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104 - 104 - RADIATION PROTECTION COORDINATOR (RPC):
EMERGENCY PLSN-POSITION SPECIFIC PROCEDURE

REMOVE MANUAL TABLE OF CONTENTS DATE: 08/08/2002

ADD MANUAL TABLE OF CONTENTS DATE: 08/22/2002

CATEGORY: PROCEDURES TYPE: EP

ID: EP-PS-104

REMOVE: REV:14

ADD: REV: 15

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AX45

PROCEDURE COVER SHEET

PPL SUSQUEHANNA, LLC		NUCLEAR DEPARTMENT PROCEDURE	
RADIATION PROTECTION COORDINATOR: Emergency Plan-Position Specific Procedure			EP-PS-104 Revision 15 Page 1 of 4
QUALITY CLASSIFICATION: <input type="checkbox"/> QA Program <input checked="" type="checkbox"/> Non-QA Program		APPROVAL CLASSIFICATION: <input type="checkbox"/> Plant <input type="checkbox"/> Non-Plant <input checked="" type="checkbox"/> Instruction	
EFFECTIVE DATE: <u>8-22-2002</u> PERIODIC REVIEW FREQUENCY: <u>2 Years</u> PERIODIC REVIEW DUE DATE: <u>8-22-2004</u>			
RECOMMENDED REVIEWS: All			
Procedure Owner: <u>Nuclear Emergency Planning</u> Responsible Supervisor: <u>Radiation Protection Manager</u> Responsible FUM: <u>Supv.-Nuclear Emergency Planning</u> Responsible Approver: <u>Vice President-Nuclear Operations</u>			

RADIATION PROTECTION COORDINATOR (RPC):

Emergency Plan-Position
Specific Procedure

WHEN: Technical Support Center (TSC) is activated
HOW NOTIFIED: Paged, phone backup
REPORT TO: TSC Emergency Director
WHERE TO REPORT: TSC

OVERALL DUTY:

Quantify and assess radiological conditions both on- and off-site, then recommend emergency classification and protective actions.

MAJOR TASKS:

TAB:

REVISION:

Obtain briefing on the emergency.	TAB A	2
Activate TSC Health Physics group and, if needed, request EOF activation.	TAB B	4
Make sure initial habitability is assessed.	TAB C	7
Take inventory of information required to analyze the radiological situation.	TAB D	4
Brief Emergency Director in the TSC on what you know about radiological conditions and Health Physics staff.	TAB E	1
Assess emergency classification and confirm or recommend changes to the Emergency Director.	TAB F	4
Assess and recommend protective actions to the Emergency Director.	TAB G	9
Communicate with DEP/BRP.	TAB H	4
Continue assessing radiological situation, updating Emergency Director, TSC staff, and Health Physics staff.	TAB I	7
Evaluate and approve emergency exposure extensions.	TAB J	1

MAJOR TASKS:

TAB:

REVISION:

Manage turn over to the next shift.

TAB K

0

Manage vehicle decontamination.

TAB L

1

Transfer Back Calculations, and responsibility
for DEP/BRP communications to the EOF.

TAB M

3

SUPPORTING INFORMATION:

TAB:

Emergency Telephone Instructions	TAB 1
Emergency Organization	TAB 2
Response Levels for Protection Action Guides	TAB 3
SSES Contamination Response Plan	TAB 4
Emergency Facility Form Flow	TAB 5
Emergency Classification	TAB 6
Public Protective Action Recommendation Guide	TAB 7
PPL Emergency Personnel Dose Assessment and Protective Action Recommendation (PAR) Guide	TAB 8
TSC Rad Staff Responsibilities	TAB 9
Personnel Accountability	TAB 10
Emergency Exposure Extensions	TAB 11
Emergency Forms	TAB 12
• Protective Action Recommendation Form	
• Emergency Exposure Extension Request	
Intentionally Blank	TAB 13
Liquid Discharge Data Sheets	TAB 14
PPL Radiological Representation/Participation in FRMAC	TAB 15

REFERENCES:

SSES Emergency Plan

NUREG-0654, Planning Standards and Evaluation Criteria

NUREG-0731, Guidelines for Utility Management Structure and Technical Resources,
September 1980

SP-00-308, Emergency Medical Response

MAJOR TASK:

Continue assessing radiological situation, updating Emergency Director, TSC staff, and Health Physics staff.

