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TRANSMITTAL INFORMATION:

TO: ~~SERLACH*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:

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

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-104

REPLACE: REV:17

REPLACE: REV:17

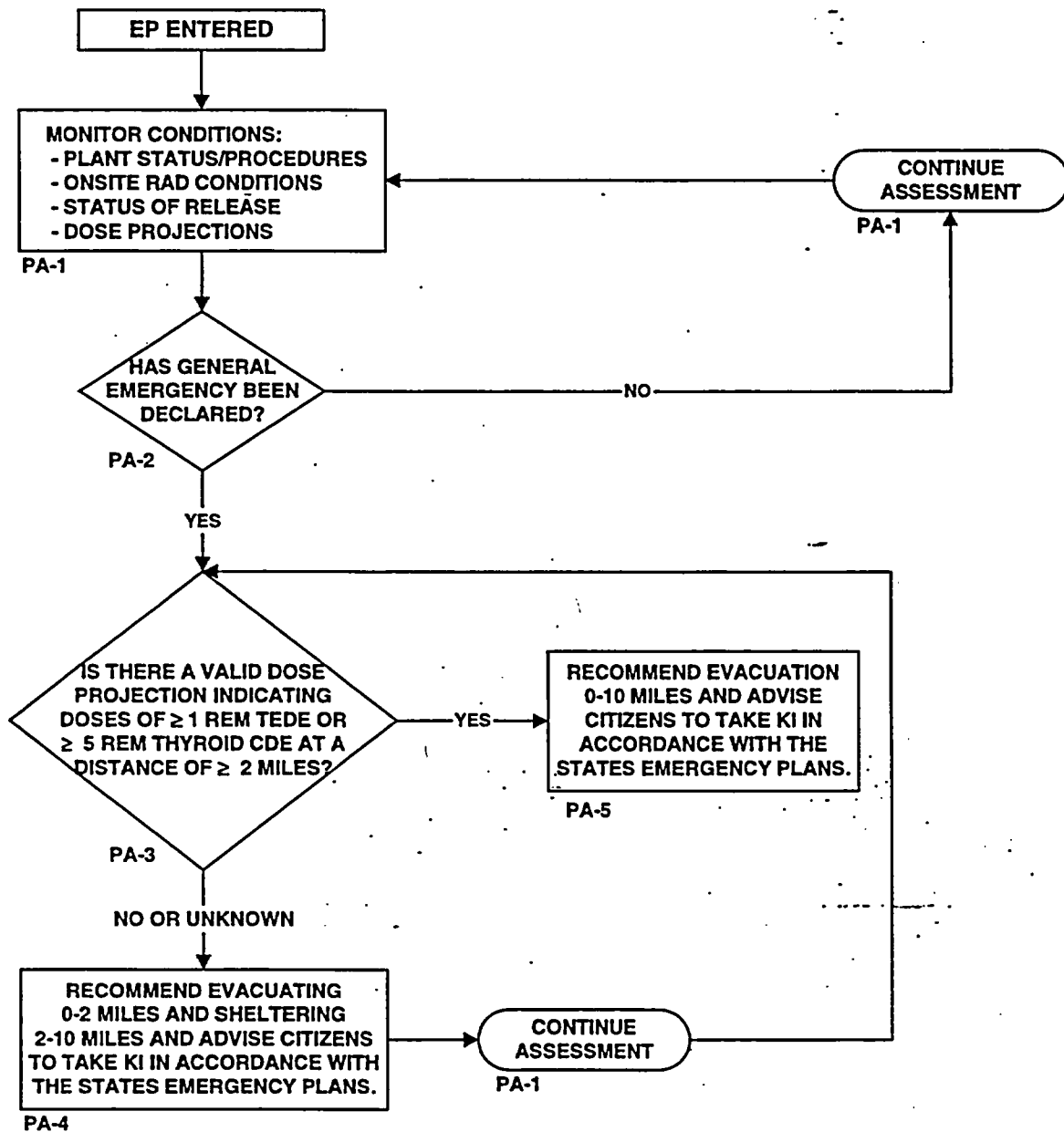
