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TRANSMITTAL INFORMATION:

TO: ~~GERLACH*ROSE M~~ 10/31/2003
LOCATION: DOCUMENT CONTROL DESK
FROM: NUCLEAR RECORDS DOCUMENT CONTROL CENTER (NUCSA-2)
THE FOLLOWING CHANGES HAVE OCCURRED TO THE HARDCOPY OR ELECTRONIC MANUAL ASSIGNED TO YOU:

243 - 243 - RADIOLOGICAL LIAISON

REMOVE MANUAL TABLE OF CONTENTS DATE: 10/27/2003

ADD MANUAL TABLE OF CONTENTS DATE: 10/30/2003

CATEGORY: PROCEDURES TYPE: EP

ID: EP-PS-243

REPLACE: REV:5

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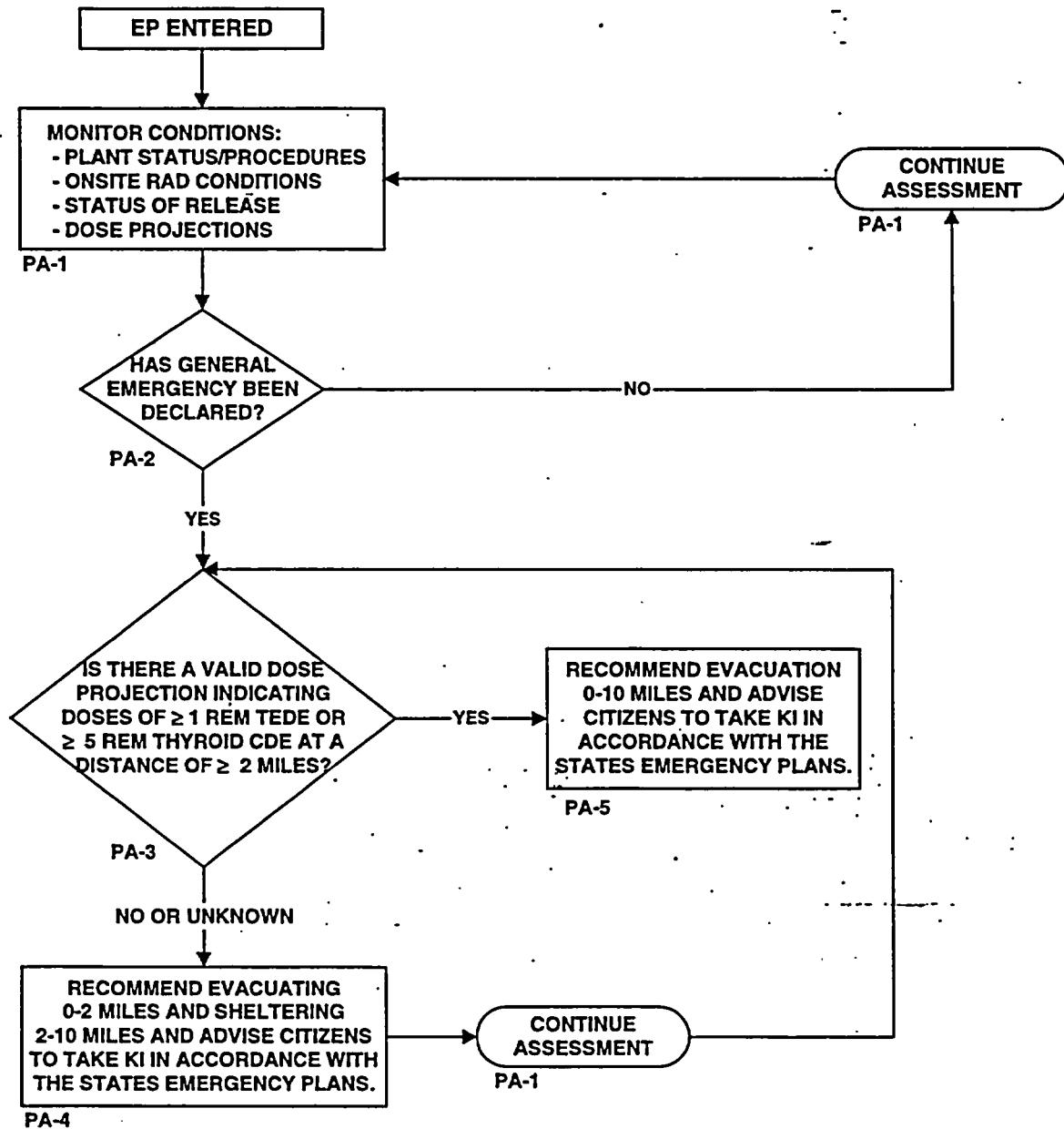
REMOVE: PCAF 2003-1605 REV: N/A