SPECIFIC TASKS:

HOW:

1. Attend TSC briefing and provide radiological status.

- 1a. Give the status of the following items at the briefing:

- (1) Current radiological release status and Dose Projections.
- (2) Current and forecast weather conditions.
- (3) Oscar locations, current radiological information, and Real Time Monitoring System data.
- (4) In-plant radiological conditions.
- (5) Protective action(s) implemented or under consideration.

2. Periodically brief Health Physics staff and receive updates from them.

HELP

TSC Rad Staff Responsibilities
See TAB 9

3. Perform frequent on-going assessment of radiological situation both offsite and onsite.

4. Periodically perform general HP operation assessment.

- 4a. Verify form flows, board is being maintained, contamination controls in place, and that staffing is adequate.

5. Provide information to Ops Coordinator on rad releases and projected doses to the public for use by Control Room personnel.

- 5a. Notify Operations Coordinator if doses are projected to exceed **1 rem TEDE** or **5 rem Thyroid CDE**. Control Room needs radiological data to evaluate entry conditions and action levels for EOP procedures. These procedures require operator actions such as rapid depressurization based on projected doses.

SPECIFIC TASKS:

HOW:

NOTE:

These procedures also require that projected doses be determined when containment venting is needed.

5b. Discuss projection time with Ops Coordinator. (This may differ from the default projection time being used in the dose projection model.) Consider the following:

- (1) Prognosis of event.
- (2) Time to cooldown to <200 deg.
- (3) Duration & type of release.
- (4) Weather forecasts.
- (5) Protective measures already implemented.
- (6) Release pathway - possible filtration and/or monitoring.

6. Continue to evaluate the current PAR and recommend revising the PAR to the Emergency Director based on increasing dose levels.

MAJOR TASK:

Assess and recommend protective actions to the Emergency Director.

SPECIFIC TASKS:

HOW:

1. Assess radiological status of plant and releases.

HELP

SSES Contamination Response Plan
See TAB 4

HELP

Public Protective Action Recommendation Guide
See TAB 7

2. If a liquid release has occurred which exceeds Technical Requirements Manual Limits, notify the Danville Water Authority, Public Information Manager and DEP/BRP.

HELP

Liquid Discharge Data Sheets
See TAB 14

NOTE:

Do not make any protective action recommendations directly to the Danville Water Authority.

3. If a liquid release has occurred for which the total PAG fraction exceeds 1.0, recommend protective actions for drinking water.

4. Evaluate protective action alternatives.

- 4a. In evaluating protective actions, consider:
- (1) Reducing projected release time based on weather conditions, total inventory, or damage control measures.
 - (2) Do not react on one piece of information until it can be verified to be correct.
 - (3) Impact of liquid releases on Danville Water Authority.

SPECIFIC TASKS:

HOW:

4b. When a Site Evacuation is initiated, discuss notification of the Learning Center and occupied buildings in the Exclusion Zone with the Security Coordinator and Emergency Director.

(1) Building to be notified, if occupied, are:

____ SSES Learning Center
____ Access Processing Facility
____ Warehouse #2
____ 500 KV Switchyard
____ SSES Garage

(2) Consider sending extra staff, (example: Chemistry Tech, Maintenance, Operations or OSCAR), with a bull horn, to notify these facilities of Site Evacuation.

NOTE:

Two bull horns are located in the Security Coordinator's desk. One is located in the OSCAR van.

