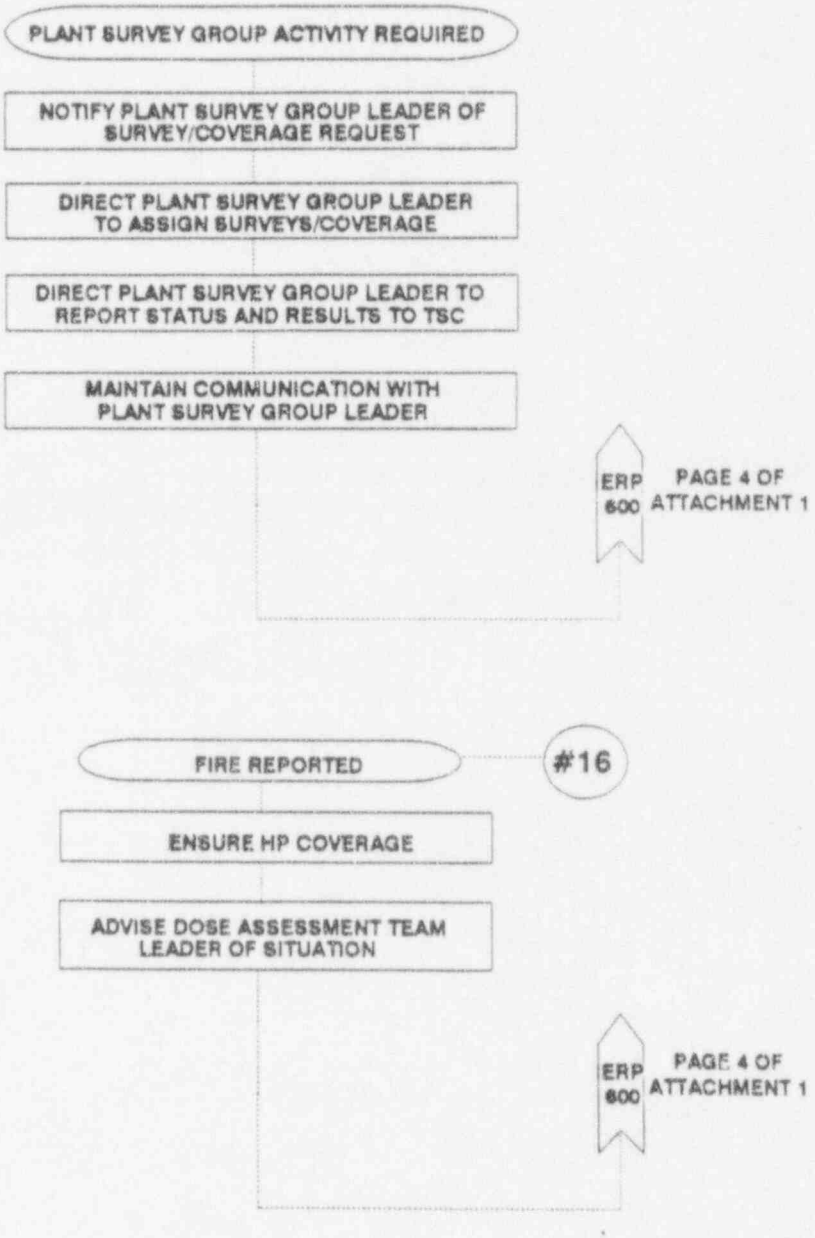
PERSONNEL SAFETY TEAM LEADER (PSTL) FLOW CHART
(Page 9 of 14)



ATTACHMENT 1
PERSONNEL SAFETY TEAM LEADER (PSTL) FLOW CHART

(Page 10 of 14)



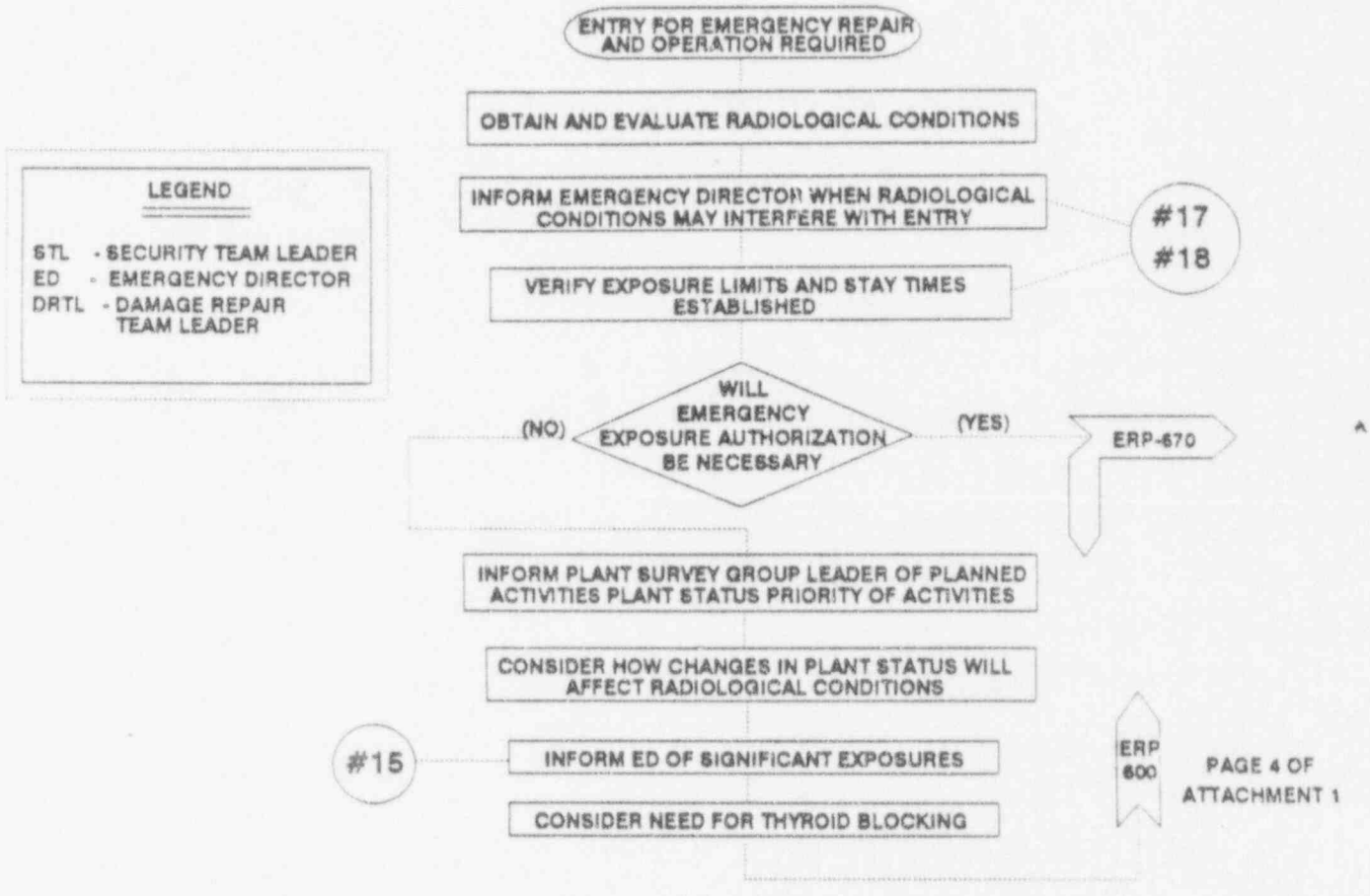
NOTES AND CAUTIONS

#16 A FIRE IN A RADIOLOGICAL CONTROLLED AREA MAY CREATE AN UNMONITORED RELEASE OF AIRBORNE RADIOACTIVITY.

ATTACHMENT 1

PERSONNEL SAFETY TEAM LEADER (PSTL) FLOW CHART

(Page 11 of 14)



NOTES AND CAUTIONS

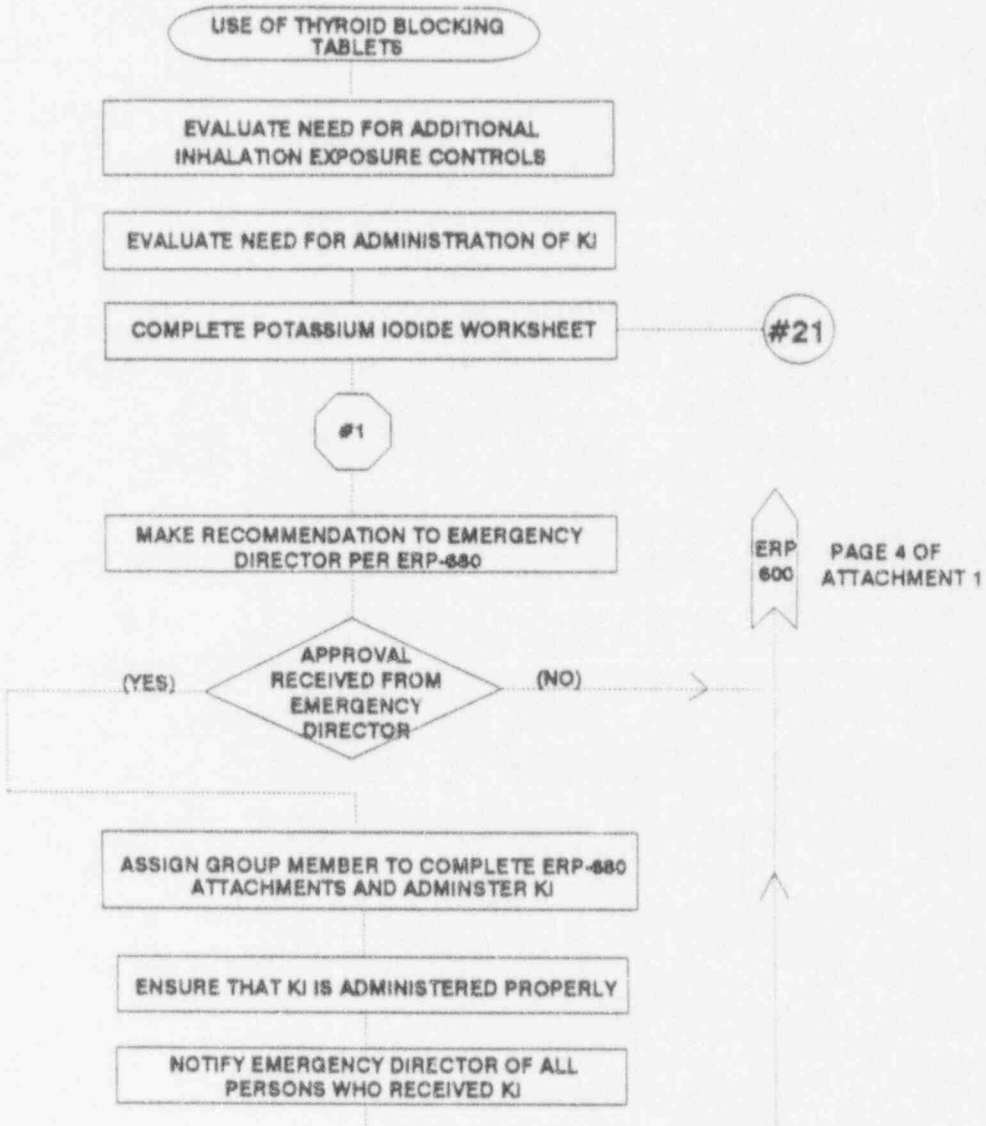
#15 SIGNIFICANT RESULTS INCLUDE EXPOSURE EXCEEDING 2 REM WHOLE BODY, 5 RADS SKIN, 10 REM EXTREMITIES.

#17 ALL EMERGENCY CONDITION ENTRIES TO POTENTIAL OR ACTUAL EFFECTED AREAS ARE TO BE PERFORMED WITH HP SUPPORT. THIS INCLUDES TRANSIT ON THE SITE, DISPATCH OF SECURITY PERSONNEL AND OTHER PERSONNEL MOVEMENTS.

#18 EXPOSURE IN EXCESS OF NRC QUARTERLY LIMITS SHALL BE AUTHORIZED IN ACCORDANCE ACCORDANCE WITH ERP-670, EMERGENCY RADIATION EXPOSURE GUIDELINE AND CONTROLS.

ATTACHMENT 1
PERSONNEL SAFETY TEAM LEADER (PSTL) FLOW CHART

(Page 12 Of 14)



NOTES AND CAUTIONS

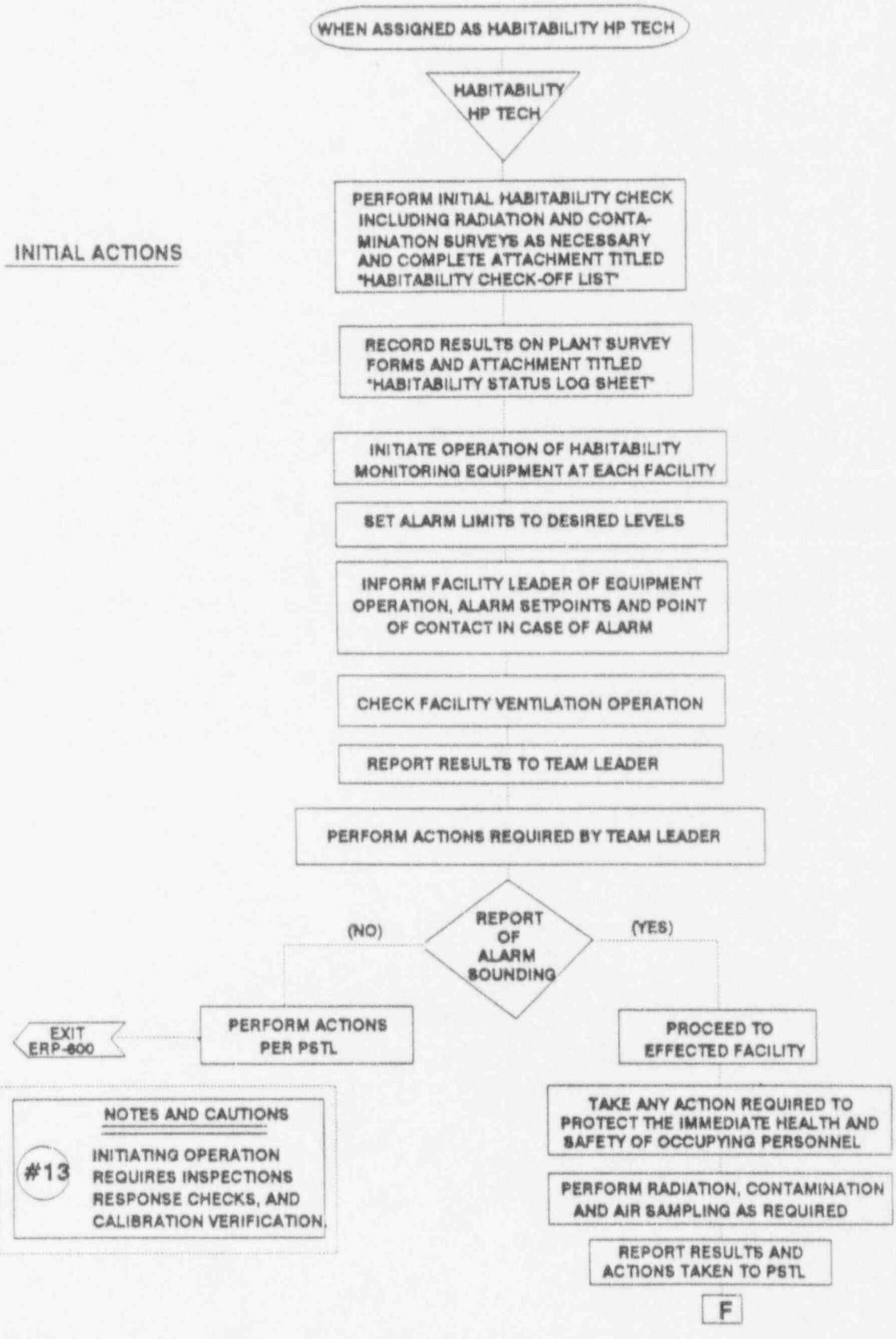
#21 THE TAKING OF POTASSIUM IODIDE (KI) TABLETS IS VOLUNTARY FOR EACH INDIVIDUAL INVOLVED.

#1 PERSONNEL HAVING KNOWN ALLERGIC REACTIONS TO IODINE SHOULD BE PROVIDED POTASSIUM IODINE ONLY IF ABSOLUTELY NECESSARY, AND ON SPECIFIC RECOMMENDATION OF THE EMD.

ATTACHMENT 1

PERSONNEL SAFETY TEAM LEADER (PSTL) FLOW CHART

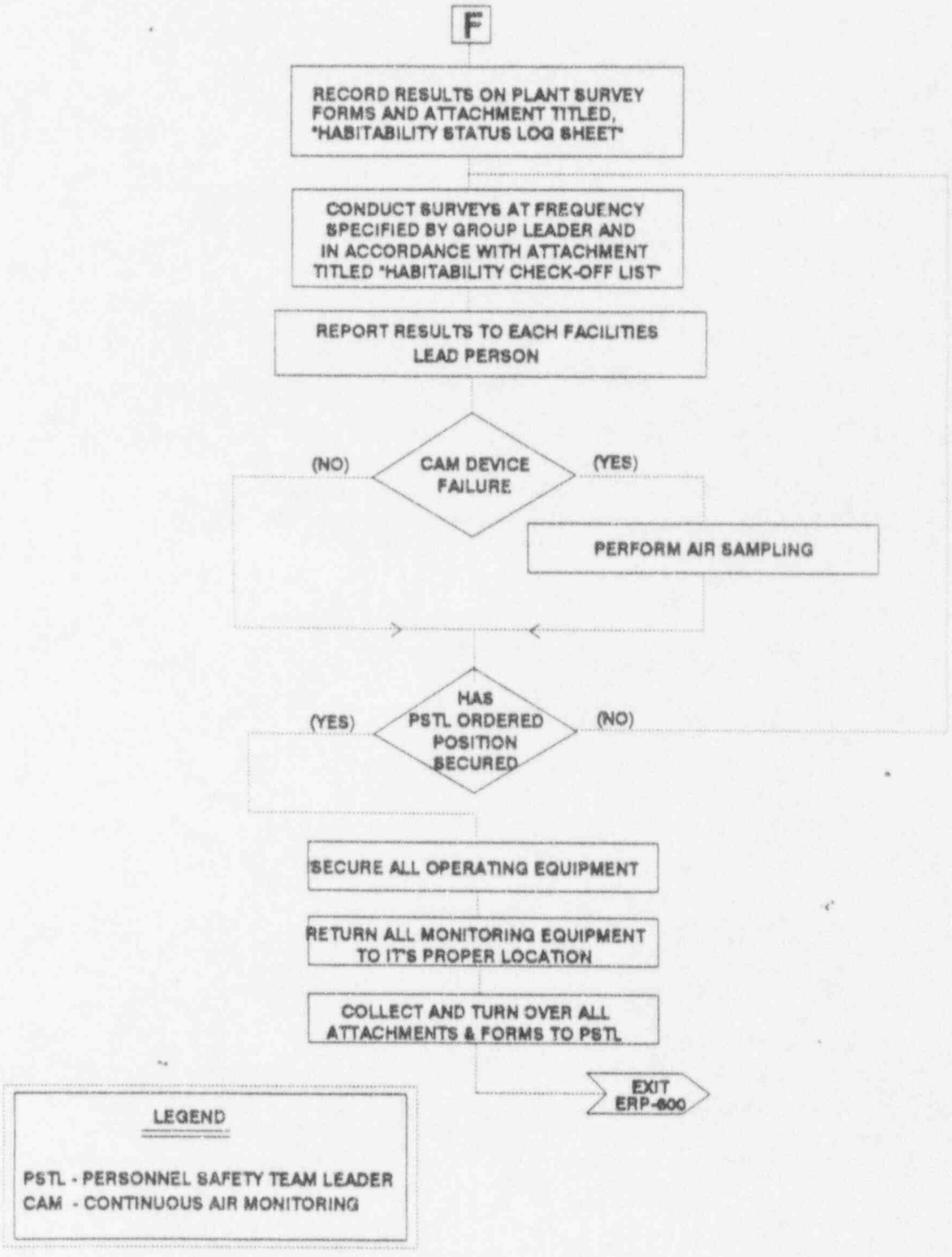
(Page 13 of 14)



ATTACHMENT 1

PERSONNEL SAFETY TEAM LEADER (PSTL) FLOW CHART

(Page 14 of 14)



ATTACHMENT 2

HABITABILITY CHECK-OFF LIST

HP Technician:_____ Date:_____

Instructions: Perform initial steps and note time completed.
Perform periodic steps and log on attachment titled, "Habitability Status Log Sheet".

