

The information in this report is required by 14 CFR 108.17 & 129.26. Failure to report may result in a civil penalty not to exceed \$1000.00 for each such violation. (Federal Aviation Act of 1958, Section 901)

WO# 3791874

Department of Transportation Federal Aviation Administration		X-RAY SYSTEM RADIATION LEAKAGE REPORT (BAGGAGE INSPECTION) (Require by 14 CFR 108.17, 14 CFR 129.26)		FIELD TEST SERIAL NO. 11-7 T	Form Approved OMB No. 2120-0098	
AA	1.1 Name and Address of Facility	McGee Tyson Airport		FDA Region TN	St. No. R.R. or Airline/Airport (10.80) 2055 Alcoa Hwy	
CC	Address of Facility	Alcoa		State Code TN	Zip Code 37701	
DD	and Specific Location of X-ray System	Room No. or Other Location of System (10.32) Check point		Telephone No.		
	Certification Label Present	Yes		Instruments: (type and serial number) Thermo Model: Radeye Serial No. 964		
01	1.2 Manufacture And Product ID	A. Manufacture (Responsible Firm) Smith Heimann	B. HS	C. System Model No. and/or Name 6040 STIP		
		D. 115Vac Unique I.D. 60hz	E. System Serial No. 40343			
	F. Date of Manufacture	Mo. 08 Yr. 2003	1.4 Operator Instructions Available	Yes	1.5 Maintenance Schedule Available	
	2.0 Warning Labels	2.1 Warning Label Present at Controls Stating: "Caution: X-Rays Produced When Energized"	Yes	2.2 Warning Labels Present at Ports Stating: "Caution: Do Not Insert Any Part of the Body When System is Energized, X-Ray Hazard"	Yes	
02	Indicators	2.4 At Least One Indicator, X-Ray Marked "X-Ray On", Visible from Each Port, Door, And Access Panel	Yes	3.0 Interlocks	3.1 "Captured Key" Control	
	3.2 Door Safety Inter-Locks	A. Minimum Number of Interlocks Visible At Any One Door	N/A	3.3 Prevention of X-Radiation By Interlocks	A. All Doors and Access Panels That Were Tested Prevent Generation of X-Radiation	
		B. At Least One Interlock Dependent on No Moving Part Except Door	N/A		B. Use of X-Ray Control Necessary to Resume Operation Following Interruption	
	4.0 Ports and/or Apertures	4.1 Some Part of the Body Can Be Inserted Through a Port Into The Primary Beam	No	4.2 Some Part of the Body Can Be Inserted into the Aperture	No	
	6.0 Baggage Inspection Systems	6.1 Means Provided to Ensure Operator Presence at the Control Area	Yes	6.2 Means Provided to Operator for Terminating Exposures of Greater than One-Half Second and Preventing	Yes	
03	7.0 Leakage Radiation	Specific Test Procedure Used	04	7.1 Scatter Block Description	8 reams of paper	
05	7.2 Technical Factors	70.50 kVp		.402 mA		
	7.3 Location	Exposure Levels	Non-Continuously Activated Systems Only Number of Exposures Initiated	Location	Exposure Levels	
		.046 mR/hr	Exp	06	.016 mR/hr	exp
		.039 mR/hr	Exp		.005 mR/hr	exp
		.023 mR/hr	exp		.004 mR/hr	exp
	.017 mR/hr	exp	.004 mR/hr		exp	
07	Reasonable Number of Exposures That May Be Initiated in One Hour	OR	Duty Cycle of System Indicated As a Percentage of One Hour	100%		
08	8.0 Additional Information	8.1 8.88 μ R [redacted] 3-28-11 88.8 μ R Dosage per Inspection				
09	8.2					
10	8.3					
11	8.4					
12	8.5					
13	Surveyor Information	Surveyor Name (14 CFR 129.26)(b)(1)(i), (F.A.M.)	Surveyor [redacted]	Date of Survey	3/16/11	
Remarks:						