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A045

PAR AIRBORNE RELEASES



NOTES:

1. PA-# CAN BE USED TO REFER TO PROCEDURE STEPS 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

ENTRY:
INDICATIONS OF A POTENTIAL LIQUID RELEASE
- UNISOLABLE RADWASTE TANK RELEASE
- LEAK TO COOLING TOWER BASIN
- LEAK TO SPRAY POND

PL-1

ENSURE CHEM/ESD
TAKES AND ANALYZES
SAMPLES

PL-2

IS THERE AN
UNPLANNED RELEASE
TO THE RIVER
ATTRIBUTABLE TO THE
EVENT?

No
NO ACTION
REQUIRED

CONTINUE
MONITORING

PL-3

Yes

RAD PERSONNEL NOTIFY
DEP/BRP THAT A RELEASE
HAS OCCURRED

PL-4

IS RELEASE > OR =
TECH REQUIREMENTS (AT
RELEASE POINT)?

No

PL-5

Yes

RAD PERSONNEL NOTIFY
DANVILLE THAT A RELEASE
HAS OCCURRED

PL-6

CHEM/FTD EVALUATES
RELEASE vs PAG

PL-7

DOES RELEASE EXCEED
ANY OF THE SINGLE-NUCLIDE
EC VALUES OR DOES THE
SUM OF EC FRACTIONS
EXCEED 0.85
AT DANVILLE?

No

RAD PERSONNEL
NOTIFY DEP/BRP
THAT NO PAR IS
REQUIRED

PL-10

PL-8

Yes

RAD PERSONNEL NOTIFY DEP/BRP
FOR DOWNSTREAM USERS TO DIVERT
WATER SUPPLY & ESTIMATED TIME OF
ARRIVAL OF RELEASE AT DANVILLE

PL-9

RADIONUCLIDE	EC Values ($\mu\text{Ci/ml}$)
Co-60	3E^{-4}
Sr-91	2E^{-4}
Mo-99	2E^{-4}
Te-132	9E^{-4}
I-131	1E^{-4}
I-133	7E^{-4}
I-134	4E^{-4}
I-135	3E^{-4}
Cs-134	9E^{-7}
Cs-136	6E^{-4}
Cs-137	1E^{-4}
Ba-139	2E^{-4}
Ba-140	8E^{-4}
Ba-141	3E^{-4}
Np-239	2E^{-4}

NOTES:

1. PL-# CAN BE USED TO REFER TO PROCEDURE STEPS 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 AND ADVISE CITIZENS TO TAKE KI IN ACCORDANCE WITH THE STATE'S EMERGENCY PLANS.

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. A recommendation is also given to the state to advise citizens to take KI in accordance with the state's emergency plans.

PA-5 EVACUATE 0-10 MILES AND ADVISE CITIZENS TO TAKE KI IN ACCORDANCE WITH THE STATE'S EMERGENCY PLANS.

Full evacuation of members of the general public is recommended at this point based on the emergency classification and dose projections. A recommendation is also given to the state to advise citizens to take KI in accordance with the state's emergency plans.

LIQUID

PL-1 ENTRY

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

Indications of potential unplanned 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 THERE AN UNPLANNED RELEASE TO THE RIVER?

- YES** — An unplanned release to the river has occurred when event-related radioactive materials are released to the river that are not controlled by the release methodologies described in the ODCM and applicable Chemistry procedures.

(Go to PL-4)

- NO** — If there is no unplanned release to the river, then no notifications are required and monitoring should continue.
-

PL-4 RAD PERSONNEL NOTIFY DEP/BRP THAT A RELEASE HAS OCCURRED

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

DO NOT MAKE ANY PROTECTIVE ACTION RECOMMENDATIONS AT THIS TIME.

(Go to PL-5)

LIQUID (CONT'D)

PL-5 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.

(Go to PL-6)

- NO** — If the release is $<$ Technical Requirements limits, then no further notifications are required and monitoring should continue.