4c. Upon call for a site evacuation, discuss notification of personnel inside the Emergency Planning Boundary.

(1) Dispatch an individual with a bull horn and vehicle to traverse the Emergency Planning Boundary announcing, "Attention all personnel, an evacuation of PPL property has been ordered and you are requested to leave immediately."

NOTE:

Two bull horns are located in the Security Coordinator's desk. Another is available in the "OSCAR" van.

SPECIFIC TASKS:

HOW:

-
- | | | |
|----|-----|--|
| | (2) | Consider using 'extra' staff, (Chem. Tech, Maintenance, or Ops personnel, OSCAR, if available), to support this activity. Copies of maps outlining the Emergency Planning Boundary are available in the Radiation Protection Coordinator's desk. |
| 5. | | Recommend changes in protective action. |
| 6. | | Assess if a protective action recommendation beyond 10 miles is appropriate. |
| | 6a. | Perform dose projection estimates for distances greater than 10 miles. |
| | 6b. | Consult with Operations and Technical Support Coordinator to verify that dose projections are consistent with plant conditions. |
| | 6c. | Insure that PAR's have been made for distances up to 10 miles. |
| | 6d. | Recommend a PAR rounding up the distance to the nearest 5 mile increment until dose projections are less than 1 REM TEDE or 5 REM TEDE. |

MAJOR TASK:

Make sure initial habitability is assessed.

SPECIFIC TASKS:

HOW:

1. Check that initial habitability is assessed in the TSC, Control Structure, Chem Lab In-plant Team Staging Area and Accountability Areas.

- 1a. Upon TSC activation, assess habitability based on:

- (1) CREOASS rad and chlorine monitors.

NOTE:

Chem Lab ventilation has no filters or recirculation system for airborne/chlorine protection.

- (2) TSC rad Conditions.
(3) In-plant ARM/CAMS.
(4) SPING and wind direction.

2. See that initial habitability is assessed at other inhabited areas if warranted by radiological conditions.

- 2a. Consider habitability at other inhabited areas such as:

- (1) North Gate house.
(2) South Gate house.
(3) West Building.
(4) Energy Information Center.
(5) Nuclear Learning Center.
(6) Ecology III.
(7) White House.
(8) Sewage Treatment Plant.
(9) Access Processing Facility.
(10) Peach Stand.
(11) Vehicle Maintenance Shed.
(12) Security Firing Range.

- 2b. Provide guidance as needed.

SPECIFIC TASKS:

HOW:

- 2c. Consider both radiological and non-radiological, (for example, chlorine), conditions.
- 2d. Consider mobilizing (remote) ARM's or CAM's to onsite habitability areas.

HELP

Personnel Accountability
See TAB 10

- 3. When required, check habitability of the Offsite Chemistry Lab located in the West Building.

- 3a. Assess habitability of the offsite lab when notified by chemistry that samples from the site are to be taken there for analysis.

Affected Unit _____

Control No. _____

PROTECTIVE ACTION RECOMMENDATION FORM
SUSQUEHANNA STEAM ELECTRIC STATION

☐ This is a Drill ☐ This is **NOT** a Drill Preparer: _____

The EMERGENCY CLASSIFICATION is:

☐ Unusual Event ☐ Alert ☐ Site Area Emergency ☐ General Emergency

Basis: EAL # _____

This represents:

☐ Initial Classification ☐ Escalation ☐ Reduction ☐ No Change in the Classification Status

Emergency Action(s) implemented onsite:

☐ None ☐ Evacuation of non-essential personnel
☐ Local Area Evacuation ☐ KI to onsite personnel
☐ Site Accountability ☐ Other _____

Bases: _____

The PROTECTIVE ACTION RECOMMENDATION is:

☐ No Protective Action Recommendation Required

☐ Evacuate 0-2 miles and Shelter 2-10 miles

☐ Relocation

☐ Evacuate 0-10 miles

☐ Control of Access

☐ Divert Danville Drinking Water*

☐ Contamination Controls/Decon

☐ Other

*Expected arrival of release at Danville: _____

This represents: ☐ Initial ☐ Change ☐ No Change in the Protective Action Recommendation

The BASIS for the Protective Action Recommendation is:

Plant Status

Radioactive Release: ☐ Monitored ☐ Unmonitored

Status	Airborne	Liquid
< Tech Requirements Limit (Routine)	<input type="checkbox"/>	<input type="checkbox"/>
≥ Tech Requirements Limit (Event Related)	<input type="checkbox"/>	<input type="checkbox"/>

Note: TRM Limits ($\mu\text{Ci}/\text{min}$): Noble Gas $8.51\text{E}+5$; Iodine $1.04\text{E}+2$; Particulate $7.72\text{E}+2$
(Airborne releases)

Data measured in the field confirm release rate estimations: ☐ Yes ☐ No

Weather Conditions: Wind Speed _____ Wind Direction _____

Dose Projections: ☐ TEDE > 1 rem or thyroid CDE > 5 rem at 2 miles
☐ TEDE > 1 rem or thyroid CDE > 5 rem at EPB
☐ TEDE ≤ 1 rem and thyroid CDE ≤ 5 rem at EPB

Other:

Approval: _____ Date/Time: _____

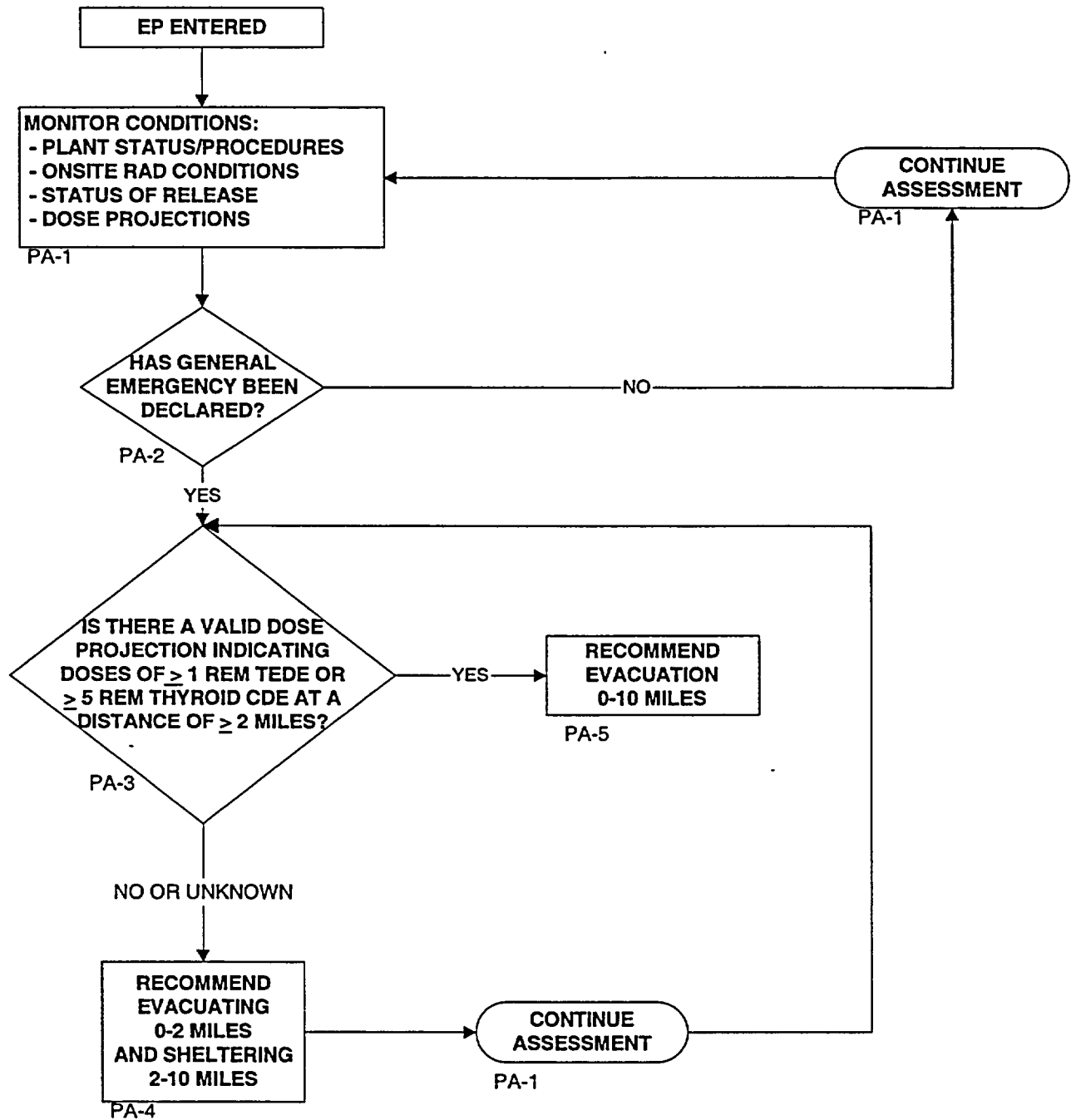
Emergency Director or Recovery Manager approval required if change in Classification or Protective Action Recommendation.
RPC or DASU approval if no change in the Classification or Protective Action Recommendation.