	TIME
1. Perform initial radiation contamination surveys in TSC as necessary	_____
2. Activate/verify continuous air monitoring device operability and radiation monitoring device. (1st Floor)	_____
3. Activate/verify continuous air monitoring device operability and radiation monitoring device. (3rd Floor)	_____
4. Verify ventilation in recirculation mode	_____
5. Periodically check air-handler filters for loading and break-through	
6. Periodically perform contamination surveys at entrance to building and at the TSC entrance.	
7. Perform air samples if continuous air monitoring device is inoperable	

ATTACHMENT 3

HABITABILITY STATUS LOG SHEET

INSTRUCTIONS:

Provide updated logsheets to PSTL and indicate type as General Area (GA) or Specific (S). Identify Specific areas in remarks if different from General Area.

			SURVEY RESULTS		AIRBORNE ACTIVITY (uCi/cc)				
TYPE	TIME	LOCATION	RADIATION EXPOSURE (mR/hr)	CONTAMINATION (dpm/100 cm^2)	PARTICULATE	IODINE	NOBLE GAS	DAC PARTICULATE AND IODINE	REMARKS

ATTACHMENT 4

HABITABILITY GUIDELINES
ESSENTIAL FACILITIES

Values are approximate

RADIATION	ALERT	ACTION
Gamma Radiation (Whole Body)	50 mR/hour	500 mR/hour
Noble Gas (X3-133)	6 DACs 6N4 uCi/cc	50 DACs 5N3 uCi/cc
Particulate B-G (unidentified count)	6 DACs 1.8N8 uCi/cc	50 DACs 1.5N7 uCi/cc
Iodine (I-131)	6 DACs 1.2N7 uCi/cc	50 DACs 1N6 uCi/cc

PECO ENERGY COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY RESPONSE PROCEDURE

APPROVED BY: _____ 12/30/93
RESPONSIBLE SUPT./DATE

ERP-620 PLANT SURVEY GROUP

1.0 RESPONSIBILITIES

1.1 Plant Survey Group Leader (PSGL)

1.1.1 Reports to Operation Support Center (OSC).

1.1.2 Supports directives of the Emergency Director (ED) AND PSTL.

1.1.3 Directs AND coordinates activities of Plant Survey Group members.

1.1.4 Coordinates accident mitigation actions with the OSC Coordinator and Damage Repair Group Leader (DRGL).

1.1.5 Ensures timely relief of Plant Survey Group members.

1.1.6 Ensures radiological exposure tracking for personnel in OSC.

1.1.7 Ensures facilities habitability evaluations are performed.

1.2 Plant Survey Group Members (PSGM)

1.2.1 Performs OSC activation activities in accordance with ERP-230 AND as directed by PSGL.

1.2.2 Conducts plant surveys AND provides Health Physic (HP) coverage directed by PSGL.

1.2.3 Performs HP administrative functions assigned by the PSGL.

2.0 INITIAL ACTIONS

NOTE: ATTACHMENT TITLED, "PLANT SURVEY GROUP LEADER (PSGL) FLOW CHART" MAY BE USED AS A GUIDE FOR THE FOLLOWING ACTIONS.

2.1 PSGL shall:

2.1.1 Report to Operations Support Center (OSC).

2.1.2 Coordinate
AND direct HP OSC activation actions per ERP-230,

2.1.3 Request plant status from DRTL.

2.1.4 Request initial response requirements from the PSTL.

2.1.4.1 Determine proper evacuation assembly area, base on current meteorological conditions, should an evacuation become necessary.

NOTE:

ADDITIONAL HEALTH PHYSICS INSTRUMENTATION SHOULD BE OBTAINED, AS NEEDED, FROM THE IN PLANT HEALTH PHYSICS INSTRUMENT AREA PRIOR TO PLANT CONDITIONS DEGRADING. THE EQUIPMENT SHOULD BE RELOCATED TO THE OSC OR OTHER STABLE PLANT AREA.

2.1.5 Assign PSGM(s) to:

2.1.5.1 Maintain exposure records using PIMS and/or Exposure Record Log (ERP-230), as appropriate.

2.1.5.2 Maintain status boards.

2.1.5.3 Maintain ARM status.

2.1.5.4 Respond with Medical Response Team.

2.1.5.5 Respond with Fire Brigade.

2.1.5.6 Conduct Habitability Surveys as necessary.

a. Control Room
b. Chemistry Lab/Counting Room
c. OSC
d. Guard House
e. Secondary Alarm Station (SAS)

2.1.6 Assign Operations HP Technician to Plant Survey Group.

2.1.7 Assign a PSGM to initiate set up of the evacuation assembly area in accordance with ERP-640.

2.1.8 Notify PSTL
AND DRTL:

2.1.8.1 HP Technicians available for assignment.

2.1.8.2 Personnel
AND equipment needs.

2.1.8.3 Results of habitability surveys.

2.1.9 Confer with DRTL

2.1.9.1 Planned accident mitigation activities.

2.1.9.2 Radiological conditions.

2.1.9.3 HP Support requirements.

2.1.10 Brief PSGM on:

2.1.10.1 Plant conditions.

2.1.10.2 Radiologically affected areas.

2.1.10.3 Proposed HP support activities.

2.1.11 Determine

2.1.11.1 Type(s) of survey information required.

2.1.11.2 Type(s) of surveys to be conducted.

2.1.11.3 Survey instrument(s) to be used.

2.1.11.4 Emergency Access routes
AND access requirements.

2.1.12 Discuss entries into affected area(s) with PSTL.

NOTE: PLANT SURVEYS SHOULD BE CONDUCTED IN CONJUNCTION WITH ENTRIES PERFORMED FOR OTHER PUPPOSES. ARM READING SHOULD BE USED IN LIEU OF PRE-ENTRY SURVEYS.

NOTE: IF INFORMATION IS UNAVAILABLE, THEN AIRBORNE IS PRESUMED PRESENT IN ALL AFFECTED AREAS OF PLANT.

2.1.13 Direct survey be conducted
OR HP coverage assigned to support DRTL
OR PSTL directives.

2.1.13.1 IF entry into affected area is required,
THEN take action per ERP-660, Entry for
Emergency Repair and Operations.

2.1.13.2 IF exposure exceeding Administrative limits is expected, THEN request Emergency Radiation Exposure limits authorization through PSTL.

2.1.13.3 Establish communication method(s) with PSGM(s).

a. Telephones
b. OMNI phones
c. Plant PA System
d. Radios

NOTE: ENTRIES WITHOUT HP ESCORT MAY BE APPROVED IF: a.) ENTRY IS OF SHORT DURATION AND WELL DEFINED IN TERMS OF RADIOLOGICAL HAZARD, LOCATION AND WORK TO BE PERFORMED. b.) EXPOSURE RATES < 100 mr/hr c.) ALARMING DOSIMETERS ARE UTILIZED

2.1.14 Dispatch squads to perform surveys in-plant OR on-site.

2.1.15 Dispatch group members to provide HP coverage for emergency task squads.

2.1.16 Appraise OSC Logbook Keeper of significant events OR communications to be recorded.

2.2 Group member assigned to maintain exposure records (RWP/Clerical Support) shall:

2.2.1 Obtain most recent respiratory protection, DAC hours and exposure records (whole body and extremity) via PIMS and/or printouts for each person.

2.2.1.1 Place a colored dot on each individual's dosimetry corresponding to their respiratory qualifications.

A. Yellow dot to signify current filter respirator use qualification and/or

B. Red dot to signify current SCBA use qualification.

2.2.2 Provide current exposure information to OSC personnel.

2.2.3 Maintain entries on PIMS and/or ERP-230 attachment titled, "Exposure Record Log" for each person.

2.2.3.1 Current quarter whole body AND extremity exposure.

2.2.3.2 Current DAC hours.

2.3 Group member assigned as HP Status Board Keeper shall:

2.3.1 Initiate and record on HP Status Board(s)

2.3.1.1 Date

2.3.1.2 Emergency classification

2.3.1.3 Initial radiological data

2.3.1.4 Group member assignments

2.3.1.5 Habitability survey results

2.3.2 Aid Plant Survey Group Leader by performing

2.3.2.1 Plant Survey Group communications (HP Communicator)

2.3.2.2 Group member survey squad assignments

2.4 Group member assigned as ARM Status Keeper shall:

2.4.1 Obtain initial set of ARM readings from CR. OR Personnel Safety Team Status Board Keeper (TSC).

2.4.1.1 Record on Appendix titled "ARM Status Log" if hardcopy data is unavailable.

2.4.2 Notify Plant Survey Group Leader of significant ARM readings.

2.4.3 Refer to plant floor plan maps for locations of affected ARM's.

2.5 WHEN directed by Plant Survey Group Leader, Plant Survey Group members assigned survey AND HP coverage shall:

2.5.1 Obtain survey instruments AND wrap in plastic for affected area entries as needed.

2.5.2 Participate in pre-entry briefings from Plant Survey Group Leader

2.5.3 Check communications before leaving assembly area.

2.5.4 Log out with HP Status Board Keeper.

2.5.5 Question squad members:

2.5.5.1 Location of task.

2.5.5.2 Route to worksite.

2.5.5.3 Task to be accomplished.

2.5.5.4 Exposure limits are known
AND understood.

2.5.6.5 Tools
AND equipment required are available

NOTE:
RESPIRATOR QUALIFICATIONS CAN BE VERIFIED BY REFERENCING THE COLORED DOT(S) ON INDIVIDUAL'S PERSONNEL DOSIMETRY.

2.5.7 Ensure squad members are:

2.5.7.1 Properly clothed.

2.5.7.2 Equipped with proper dosimetry.

2.5.7.3 Equipped with proper respiratory protection.

2.5.8 Ensure one squad member is equipped with lapel air sampler
OR another means of air sampling is available.

2.5.9 Make entry
AND perform continuous dose rate surveys.

2.5.9.1 IF radiation measurements exceeds
limits set by Group Leader
OR range of instrument,
THEN return to low radiation area
AND notify Group Leader.

2.5.10 WHEN worksite is attained,
THEN conduct rapid survey
AND exposure estimates.

2.5.10.1 Determine maximum stay time.

2.5.10.2 Notify squad members.

2.5.11 Monitor actions which could result in changing radiological conditions.

2.5.12 IF significant changes in work area radiological conditions occur,
THEN inform Plant Survey Group
AND squad members.

2.5.13 Ensure air sample of work area is obtained.

2.5.14 Keep track of individuals exposure during entries.

2.6 Plant Survey Group members conducting habitability surveys shall

2.6.1 Complete Attachment titled "Plant Survey Habitability Check-Off List".

2.6.1.1 Complete plant survey forms.

2.6.1.2 Enter results on appendix titled "Habitability Status Log Sheet".

2.6.1.3 Report results to Group Leader.

2.6.2 Upon notification of alarms:

2.6.2.1 Proceed to the affected facility.

2.6.2.2 Take action to mitigate the effects of any condition impacting on the immediate health and safety of personnel occupying the effected facility.

2.6.2.3 Perform radiation, contamination
AND air sampling as required.

2.6.2.4 Report results
AND any actions taken to the
PSGL.

2.6.2.5 Complete plant survey forms.

2.6.2.6 Enter results on appendix titled "Habitability Status Log Sheet".

3.0 CONTINUING ACTIONS

3.1 PSGL shall:

3.1.1 Report radiological
AND personnel exposure status to PSTL.

3.1.2 Evaluate survey results
AND ARM reading trends.

3.1.3 Direct establishment of contamination control points
AND radiation postings.

3.1.4 Periodically review OSC personnel exposure status.

3.1.4.1 IF Administrative limit may be exceeded, THEN request emergency exposure limit authorization through PSTL.

3.1.5 Evaluate emergency facility habitability using appendix titled, "Habitability Guidelines - Essential Facilities".

3.1.5.1 Establish frequency for habitability surveys as necessary.

3.1.6 Coordinate accident mitigation actions with DRTL

3.1.7 IF contaminated injured must be sent to hospital, THEN assign an HP Technician to escort injured in ambulance
AND an HP Technician to provide contamination control control at hospital.

3.1.8 Periodically brief OSC personnel on plant radiological conditions.

3.1.9 IF accident conditions appear long term, THEN request PSTL provide relief personnel.

3.1.10 IF augment personnel are required, THEN request from PSTL.

3.1.11 IF OSC becomes uninhabitable, THEN move Plant Survey Group Backup OSC per ERP-230.

3.1.12 IF required to leave OSC temporarily, THEN delegate duties to HP Status Board Keeper.

3.1.13 IF requested by the PSTL, assign a PSGM to act as a group leader for the Vehicle and Evacuee Control Group and institute actions per ERP-640.

3.2 RWP/Clerical Support shall:

3.2.1 Update OSC Personnel exposure records.

3.2.2 IF OSC personnel approach exposure limits, THEN notify PSGL.

3.2.3 Provide clerical support, as required.

3.3 HP Status Board Keeper shall:

3.3.1 Maintain HP Status Board.

3.3.1.1 Habitability survey results as appropriate.

3.3.1.2 Plant survey results.

3.3.1.3 Posting time survey(s) performed.

3.3.1.4 Posting squad assignments
AND time of departure from OSC.

3.3.1.5 Listing request for surveys
AND HP support.

3.3.2 Aid PSGL.

3.3.2.1 Plant Survey Group communication.

3.3.2.2 Group member assignments.

3.3.2.3 IF Group Leader leaves the OSC,
THEN assume Group Leader duties.

3.3.2.4 Perform duties assigned by Group Leader.

3.4 ARM Status Keeper shall:

3.4.1 Obtain
AND log ARM readings.

3.4.2 Inform PSGL of significant changes
OR trends noted.

3.4.3 Update Reactor Building
AND Turbine Building floor plan maps.

3.5 Plant Survey Group Members providing survey
AND HP coverage shall:

3.5.1 WHEN entry task is completed,
THEN:

3.5.1.1 Provide exposure data to RWP/Clerical
Support personnel.

3.5.1.2 Provide debriefing to PSGL.

3.5.1.3 Record survey results
AND abnormal plant conditions on survey forms.

3.5.2 IF PSGL directs,
THEN collect squad dosimetry for processing.

3.5.3 Submit survey forms to Group Leader.

3.5.4 Report instrument
OR equipment shortages.

3.5.5 Standby for additional assignments.

3.6 Plant Survey Group members conducting habitability surveys shall:

3.6.1 Conduct Habitability Surveys in facilities with changing conditions as indicated by instrument alarms.

3.6.2 Conduct surveys at frequency specified by Group Leader.

3.6.3 Report results to each facilities lead person
AND the Group Leader.

3.6.4 Record results on plant survey forms
AND Habitability Status Log.

4.0 FINAL CONDITIONS

4.1 PSTL directs Plant Survey Group secure.

4.2 PSGL implement OSC deactivation per ERP-230.

4.3 Plant Survey Group members implement OSC deactivation actions as directed by Group Leader.

5.0 ATTACHMENTS AND APPENDICES

5.1 Attachment 1 - "Plant Survey Group Flow Chart"

5.2 Attachment 2 - "Plant Survey Habitability Check-Off List"

5.3 Attachment 3 - "Habitability Guidelines Essential Facilities"

5.4 Appendix 1 - "Habitability Status Log Sheet"

5.5 Appendix 2 - "ARM Status Log"

6.0 SUPPORTING INFORMATION

6.1 PURPOSE

Establish actions guide for PSGL and Plant Survey Group members required during an emergency response.

6.2 CRITERIA FOR USE

Plant Survey Group will be activated when an event has been classified as an Alert, Site Emergency, or General Emergency, or at the discretion of the Emergency Director (ED).

6.3 SPECIAL EQUIPMENT

6.3.1 None

6.4 REFERENCES

6.4.1 Code of Federal Regulations, Title 10, Energy, Part 20, Standards for Protection Against Radiation

6.4.2 ERP-230, "Activation of Operations Support Center (OSC)"

6.4.3 ERP-600, "Personnel Safety Team Leader (PSTL)"

6.4.4 ERP-660, "Entry for Emergency Repair and Operations"

6.4.5 ERP-640, "Vehicle and Evacuee Control Group"

6.4.6 ERP-670, "Emergency Radiation Exposure Guidelines and Controls"

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

6.4.8 NUREG 0696, "Functional Criteria for Emergency Response Facilities"

6.4.9 Nuclear Emergency Plan

6.5 COMMITMENT ANNOTATION

6.5.1 None

ATTACHMENT 1
PLANT SURVEY GROUP FLOW CHART
(Page 1 of 12)

AT AN ALERT OR HIGHER EMERGENCY CLASSIFICATION OR WHEN PSTL DIRECTS ACTIVATION OF PLANT SURVEY GROUP

FLOW CHART STEPS BEGIN ON PAGE:
- PSGL – 1
- RWP/CS – 6
- HPSBK – 7
- ARM STATUS – 8
- PSGM HP COVERAGE – 9
- PSGM HAB – 12

PSGL

INITIAL ACTIONS

REPORT TO OSC

ACTIVATE OSC PER ERP-230 → ERP-230

REQUEST PLANT STATUS FROM DRTL

REQUEST INITIAL RESPONSE REQUIREMENTS FROM PSTL
- DETERMINE PROPER EVACUATION ASSEMBLY AREA BASED ON CURRENT METEOROLOGICAL INFORMATION

ASSIGN GROUP MEMBERS
- EXPOSURE RECORDS
- STATUS BOARDS
- MEDICAL RESPONSE TEAM
- HABITABILITY SURVEYS
  - CONTROL ROOM; OSC;
  - CHEMISTRY LAB/COUNT ROOM;
  - GUARD HOUSE; SECONDARY ALARM STATION
- ARMS
- FIRE BRIGADE

(# 1)

ASSIGN OPS HP TECH TO PSG

ASSIGN A PSGM TO INITIATE ACTIVATION OF THE EVACUATION ASSEMBLY AREA IN ACCORDANCE WITH ERP-640

NOTIFY PSTL AND DRTL OF GROUP STATUS

A

LEGEND

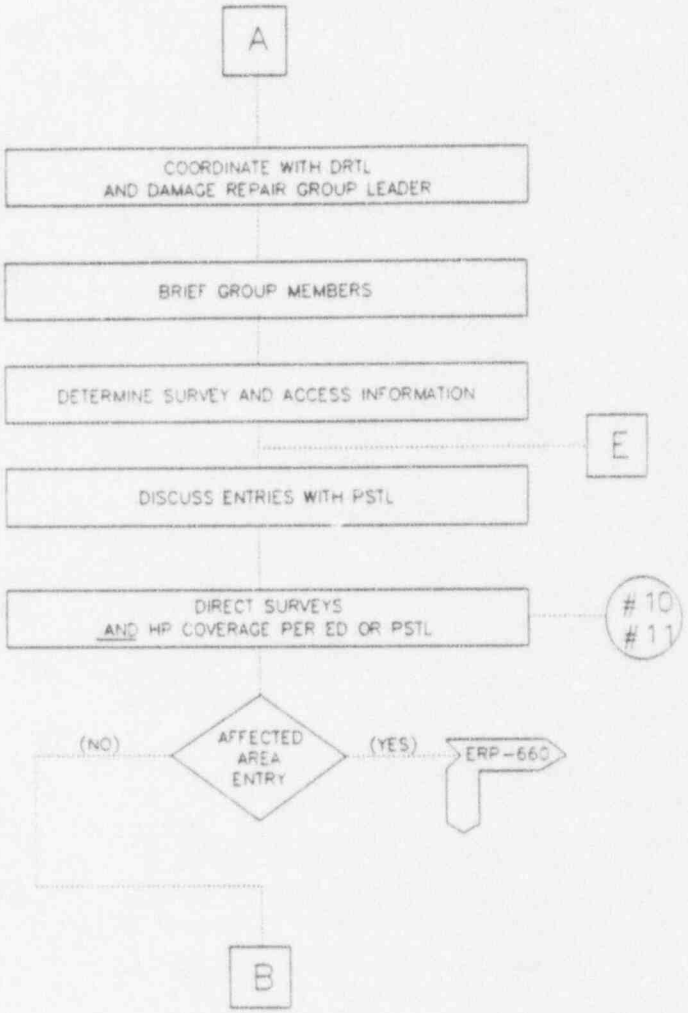
PSGL	– PLANT SURVEY GROUP LEADER
RWP/CS	– RWP/CLERICAL SUPPORT
HPSBK	– HP STATUS BOARD KEEPER
PSGM	– PLANT SURVEY GROUP MEMBERS
HAB	– HABITABILITY SURVEYS
DRTL	– DAMAGE REPAIR TEAM LEADER
PSTL	– PERSONNEL SAFETY TEAM LEADER

