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A045

SALEM GENERATING STATION  
EVENT CLASSIFICATION GUIDE TECHNICAL BASIS  
August 15, 2000

CHANGE PAGES FOR  
REVISION #06

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~~SECG101~~

The Table of Contents forms a general guide to the current revision of each section and attachment of the Salem ECG Technical Basis. The changes that are made in this TOC Revision #06 are shown below.

1. Check that your revision packet is complete.
2. Add the revised documents.
3. Remove and recycle the outdated material listed below.

ADD			REMOVE		
<u>Pages</u>	<u>Description</u>	<u>Rev.</u>	<u>Pages</u>	<u>Description</u>	<u>Rev.</u>
ALL	TOC	6	ALL	TOC	5
All	RAL Section 11.9	1	All	RAL Section 11.9	0

Summary of significant changes:

1. Reportable Action Level (RAL) 11.9.1.b - Definition concerning Special Nuclear Material changed and deletes RAL basis concerning receipt of Strategic Special Nuclear Material.
2. Reportable Action Level (RAL) 11.9.2.b - Clarified for activity due to licensed material.

SALEM ECG TECHNICAL BASIS  
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SIGNATURE PAGE

Prepared By: GR Dwyer, REV. 0 08-09-00  
(If Editorial Revisions Only, Last Approved Revision) Date

Section/Attachments Revised: RAL 11.9 Tech Basis 08/09/00  
(List Non Editorial Only - Section/Attachments) Date

Reviewed By: William J. Doherty 8/2/2000  
Station Qualified Reviewer Date

Reviewed By: NA \_\_\_\_\_  
Department Manager Date

Reviewed By: [Signature] 8/11/00  
Manager - Licensing Date  
(Reportable Action Level (Section 11))

Reviewed By: [Signature] (B. Bence) for D. MILLER 08/11/2000  
Manager - ~~SA~~ EP, & IT Date  
REV 08/11/2000

Reviewed By: NA \_\_\_\_\_  
Manager - Quality Assurance Date  
(If Applicable)

SORC Review and Station Approvals

NA \_\_\_\_\_ NA \_\_\_\_\_  
Mtg. No. Salem Chairman General Manager - Salem Operations

NA \_\_\_\_\_ NA \_\_\_\_\_  
Date Date

Effective Date of this Revision: 08/15/00  
Date

## 11.0 Reportable Action Levels

### 11.9 Accidental Criticality/Special Nuclear Material /Rad Material Shipments - Releases

PSE&G  
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REPORTABLE ACTION LEVEL - 11.9.1.a

IC UNPLANNED / ACCIDENTAL CRITICALITY [10CFR70.52(a)]

RAL

Any unplanned or accidental criticality

MODE - All

BASIS

This RAL is intended to provide immediate notification to the NRC for events which constitute a "loss" of Reactivity Control due to errors in calculations, dilution or mis-operation.

This condition can be detected from the Control Room using available Nuclear Instrumentation by observation of a sustained positive startup rate on the Source or Intermediate Range NIs.

Increases in neutron population due to subcritical multiplication can be expected during Core Alterations and should not be classified using this RAL.

REFERENCES

10CFR70.52(a)

## 11.0 Reportable Action Levels

### 11.9 Accidental Criticality/Special Nuclear Material /Rad Material Shipments - Releases

REPORTABLE ACTION LEVEL - 11.9.1.b

**IC** LOSS AND INVESTIGATION OF THE LOSS OF SPECIAL NUCLEAR MATERIALS/ SPENT FUEL [10CFR70.52(a), 10CFR70.52(b), 10CFR73.71(a)]

**RAL**

ANY one of the following events occur involving **Special Nuclear Material (SNM)** or Spent Fuel:

- Loss, other than normal operating loss, of **SNM**
- Actual or attempted theft or unlawful diversion of **SNM**
- Shipment of **SNM of low strategic significance** or Spent Fuel that is lost or unaccounted for after the estimated time of arrival
- A lost or unaccounted for shipment of **SNM of low strategic significance** or Spent Fuel has been recovered or accounted for

**MODE** - All

**BASIS**

This RAL addresses those conditions requiring a one hour report IAW 10CFR70.52(a), 10CFR70.52(b) or 10CFR73.71(a).