Transmittal: ☐ Verbal ☐ Electronic ☐ Both

Communicated To:

_____	_____	_____
NAME	AGENCY	DATE/TIME

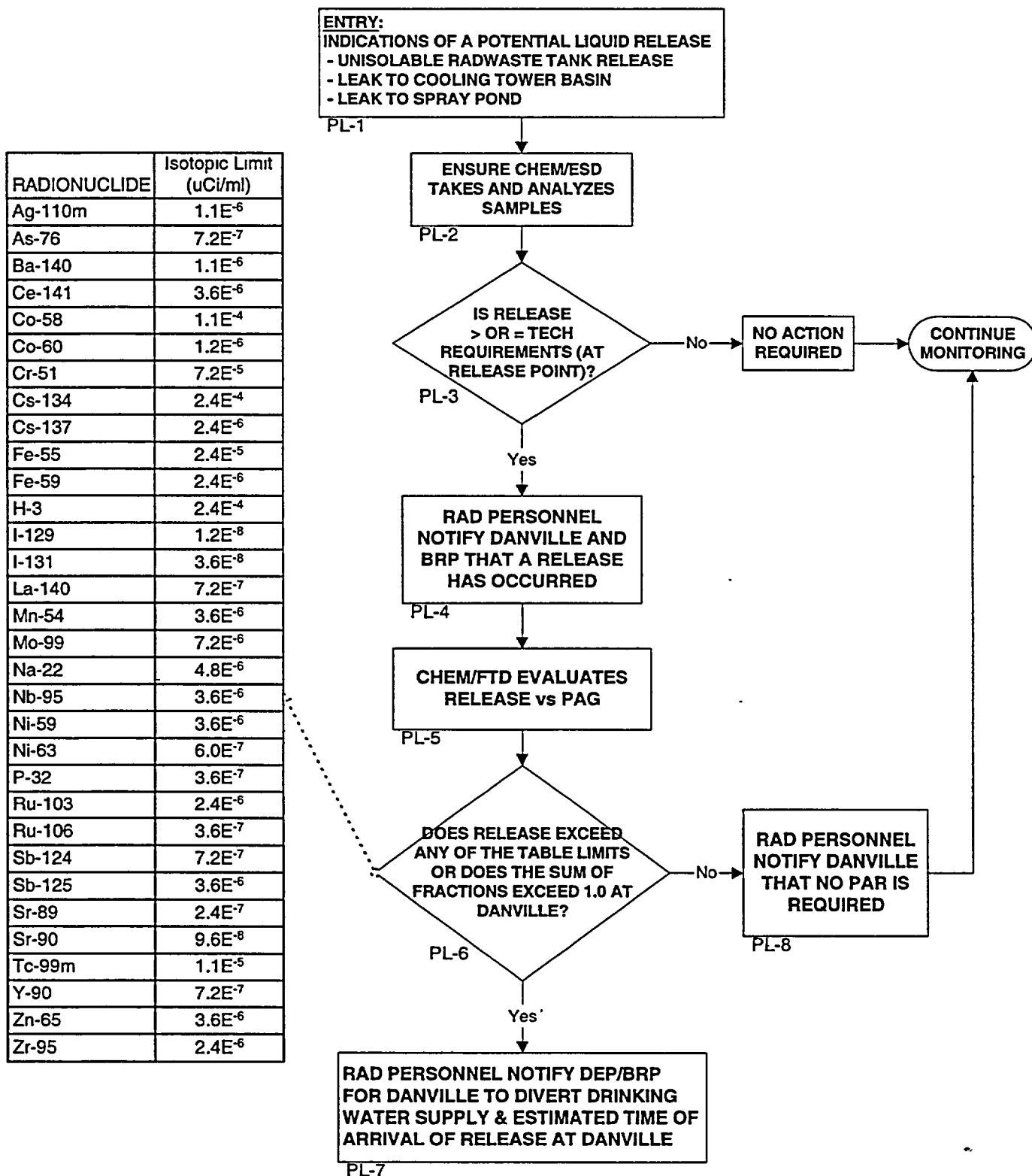
PAR AIRBORNE RELEASES



NOTES:

1. PA-# CAN BE USED TO REFER TO SECTION 4.1 OF THE PROCEDURE FOR MORE DETAILED INFORMATION ON THE ACTION TO BE TAKEN.
2. DOSE PROJECTIONS DO NOT INCLUDE DOSE ALREADY RECEIVED.
3. TEDE - WHOLE BODY (TEDE) IS THE SUM OF EFFECTIVE DOSE EQUIVALENT RESULTING FROM EXPOSURE TO EXTERNAL SOURCES. THE COMMITTED EFFECTIVE DOSE EQUIVALENT (CEDE) FROM ALL SIGNIFICANT INHALATION PATHWAYS AND THE DOSE DUE TO GROUND DEPOSITION.
4. CDE - COMMITTED DOSE EQUIVALENT TO THE CHILD THYROID.

PAR LIQUID RELEASES



NOTES:

1. PL-# CAN BE USED TO REFER TO SECTION 4.2 OF THE PROCEDURE FOR MORE DETAILED INFORMATION ON THE ACTION TO BE TAKEN.
2. CALLS TO DANVILLE ARE COURTESY INFORMATION CALLS ONLY. PROTECTIVE ACTION RECOMMENDATION CALLS MUST BE MADE BY DEP/BRP.

PUBLIC PROTECTIVE ACTION RECOMMENDATION GUIDE

AIRBORNE RELEASES

☐ PA-1 MONITOR CONDITIONS FOR PAR APPLICATION

The following conditions should be continuously evaluated to determine if a PAR should be implemented or changed:

- Plant status and prognosis for changes in conditions
- Onsite radiological conditions
- Status of actual or potential radioactive releases
- Offsite dose projections or actual offsite radiological conditions
- Escalation in Emergency Classification (i.e., General)

(Go to PA-2)

PA-2 HAS A GENERAL EMERGENCY BEEN DECLARED?