NOTES AND CAUTIONS

(# 1)

ADDITIONAL HEALTH PHYSICS INSTRUMENTATION SHOULD BE OBTAINED AS NEEDED FROM THE IN PLANT HEALTH PHYSICS INSTRUMENT AREA PRIOR TO PLANT CONDITIONS DEGRADING. THE EQUIPMENT SHOULD BE RELOCATED TO THE OSC OR OTHER STABLE PLANT AREA

ATTACHMENT 1
PLANT SURVEY GROUP FLOW CHART
(Page 2 of 12)

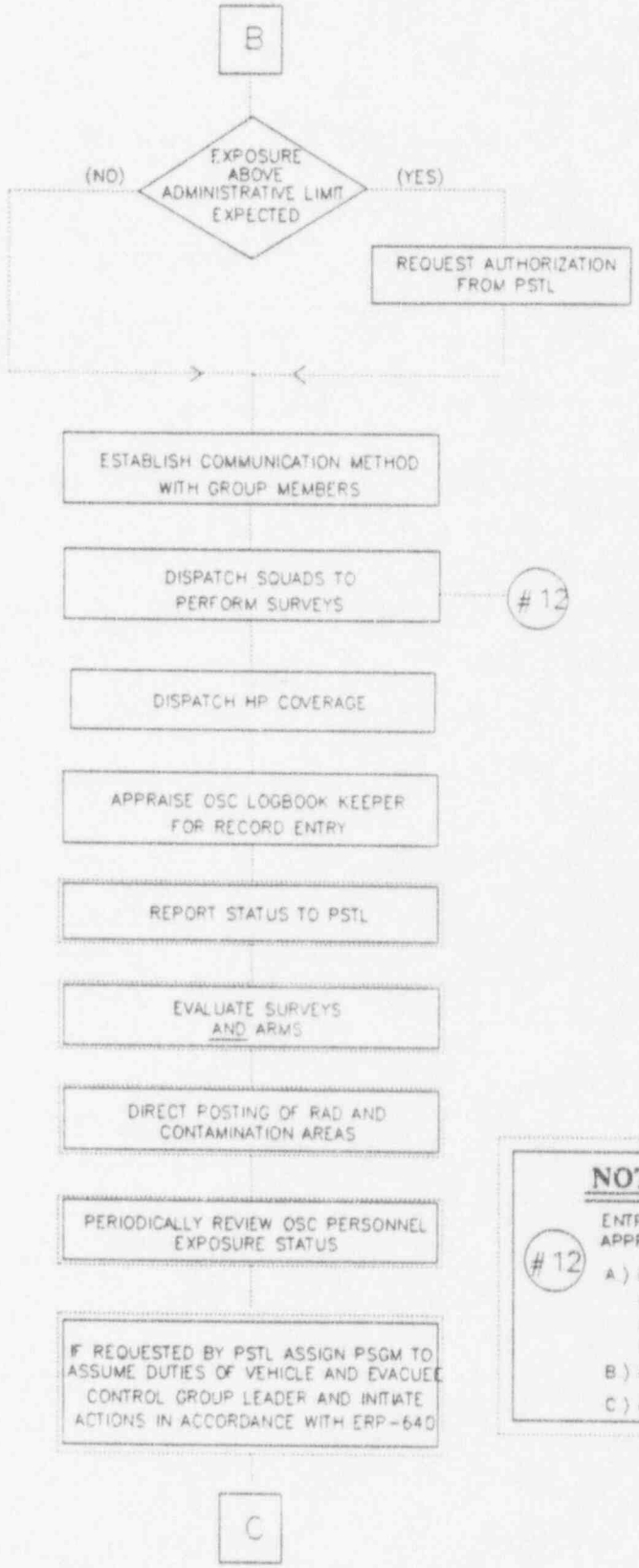


NOTES AND CAUTIONS

#10 PLANT SURVEYS SHOULD BE CONDUCTED IN CONJUNCTION WITH ENTRIES PERFORMED FOR OTHER PURPOSES. ARM READINGS SHOULD BE USED IN LIEU OF PRE-ENTRY SURVEYS

#11 IF INFORMATION IS UNAVAILABLE, THEN AIRBORNE ACTIVITY IS PRESUMED PRESENT IN ALL AFFECTED AREAS OF PLANT

ATTACHMENT 1
PLANT SURVEY GROUP FLOW CHART
(Page 3 of 12)



NOTES AND CAUTIONS

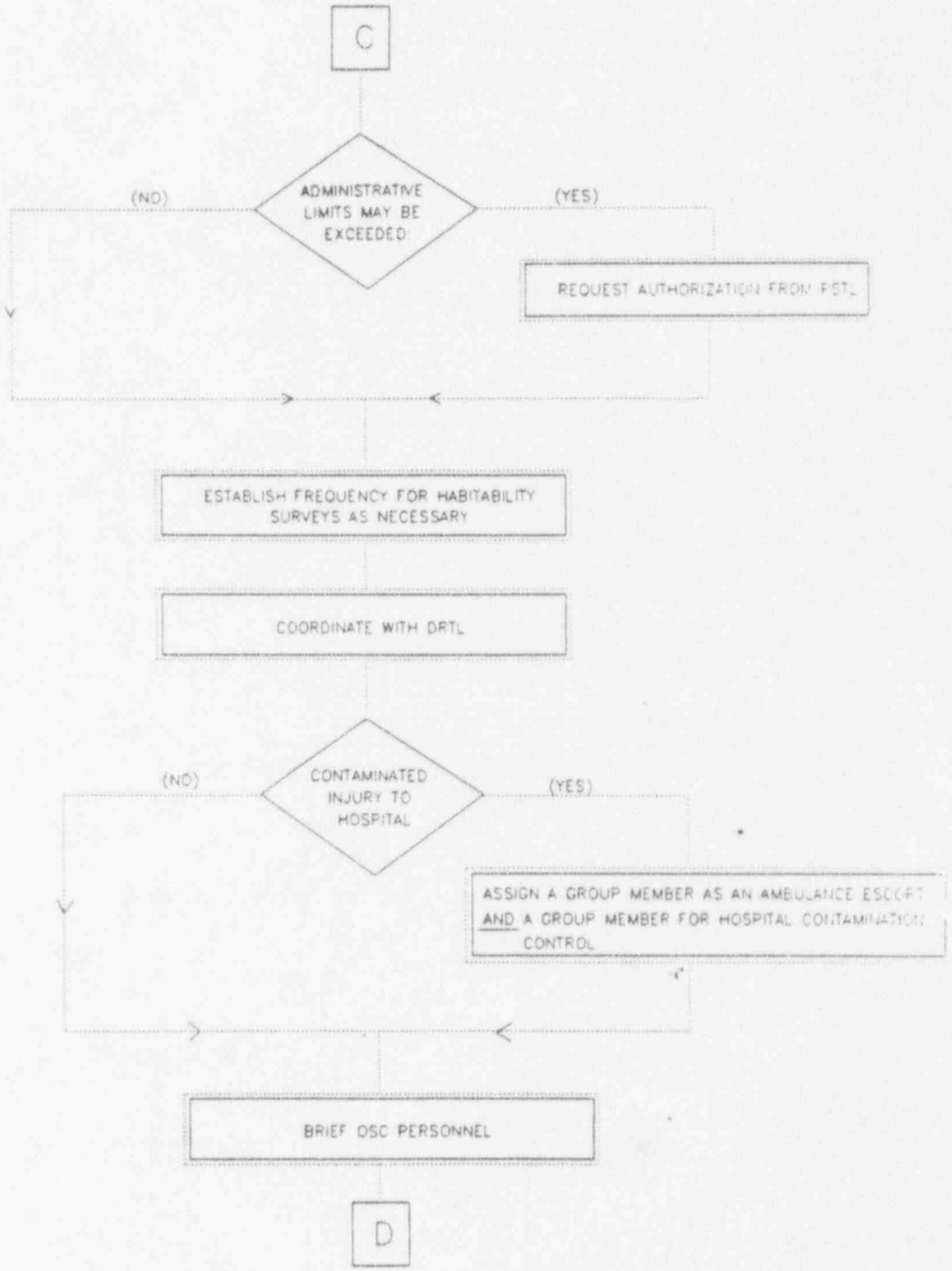
(#12) ENTRIES WITHOUT HP ESCORT MAY BE APPROVED IF

A.) ENTRY IS OF SHORT DURATION AND WELL DEFINED IN TERMS OF RADIOLOGICAL HAZARD, LOCATION AND WORK TO BE PERFORMED

B.) EXPOSURE RATES < 100 MR/HR

C.) ALARMING DOSIMETERS ARE UTILIZED

ATTACHMENT 1
PLANT SURVEY GROUP FLOW CHART
(Page 4 of 12)



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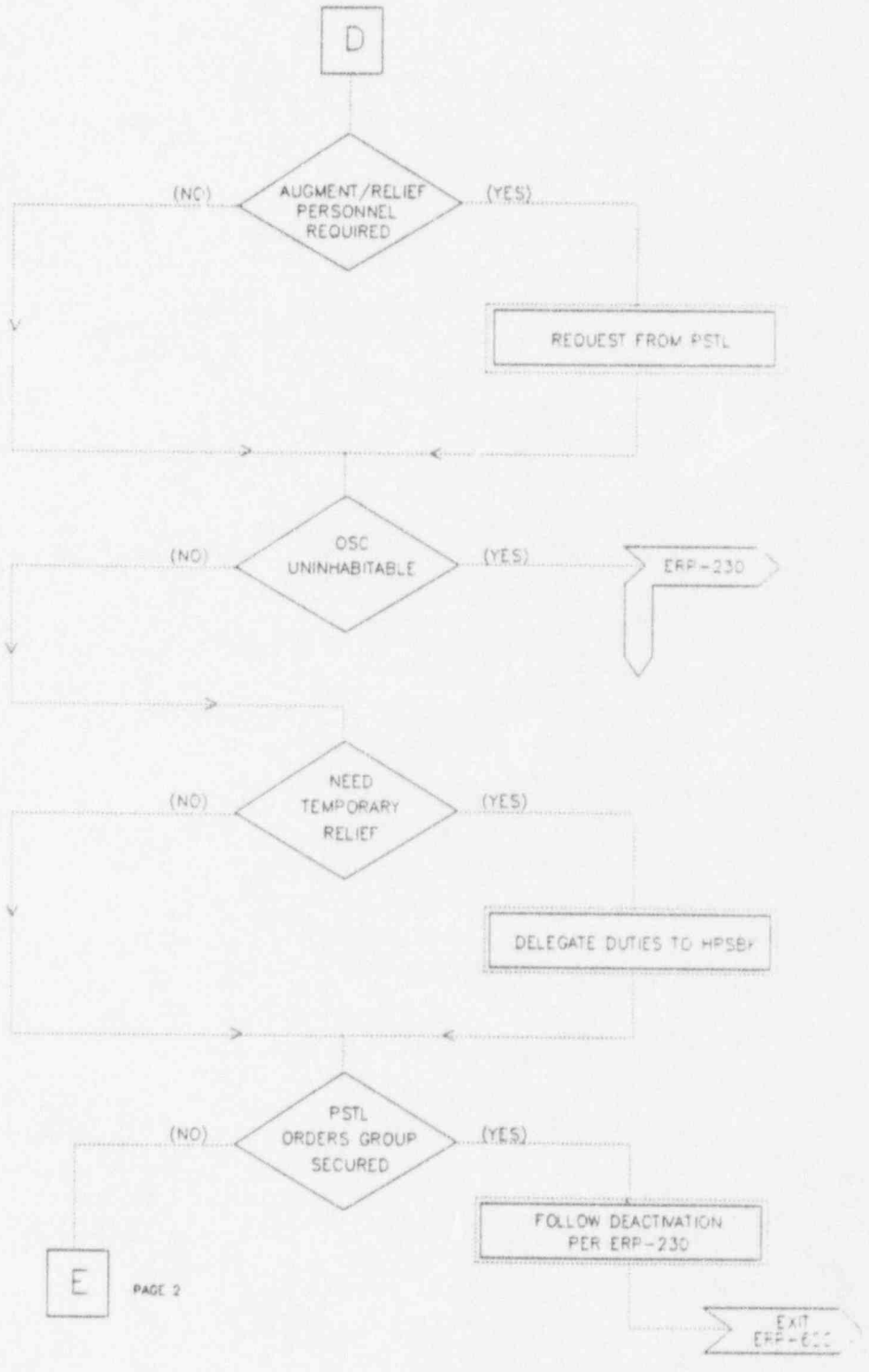
(Page 5 of 12)



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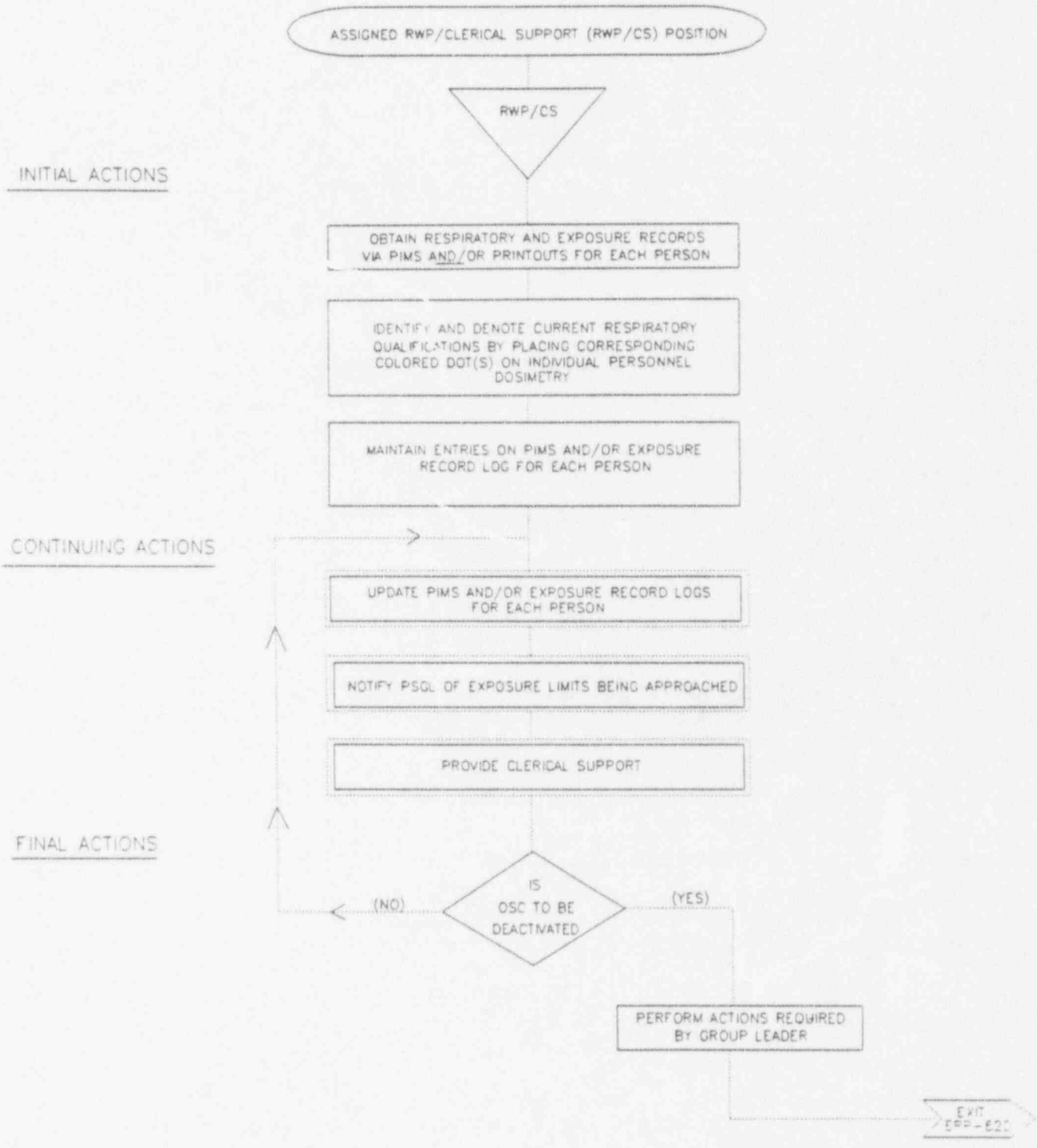
(Page 6 of 12)



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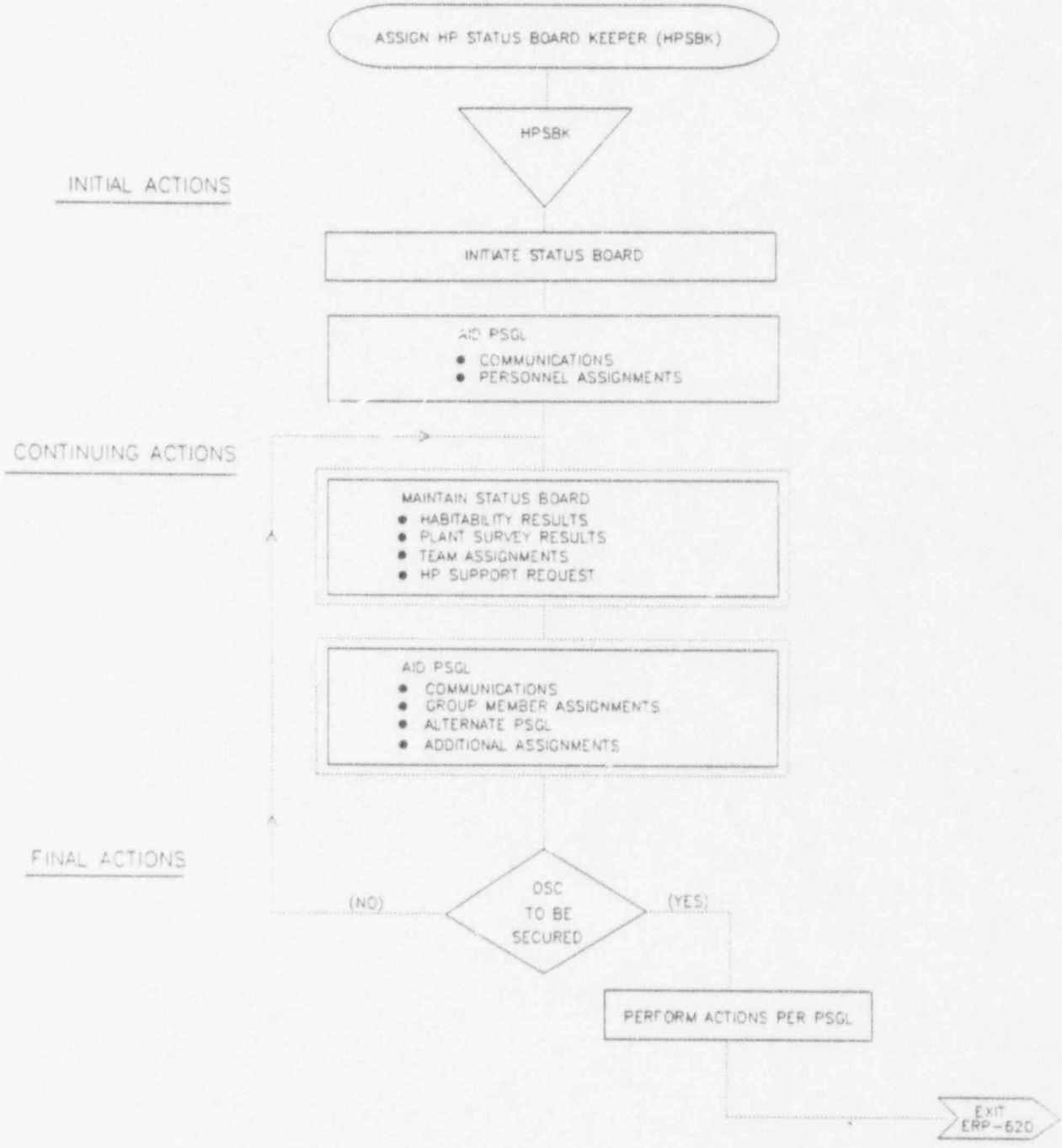
(Page 7 of 12)



