

***Appendix J***  
***Standard Operating Procedure (SOP)***  
***for Field Radiographic Unit***

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**STANDARD OPERATING PROCEDURE  
FOR  
FIELD RADIOGRAPHIC UNIT**

**1.0 INTRODUCTION**

This Standard Operating Procedure (SOP) is for use by personnel who are trained and assigned to use the Field Radiographic Unit (X-Ray) in the performance of their assigned task. This SOP makes provisions for the use, testing, maintenance, and storage of the unit. It is the responsibility of the user to know and follow all applicable Federal, State, and local laws and regulations regarding the use of the Radiographic Unit. This SOP is not a stand-alone document and is meant to be used with other applicable reference material.

**2.0 REFERENCES**

This SOP was prepared using the following reference material:

- Parsons Safety and Health Plan
- OSHA 29 CFR 1910.96
- OSHA 29 CFR 1926.53
- OSHA 10 CFR Part 20
- EM 385-1-1, Section 6.E
- ER 385-1-80
- Owner's/Operator's Manual

**3.0 WARNINGS AND PRECAUTIONS**

The following warnings and precautions will be adhered to by all user personnel to ensure safe and proper use of the Radiographic Unit.

- Only trained, authorized personnel will operate the unit;
- Unit must be registered in the State being used in (as required);
- Unit must be in calibration and proof maintained on file;
- Personnel will be familiar with Federal, State, and local laws or regulations governing this type of equipment;
- Personnel must establish an exclusion zone prior to use;

- Report any suspected overexposure immediately to the UXOSO;
- Personnel will maintain control of the unit and key at all times when in use;
- Only an appropriate number of counts will be used to radiate a given item;
- Personnel will receive refresher training if more than 30 days have elapsed between usage;
- Personnel outside exclusion zone will be informed of the hazards prior to use

#### **4.0 PROCEDURES**

The radiographic unit will be operated in a manner consistent with the manufacturer's recommendations, owner's/operator's manual, Federal, State, and local laws and regulations, and within the limitations of the unit. All user personnel will be trained prior to use of the unit. User personnel will read the owner's/operator's manual prior to initial use and will receive refresher training when more than 30 days have elapsed between usage of the unit.

##### **4.1 Preparation Procedures**

- a. Ensure all necessary components are present;
- b. Battery is charged;
- c. Key is in the user's possession;
- d. Install battery IAW owner's/operator's manual;
- e. Attach remote cable (if used);
- f. Prepare film cassette IAW owner's/operator's manual;
- g. Establish the exclusion zone and post signs as required;
- h. Inform personnel outside the exclusion zone of the hazards associated with this type of operation;
- i. Proceed to the items location.

##### **4.2 Use Procedures**

- a. Place film cassette for operational use;
- b. Place radiographic unit for operation;
- c. Check exclusion zone for unauthorized personnel;
- d. Insert key into unit and turn to the "on" position;
- e. Select number of counts;

- f. Select method of operation (i.e., delay timer or remote cable);
- g. Re-check exclusion zone;
- h. Operate delay timer or retire to the end of the remote cable and operate;
- i. Remain at a safe distance until operation (timer) has functioned;
- j. After timer operates, turn key to “off” position;
- k. Retrieve unit and film cassette;
- l. Process film IAW owner’s/operator’s manual;
- m. Record number of counts used in the control log;
- n. Repeat steps “a” through “m”, if necessary. If not;
- o. Clean and secure unit;
- p. Complete the control log entries.

#### **4.3 Maintenance Procedures**

- a. Remove all components from the unit’s carrying case and clean case;
- b. Clean individual components IAW owner’s/operator’s manual;
- c. Report any damage/defects to the UXOSO and Logistician;
- d. Record maintenance performed and findings in the maintenance log;
- e. Do not attach battery or insert key during maintenance.

#### **4.4 Testing and Registration Procedures**

- a. Ensure State Registration is valid. If not, do not use and submit registration;
- b. Ensure calibration is valid. If not, do not use and have unit calibrated;
- c. Calibrations are performed by the manufacturer. Follow procedures IAW manufacturer’s requirements;
- d. Leak testing is performed by the manufacturer. Follow procedures IAW manufacturer’s requirements;
- e. Ensure current documentation is maintained on site for review.

#### **4.5 Storage Procedures**

- a. Radiographic Unit will be stored in a safe and secure manner against theft and unauthorized use;

- b. Ensure key is not installed in the unit during storage;
- c. Ensure unit's storage case is locked (either internal or padlock);
- d. Ensure storage case is secured in a room away from other personnel;
- e. Maintain limited access to storage room;
- f. Ensure only user personnel can access unit for maintenance or use.

## **5.0 SPECIAL INSTRUCTIONS**

Due to the hazards associated with radiation, personnel must assume responsibility for the proper use of his equipment. Special care will be taken to ensure personnel are not intentionally or accidentally radiated. The use of safety measures such as exclusion zones, restricted areas, safe distance, proper count usage, engineering controls, and training are paramount.