- ☐ **YES** - If a GENERAL EMERGENCY has been declared, a PAR must be made within 15 minutes of the emergency declaration. The PAR requirement is found in NUREG-0654. **(Go to PA-3)**
- ☐ **NO** - If a GENERAL EMERGENCY has not been declared, continue to monitor plant status, parameter trends, and prognosis for termination or escalation of the event. **(Go to PA-1)**

PA-3 IS THERE A VALID DOSE PROJECTION INDICATING DOSES OF ≥ 1 REM TEDE OR ≥ 5 REM CDE CHILD THYROID AT A DISTANCE OF > 2 MILES?

- ☐ **YES** – If the projected doses at 2 miles are ≥ 1 REM TEDE or ≥ 5 REM CDE child thyroid, then full evacuation (0-10 miles) is recommended.

(Go to PA-5)

- ☐ **NO/UNKNOWN** – **(Go to PA-4)**

☐ **PA-4 RECOMMEND EVACUATION 0-2 MILES; SHELTER
2-10 MILES**

Limited Evacuation (0-2 miles) and sheltering is appropriate for events that are significant enough to cause a General Emergency classification and dose projections are low, unknown, or below full evacuation guidelines.

☐ **PA-5 EVACUATE 0-10 MILES**

Full evacuation of members of the general public is recommended at this point based on the emergency classification and dose projections.

LIQUID

☐ **PL-1 ENTRY**

This section is entered when there are indications of a potential radioactive liquid release.

Indications of potential releases include:

- an unisolable radwaste tank release.
- leaks to cooling tower basin
- leak to spray pond

(Go to PL-2)

☐ **PL-2 CHEMISTRY/ENVIRONMENTAL SAMPLING
DIRECTOR (ESD) TAKES AND ANALYZES
SAMPLE**

(Go to PL-3)

**PL-3 IS RELEASE \geq TECHNICAL REQUIREMENTS
LIMITS (AT THE RELEASE POINT)?**

- ☐ **YES** - Releases are at or greater than Technical Requirements limits when Chemistry determines that the limits are exceeded based on methodologies described in the ODCM and applicable Chemistry procedures.
- ☐ **NO** - If the release is < Technical Requirements limits, then no notifications are required and monitoring should continue.

(Go to PL-4)

☐ **PL-4 RAD PERSONNEL NOTIFY DANVILLE AND BRP
THAT A RELEASE HAS OCCURRED**

Depending on which facility is activated, the notification to Danville and BRP will be made by the RPC (TSC) or the Radiological Liaison (EOF).

DO NOT MAKE ANY PROTECTIVE ACTIONS RECOMMENDATIONS AT THIS TIME.

☐ **PL-5 CHEM/FTD EVALUATES RELEASE VERSUS PAGs**

The results of the sample analysis are compared to the PAGs for radionuclides in drinking water. The analysis calculates the expected concentration at Danville, taking into account the dilution afforded by the river.

PL-6 DOES RELEASE EXCEED PAGs (AT DANVILLE)?

- ☐ **YES** - If a single isotope exceeds the PAG or the sum of the fractions exceeds 1.0, then a protective action recommendation should be made for Danville to **DIVERT** its **DRINKING WATER** supply to a backup supply until the release has passed.

(Go to PL-7)

- ☐ **NO** - If the PAGs are not exceeded, monitoring should continue and the State should be notified that no PAR for the liquid release is required. **(Go to PL-8)**

☐ **PL-7 RAD PERSONNEL NOTIFY DEP/BRP OF PAR**

Depending on which facility is activated, the PAR notification to DEP/BRP will be made by the RPC (TSC) or the Radiological Liaison (EOF). **The PAR FORM shall be used to document the PAR.**

DO NOT COMMUNICATE THE PROTECTIVE ACTION RECOMMENDATION TO DANVILLE. THE DEP/BRP IS RESPONSIBLE FOR THIS COMMUNICATION.

☐ **PL-8 RAD PERSONNEL NOTIFY DEP/BRP**

No PAR is required. Depending on which facility is activated, the RPC (TSC) or the Radiological Liaison (EOF) shall notify DEP/BRP that no PAR is required.