



**Quality Testing Services, Inc.**

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August 24, 2010

Attn: James Mullauer

Subject: Request addendum Radiographers License and Safety Manual describing, specific change only (instead of entire document)

Dear James:

The request for change in the Quality Testing Services, Inc. Radiographers License and Safety Manual regarding the "Daily Inspection and Maintenance for Radiographic Equipment" has been completed as of August 24, 2010. In section 8.1.(3), the clarification for examining the equipment to verify calibration is up to date, if it is out of date do not use and tag the instrument for calibration, examine casing for damage, and document the findings if there are any discrepancies.

Enclosed is a copy of the changes implemented.

Please call if you have any further questions.

Sincerely,



Scott Zimmer

President

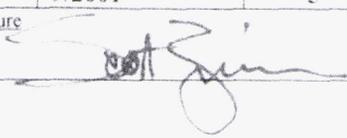
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Document Title: <b>Operating and Emergency Procedure for Gamma Radiography</b>				Page 1 of 36
Document Type: <b>Procedure</b>	Document Number: <b>Gamma 001</b>	Initial Issue Date: <b>9/2001</b>	Revision: <b>5</b>	Effective Date: <b>8/13/10</b>
Approved By: <b>Radiation Safety Officer</b>	Approver's Signature 			Approval Date: 8/13/10

## OPERATING AND EMERGENCY PROCEDURE FOR GAMMA RADIOGRAPHY

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**OPERATING AND EMERGENCY PROCEDURE FOR GAMMA RADIOGRAPHY**

ISSUED: September 2001

REV. #	PAGE #	REV. DATE	REASON FOR REVISION	REV. MADE BY	REV. APPROVED BY
1		Dec. 2002	1.Format / grammar / editorial changes 2. Add training requirements 3. Revise operating procedure to reflect manufacturer's recommendation 4. Add Source Retrieval capabilities	SCZ	SCZ
2	1, 2, 14	Dec. 2004	Added QTS 2 <sup>nd</sup> field station Gamma storage area	SCZ	SCZ
3	1, 2, 4, 14	Sep. 2005	Removed QTS original field station Gamma storage area at 4003 Fee Fee Road, Bridgeton, MO 63044 and removed facility sketch 1, 2 and 3. Added new sketch 1 to show facility at 2305 Millpark Dr. Maryland Heights, MO 63043	DB	SCZ
4	15, 24, 25, 26	Mar. 2010	Added calibration steps, Section 8.1(3), clarified Scott Zimmer as RSO and removed designee in Sections 15.2, 15.3, 16.1(1) & 16.2(1), in section 15.9 removed AEA Technology and added QSA Global as source supplier. In Section 15.3 direct was added.	SCZ	SCZ
5	15	Aug 2010	Changed wording Section 8.1.3	SCZ	SCZ

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## 8.0 Daily Inspection And Maintenance For Radiographic Equipment

8.1 The following items must be examined each day that they are to be used and before each shift.

1. Film Badge or TLD (Thermoluminescence dosimeter) - Visually inspect to observe any damage or tearing. Check that the dates on the badge are current or if they should be exchanged. (3-month intervals)
2. Pocket Dosimeter (0-200 mrem scale type ) - Check the calibration sticker on the unit to see that it is still current. Zero the dosimeter at the beginning and end of each day and record the reading of beginning and end of each day on daily dosimeter log.
3. Alarm Ratemeters (set to  $\pm 500$  mrem/hr) – Check the calibration sticker on the instrument to verify current calibration. Visually check for any damage, if damaged obtain a different rate alarm that is working and calibration is current. Test the unit by pressing the battery/audio alarm switch. If you do not hear the alarm or see the LED light illuminate (on units equipped with an LED alarm), change the battery. If, after the battery has been changed, the audible alarm or LED (on units equipped with an audible alarm and LED alarm) does not function, do not use and the device must be tagged "Defective or Out of Order" and returned to the manufacturer for repair.
4. Survey Meters (1 mrem to 1000 mrem capabilities) - Visually check for any damage to the casing and check the calibration dates to ensure they are current. Then perform the following procedure:
  - a. First perform a battery check by tuning the knob to "battery" position. The needle should point in the "Battery OK" area on the survey meter dial.
  - b. Set the survey meter knob to the 1X, or 10X position, whichever is appropriate. Survey the surface of the exposure device and you should obtain a reading of approximately  $\frac{1}{2}$  mrem/hr for each curie of Ir192 in the exposure device. If the readings are close than the survey meter is considered operable. If the reading is not close and you suspect error, or if the meter does not read at all, the survey instrument must be tagged and pulled out of service until repairs can be made.
5. Exposure Devices - a radiation survey should be conducted on the projector for excessive radiation levels. If the radiation levels are normal, perform the following procedure:
  - a. A visual check will be performed to ensure all appropriate radioisotope warning labels are secure and legible, the outer casing shall be visually inspected for wear and obvious damage. The outer casing and locks shall be checked for damage.
  - b. Check that the source outlet plug is in good order and no damage to the threads.
  - c. Check for wear on the cable connectors using the No-Go gauges as prescribed by the manufacturer.
6. Crank Assemblies - Inspect drive cable housings for cuts, dents, and broken fittings. Inspect the cable for fraying and kinks. Use No-Go gauge on ball and shank of cable end. See Cable Connectors)