

TENNESSEE VALLEY AUTHORITY

Radiological Health Staff

NO.: LSCP-0005

LABORATORY SERVICES CALIBRATION PROCEDURE

TITLE: WARL High-Level Unit Operation Procedure

PREPARED:

Tommy S. SkorzakDATE: 10-28-82

CONCURRED:

Larry G. KanipeLarry G. Kanipe, Supervisor
Western Area Radiological Laboratory
SectionC. Henry Cope
C. Henry Cope, Supervisor
Calibration and Quality Control
Section

APPROVED:

B. B. HobbsB. B. Hobbs, Chief
Laboratory ServicesDATE: 11/3/82

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REQUESTED: Henry Copeland **DATE:** 1/10/83

PREPARED: Henry Copeland **DATE:** 1/11/83

CONCURRED: Larry G. Kanipe
 Larry G. Kanipe, Supervisor
 Western Area Radiological Laboratory Section

C. Henry Copeland
 C. Henry Copeland, Supervisor
 Calibration and Quality Control Section

APPROVED: B. B. Hobbs **DATE:** 1/17/83
 B. B. Hobbs, Chief
 Laboratory Services

1.0 Reason for Change

1.1 To add sections 5.0 and 6.0 to the procedure. These sections were inadvertently omitted when LSCP-0005 was issued on November 3, 1982.

2.0 Change this CCF

<u>Page</u>	<u>Action</u>
5	Replace

3.0 Summary of Changes

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CHANGE CONTROL FORM

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<p>1.0 <u>Purpose</u></p> <p>1.1 This procedure describes a method of operation for the ¹³⁷Cs high-level source drive mechanism located at WARL.</p> <p>2.0 <u>Scope</u></p> <p>2.1 This procedure establishes a step-by-step method for the operation of the WARL high-level calibration unit. This procedure will be the operation manual for the ¹³⁷Cs high-level unit.</p> <p>2.2 Conformance</p> <p>2.2.1 Regulations</p> <p>2.2.1.1 10 CFR Part 20</p> <p>2.2.1.2 TVA</p> <p>2.2.1.2.1 By-Product Material License 01-06113-05</p> <p>2.2.2 Standards</p> <p>2.2.2.1 ANSI-N323 Sections 5 and 6</p> <p>3.0 References</p> <p>3.1 Title 10, Code of Federal Regulations, Part 20, Revised January 1, 1982</p> <p>3.2 American National Standards Institute N323, Sections 5 and 6, 1978.</p> <p>4.0 <u>Requirements</u></p> <p>4.1 Equipment</p> <p>4.2 Material</p> <p>4.3 Prerequisites</p> <p>4.4 Actions and Limitations</p> <p>4.4.1 If desired response is not achieved after three consecutive commands, contact calibration facility supervisor or designee.</p>		

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<p>4.4.2</p> <p>4.4.3</p> <p>4.4.4</p> <p>4.4.5</p> <p>4.4.6</p> <p>4.5</p> <p>4.5.1</p>	<p>When making calibration adjustments, keep body extension through the portal to a minimum.</p> <p>In the event the instrument carriage or shields fail to retract, turn power off and contact the facility supervisor.</p> <p>Due to the potentially hazardous levels of ionization radiation, adherence to these procedures is mandatory.</p> <p>Deviation from these procedures is prohibited except under special conditions which have been approved by the QA/QC staff.</p> <p>Special conditions may require exercising, testing, or activities that do not follow this procedure. These conditions will be under separate procedures and guidelines and will be approved by the health physics staff prior to performance.</p> <p>Procedure</p> <p>Prior to operating or starting the high-level unit, a knowledge of the primary commands and their associated commands and responses is mandatory. Table I is a review and explanation of these commands.</p> <p>Figure I is a diagram of the alarm/interlock control panel.</p> <p>*IMPORTANT*</p> <p>Before activating high level control unit, <u>check</u> and be sure area is clear. When finished with unit, <u>return</u> all shields to the closed position and <u>lower</u> source to the bottom.</p> <p>The following instructions are for a initial power up. If the unit is up and running, skip 4.5.1 and go to 4.5.2.</p>	