ATTACHMENT 1
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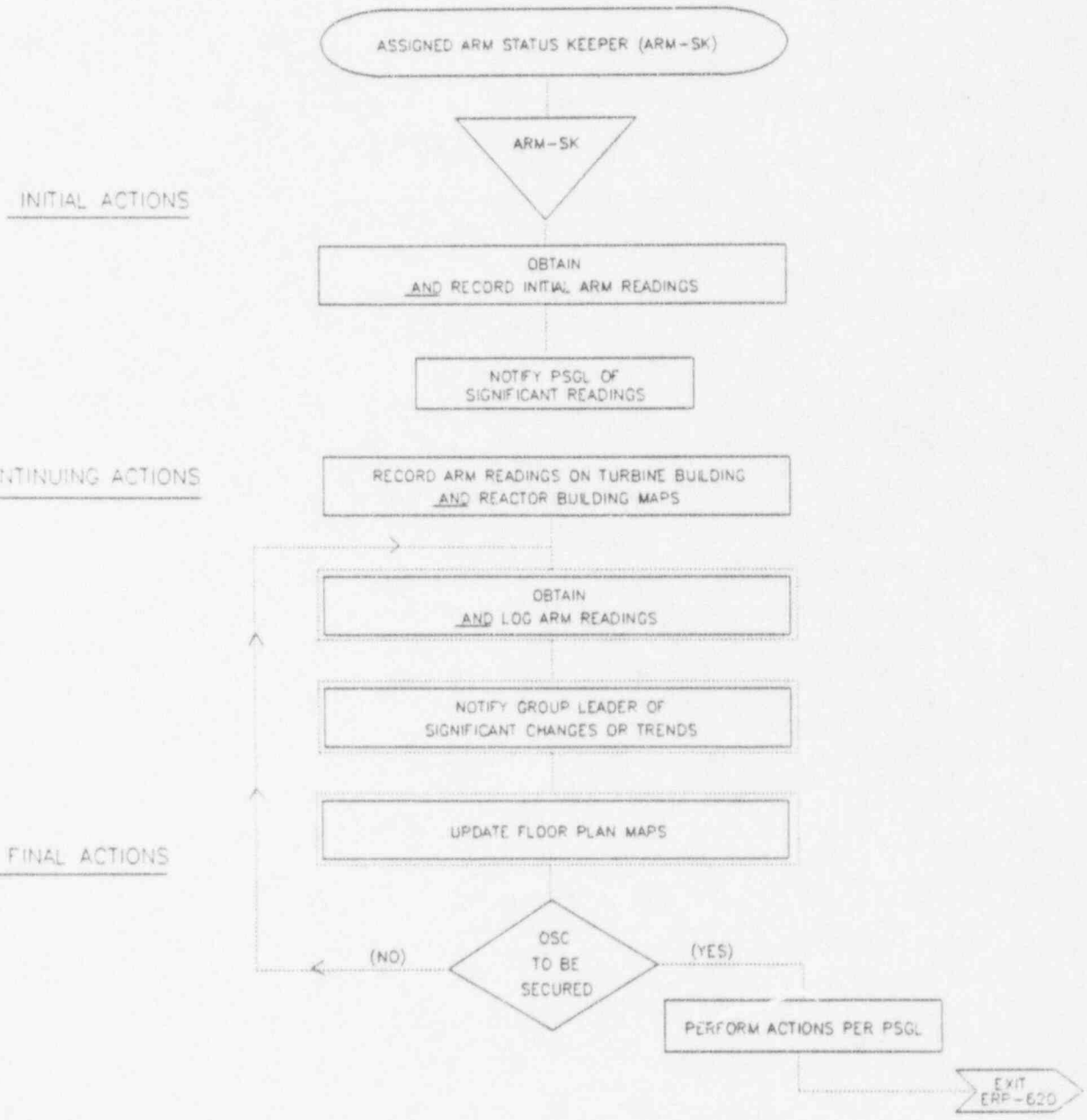
(Page 8 of 12)



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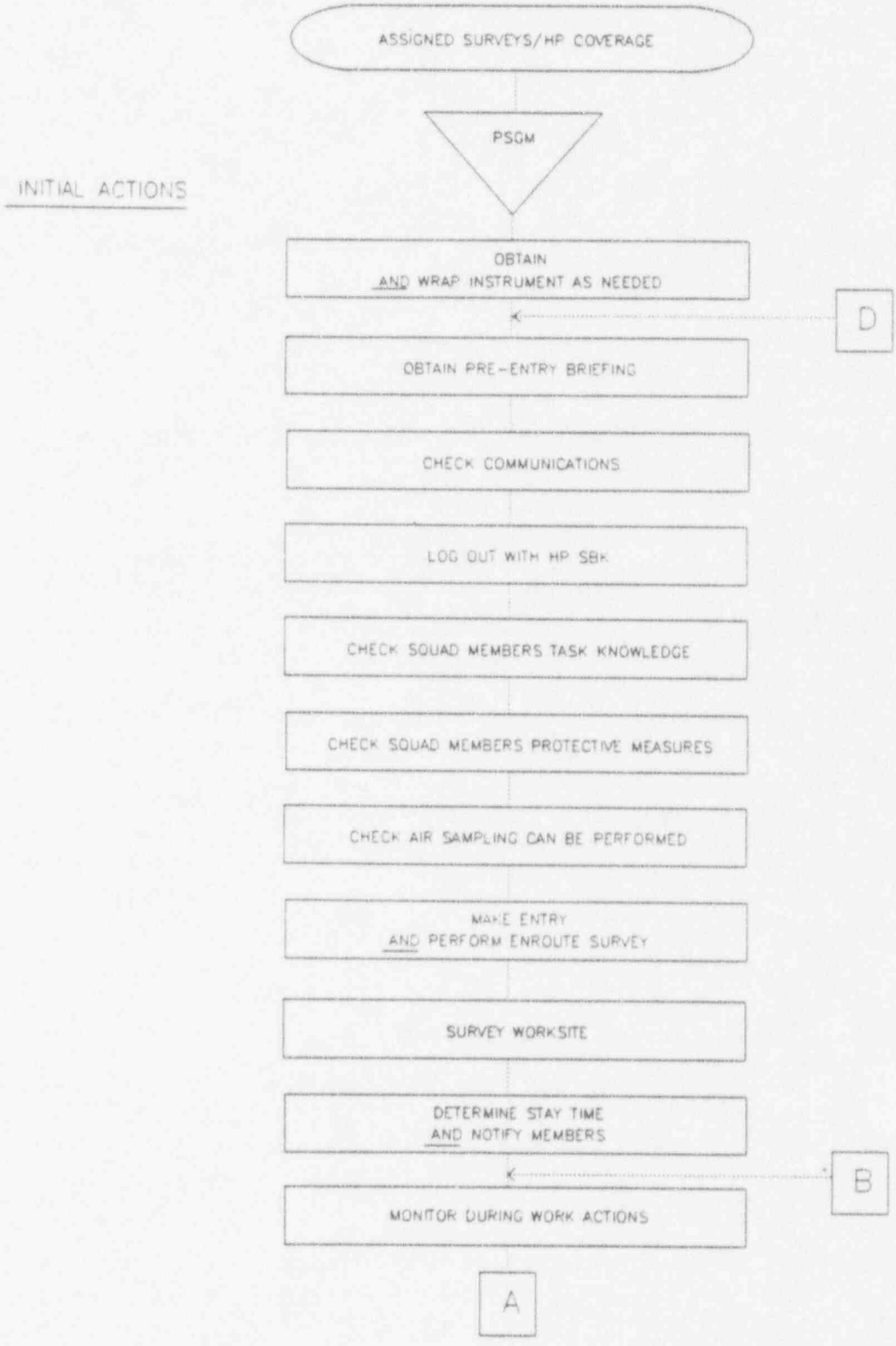
(Page 9 of 12)



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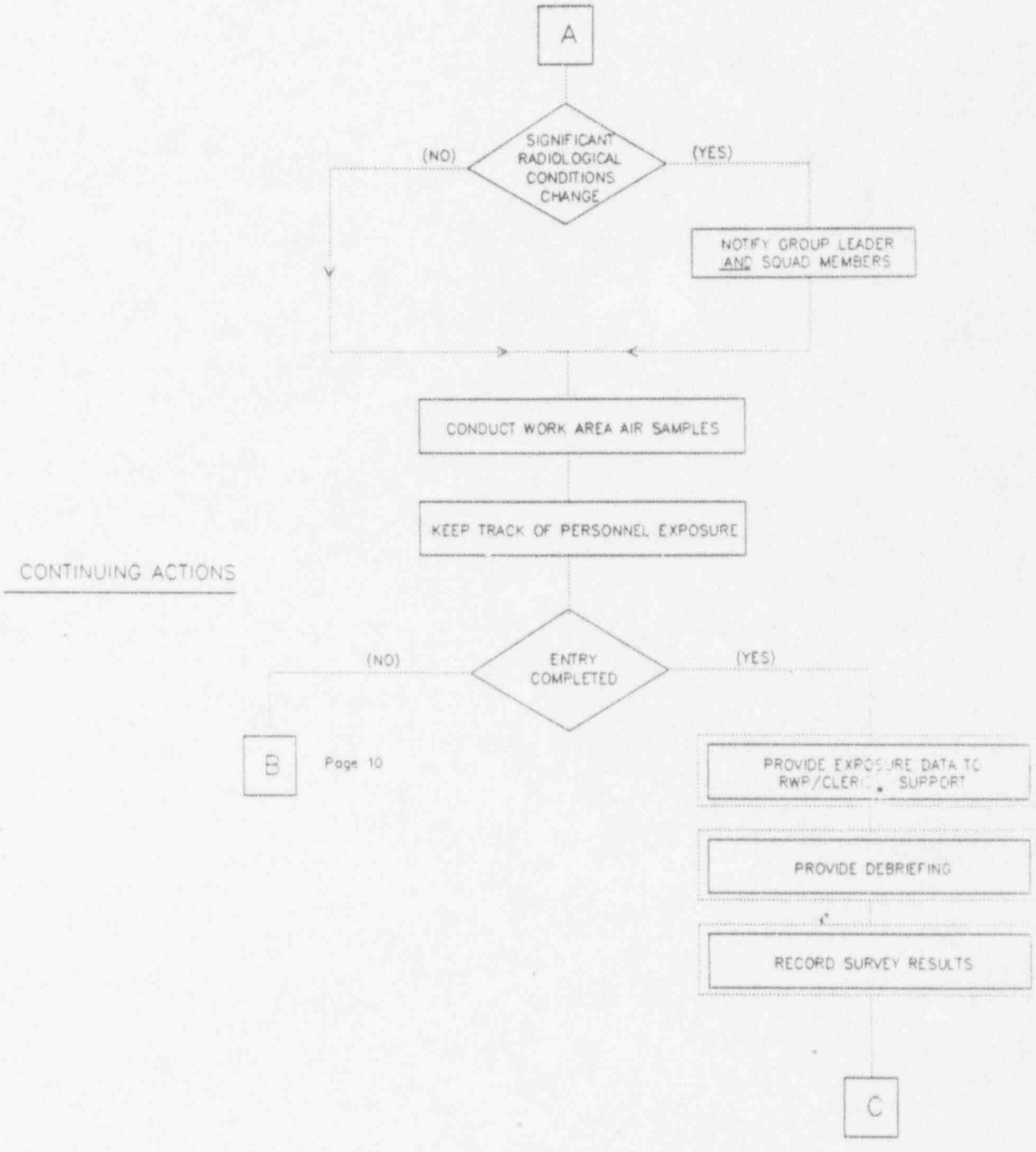
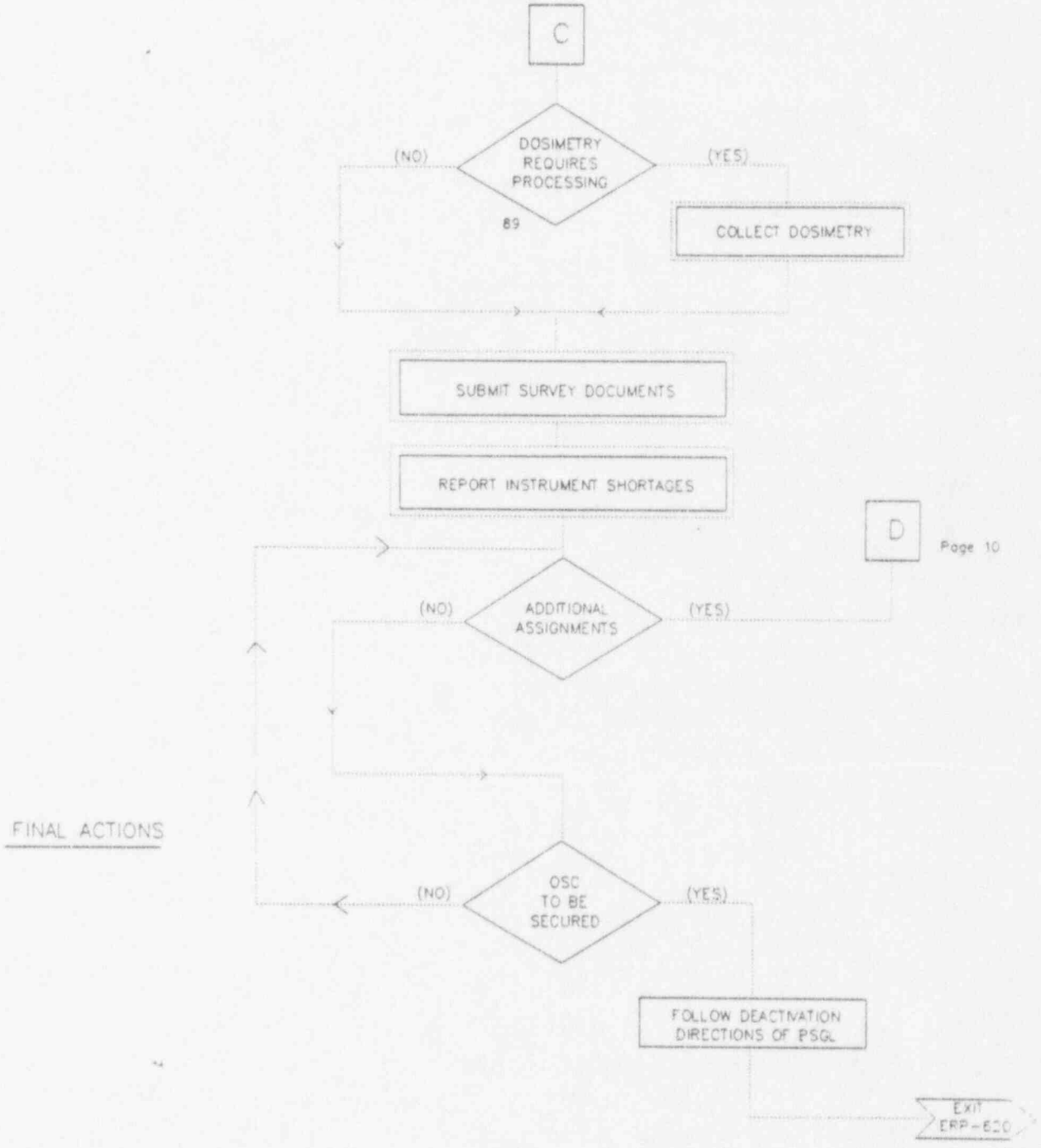
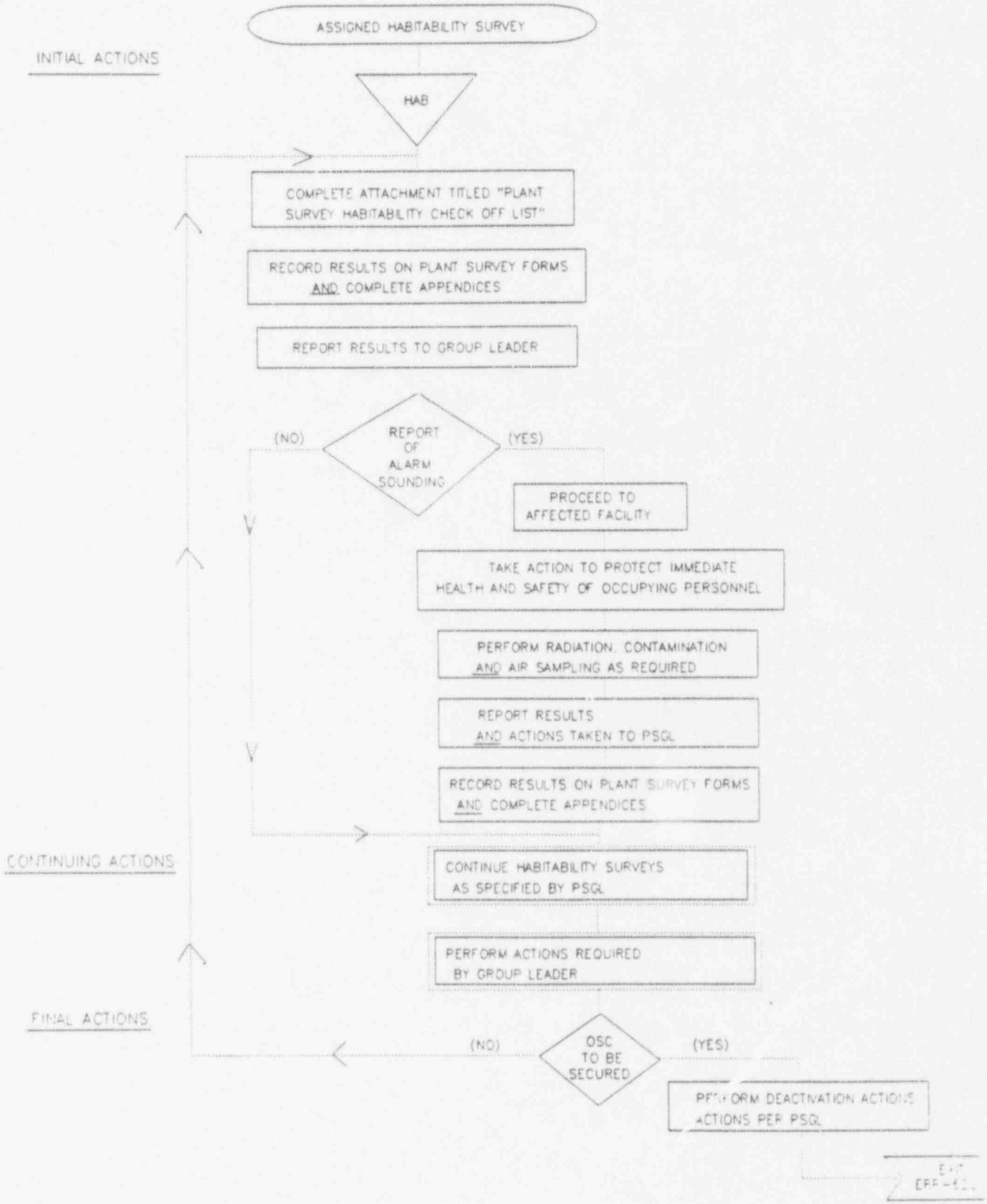
(Page 10 of 12)



ATTACHMENT 1
PLANT SURVEY GROUP FLOW CHART
(Page 11 of 12)



ATTACHMENT 1
PLANT SURVEY GROUP FLOW CHART
(Page 12 of 12)



ATTACHMENT 2
PLANT SURVEY HABITABILITY CHECK-OFF LIST
(Page 1 of 1)

HP Technician _____ Date _____

1. At each facility:

   A. Perform initial radiation and contamination surveys as necessary.

   B. Initiate operation of habitability monitoring equipment to include setting of alarm set point valves.

> NOTE:
>
> INITIATING OPERATION REQUIRES PHYSICAL INSPECTIONS, RESPONSE CHECKS AND CALIBRATION VERIFICATION.