REMOVE: PCAF 2003-1640 REV: N/A

ADD: PCAF 2003-1640 REV: N/A

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A045

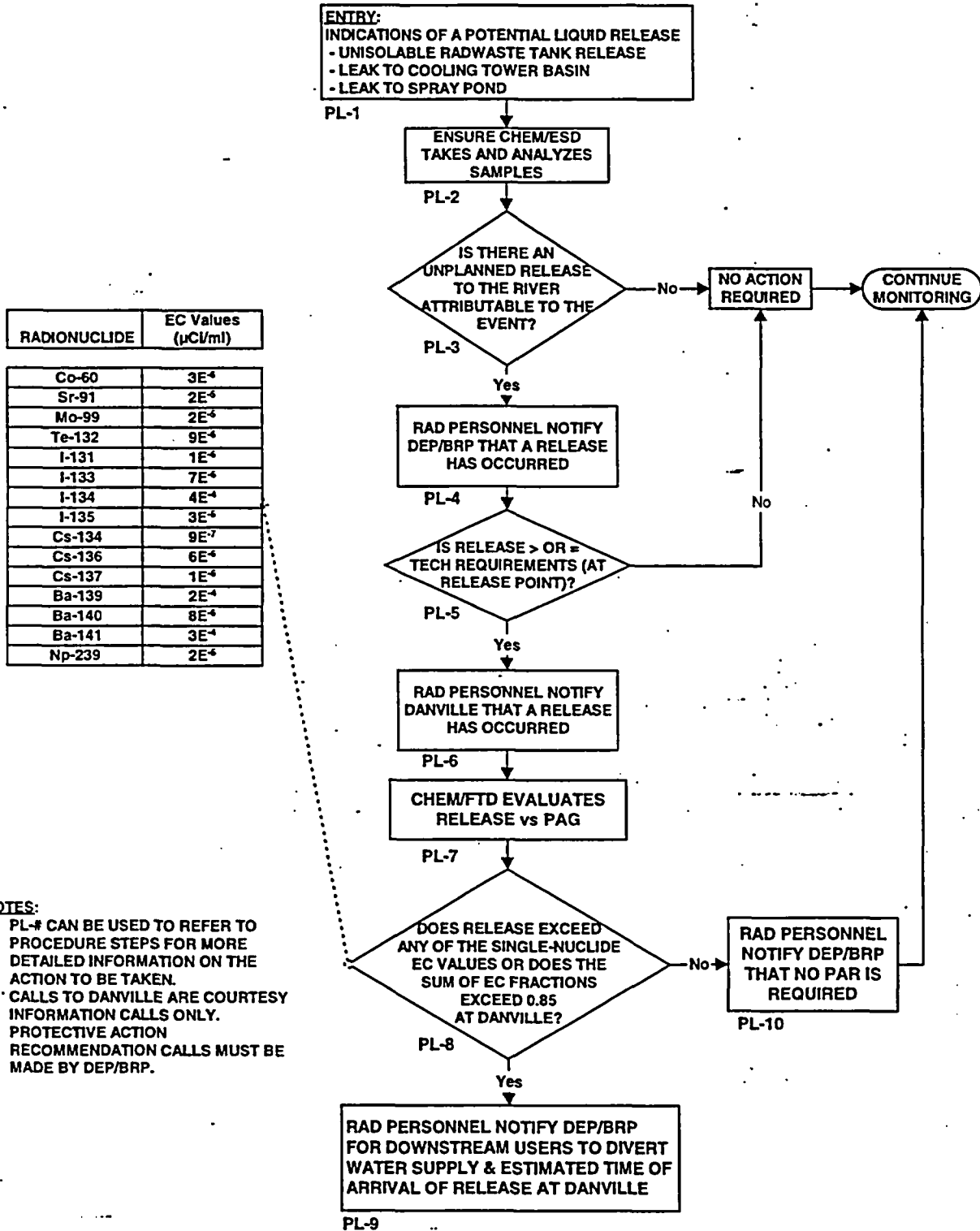
PAR AIRBORNE RELEASES



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



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:

☐ 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:

<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: ☐ Initial ☐ Change ☐ 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 1.00E+6; Iodine 1.04E+2; Particulate 7.72 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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ALARA REVIEW

Check ☒

A. PERSON-REM ESTIMATION

- | | |
|---|--|
| <p>_____ 1. Assess the number of workers required.</p> <p>2. Evaluate the use of fewer workers.</p> <p>3. Investigate experience of workers selected.</p> | <p>4. Assure all workers have essential, productive tasks.</p> <p>5. Assure workers have available exposure.</p> <p>6. Evaluate criteria for emergency exposure.</p> |
|---|--|

B. PLANNING

- | | |
|--|---|
| <p>_____ 1. Preplanning meeting with supervisors and/or workers required.</p> <p>2. Access to and exit from work are planned.</p> <p>3. Evaluate staging/setup in accessible low dose rate area.</p> | <p>4. Prefabrication considered.</p> <p>5. Evaluate use of remote handling devices or other special tools.</p> <p>6. Cold equipment "mockups", rehearsals, or other practical exercise.</p> |
|--|---|

C. EXPOSURE REDUCTION CONTROLS

- | | |
|---|---|
| <p>_____ 1. Evaluate need for timekeeping.</p> <p>2. Consider use of water bucket shielding for carrying hot parts.</p> <p>3. Consider use of shielded drums or lead "pigs" for carrying hot parts.</p> <p>4. Consider use of temporary shielding such as lead wool blankets, lead sheets, or lead bricks.</p> <p>5. Consider use of shadow shields utilizing a portable curtain shield.</p> <p>6. System or equipment to be filled with water.</p> | <p>7. System or equipment to be drained and flushed.</p> <p>8. Assess exposure reduction by permitting decay of radiation sources during reactor shutdown or system isolation.</p> <p>9. Assess the need of communication devices such as head sets, TV cameras, others.</p> <p>10. Assess practicality of removing component from radiation area.</p> <p>11. Evaluate use of photographs of "as installed equipment" to aid in worker briefings.</p> |
|---|---|

D. AIRBORNE/CONTAMINATION CONTROL

- | | |
|--|--|
| <p>_____ 1. Assess need for respiratory protection usage against effectiveness of engineering controls.</p> <p>2. Assess individual's history of internal DAC-Hr exposure to airborne contamination.</p> | <p>3. Assess necessity of area decon before commencement of work.</p> <p>4. Containment structure (tent) required.</p> <p>5. Portable ventilation system required.</p> <p>6. Assess need for flooding or draining rooms.</p> <p>7. Assess hot particle or fuel fragment migration.</p> |
|--|--|

Performed by _____

Provided below are the instructions on how to retrieve an individual's occupational exposure information.

1. Log into NIMS, go to RPDPERX screen.
2. Query the individual.
3. Click on DOSE SUMMARIES button.
4. The screen in Figure 1 will appear.
5. The individual's YEAR-TO-DATE (YTD) dose will be provided as 'NRC PERIOD EXPOSURE' for the current calendar year.

Radiation Protection Management {PPL TATS}

RPDPERX Dose Summaries

Person Related Information

Name: ID: Type:

Dose Summaries

MP	Type	YTD (mrem)	YTD (mrem)	SD (mrem)	SD (mrem)	CD (mrem)	CD (mrem)	YTD (mrem)	YTD (mrem)
	Lifetime Exposure	52	52	62	62	0	0	52	52
	Lifetime Level							45000	
2002	NRC Period Available	2000	12000	40000	40000			2000	2000
2002	NRC Period Exposure	0	0	0	0	0	0	0	0
2002	NRC Period Level	2000	12000	40000	40000			2000	2000
2002	non SSES Exposure								
2002	SSES Exposure	0	0	0	0	0	0	0	0

Information for reporting period:

Figure 1