

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)

Department of Transportation Federal Aviation Administration		X-RAY SYSTEM RADIATION LEAKAGE REPORT (BAGGAGE INSPECTION) <small>(Require by 14 CFR 108.17, 14 CFR 129.26)</small>		FIELD TEST SERIAL NO. 11-7 T	Form Approved OMB No. 2120-0098	
AA	1.1 Name and Address of Facility	Name of Facility (8.80) <i>Cleveland Hopkins Intl</i>	FDA Region <i>OH</i>	St. No. R.R. or Airline/Airport (10.80) <i>RR 5300 Riverside Dr</i>		
CC	Address of Facility	City (10.73) <i>Cleveland</i>		State Code <i>OH</i>	Zip Code <i>44135</i>	
DD	and Specific Location of X-ray System	Room No. or Other Location of System (10.32) <i>Capt Lane 4</i>				
		Certification Label Present <i>Yes</i>	Instrument (type and serial number) <i>Thomson</i>	Model: <i>457 P</i>	Serial No. <i>000000528</i>	
01	1.2 Manufacture And Product ID	A. Manufacture (Responsible Firm) <i>Rapiscan</i>	B.	C. System Model No. and/or Name <i>TH-4 520 B</i>		
		D. Unique I.D. <i>110V 100Hz</i>	E. System Serial No. <i>7012413</i>			
		F. Date of Manufacture Mo. <i>06</i> Yr. <i>2001</i>	1.4 Operator Instructions Available <i>Yes</i>	1.5 Maintenance Schedule Available <i>N/A</i>		
		2.1 Warning Label Present at Controls Stating: "Caution: X-Rays Produced When Energized" <i>Yes</i>	2.2 Warning Labels Present at Ports Stating: "Caution: Do Not Insert Any Part of the Body When System is Energized, X-Ray Hazard" <i>Yes</i>	2.3 Two Indicators Labeled "X-Ray On" Present at Controls (One May Be Labeled "mA Meter") <i>Yes</i>		
02	Indicators	2.4 At Least One Indicator, X-Ray Marked "X-Ray On", Visible from Each Port, Door, And Access Panel <i>Yes</i>	3.0 Interlocks	3.1 "Captured Key" Control <i>Yes</i>		
		3.2 Door Safety Inter-Locks	A. Minimum Number of Interlocks Visible At Any One Door <i>N/A</i>	3.3 Prevention of X-Radiation By Interlocks	A. All Doors and Access Panels That Were Tested Prevent Generation of X-Radiation <i>N/A</i>	
	B. At Least One Interlock Dependent on No Moving Part Except Door <i>N/A</i>			B. Use of X-Ray Control Necessary to Resume Operation Following Interruption <i>N/A</i>		
	4.0 Ports and/or Apertures	4.1 Some Part of the Body Can Be Inserted Through a Port Into The Primary Beam <i>No</i>	4.2 Some Part of the Body Can Be Inserted Into the Aperture <i>No</i>			
03	6.0 Baggage Inspection Systems	6.1 Means Provided to Ensure Operator Presence at the Control Area <i>Yes</i>	6.2 Means Provided to Operator for Terminating Exposures of Greater than One-Half Second and Preventing <i>Yes</i>			
	7.0 Leakage Radiation	Specific Test Procedure Used <i>04</i>	7.1 Scatter Block Description <i>Rapiscan case</i>			
05	7.2 Technical Factors <i>135 kVp</i> <i>7 mA</i>					
	7.3 Location	Exposure Levels	Non-Continuously Activated Systems Only Number of Exposures Initiated	Location	Exposure Levels	
		<i>.099</i> mR/hr	Exp	06	<i>.085</i> mR/hr	exp
		<i>.098</i> mR/hr	Exp		<i>.084</i> mR/hr	exp
		<i>.097</i> mR/hr	exp		<i>.082</i> mR/hr	exp
	<i>.089</i> mR/hr	exp	<i>.079</i> 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 <i>100%</i>		
08	8.0 Additional Information					
	8.1 <i>Dosage per inspection - 195 uR</i>					
09	8.2					
10	8.3					
11	8.4					
12	8.5					
13	Surveyor Information			Date of Survey <i>3/15/11</i>	Surveying Agency Code	
Remarks:						

Siemens Government Services, Inc.