   C. Set EC4-X alarms at 30 mr/hr and AMS-3 alarms at 10E4 cpm unless otherwise directed by Plant Survey Group Leader.

2. Facilities and equipment — Time/Facility Leader

   A. Control Room _____

      1. Continuous air monitoring equipment
      2. EC4-X

   B. RCA Lab/Counting Room _____

      1. Continuous air monitoring equipment - RCA Lab
      2. RM-14 - Counting Room
      3. EC4-X - RCA Lab

   C. OSC _____

      1. Continuous air monitoring equipment
      2. RM-14
      3. EC4-X

   D. Guard House _____

      1. Continuous air monitoring equipment
      2. EC4-X

   E. Secondary Alarm Station (SAS) _____

      1. Continuous air monitoring equipment
      2. EC4-X

> NOTE:
>
> LO VOLUME AIR SAMPLING MAY BE SUBSTITUTED AND MONITORED AS APPROPRIATE IF CONTINUOUS AIR MONITORING EQUIPMENT IS OUT OF SERVICE OR OTHERWISE UNAVAILABLE.

ATTACHMENT 3

HABITABILITY GUIDELINES
ESSENTIAL FACILITIES

Values are approximate

RADIATION	ALERT	ACTION
Gamma Radiation (Whole Body)	50 mR/hour	500 mR/hour
Noble Gas (XE-133)	6 DACs 6N4 uCi/cc	50 DACs 5N3 uCi/cc
Particulate B-G (unidentified count)	6 DACs 1.8N8 uCi/cc	50 DACs 1.5N7 uCi/cc
Iodine (I-131)	6 DACs 1.2N7 uCi/cc	50 DACs 1N6 uCi/cc

PECO ENERGY COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY RESPONSE PROCEDURE

APPROVED BY: _____ 12/30/93
RESPONSIBLE SUPT./DATE

ERP-660 ENTRY FOR EMERGENCY REPAIR AND OPERATIONS

1.0 RESPONSIBILITIES

1.1 Plant Survey Group Leader

1.1.1 Ensures due consideration is given to potential radiological AND non-radiological hazards.

1.1.2 Communicates with the Personnel Safety Team Leader (PSTL) on protective measures for emergency workers.

1.1.3 Directs Plant Survey Group members activities.

1.2 Group Leaders

1.2.1 Coordinate with Plant Survey Group Leader prior to directing personnel into plant.

2.0 INITIAL ACTIONS

NOTE

1. TO THE EXTENT PRACTICABLE, PLANT HEALTH PHYSICS PROCEDURES WILL BE UTILIZED.
2. NORMAL REQUIREMENTS OF HP-310, RADIATION WORK PERMITS, ARE WAIVED.
3. NORMAL BLOCKING PROCEDURE MAY BE WAIVED BY THE EMERGENCY DIRECTOR TO IMPLEMENT THIS PROCEDURE.
4. HEALTH PHYSICS ESCORT REQUIREMENTS MAY BE WAIVED IF THE FOLLOWING CONDITIONS ARE MET:
   a. ALARMING DOSIMETERS ARE UTILIZED BY THE TEAM MEMBERS;
   b. THE ENTRY IS OF SHORT DURATION AND WELL DEFINED IN TERMS OF RADIOLOGICAL HAZARD, LOCATION AND WORK TO BE PERFORMED;
   c. EXPOSURE RATES ARE LESS THAN 100 MR/HR.
5. A FILTER RESPIRATOR WITH COMBINATION GMR-I CANISTER MAY BE SUBSTITUTED FOR A SCBA IF IT IS KNOWN THAT HIGH RADIOIODINE LEVELS ARE NOT PRESENT AND AREA IS NOT IDLH OR THE USE OF A SCBA WOULD PHYSICALLY RESTRICT ENTRY INTO THE AREA.

NOTE (cont.)

6. IF A SCBA IS NOT USED DUE TO PHYSICAL ACCESS RESTRICTIONS AND RADIO-IODINE IS KNOWN OR SUSPECTED TO BE PRESENT, THYROID BLOCKING AGENT SHOULD BE EVALUATED IN ACCORDANCE WITH ERP-680, CONTROL OF THYROID BLOCKING POTASSIUM IODIDE (KI) TABLETS.
7. UNLESS SPECIFIC NEEDS DICTATE, IN-PLANT RADIATION SURVEYS SHOULD BE CONDUCTED IN CONJUNCTION WITH ENTRIES PERFORMED FOR OTHER PURPOSES. AREA RADIATION MONITOR READINGS SHOULD BE USED IN LIEU OF PRE-ENTRY SURVEYS WHENEVER POSSIBLE.
8. A MINIMUM OF TWO PEOPLE WILL BE ASSIGNED TO AN ENTRY TEAM AND AT NO TIME WILL ANYONE BE ALLOWED TO TRAVEL THROUGH OR REMAIN IN A POTENTIALLY HIGH RADIATION AREA OR OTHERWISE HAZARDOUS AREA UNLESS THEY ARE WITHIN SIGHT OF ANOTHER TEAM MEMBER.

****
* CAUTION: *
* *
* UNTIL IT HAS BEEN CONFIRMED OTHERWISE, AIRBORNE RADIOIODINE *
* ACTIVITY WILL BE ASSUMED TO BE PRESENT IN ALL AFFECTED AREAS *
* OF THE PLANT. *
* *
****

2.1 Plant Survey Group Leader shall:

2.1.1 Discuss each significant entry with Personnel Safety Team Leader using Attachment titled, "Health Physics Considerations".

2.1.2 IF non-radiological hazards are expected, THEN request Personnel Safety Team Leader obtain guidance from Industrial Risk Management representative.

2.1.3 Coordinate with responsible Group Leader on entry activities.

2.1.4 Specify protective measures using attachment titled, "Emergency Radiological Protection Requirements".

2.1.5 Determine each squad member's remaining balance.

2.1.5.1 Update PIMS data or Exposure Record Log, (ERP-230) as appropriate.

2.1.6 IF exposure for any individual may exceed administrative dose control levels, THEN implement ERP-670, "Emergency Radiation Exposure Guidelines and Controls".

2.1.7 Hold a briefing with entry squad members using Attachment titled, "Access Briefing Guide".

2.1.8 WHEN briefings are completed, THEN dispatch entry squad.

2.2 Emergency Group Leaders shall:

2.2.1 Assign Group members to entry task considering available exposure.

2.2.2 Coordinate with Plant Survey Group Leader on entry activities.

2.2.3 IF HP coverage is required for assigned task, THEN direct group personnel to obtain entry briefing from Plant Survey Group Leader.

3.0 CONTINUING ACTIONS

3.1 Plant Survey Group Leader shall:

3.1.1 Keep appraised of entry status.

3.1.2 IF plant radiological conditions change which impacts entry squad, THEN notify Plant Survey Group member with squad.

3.1.3 WHEN entry squad returns to access control point, THEN:

3.1.3.1 Direct Plant Survey Group members provide exit functions:

a. Aid in removal of protective clothing AND equipment.

b. Contamination monitoring of personnel AND equipment per HP contamination monitoring procedures.

3.1.4 IF person is found contaminated, THEN direct personnel report to decontamination station AND follow applicable HP procedures.

3.1.5 WHEN entry squad returns to OSC, THEN:

3.1.5.1 Obtain entry debriefing AND complete Attachment titled, "Access Briefing Guide".

3.1.5.2 IF significant exposure OR exposure above authorized limit was received by personnel, THEN:

a. Direct dosimetry devices be collected AND evaluated.

b. Do not allow individuals further entry until dosimetry evaluation is completed.

c. Notify responsible Group Leader.

3.1.6 Ensure survey results are documented and submitted.

3.1.7 Ensure air samples are analyzed per HP procedures.

3.1.7.1 IF fuel damage is known, THEN request special analysis of air samples.

3.1.8 Notify Personnel Safety Team Leaders of problems OR exposures exceeding authorized limits.

3.1.9 Provide survey data to Personnel Safety Team Leader.

3.2 Emergency Group Leaders shall:

3.2.1 WHEN Group members return from task, ensure PIMS data and/or Exposure Record Log (ERP-230) is updated as appropriate.

3.2.2 Utilize Exposure Record Log to assign task.

3.2.2.1 Ensure exposure is distributed among group members.

4.0 FINAL CONDITIONS

4.1 Emergency entries are no longer required.

4.2 Routine HP procedures can be utilized for entries into affected areas.

5.0 ATTACHMENTS AND APPENDICES

5.1 Attachment 1 - "Entry for Emergency Repair and Operations Flow Chart"

5.2 Attachment 2 - "Emergency Radiological Protection Requirements"

5.3 Attachment 3 - "Health Physics Considerations"

5.4 Attachment 4 - "Access Briefing Guide"

6.0 SUPPORTING INFORMATION

6.1 PURPOSE

Establish a method for providing instructions to enter areas adversely affected by emergency conditions. This procedure is for use during emergency repair OR operations.

6.2 CRITERIA FOR USE

6.2.1 The entry is authorized by the PSTL.

6.2.2 Radiological conditions are unknown AND suspected to be hazardous in an area to be entered
OR
Conditions of time OR uncertainty of various radiological conditions preclude use of routine Health Physics procedures.

6.3 SPECIAL EQUIPMENT

6.3.1 None

6.4 REFERENCES

6.4.1 ERP-230, Appendix 1, "Personnel Exposure Log"

6.4.2 ERP-620, "Plant Survey Group"

6.4.3 ERP-670, "Emergency Radiation Exposure Guidelines and Controls"

6.4.4 ERP-680, "Control of Thyroid Blocking Potassium Iodide (KI) Tablets"

6.4.5 HP-310, "Radiation Work Program"

6.4.6 A-105, "Respiratory Protection Program"

6.4.7 NCRP Report 39, "Basic Radiation Protection Criteria"

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

6.4.9 Peach Bottom Atomic Power Station (PBAPS) Emergency Plan

6.5 COMMITMENT ANNOTATION

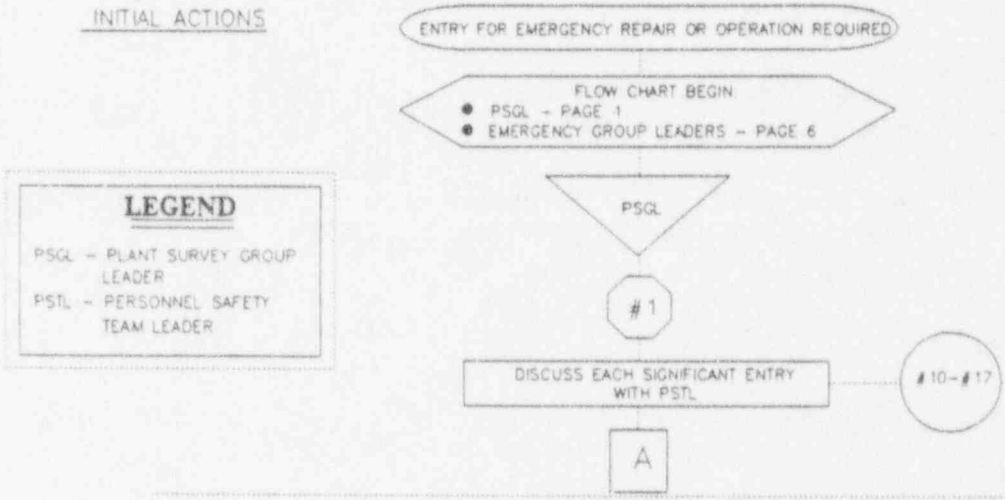
6.5.1 None

ATTACHMENT 1

ENTRY FOR EMERGENCY REPAIR AND OPERATIONS FLOW CHART

(Page 1 of 7)

INITIAL ACTIONS



LEGEND

PSGL - PLANT SURVEY GROUP LEADER
PSTL - PERSONNEL SAFETY TEAM LEADER

NOTES AND CAUTIONS

(#1) UNTIL IT HAS BEEN CONFIRMED OTHERWISE, AIRBORNE RADIOACTIVITY WILL BE ASSUMED TO BE PRESENT IN ALL AFFECTED AREAS OF THE PLANT.

(#10) TO THE EXTENT PRACTICABLE, PLANT HEALTH PHYSICS PROCEDURES WILL BE UTILIZED.

(#11) REQUIREMENTS OF HP-310, RADIATION WORK PERMITS, ARE WAIVED.

(#12) NORMAL BLOCKING PROCEDURE MAY BE WAIVED BY THE ED TO IMPLEMENT THIS PROCEDURE.

(#13) HEALTH PHYSICS ESCORT REQUIREMENTS MAY BE WAIVED IF THE FOLLOWING ARE MET:
a) ALARMING DOSIMETERS ARE UTILIZED BY THE TEAM MEMBERS;
b) THE ENTRY IS OF SHORT DURATION AND WELL DEFINED IN TERMS OF RADIOLOGICAL HAZARD, LOCATION AND WORK TO BE PERFORMED;
c) EXPOSURE RATES ARE LESS THAN 100 MR/HR.

(#14) A FILTER RESPIRATOR WITH COMBINATION GMR-I CANISTER MAY BE SUBSTITUTED FOR A SCBA IF IT IS KNOWN THAT HIGH RADIOIODINE LEVELS ARE NOT PRESENT AND AREA IS NOT IDLH OR THE USE OF A SCBA WOULD PHYSICALLY RESTRICT ENTRY INTO THE AREA.

(#15) 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 ACCORDNACE WITH ERP-680, CONTROL OF THYROID BLOCKING POTASSIUM IODIDE (KI) TABLETS.

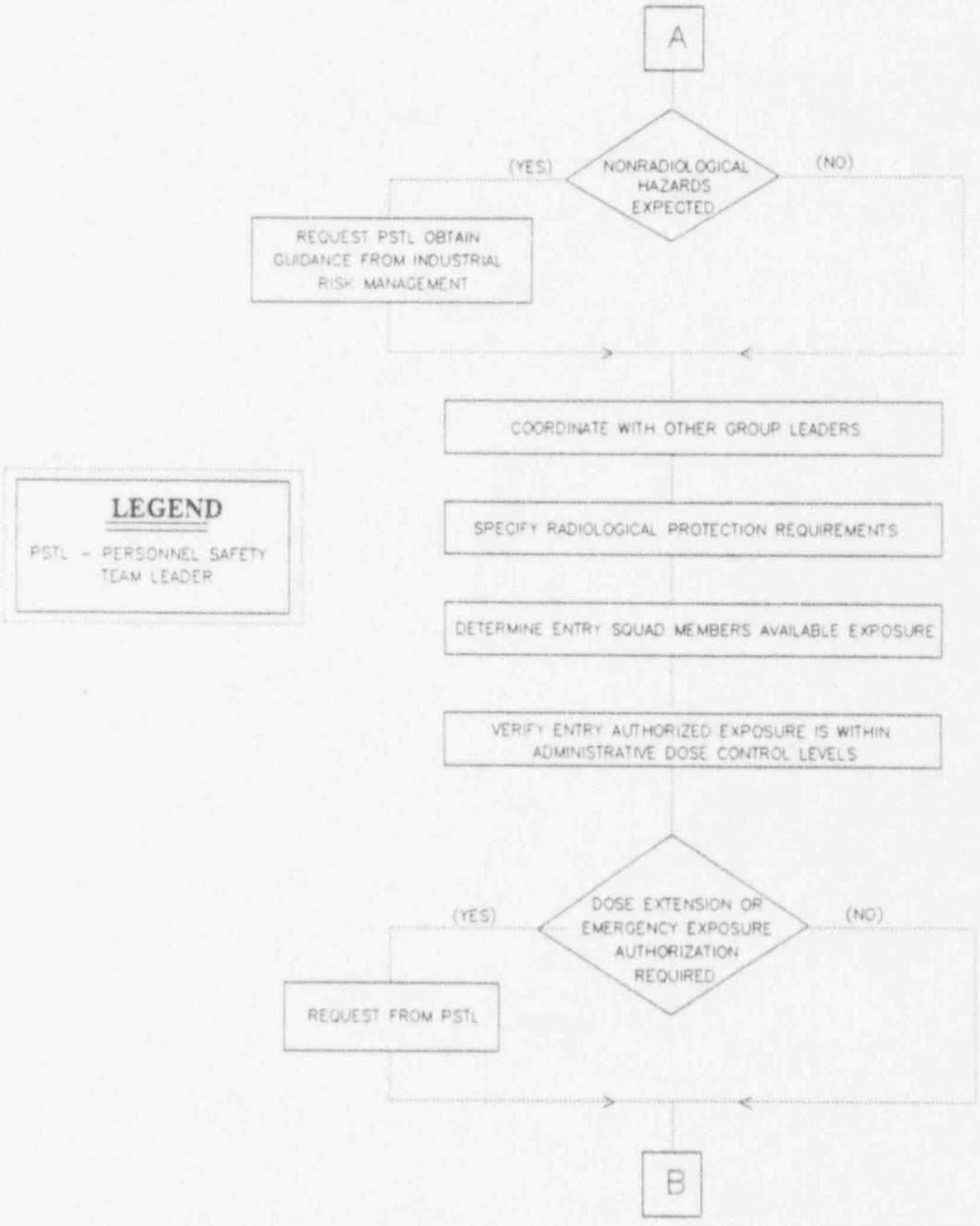
(#16) UNLESS SPECIFIC NEEDS DICTATE, IN-PLANT RADIATION SURVEYS SHOULD BE CONDUCTED IN CONJUNCTION WITH ENTRIES PERFORMED FOR OTHER PURPOSES. ARM READINGS SHOULD BE USED IN LIEU OF PRE-ENTRY SURVEYS WHENEVER POSSIBLE.

(#17) A MINIMUM OF TWO PEOPLE WILL BE ASSIGNED TO AN ENTRY TEAM AND AT NO TIME WILL ANYONE BE ALLOWED TO TRAVEL THROUGH OR REMAIN IN A POTENTIALLY HIGH RADIATION AREA OR OTHERWISE HAZARDOUS AREA UNLESS THEY ARE WITHIN SIGHT OR ANOTHER TEAM MEMBER.

