

# TENNESSEE VALLEY AUTHORITY

Radiological Health Staff

NO.: LSAP-0006

## LABORATORY SERVICES ADMINISTRATIVE PROCEDURE

TITLE: Operation Procedure for  $^{137}\text{Cs}$  Ring Source

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DATE: 3-9-84

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1.0 Purpose

1.1 This procedure describes the method of operation for the  $^{137}\text{Cs}$  ring source located at the Western Area Radiological Laboratory (WARL).

2.0 Scope

2.1 This procedure applies to the  $^{137}\text{Cs}$  ring sources located at WARL.

2.2 Conformance

2.2.1 Regulations

2.2.1.1 10 CFR Part 20

2.2.1.2 TVA

2.2.1.2.1 By-Product Material License 01-06113-05

2.2.2 Standards

2.2.2.1 ANSI-N323 Sections 5 and 6

3.0 References

3.1 Title 10, Code of Federal Regulations, Part 20, Revised January 1, 1982

3.2 American National Standards Radiation Protection Instrumentation Test and Calibration, ANSI N323. The Institute of Electrical and Electronics Engineers, Inc., 1978.

3.3 "Operation of the Radiation Calibration Facility at the Western Area Radiological Laboratory," Procedure LSAP-0002, Laboratory Services, TVA, Muscle Shoals, Alabama.

4.0 Requirements

4.1 Equipment

4.2 Material

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#### 4.3 Prerequisites

4.3.1 Proper personnel monitoring devices (TLD badges) shall be worn at all times when operating this source.

#### 4.4 Limitations and Actions

4.4.1 If the desired operational response is not achieved after three attempts, contact calibration facility supervisor or their designee.

4.4.2 Under normal operation, (4.5 of this procedure) the ring source room shall be vacated.

4.4.3 Due to the potentially hazardous levels of ionizing radiation, adherence to this procedure is mandatory.

4.4.4 Special conditions (i.e., source leak tests, maintenance, timer checks, etc.) may require operation, testing and/or activities that do not follow this procedure.

4.4.5 Adherence to LSAP-0002 (WARL) as applicable is mandatory.

#### 4.5 Procedure

##### \*CAUTION\*

Before operating the ring source control unit, check and be sure area is clear.

4.5.1 Before entering the ring source room or when the exposure has terminated, ensure the source has dropped prior to entering area (this may be done by observing the clear plastic portion of the calibrator, the source has a red top that should be clearly visible when exposed). Check again before removing the warning device(s).

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4.5.2 Mount item to be exposed on appropriate template and leave room.

4.5.3 At the control box, dial in the desired radiation dose in mR and press timer reset switch. If power failure light is not on, press auto start switch. If power failure light is on press system reset, then timer reset switch prior to auto start switch.

NOTE: If desired dose is unchanged from previous run, and power failure has not occurred, it is not necessary to press timer reset switch.

4.5.4 Activate the "Source Exposed" light at the door to the ring room and hang the "Source In Operation" sign across the doorway to the ring source room.

4.5.5 If a long exposure is required and the ring source is to be left unattended, doublecheck to ensure that the warning light and "Source In Operation" signs properly mark the room.

5.0 Quality Assurance

5.1 Not applicable.

6.0 Notes

6.1 None