Cabinet X-Ray Unit Radiation Survey Form

WO#: 3791874

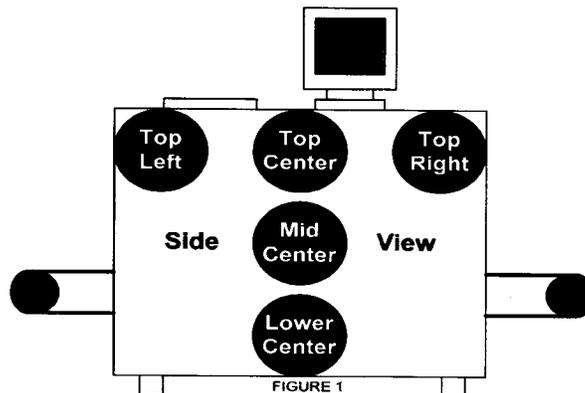
Location: TYS Checkpoint

Background Reading: 4 μ R/hr

Date: 3/16/11

1. Identify Cabinet X-ray Unit and X-ray Generator information:
 - a. Check appropriate Make/Model box below (if 'Other', record Make and Model on the line provided);
 - b. Record the X-ray Unit's serial number next to the Make/Model;
 - c. With the X-rays turned "ON", record the X-ray Generator Voltage (kV) and Anode Current (μ A) Readings;
 - d. Convert Anode Current readings from μ A to mA by dividing the μ A value by 1000 (example: 100 μ A = 0.100 mA);
 - e. Transfer the **Observed Voltage and Converted Anode Current** readings to **Box 05, Section 7.2** (Technical Factures) of DOE0-0014 FAA Form 165-17.

<u>Make / Model</u>	<u>Serial Number</u>	<u>Observed Voltage and Anode Current</u>	<u>Convert Anode Current to mA for FAA form (divide μA by 1000)</u>
<input type="checkbox"/> Smiths Heimann 5030s	s/n _____	+ _____ kV, - _____ kV, _____ μ A	_____ mA
<input checked="" type="checkbox"/> Smiths Heimann 6040i	s/n <u>40343</u>	+ <u>70,50</u> kV, - <u>70,50</u> kV, <u>402,86</u> μ A	<u>.402</u> mA
<input type="checkbox"/> Smiths Heimann 7555i	s/n _____	+ _____ kV, - _____ kV, _____ μ A	_____ mA
<input type="checkbox"/> Rapiscan 519	s/n _____	_____ kV, _____ μ A	_____ mA
<input type="checkbox"/> Rapiscan 520B	s/n _____	_____ kV, _____ μ A	_____ mA
<input type="checkbox"/> Rapiscan 522B	s/n _____	_____ kV, _____ μ A	_____ mA
<input type="checkbox"/> Other _____	s/n _____	_____ kV, _____ μ A	_____ mA



2. While holding the meter 5 centimeters (about 2 inches) from the surface, take readings in the area of the circles shown (Figure 1 above) on **BOTH** sides (Left and Right) of the X-ray machine (total of 10 readings):

Note: The Invision 451P Radiation Meter has a default range setting of μ R/hr. Meter readings in μ R/hr must be converted to mR/hr for this form and DOE0-0014 FAA Form 165-17.

Conversion: 100 μ R/hr = 0.100 mR/hr.

<u>FRONT</u>		<u>BACK</u>	
TOP LEFT	<u>.002</u> mR/hr	TOP LEFT	<u>.003</u> mR/hr
TOP CENTER	<u>.002</u> mR/hr	TOP CENTER	<u>.004</u> mR/hr
TOP RIGHT	<u>.001</u> mR/hr	TOP RIGHT	<u>.002</u> mR/hr
MID CENTER	<u>.002</u> mR/hr	MID CENTER	<u>.004</u> mR/hr
LOWER CENTER	<u>.002</u> mR/hr	LOWER CENTER	<u>.003</u> mR/hr

Cabinet X-Ray Unit Radiation Survey Form	Version: 5	Effective Date: Oct 12, 2007	Document No.: F-ALL-049	Page: 1 of 2
--	------------	------------------------------	-------------------------	--------------