ATTACHMENT 1

ENTRY FOR EMERGENCY REPAIR AND OPERATIONS FLOW CHART

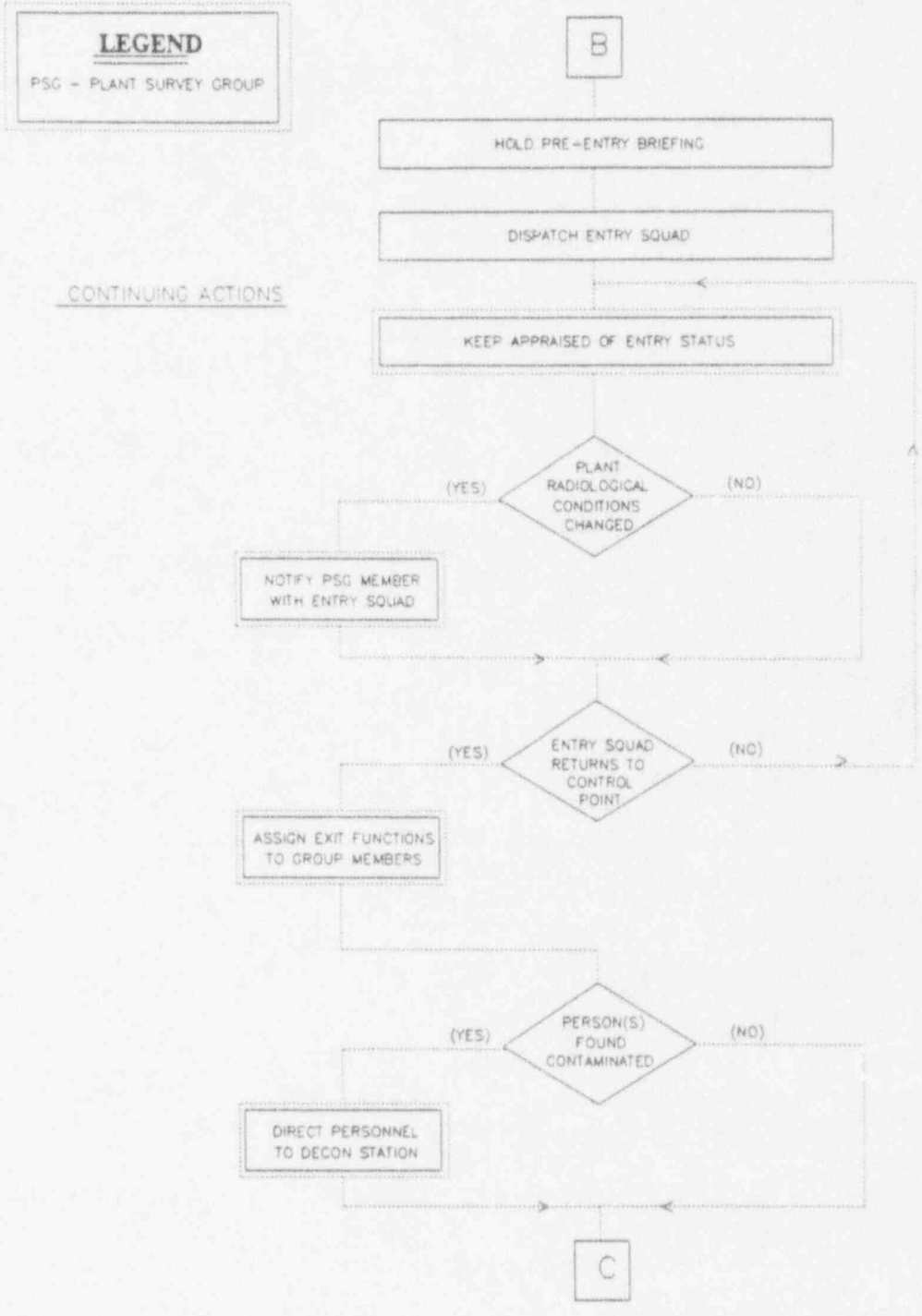
(Page 2 of 7)



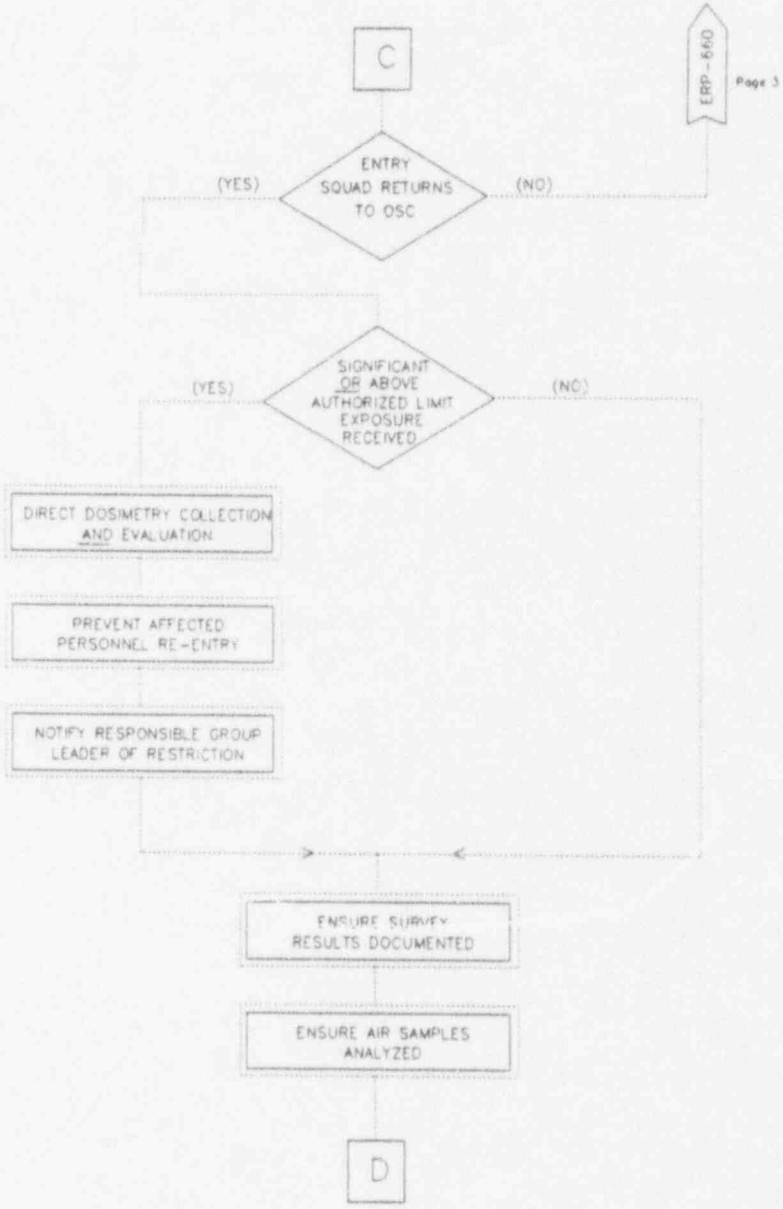
ATTACHMENT 1

ENTRY FOR EMERGENCY REPAIR AND OPERATIONS FLOW CHART

(Page 3 of 7)



ATTACHMENT 1
ENTRY FOR EMERGENCY REPAIR AND OPERATIONS FLOW CHART
(Page 4 of 7)



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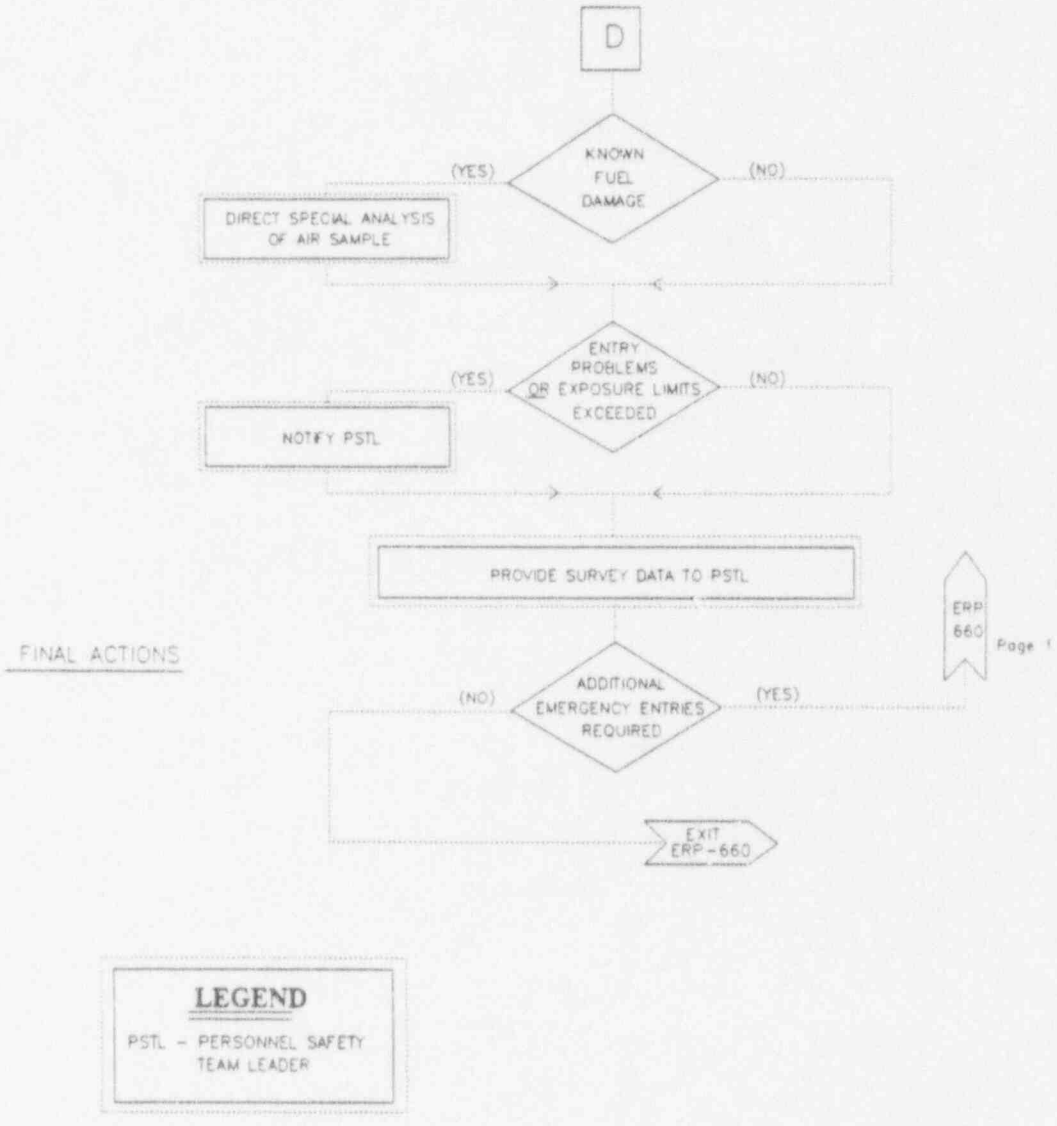
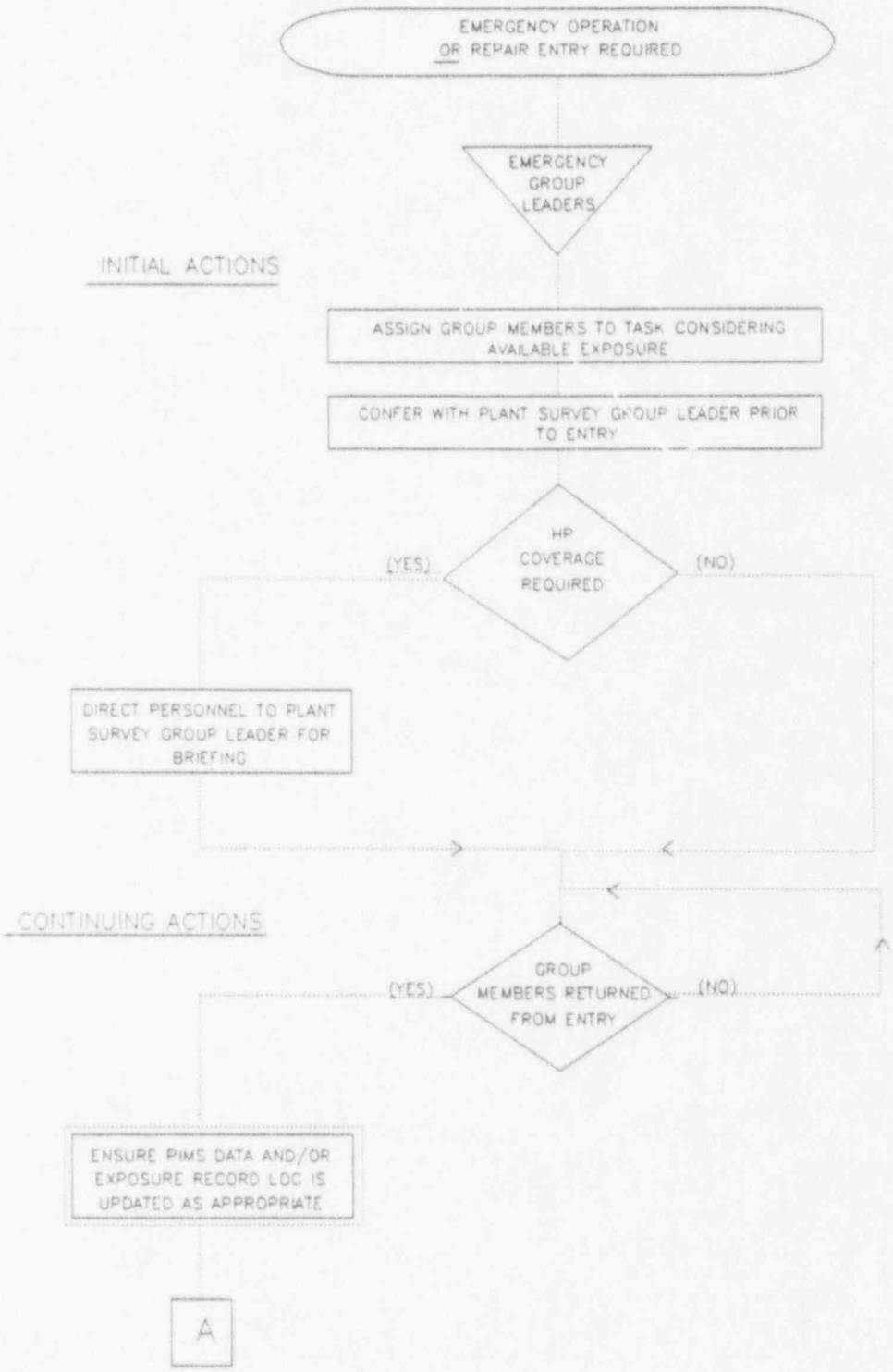
ENTRY FOR EMERGENCY REPAIR AND OPERATIONS FLOW CHART
(Page 5 of 7)



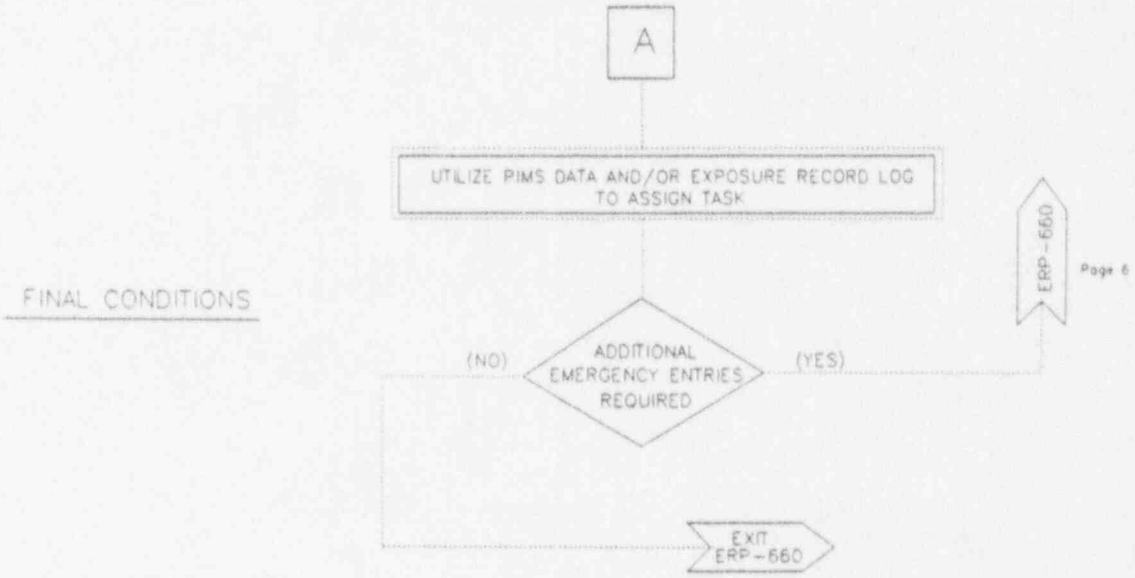
ATTACHMENT 1

ENTRY FOR EMERGENCY REPAIR AND OPERATIONS FLOW CHART

(Page 6 of 7)



ATTACHMENT 1
ENTRY FOR EMERGENCY REPAIR AND OPERATIONS FLOW CHART
(Page 7 of 7)



ATTACHMENT 2
EMERGENCY RADIOLOGICAL PROTECTION REQUIREMENTS

LOCATION _____ TIME _____

OSC PHONES 4262, 4369, 4446, RADIO COMPLETED BY _____

ANTI C'S	STANDARD SET			TOTES	
	HOOD			BOOTS PR	
	SURGEONS CAP PR			COVERALLS	
	GLOVE LINERS PR			PLASTIC PANTS	
	PLASTIC GLOVES PR			PLASTIC SUIT	
	RUBBER GLOVES PR			TAPED OPENINGS	
	SHOE COVERS PR			TAPED - ZIPPER/HOOD	
RESP.	FILTER RESPIRATOR		NOTE: CONSIDER TIME NEEDED FOR ENTRY, ACCESS LIMITATIONS AND ESCAPE REQUIREMENTS AS WELL AS AIRBORNE LEVELS WHEN CHOOSING THE TYPE OF RESPIRATORY PROTECTION REQUIRED		
	GMR-I (IODINE) CANISTER				
	SCBA (PRESSURE DEMAND)				
DOSIMETRY	SRD 0 - 200 MR			RELOCATE DOSIMETRY	
	SRD 0 - 500 MR			MULTIABLE DOSIMETRY	
	SRD 0 - 1000 MR			EXTREMITY TLD (FEET)	
	SRD 0 - _____ MR			EXTREMITY TLD (HANDS)	
	ALARMING DOOSIMETER				
SURVEY INST	ION CHAMBER			REMOTE MONITOR	
	TELETECTOR				
	NEUTRON MONITOR				
	GM SURVEY INSTRUMENT				
AIR SAMPLE	HIGH VOLUME SAMPLE			CHARCOAL	
	LOW VOLUME SAMPLE			SILVER ZEOLITE	
	LAPEL SAMPLE				
	CONSTANT AIR MONITOR				

----- CHECK HERE IF ADDITIONAL REQUIREMENTS NOTED ON REVERSE SIDE.

ATTACHMENT 3

HEALTH PHYSICS CONSIDERATIONS
(Page 1 of 2)

NOTE

IN ADDITION TO ERP-620, THE FOLLOWING LIST IS INTENDED ONLY TO GUIDE THE PLANNER IN OPTIONS TO CONSIDER, AND DOES NOT ESTABLISH REQUIREMENTS.

I. Access Control

1. Are transit doses considered, including possible plume exposure?
2. Are barriers and postings in place?
3. Are emergency exit points available?

II. Contamination Control

1. Are contamination control methods being utilized?

III. Surveillance

1. Has ARM data been reviewed?
2. Is air sampling and analysis taking place?
3. Is alpha surveillance necessary based on fuel damage?
4. Are there non-radiological hazards?

IV. Exposure Control

1. Are exposure limits being established for each job?
2. Have beta/gamma ratios been evaluated?
3. Is there high energy beta radiation?