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TABLE I PRIMARY COMMANDS

ACTION	COMMAND	INPUT	RESPONSE
POSITION SOURCE	INPUT P	NEW SOURCE POSITION 4-DIGIT NUMBER	NEW POSITION SHIELD AND CARRIE STATUS
MOVE SHIELDS	INPUT S	3-CHAR. COMBINATION OF 0's OR C's	SHIELD STATUS INDICATED BY 0=open, C-closed
POSITION CARRIE	INPUT C	ENTER I OR O	CARRIE STATUS I-in O-out
SYSTEM STATUS	INPUT D	NOT-REQUIRED	SOURCE POSITION SHIELD STATUS CARRIE LOCATION
STANDARD RESPONSE FORMAT			
<div> <div>COMMAND CHAR</div> <div>X</div> <div>XXXX XXX X</div> <div>SOURCE POSITION</div> <div>CARRIE POSITION</div> <div>SHIELD STATUS</div> </div>			

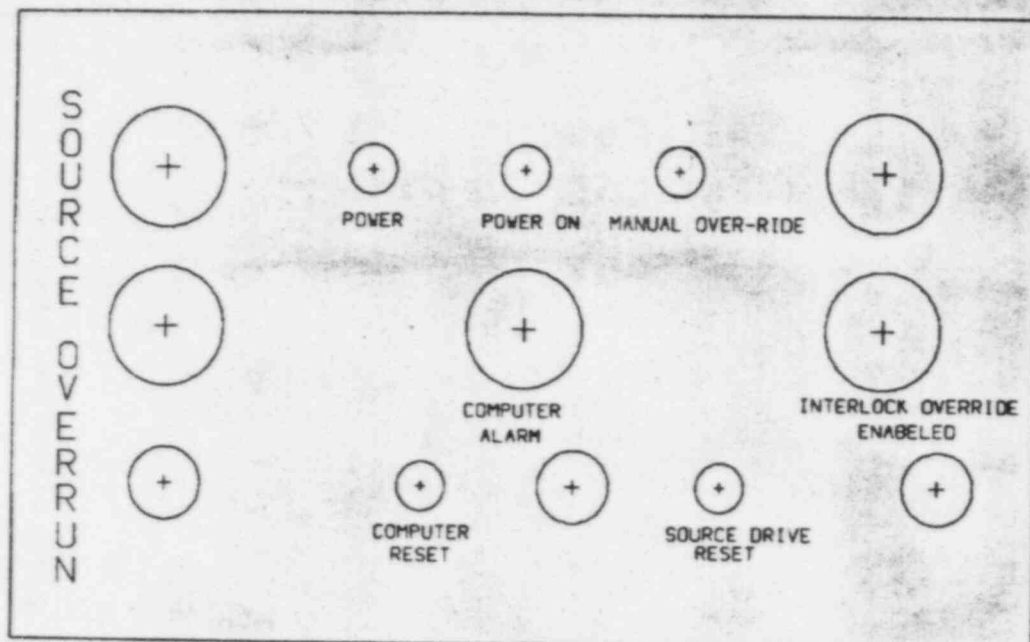


FIGURE 1

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4.5.1.1 Close observation door. Turn power on switch. Observe power-on-light to be lit. Source alarm is activated. Monitor should display

INTERLOCK - TYPE G TO CONTINUE

If not, turn power off then back on.

SAFETY

If an interlock alarm is initiated, ensure there are no personnel in or attempting entry to the source area before resetting interlock.

4.5.1.2 Press source reset button on control panel, then press "G" on the keyboard. System is now in user mode.

Refer to table I for user commands.

NOTE: If monitor should display a period (.), you are not in the user mode. Initiate CPU reset sequence or enter E 0000 and press return.

4.5.2 CPU Reset

4.5.2.1 Press CPU reset button. Monitor should read
"High-Level Source REV X.X"

5.0 Quality Assurance

5.1 Not applicable.

6.0 Notes