**Special Nuclear Material (SNM)** means (1) plutonium, uranium-233, uranium enriched in the isotope  $U^{233}$  or in the isotope  $U^{235}$ , and any other material the NRC, pursuant to the provisions of the Atomic Energy Act, determines to be special nuclear material, but does not include source material; or (2) any material enriched by any of the foregoing.

The Special Nuclear Material Control Program described in NC.NA-AP.ZZ-0073(Q) applies to the following items:

- Calibration Sources containing  $Pu^{239}$
- Dunking Chamber(s)
- Gamma-Metric Fission Detectors
- Incore Fission Detectors
- Intermediate Range Monitors (IRMs)
- Local Power Range Monitors (LPRMs)
- Nuclear Fuel Assemblies
- Source Range Monitors (SRMs)

**SNM of low strategic significance** means:

- (1) Less than an amount of SNM of moderate strategic significance as defined in 10CFR73.2 but more than 15 grams of  $U^{235}$  (contained in uranium enriched to 20 percent or more in  $U^{235}$ ) or 15 grams of  $U^{235}$  or 15 grams of plutonium or the combination of 15 grams when computed by the equation,  

$$\text{grams} = (\text{grams contained } U^{235}) + (\text{grams plutonium}) + (\text{grams } U^{233});$$
 or
- (2) Less than 10,000 grams but more than 1,000 grams of  $U^{235}$  (contained in uranium enriched to 10 percent or more but less than 20 percent in the  $U^{235}$  isotope); or
- (3) 10,000 grams or more of  $U^{235}$  (contained in uranium enriched above natural but less than 10 percent in the  $U^{235}$  isotope).

10CFR70.52(a), 10CFR70.52(b) and 10CFR74.11 require a one hour report after discovery of a loss or actual or attempted theft or unlawful diversion of **SNM**. 10CFR73.71(a)(1) requires a one hour report after discovery of a shipment loss, and after recovery of or accounting for a lost shipment.

Examples of a one-hour reportable condition under this RAL would include:

- During the annual physical inventory of SNM, a spare IRM cannot be located in its designated Item Control Area. Attempts by Reactor Engineering to locate the missing item or to find documentation to support its removal are not successful.
- Reactor Engineering reports that a shipment of Nuclear Fuel (SNM of low strategic significance) is unaccounted for at the expected arrival time. The licensed shipper is contacted but cannot promptly account for the shipment delay.

**REFERENCES**

10CFR70.52(a)  
 10CFR70.52(b)  
 10CFR73.71(a)  
 10CFR74.11

## 11.0 Reportable Action Levels

### 11.9 Accidental Criticality/Special Nuclear Material /Rad Material Shipments - Releases

REPORTABLE ACTION LEVEL - 11.9.1.c

IC THEFT OR LOSS OF LICENSED MATERIAL [10CFR20.2201(a)(1)(i)]

RAL

Lost, stolen or missing **licensed material** > 1000 times the quantity specified in 10CFR20 Appendix C, in such circumstances that an exposure could result to persons in **Unrestricted Areas**.

MODE - All

BASIS

This RAL addresses those conditions requiring an immediate report IAW 10CFR20.2201(a)(1)(i).

**Licensed material** means source material, special nuclear material (SNM), or byproduct material received, possessed, used, or transferred under a general or specific license issued by the NRC pursuant to the regulations in 10CFR20.

**Unrestricted Areas** are any areas beyond the Minimum Exclusion Area (MEA). (outside the Owner Controlled Area (OCA) boundary)

REFERENCES

10CFR20.2201(a)(1)(i)

## 11.0 Reportable Action Levels

### 11.9 Accidental Criticality/Special Nuclear Material /Rad Material Shipments - Releases

REPORTABLE ACTION LEVEL - 11.9.1.e

**IC** EXCESSIVE CONTAMINATION AND/ OR RADIATION LEVELS ON A PACKAGE  
[10CFR20.1906(d)]

**RAL**

Receipt survey indicates that package contamination / radiation levels equal or exceeds  
ANY one of the following:

- 2200 dpm/100 cm<sup>2</sup>
- 200 mR/hr on contact
- 10 mR/hr at 3 feet

**MODE** - All

**BASIS**

This RAL addresses the conditions requiring an immediate report IAW 10CFR20.1906(d). This requirement refers to values provided in 10CFR71.87(i) for contamination, and to 10CFR71.47 for radiation levels.