V. Bioassay

1. Have individuals been identified for bioassay based on planned work?

ATTACHMENT 3

HEALTH PHYSICS CONSIDERATIONS
(Page 2 of 2)

VI. Equipment

1. Dosimetry

   a. Skin exposure rates established by ratio technique to extremity exposure rate.

   b. Dosimetry worn for easy reading under adverse conditions.

   c. Exposure due to immersion in a noble gas cloud

2. Instrumentation

   a. Type of survey instrumentation

   b. High energy beta radiation effects on instrument

   c. Noble gas contamination of instrument

   d. Alpha contamination

3. Air Sampling

   a. Use of lapel air samples

   b. Appropriate sample media (charcoal or silver zeolite)

   c. Noble gas interference with iodine measurement

   d. High activity buildup on sample media

   e. Evaluation for pure beta/alpha activity

ATTACHMENT 4

ACCESS BRIEFING GUIDE
(Page 1 of 1)

I. PRE-ENTRY BRIEFING:

List Team Members: 1)_____ 2)_____

3)_____ 4)_____

Date of entry:_____ Time of entry:_____

Purpose: _____

_____

Briefer Initial

_____ 1. Advise the team of potential radiological hazards including:
a. Dose rates (if known).
b. Extremity dose rates (if known).
c. Surface contamination and liquid activity levels.
d. Airborne concentrations of radionuclides.

_____ 2. Advise the team of non-radiological hazards.

_____ 3. Advise the team on function and use of all equipment and instrumentation required for entry on attachment titled, Emergency Radiological Protection Requirements".

_____ 4. Advise the team on frequency to check self-reading dosimetry.

_____ 5. Advise each team member of their current quarterly exposure, and explain the stay time and exposure limits established for the entry.

_____ 6. Review the documentation required for entry and personnel exposure records.

_____ 7. Specify surveys that will be performed during entry.

_____ 8. Verify that all dress out requirements have been met.

_____ 9. Review access route and work to be performed.

_____ 10. Establish communication method between team and PSGL.

Briefing performed by:_____
Plant Survey Group Leader/Designee

12/09/93

PECO ENERGY COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY RESPONSE PROCEDURE

APPROVED BY: [signature] 12/30/93
RESPONSIBLE SUPT./DATE

ERP-670 EMERGENCY RADIATION EXPOSURE GUIDELINES AND CONTROLS
(This revision is a total rewrite)

1.0 RESPONSIBILITIES

1.1 The Emergency Director (ED) is responsible for authorizing exposure exceeding PBAPS administrative dose control levels. This is a non-delegable responsibility of the ED.

1.2 The Personnel Safety Team Leader (PSTL) is responsible for evaluating the proposed exposures in excess of PBAPS administrative dose control limits and providing a recommendation to the ED.

1.3 The individual authorized for emergency radiation exposure is responsible for reading, understanding the biological consequences and signing the Emergency Exposure Authorization Form.

2.0 INITIAL ACTIONS

NOTE

THIS PROCEDURE APPLIES IN CASES WHERE EXPOSURE IS ESTIMATED TO EXCEED ADMINISTRATIVE AND/OR NRC EXPOSURE LIMITS DURING DECLARED EMERGENCIES TO ACCOMPLISH TASKS ASSOCIATED WITH MITIGATION OF THE EMERGENCY.

NOTE

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

2.1 The PSTL shall:

2.1.1 Consider/examine alternatives to the proposed tasks in order to minimize radiation exposures.

2.1.2 Evaluate the consequences of not performing the proposed tasks against the health risks associated with the proposed exposure, and advise the ED accordingly.

2.1.3 IF exposures are estimated to exceed Administrative Dose Control Levels and not exceed NRC Limits,
THEN consider completion of Attachment titled, "Dose Extension Form" and request ED approval.

2.1.4 IF probable radiation exposures are estimated to exceed the NRC Limits
THEN

a. Verify that estimated exposures shall not exceed the limits specified in attachment titled, "Emergency Exposure Guidelines".

b. Complete applicable sections of attachment titled, "Emergency Exposure Authorization Form".

2.1.5 Provide Attachment titled, "Emergency Exposure Authorization Form" together with any recommendation to the ED for approval.

2.1.6 Ensure that all reasonable precautions for minimizing the radiological consequences of the emergency action are taken, (i.e., protective clothing, respiratory protection, thyroid blocking agents, etc.).

2.1.7 Provide briefing or delegate responsibility for briefing individuals to receive emergency exposure which shall include:

a. The situation and reasons why the emergency exposure is necessary.

b. The biological consequences of the exposure.

c. Actions or steps to minimize the exposure.

d. Instructing personnel not to enter any area where dose rates are unknown or unmeasurable with dose rate instruments.

e. Instructing personnel to sign Section C of attachment titled, "Emergency Exposure Authorization Form".

2.2 IF emergency dose authorization exceeds 25 Rem,
THEN the individual authorized to receive the emergency exposure shall complete Section D of Attachment titled "Emergency Exposure Authorization Form".

2.3 The ED shall:

2.3.1 Review and, if appropriate, approve completed "Dose Extension Form."

2.3.2 Review and, if appropriate, approve completed "Emergency Exposure Authorization Form."

3.0 FOLLOW-UP ACTIONS

3.1 The PSTL shall:

NOTE

THE FOLLOWING CRITERIA SHOULD BE APPLIED AS A MINIMUM TO ANY INDIVIDUAL POTENTIALLY EXPOSED TO EXCESSIVE RADIATION LEVELS (10 REM WHOLE BODY; 30 REM THYROID; 60 REM SKIN; 150 REM EXTREMITY):

THE DETAILS OF THE EXPOSURE INCIDENT SHALL BE BROUGHT TO THE ATTENTION OF THE PECO MEDICAL DEPARTMENT. THE MEDICAL DEPARTMENT SHALL DETERMINE THE NEED, EXTENT AND NATURE OF ANY CLINICAL, BIOLOGICAL OR BIOCHEMICAL EXAMINATIONS OR THE NEED FOR EXPERT CONSULTATION.

3.1.1 Ensure that all appropriate sections of attachment titled, "Emergency Exposure Authorization Form" have been completed.

3.1.2 IF an exposure to excessive radiation levels occurs THEN advise the Medical Director using the guidance of attachment titled, "Emergency Exposure Evaluation Form".

3.1.3 Implement the direction of the Medical Director regarding subsequent radiological evaluations.

3.1.4 Ensure that emergency exposure data and dosimetry is provided to the dosimetry office for incorporation into the individual's exposure record in accordance with plant procedures.

3.1.5 Evaluate or obtain technical assistance from the DATL on the need for follow-up activities such as bioassay dosimetry studies.

3.1.7 Ensure all reports required by 10CFR20.2203 and 20.2204 have been completed and forwarded as appropriate.

4.0 FINAL CONDITIONS

Not applicable.

5.0 ATTACHMENTS AND APPENDICES

5.1 Attachment 1 - "Emergency Radiation Exposure Guidelines and Controls Flowchart"

5.2 Attachment 2 - "Dose Extension Form"

5.3 Attachment 3 - "Emergency Exposure Authorization Form"

5.4 Attachment 4 - "Emergency Exposure Evaluation Form"

5.5 Attachment 5 - "Potential Health Effects of Emergency Exposure"

5.6 Attachment 6 - "Emergency Exposure Guidelines"

6.0 SUPPORTING INFORMATION

6.1 PURPOSE

The purpose of this procedure is to provide guidelines and administrative controls for radiation exposures in excess of PBAPS administrative dose control levels during emergencies.

6.2 CRITERIA FOR USE

This procedure may be activated at the Unusual Event, Alert, Site Emergency or General Emergency event classification, or at the discretion of the ED. This procedure applies when emergency response actions undertaken in accordance with Step 6.1 are expected to result in radiation exposures in excess of PBAPS administrative dose control levels.

6.3 REFERENCES

6.3.1 Biological Effects of Ionizing Radiation III, National Academy of Science, National Research Council

6.3.2 Code of Federal Regulations, Title 10, Energy, Part 20, Standards for Protection Against Radiation

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

6.3.4 Nuclear Emergency Plan

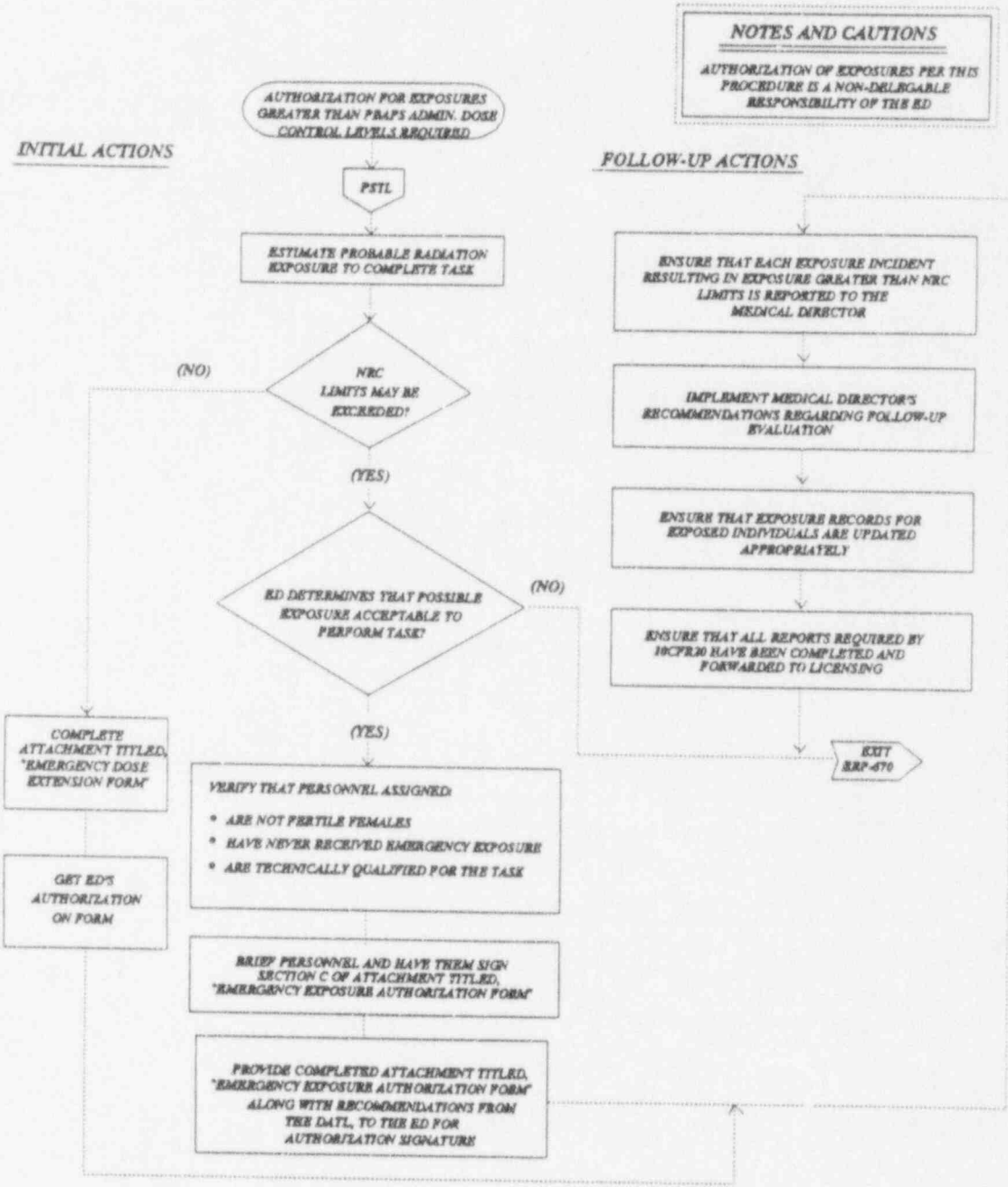
6.3.5 A-106, "Dosimetry Program"

6.3.6 EPA-400, "Manual of Protective Action Guides and Protective Actions for Nuclear Emergencies"

6.4 COMMITMENT ANNOTATION

6.4.1 None

ATTACHMENT 1
EMERGENCY RADIATION EXPOSURE GUIDELINES AND CONTROLS
FLOW CHART
(Page 1 of 1)



ATTACHMENT 2
DOSE EXTENSION FORM

Due to the emergency condition, approval is being given to waive the normal administrative dose control limits and dose extension process of A-106, "Dosimetry Program".

This dose extension approval allows emergency response personnel to receive up to the 10CFR20 yearly exposure limits.

APPROVALS

Personnel Safety Team Leader	Date/Time
Emergency Director	Date/Time

ATTACHMENT 3
EMERGENCY EXPOSURE AUTHORIZATION FORM
(Page 1 of 2)

Section A - Individual/Task Information

Name (to receive exposure):_____

Soc. Sec. No:_____ Gender: M / F Age:_____

Individual TLD No.:_____

Employer/Work Group:_____/_____

Task(s) to be performed:_____

Location:_____

Section B - Emergency Exposure Evaluation Worksheet

Access time (A):_____ Dose rate in access area (B):_____

Work time (C):_____ Dose rate while working (D): _____

Extremity dose rate (E):_____

Return time (F):_____ Dose rate to return (G):_____

Will high levels of external contamination be present?_____

Airborne radioactive materials present:_____

Type of respiratory protection:_____Protection factor:_____

What ALARA steps to be taken?_____

External Dose:

Estimated dose to access (A x B):_____

Estimated dose to return (F x G):_____

Estimated dose to perform work (C x D):_____

Estimated extremity dose (C x E):_____

Total external:_____

Internal Dose:

$\frac{\text{DACs present}}{\text{Protection factor}}$ x work time (hrs) = _____ DAC-hrs exposur

ATTACHMENT 3
EMERGENCY EXPOSURE AUTHORIZATION FORM
(Page 2 of 2)

Section C - Conditions

	INITIAL VERIFICATION
Individual is technically qualified for assigned task(s).	_____
Individual is familiar with radiological consequences of exposure.	_____
Individual is not pregnant.	_____
Individual has not received a previous emergency exposure.	_____
Individual considers himself in good general health.	_____

Section D - Volunteer Statement
(Required only if authorized dose >25 Rem TEDE)

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

Signature:_____ Date:_____

Section E - Recommendation and Approval

Basis for Authorization:

Action to Protect Valuable Property:_____

Action to Save Life/Protect Large Population:_____

Authorized Dose Limit:_____

PSTL Recommendation:_____ Date/Time:_____

ED Approval:_____ Date/Time:_____

ATTACHMENT 4
EMERGENCY EXPOSURE EVALUATION FORM

1. Dose assigned for entry (TEDE): _____

2. TLD/DRD results: _____

3. Bioassay results: _____

4. Medical evaluation/action: _____

_____

_____

_____

Physician: _____ Date/Time contacted: _____

5. Disposition (allow additional exposure, restricted access, etc.):

_____

_____

_____

Individual assigned to follow up report(s): _____

PSTL: _____ Date: _____

** Forward copy of this form to the PECO Medical Director **

ATTACHMENT 5
POTENTIAL HEALTH EFFECTS OF EMERGENCY EXPOSURE

HEALTH EFFECTS ASSOCIATED WITH WHOLE-BODY ABSORBED DOSES RECEIVED WITHIN A FEW HOURS(1)

Whole Body Absorbed Dose (rad)	Early Fatalities (2) (percent)
140	5
200	15
300	50
400	85
460	95

(1) Risks will be lower for protracted exposure periods.

(2) Supportive medical treatment may increase the dose at which these frequencies occur by approximately 50 percent.

APPROXIMATE CANCER RISK TO AVERAGE INDIVIDUALS FROM 25 REM EFFECTIVE DOSE EQUIVALENT DELIVERED PROMPTLY

Age of exposure (years)		Average years of life lost if premature death occurs (years)
20 to 30	Appropriate risk of premature death (deaths/1000 persons exposed)	24
30 to 40		19
40 to 50		15
50 to 60		11

Source: EPA-400, Manual of Protective Action Guides and Protective Actions for Nuclear Emergencies

ATTACHMENT 6
EMERGENCY EXPOSURE GUIDELINES

NOTE:

THESE LIMITS APPLY TO ALL NON-PREGNANT ADULTS.

ACTIVITY	TEDE LIMIT	LENS OF EYE LIMIT	ANY OTHER ORGAN, INCLUDING THYROID, SKIN, EXTREMITIES	CONDITIONS
ALL	5	15	50	
PROTECTING VALUABLE PROPERTY	10	30	100	LOWER DOSES NOT PRACTICAL
LIFE SAVING OR PROTECTION OF LARGE POPULATIONS	25	75	250	LOWER DOSES NOT PRACTICAL
LIFE SAVING OR PROTECTION OF LARGE POPULATIONS	>25	>75	>250	MUST BE VOLUNTARY. VOLUNTEER MUST BE FULLY AWARE OF RISKS.

Source: EPA-400, Manual of Protective Action Guides and Protective Actions for Nuclear Emergencies

PECO ENERGY COMPANY
PEACH BOTTOM UNITS 2 AND 3
EMERGENCY RESPONSE PROCEDURE

APPROVED BY: _____ 12/30/93
RESPONSIBLE SUPT./DATE

ERP-680 CONTROL OF THYROID BLOCKING POTASSIUM IODIDE (KI) TABLETS

1.0 RESPONSIBILITIES

1.1 The Personnel Safety Team Leader (PSTL) is responsible for recommending when potassium iodide (KI) administration is warranted, and advises the Emergency Director (ED).

1.2 The PSTL is responsible for distribution and administration of KI tablets.

1.3 The ED is responsible for authorizing the use of KI.

****
* CAUTION: *
* *
* 1. THE TAKING OF KI TABLETS IS STRICTLY VOLUNTARY FOR EACH *
* INDIVIDUAL. HOWEVER, ONCE ADMINISTERED, DOSAGE SHOULD CONTINUE *
* FOR A MINIMUM OF THREE DAYS BUT, PREFERABLY FOR 10 CONSECU- *
* TIVE DAYS, TO PROVIDE THE FULL PROTECTIVE EFFECT. *
* *
* 2. PERSONNEL HAVING KNOWN ALLERGY REACTIONS TO IODINE SHALL NOT *
* BE ADMINISTERED KI UNLESS ABSOLUTELY NECESSARY AND ONLY WITH *
* SPECIFIC MEDICAL DIRECTION. *
* *
* 3. KI IS MOST EFFECTIVE IF ADMINISTERED WITHIN 1 HOUR OF EXPECTED *
* EXPOSURE OR SHORTLY AFTER EXPOSURE BEGINS. USE SEVERAL HOURS BEFORE *
* EXPECTED EXPOSURE WILL SIGNIFICANTLY REDUCE EFFECTIVENESS OF *
* PROTECTIVE EFFECT. *
****

2.0 INITIAL ACTIONS

NOTE: ATTACHMENT TITLED, "CONTROL OF THYROID BLOCKING POTASSIUM IODIDE (KI) TABLETS FLOW CHART", MAY BE USED AS A GUIDE FOR THE FOLLOWING ACTIONS.

2.1 The ED shall:

2.1.1 Review the recommendation of the PSTL that KI administration will be beneficial in reducing radioactive iodine uptake to the thyroid gland.

2.1.2 Authorize KI administration based on PSTL recommendation by signing attachment titled, "KI Authorization".

2.2 The PSTL shall:

2.2.1 Determine the need for administering KI by completing attachment titled, "Potassium Iodide Worksheet", for each individual to be evaluated.

2.2.2 Determine if KI administration will be beneficial based upon a projected thyroid CDE exceeding 25 rem (950 DAC-hrs or at PSTL's discretion).

2.2.3 Recommend to the ED that KI administration will be beneficial in reducing projected thyroid CDE and request decision to administer KI.

2.2.4 Upon notification that the ED has approved administration of KI, assign an individual(s) to be responsible for KI distribution and administration of KI.

2.2.4.1 Provide the names of each individual approved for KI administration.

2.2.4.2 Direct that KI be administered using attachment titled, "KI Authorization" and logged on attachment titled "Potassium Iodine Administration Record Form".

2.2.5 Ensure the names of each individual approved for KI administration is provided to the appropriate group leaders and direct them to send personnel to the personnel assigned distribution and administration responsibilities.

NOTE: NO CREDIT IS GIVEN OR ALLOWED FOR KI USE IN EVALUATION FOR COMPLIANCE WITH THE NRC LIMIT.

2.2.6 Consider whether the dose contribution from exposure to airborne radionuclides will require the need for Emergency Dose Authorization. Advise the ED, per ERP-670, "Emergency Radiation Exposure Guidelines and Controls".