Cabinet X-Ray Unit Radiation Survey Form (non-AT)

WO#: 3727481

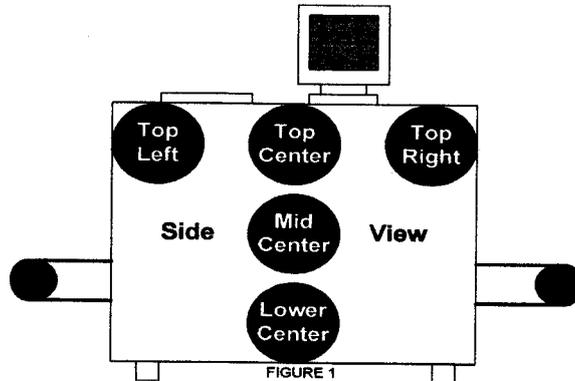
Location: 7012413

Background Reading: 3 $\mu\text{R/hr}$

Date: 3/15/11

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

Make / Model	Serial Number	Observed Voltage and Anode Current	Convert Anode Current to mA for FAA form (divide μA by 1000)
<input type="checkbox"/> Smiths Heimann 5030s	s/n _____	+ _____ kV, - _____ kV, _____ μA	_____ mA
<input type="checkbox"/> Smiths Heimann 6040I	s/n _____	+ _____ kV, - _____ kV, _____ μA	_____ mA
<input type="checkbox"/> Smiths Heimann 7555i	s/n _____	+ _____ kV, - _____ kV, _____ μA	_____ mA
<input type="checkbox"/> Rapiscan 519	s/n _____	_____ kV, _____ μA	_____ mA
<input checked="" type="checkbox"/> Rapiscan 520B	s/n <u>7012413</u>	<u>138</u> kV, <u>700</u> μA	<u>.7</u> mA
<input type="checkbox"/> Rapiscan 522B	s/n _____	_____ kV, _____ μA	_____ mA
<input type="checkbox"/> Other _____	s/n _____	_____ kV, _____ μA	_____ mA



- 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 $\mu\text{R/hr}$. Meter readings in $\mu\text{R/hr}$ must be converted to mR/hr for this form and DOE-0014 FAA Form 165-17.
Conversion: $100 \mu\text{R/hr} = 0.100 \text{ mR/hr}$.

FRONT		BACK	
TOP LEFT	<u>.007</u> mR/hr	TOP LEFT	<u>.005</u> mR/hr
TOP CENTER	<u>.004</u> mR/hr	TOP CENTER	<u>.008</u> mR/hr
TOP RIGHT	<u>.005</u> mR/hr	TOP RIGHT	<u>.006</u> mR/hr
MID CENTER	<u>.004</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 (non-AT)	Version: 6	Effective Date: Apr 2, 2010	Document No.: F-ALL-049	Page: 1 of 2
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WO#: 3727681
 X-Ray Serial #: 7012413

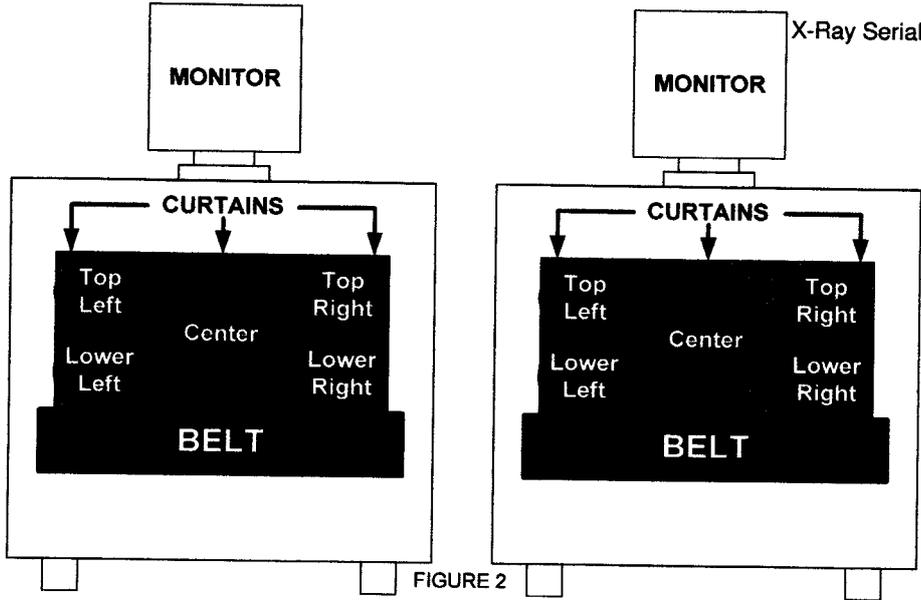


FIGURE 2

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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>.097</u> mR/hr	TOP LEFT	<u>.099</u> mR/hr
TOP RIGHT	<u>.082</u> mR/hr	TOP RIGHT	<u>.089</u> mR/hr
LOWER LEFT	<u>.079</u> mR/hr	LOWER LEFT	<u>.098</u> mR/hr
LOWER RIGHT	<u>.085</u> mR/hr	LOWER RIGHT	<u>.084</u> mR/hr
CENTER	<u>.073</u> mR/hr	CENTER	<u>.075</u> mR/hr

4. Transfer the **8 highest** readings (out of all 20 readings) to **Box 05, Section 7.3** (Exposure Levels) of DOE-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:** 1.95 mR
 - Divide the cumulative exposure value by 10 to obtain the **Dosage per Inspection;**
 - Record this result in Section 8.1 (Additional Information) of DOE-0014 FAA Form 165-17.

Survey Performed By (print your name): [Redacted]

Signature: [Redacted] Date: 3/15/11

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