Printed copies of this document must be verified against the Document Server or Intranet for correct revision level before

WO#: 3791874

X-Ray Serial #: 40343

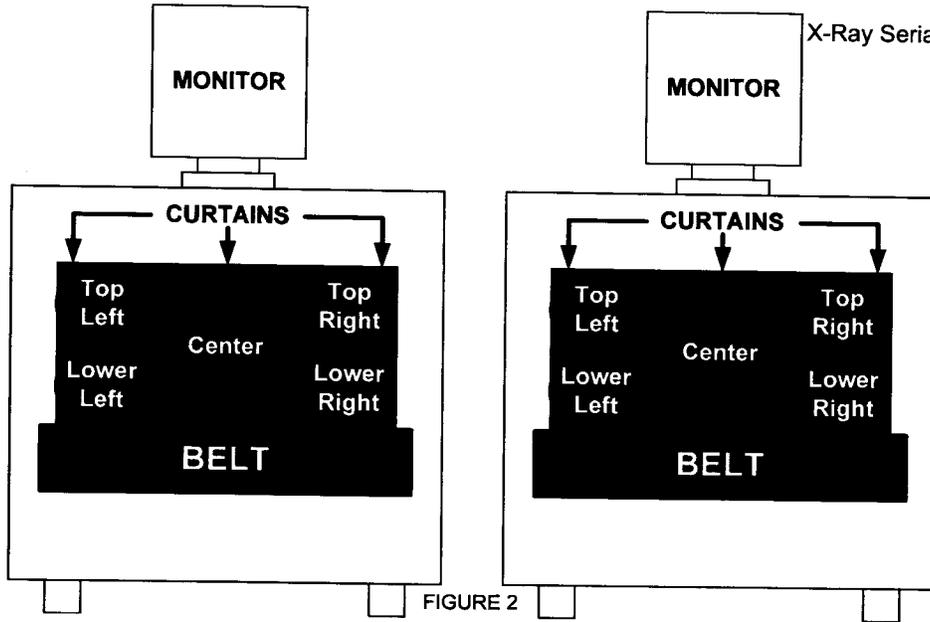


FIGURE 2

Printed copies of this document must be verified against the Document Server or Intranet for correct revision level before

3. While holding the meter 5 centimeters (about 2 inches) from the surface, take readings in the area of the circles shown (Figure 2 above) on **BOTH** sides (ENTRANCE and EXIT) of the X-ray machine (total of 10 readings):

<u>ENTRANCE</u>		<u>EXIT</u>	
TOP LEFT	<u>.003</u> mR/hr	TOP LEFT	<u>.017</u> mR/hr
TOP RIGHT	<u>.003</u> mR/hr	TOP RIGHT	<u>.039</u> mR/hr
LOWER LEFT	<u>.005</u> mR/hr	LOWER LEFT	<u>.023</u> mR/hr
LOWER RIGHT	<u>.004</u> mR/hr	LOWER RIGHT	<u>.016</u> mR/hr
CENTER	<u>.003</u> mR/hr	CENTER	<u>.046</u> mR/hr

4. Transfer the **8 highest** readings (out of all 20 readings) to **Box 05, Section 7.3** (Exposure Levels) of DOE0-0014 FAA Form 165-17. Be sure to enter values in mR/hr!! (100 μ R/hr = 0.100 mR/hr).

Note: On all X-Ray equipment, any reading of **0.5 mR/h (= 500 μ R/h) or higher** is considered a failure of the Radiation Leak Survey.

5. Perform **Cumulative Exposure Test**:
- Push the MODE button once on the Invision 451P;
 - Verify that the meter's scale changes from μ R/h to μ R (Cumulative Mode);
 - Place the meter on the belt and run through the X-Ray beam 10 times in Cumulative Mode. **Record total here:** 888 mR
 - Divide the cumulative exposure value by 10 to obtain the **Dosage per Inspection**;
 - Record this result in Section 8. () of DOE0-0014 FAA Form 165-17.

Survey Performed By (print your name): _____

Signature: _____ Date: 3/16/11