2.3 When directed by the PSTL and when attachment titled "KI Authorization" is received, the responsible personnel shall:

2.3.1 Assemble the personnel to be treated.

2.3.2 Obtain an adequate supply of tablets from:

a. Hp Equipment Locker (OSC)
b. Unit #1 Equipment Room

2.3.3 Check the expiration date on each bottle.

2.3.4 If tablets have expired, obtain a supply from alternate locations.

2.3.5 Brief personnel taking KI concerning the following and obtain their signature on attachment titled, "Potassium Iodide Consent Form".

2.3.5.1 That taking KI is strictly voluntary for each individual.

2.3.5.2 That side effects notived shall be reported immediately.

2.3.6 Discuss cases of individuals with known allergy to iodine with the PSTL. If possible, these individuals should not be assigned to duties where radioiodine exposure is likely.

2.3.7 Administer tablets to personnel who already have been exposed to radioiodine first or, preceding exposure, preferably no more than 1 hour before expected exposure.

2.3.8 Provide each individual receiving KI with a copy of attachment titled, "Instruction and Record Sheet for Persons Receiving KI", and instruct them to report back each day for follow-up dosages.

2.3.9 Complete the information required for each person on attachment titled, "Potassium Iodide Administration Record Form". Use this information to administer follow-up dosages.

2.3.10 Inform the PSTL when completed.

2.3.11 Inform the PSTL of any reported side effects.

3.0 CONTINUING ACTIONS

3.1 The PSTL shall:

3.1.1 Notify the ED in writing of all persons who received KI.

3.1.2 Ensure that the KI is administered in the proper dosage and for the proper number of doses as described on the attachment

titled, "Instruction and Record Sheet for Persons Receiving KI".

3.1.3 Notify the Medical Director of all reported side effects.

4.0 FINAL CONDITIONS

4.1 Thyroid uptake of iodine is evaluated and resultant radiation doses estimated and entered into personnel monitoring records.

4.2 Reports and evaluations are completed and any exposure in excess of the applicable limits in 10CFR20.2203 are reported to the NRC pursuant to 10CFR20.2204

4.3 Exposure data is reported to the individual pursuant to 10CFR19.13.

4.4 The ED shall verify reports required by the Reportability Reference Manual are completed.

5.0 ATTACHMENTS AND APPENDICES

5.1 Attachment 1 - "Control of Thyroid Blocking Potassium Iodide (KI) Tablets Flow Chart"

5.2 Attachment 2 - "Potassium Iodide Worksheet"

5.3 Attachment 3 - "Potassium Iodide Administration Record Form"

5.4 Attachment 4 - "Potassium Iodide Consent Form"

5.5 Attachment 5 - "Instruction and Record Sheet for Persons Receiving KI"

5.6 Attachment 6 - "KI Authorization"

6.0 SUPPORTING INFORMATION

6.1 PURPOSE

This procedure provides guidelines for administration of potassium iodide (KI) as a radio-protective drug to emergency workers for protection against airborne radioiodine.

6.2 CRITERIA FOR USE

This procedure may be utilized at the Unusual Event, Alert, Site Emergency or General Emergency event classification or at the discretion of the ED whenever anticipated thyroid doses to emergency workers from radioiodines may exceed approximately 10-30 rem.

6.3 SPECIAL EQUIPMENT

6.3.1 None

6.4 REFERENCES

6.4.1 Code of Federal Regulations, Title 10, Energy, Parts 19 and 20

6.4.2 NRCP, Report No. 55, Protection of the Thyroid Gland in the Event of Exposure

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

6.4.4 Nuclear Emergency Plan

6.4.5 Reference Manual: Identification and Evaluation of Potentially Reportable Items.

6.4.6 ERP-670, "Emergency Radiation Exposure Guidelines and Controls"

6.5 COMMITMENT ANNOTATION

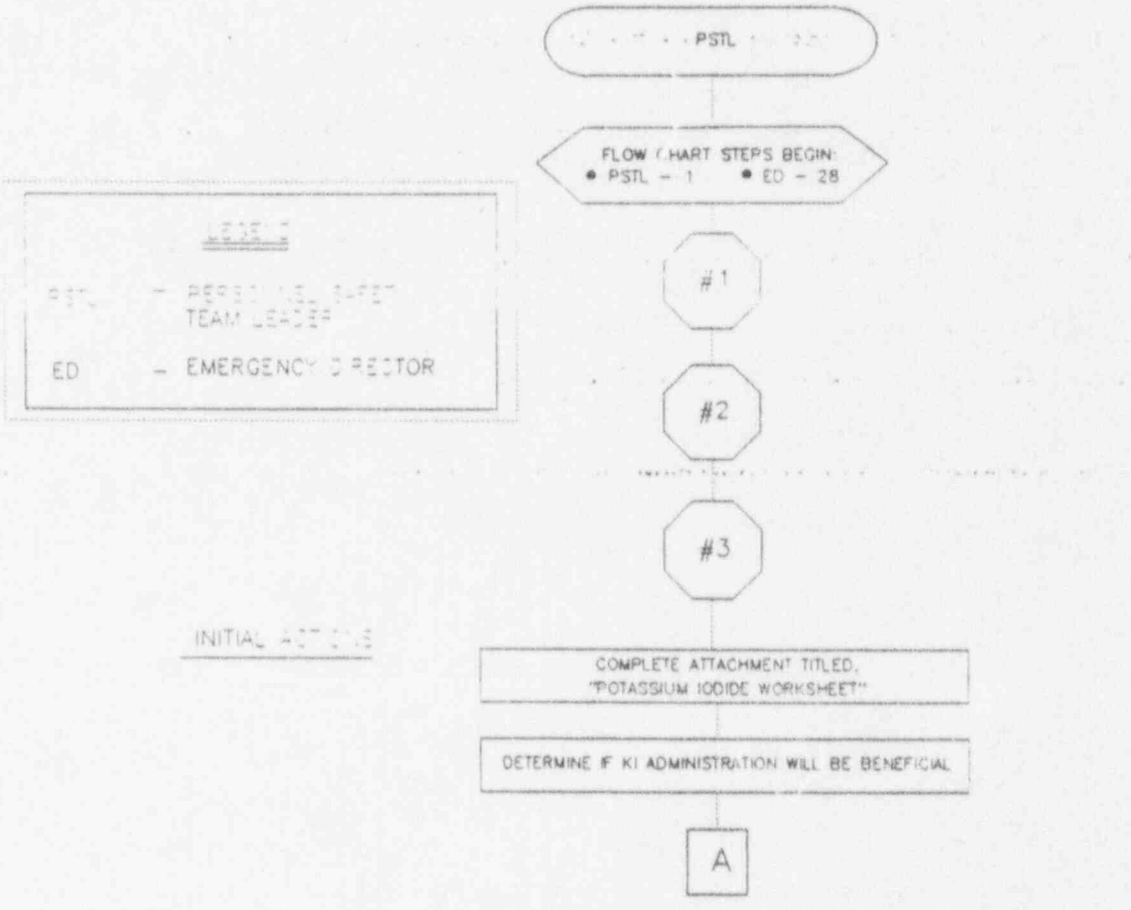
6.5.1 None

ATTACHMENT 1

CONTROL OF THYROID BLOCKING POTASSIUM IODIDE (KI) TABLETS

FLOW CHART

(Page 1 of 4)



NOTES AND CAUTIONS

#1 THE TAKING OF KI TABLETS IS STRICTLY VOLUNTARY FOR EACH INDIVIDUAL INVOLVED. HOWEVER, ONCE ADMINISTERED, DOSAGE SHOULD CONTINUE FOR A MINIMUM OF THREE DAYS BUT PERFERABLY FOR 10 CONSECUTIVE DAYS TO PROVIDE THE FULL PROTECTIVE EFFECT.

#2 PERSONNEL HAVING KNOWN ALLERGY REACTIONS TO IODINE SHALL NOT BE ADMINISTERED POTASSIUM IODIDE UNLESS ABSOLUTELY NECESSARY AND ONLY WITH SPECIFIC MEDICAL DIRECTION.

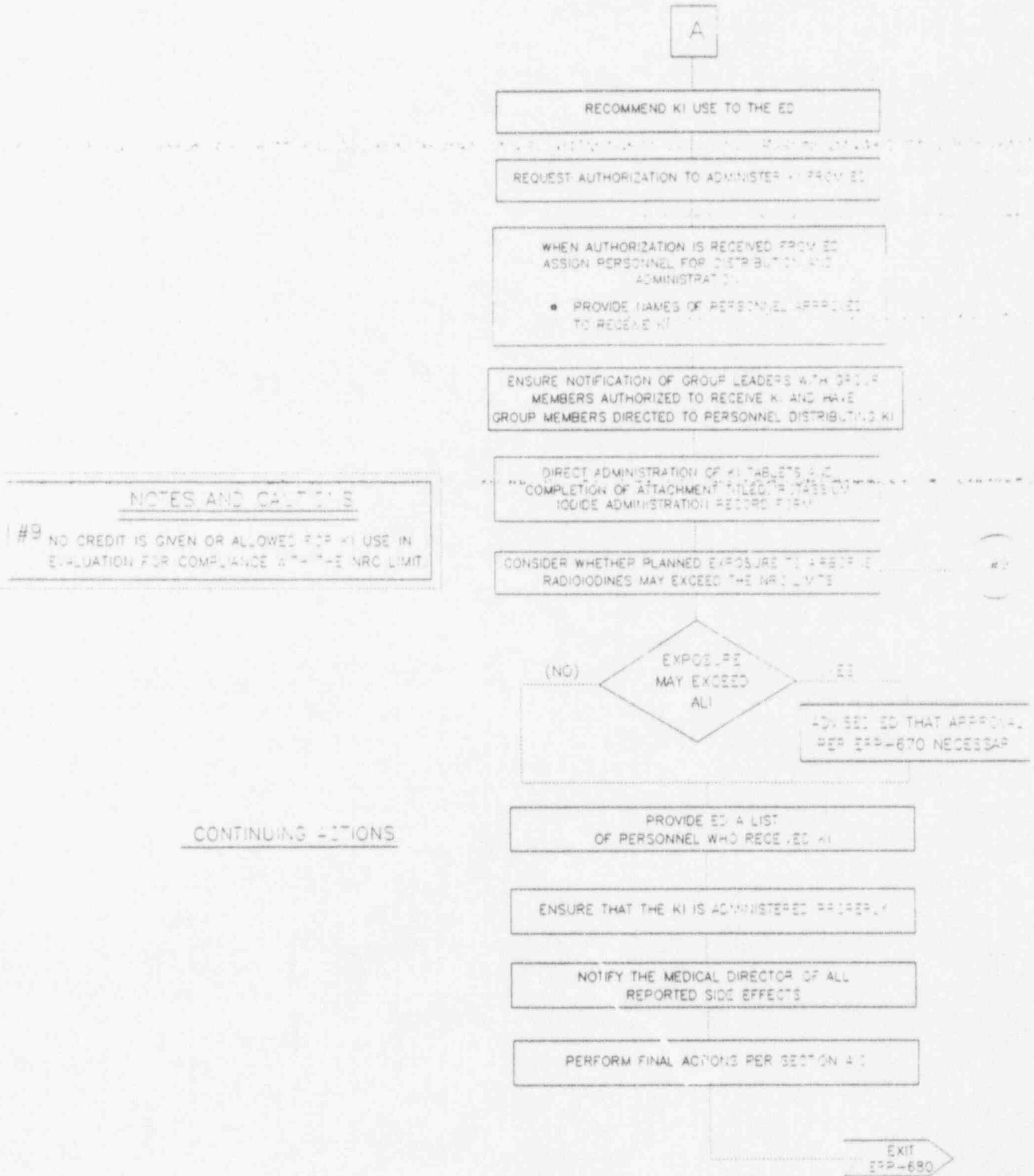
#3 KI IS MOST EFFECTIVE IF ADMINISTERED WITHIN 1 HOUR OF EXPECTED EXPOSURE OR SHORTLY AFTER EXPOSURE BEGINS. USE SEVERAL HOURS BEFORE EXPECTED EXPOSURE WILL SIGNIFICANTLY REDUCE EFFECTIVENESS OF PROTECTIVE EFFECT.

ATTACHMENT [illegible]

[illegible] OF THYROID BLOCKING POTASSIUM IODIDE [illegible] TABLETS

FLOW CHART

(Page 2 of 4)



ATTACHMENT 1

CONTROL OF THYROID BLOCKING POTASSIUM IODIDE (KI) TABLETS

FLOW CHART

INITIAL ACTIONS

INDIVIDUAL ASSIGNED KI DISTRIBUTION AND ADMINISTRATION RESPONSIBILITIES PER PSTL

ASSEMBLE THE PERSONNEL TO BE TREATED

OBTAIN AN ADEQUATE SUPPLY OF TABLETS

CHECK THE EXPIRATION DATE

IF EXPIRED, OBTAIN FROM ALTERNATE LOCATIONS

HAVE EACH INDIVIDUAL SIGN A COPY OF ATTACHMENT TITLED, "POTASSIUM IODIDE CONSENT FORM"

DISCUSS CASES OF KNOWN ALLERGY WITH THE PSTL

FIRST ADMINISTER TABLETS TO PERSONNEL WHO HAVE BEEN EXPOSED

PROVIDE EACH INDIVIDUAL WITH ATTACHMENT TITLED "INSTRUCTION AND RECORD SHEET FOR PERSONS RECEIVING KI"

INSTRUCT INDIVIDUAL TO REPORT BACK EACH DAY

COMPLETE THE INFORMATION ON ATTACHMENT TITLED "POTASSIUM IODIDE ADMINISTRATION RECORD FORM"

INFORM PSTL WHEN TASK COMPLETED

INFORM PSTL OF ALL REPORTED SIDE EFFECTS

EXIT ERP-230

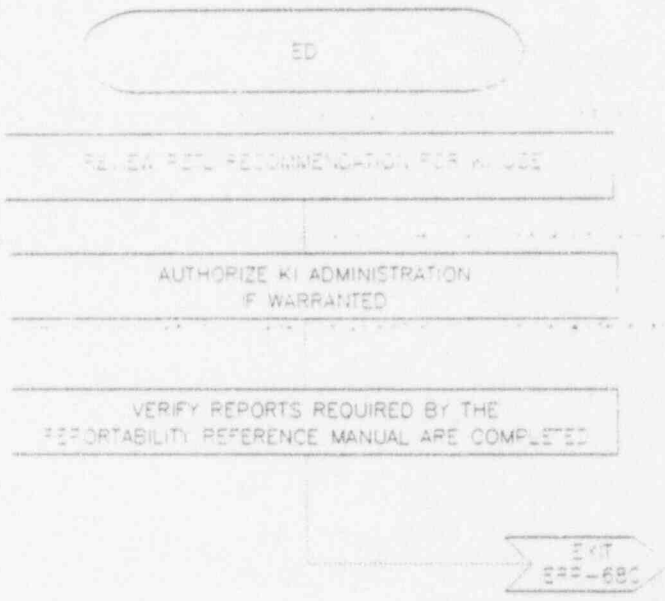
ATTACHMENT 1

CONTROL OF THYROID BLOCKING POTASSIUM IODIDE (KI) TABLETS

FLOW CHART

(Page 4 of 4)

INITIAL ACTIONS



ATTACHMENT 2

POTASSIUM IODIDE WORKSHEET

Date:_____ Time:_____ Plant Phone:_____
Home Phone:_____
Name:_____ Emergency Contact (Name):_____
Phone:_____

Payroll Number:_____ or S.S. Number:_____

Area to be entered:_____
I-131 Concentration (uCi/cc) in affected area:_____
Respiratory equipment to be used:

Type	Protection Factor	
Air purifying*	1	_____
Atmosphere supplying	2,000	_____
SCBA	10,000	_____
NONE	1	_____

Previous iodine exposure during this emergency:_____DAC-hrs(D)

Perform evaluation:

NOTE:

I-131 DAC IS 2 N8 UCI/CC

Estimated DAC Fraction:_____DAC (A)
Task time:_____Hours (B)
Protection factor:_____ (C)

Total thyroid:

$$\text{Exposure} = \frac{A\_\_\_\_ \times B\_\_\_\_}{C\_\_\_\_} + D\_\_\_\_$$

Exposure = _____ DAC-Hrs

If exposure exceeds 950 DAC hours:

a. Consider recommendation to administer KI

*Use combination charcoal-filter type canister (GMR-I) when iodine may be present and use of air-supply type devices is not feasible.

Calculation completed by:_____
(Signature)

ATTAC[illegible] I 3
POTASSIUM IODIDE ADMI[illegible]STRATION RECORD FORM
(Page ___ of ___)

NAME	PAYROLL OR SS NUMBER	EMPLOYER	DATE ADMINISTERED/INITIAL									

INSTRUCTION: Enter Name, Payroll Number, Employer; for each date that a tablet is administered, enter the date and initial.

ATTACHMENT 4

POTASSIUM IODIDE CONSENT FORM

I _____ volunteer to receive 130 milligrams of the thyroid blocking agent potassium iodide (KI) per day for the next 10 days. I have been informed by a representative of PECo that this drug will block the absorption of radioiodine by my thyroid and thereby reduce the exposure to radiation of the thyroid; that potassium iodide does not reduce the uptake of other radioactive materials by the body; nor, does it provide protection against exposure from external radiation. I also understand that there may be some side effects upon taking this drug.

Skin rashes
Swelling of parotid glands ("like mumps")
Metallic taste in mouth
Burning mouth and throat
Sore teeth and gums
Symptoms of a head cold
Gastric upset
Diarrhea

An allergic reaction may be experienced by a few people. Symptoms could be fever and joint pain, or swelling of parts of the face and body and, at times, severe shortness of breath requiring immediate medical attention.

By signing below, I acknowledge that I am not aware of any allergy to iodine.

Signature _____

Date _____

ATTACHMENT 5

INSTRUCTION AND RECORD SHEET FOR PERSONS RECEIVING KI

Instructions:

Individual administering KI shall complete applicable section of Part A and B.
Whole body Counter Tech shall complete applicable section of Part B.

PART A:

Name: _____

Payroll/
SS Number: _____

****
* CAUTION: *
* *
* REPORT SICKNESS AND SIDE EFFECTS IMMEDIATELY. *
****

You have just received 130 mgs. of the thyroid blocking agent KI. In order to be most effective you should receive an additional nine (9) doses over the next 9 days. Each day for the next 9 days, take this form and report to the _____ for a thyroid count/whole body count and another KI pill.

PART B

	Date	130 mg KI Tablets Issued (Date, Time, Initials)	Thyroid Count/Whole Body Count Performed (Date, Time, Initials)
1.	_____	_____	_____
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____
7.	_____	_____	_____
8.	_____	_____	_____
9.	_____	_____	_____
10.	_____	_____	_____

Individual administering KI complete:

I acknowledge that I have been directed by PSTL with concurrence of ED to administer KI to person listed above.

_____ _____ _____
Signature Date Time

ATTACHMENT 6

KI AUTHORIZATION
(Page 1 of 1)

To be used when administration of KI is necessary. When time or access considerations dictate this form may be transmitted by facsimile (telecopier).

TO: _____

POSITION: _____

DATE: _____ TIME: _____

You are authorized to administer KI in accordance with ERP-680 to the individuals named below.

Name	PECo ID# or SSN	Contractor Name (If available)

Approved PSTL _____ _____ _____
Signature Date Time

Approved ED _____ _____ _____
Signature Date Time

Person administering KI to complete:

I acknowledge that I have been directed by PSTL with approval of the ED to administer KI to persons listed above.

_____ _____ _____
Signature Date Time

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

February 16, 1994

DOCKET NO. 50-277/278

MEMORANDUM FOR: Chief, Document Control Branch, IRM

FROM: Director, Division of Freedom of Information and Publications Services, ADM

SUBJECT: REVIEW OF UTILITY EMERGENCY PLAN DOCUMENTATION

The Division of Freedom of Information and Publications Services has reviewed the attached document and has determined that it may now be made publicly available.

Donnie H. Grimsley

Donnie H. Grimsley, Director
Division of Freedom of Information
and Publications Services
Office of Administration