10CFR71.87(i) refers to the DOT limit specified in 49CFR173.443. The RAL contamination level is based on the DOT limit, adjusted for the standard swipe area used at Salem Generating Station. DOT regulations allow contamination levels up to 10 times the above limits for Exclusive Use Shipments.

Exclusive Use means the sole use of a conveyance by a single consignor and for which loading and unloading are carried out with the direction of the consignor or consignee.

#### REFERENCES

10CFR20.1906(d)  
10CFR71.4  
10CFR71.47  
10CFR71.87(i)  
49CFR173.443

## 11.0 Reportable Action Levels

### 11.9 Accidental Criticality/Special Nuclear Material /Rad Material Shipments - Releases

REPORTABLE ACTION LEVEL - 11.9.2.a

**IC** ACCIDENT OCCURRING DURING TRANSPORTATION OF LICENSED  
MATERIAL [10CFR71.5(a)(1)(iv)]

**RAL**

Accidents during the transportation of **radioactive material** which are reported to PSE&G as the shipper that involve (or potentially involve) damage to the cargo.

**MODE** - All

**BASIS**

10CFR71.5(a)(1)(iv) refers to 49CFR171.15/16 for transportation of licensed material accident reporting.

Note: Vehicle breakdowns or delays enroute may also be reported by the driver, but are not reportable to the NRC unless an accident is involved (cargo damage).

**Radioactive Material** means any item, gas, liquid, flowable solid, or material with radioactivity levels in excess of the limits for unconditional release found in Section 5.12.1. of NC.NA-AP.ZZ-0024(Q), Radiation Protection Program.

**REFERENCES**

10CFR71.5(a)(1)(iv)  
49CFR171.15/16  
NC.NA-AP.ZZ-0024(Q)

## 11.0 Reportable Action Levels

### 11.9 Accidental Criticality/Special Nuclear Material /Rad Material Shipments - Releases

REPORTABLE ACTION LEVEL - 11.9.2.b

**IC** CONTAMINATION OUTSIDE OF THE RADIOLOGICALLY CONTROLLED AREA  
[10CFR50.72(b)(2)(vi)]

**RAL**

Discovery of a Contaminated Area OUTSIDE of the RCA with removable activity due to **licensed material**

AND

EITHER one of the following:

- Location of Contaminated Area is such that a contaminated person or material may have left the Protected Area
- Location of Contaminated Area is OUTSIDE of Plant Structures AND Size of Contaminated Area is LARGE (>100 ft<sup>2</sup>)

**MODE** - All

**BASIS**

The purpose of the RAL is to ensure that the NRC is made aware of issues that may cause heightened public or government concern related to the radiological health and safety of the public or onsite personnel or protection of the environment. These RAL contamination levels are based on the likelihood that a news release and/or notifications to government agencies may need to be made for these conditions.

Examples of conditions that would require classification under this RAL would include:

- Release of contaminated tools, equipment, trash, vehicles, personnel to areas outside the Protected Area.
- Unusual or abnormal release of radioactive effluents. Unusual or abnormal can be considered a release that has the potential to generate public, media, or other government agency attention.

**Licensed material** means source material, special nuclear material (SNM), or byproduct material received, possessed, used, or transferred under a general or specific license issued by the NRC pursuant to the regulations in 10CFR20.

Contamination due to naturally occurring radioactive material is not reportable under this RAL.

Radiological effluent releases that are >2 times Technical Specifications limits are classified in accordance with ECG Section 6.

**REFERENCES**

Commitment #: EP95-002  
10CFR50.72(b)(2)(vi)  
NUREG 1022, Rev. 1