PL-6 RAD PERSONNEL NOTIFY DANVILLE THAT A RELEASE HAS OCCURRED

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

DO NOT MAKE ANY PROTECTIVE ACTION RECOMMENDATIONS AT THIS TIME.

(Go to PL-7)

PL-7 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-8 DOES RELEASE EXCEED PAGs (AT DANVILLE)?

- YES** — If a single isotope exceeds its effluent concentration (EC) value or the sum of EC fractions exceeds 0.85, then a protective action recommendation should be made for downstream water users (e.g., Danville) to **DIVERT DRINKING WATER** supply to a backup supply or terminate user intake until the release has passed.

(Go to PL-9)

- 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-10)

LIQUID (CONT'D)

PL-9 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), Dose Assessment Supervisor, or Radiological Liaison at the 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 AND ANY COMMUNICATION TO OTHER DRINKING WATER SUPPLIERS OR WATER USERS.

PL-10 RAD PERSONNEL NOTIFY DEP/BRP

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

Affected Unit _____

Control No. _____

**PROTECTIVE ACTION RECOMMENDATION FORM
SUSQUEHANNA STEAM ELECTRIC STATION**

This is a Drill This is an Actual Event Preparer: _____

The EMERGENCY CLASSIFICATION is:			
<input type="checkbox"/> Unusual Event	<input type="checkbox"/> Alert	<input type="checkbox"/> Site Area Emergency	<input type="checkbox"/> General Emergency

Basis: EAL # _____

This represents:

Initial Classification Escalation Reduction No Change in the Classification Status

Emergency Action(s) implemented onsite:

- | | |
|--|--|
| <input type="checkbox"/> None | <input type="checkbox"/> Evacuation of non-essential personnel |
| <input type="checkbox"/> Local Area Evacuation | <input type="checkbox"/> KI to onsite personnel |
| <input type="checkbox"/> Site Accountability | <input type="checkbox"/> Other _____ |

Bases: _____

The PROTECTIVE ACTION RECOMMENDATION is:	
<input type="checkbox"/> No Protective Action Recommendation Required	
<input type="checkbox"/> Evacuate 0-2 miles and Shelter 2-10 miles and advise citizens to take KI in accordance with the State's emergency plans.	<input type="checkbox"/> Divert Danville Drinking Water*
<input type="checkbox"/> Evacuate 0-10 miles and advise citizens to take KI in accordance with the State's emergency plans	<input type="checkbox"/> Relocation
	<input type="checkbox"/> Control of Access
	<input type="checkbox"/> Contamination Controls/Decon
	<input type="checkbox"/> Other _____
*Expected arrival of release at Danville: _____	
This represents: <input type="checkbox"/> Initial <input type="checkbox"/> Change <input type="checkbox"/> No Change in the Protective Action Recommendation	

The BASIS for the Protective Action Recommendation is:

Plant Status

Status of Radioactive Release: Event-related release in progress? Yes No

Total Site Release Rate	Airborne	Liquid
< Tech Requirements Limit	<input type="checkbox"/>	<input type="checkbox"/>
≥ Tech Requirements Limit	<input type="checkbox"/>	<input type="checkbox"/>

NOTE: TRM Limits ($\mu\text{Ci}/\text{min}$): Noble Gas $1.00\text{E}+6$; Iodine $1.04\text{E}+2$; Particulate $7.72\text{E}+2$
(Airborne releases)

Based on: Effluent Monitors Field Measurements Engineering Judgement

Data measured in the field confirm release rate estimations: Yes No N/A

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
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SUPPLEMENTAL RADIOLOGICAL DATA COMPARISON

A. EDE RATE AT OSCAR LOCATION

PROJECTED*

(mrem/hr)

Peak Sector

> 1000

101-1000

11-100

0.1-10

< 0.1

MEASURED

(mR/hr)

Peak Sector

> 1000

101-1000

11-100

0.1-10

< 0.1 or Not detectable

Time of Measurement: _____

Date: _____

B. THY CDE RATE AT OSCAR LOCATION

PROJECTED*

(mrem/hr)

Peak Sector

> 5000

501-5000

51-500

< 50

MEASURED

(mrem/hr)

Peak Sector

> 5000

501-5000

51-500

< 50 or Not detectable

Time of Measurement: _____

Date: _____

*Dose Rate projected at the OSCAR location at the time of measurement.