

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) <i>(Require by 14 CFR 108.17, 14 CFR 129.26)</i>		FIELD TEST SERIAL NO. 11-7 T	Form Approved OMB No. 2120-0098	
AA	1.1 Name and Address of Facility	Name of Facility (18.80) Portland Intl Airport		FDA Region OR	St. No. R.R. or Airline/Airport (10.80) 7000 NE Airport Way	
CC		City (10.73) Portland		State Code OR	Zip Code 97218	
DD	and Specific Location of X-ray System	Room No. or Other Location of System (10.32) D&E Checkpoint Lane 7		Person Interview (33.50)	Telephone No.	
		Certification Label Present	Instrument Inovision	Model 451P-RXR	Serial No. 498	
01	1.2 Manufacture And Product ID	A. Manufacture (Responsible Firm) Smiths Heimann		B. ITS	C. System Model No. and/or Name 6040i	
		D. 115VAC 60 Hz Unique I.D.	E. System Serial No. 57079			
		F. Date of Manufacture Mo. 5 yr. 2003	1.4 Operator Instructions Available Yes	1.5 Maintenance Schedule Available No		
02	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		
	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 Yes	
		3.2 Door Safety Inter-Locks	A. Minimum Number of Interlocks Visible At Any One Door No		3.3 Prevention of X-Radiation By Interlocks	A. All Doors and Access Panels That Were Tested Prevent Generation of X-Radiation No
	B. At Least One Interlock Dependent on No Moving Part Except Door No		B. Use of X-Ray Control Necessary to Resume Operation Following Interruption No			
	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 9a		7.4 Scatter Block Description Plastic Case for Inovision 451P meter		
05	7.2 Technical Factors 20 -70 kVp 1403 mA					
	7.3 Location Exposure Levels		Non-Continuously Activated Systems Only Number of Exposures Initiated		Exposure Levels	
	.102 mR/hr		Exp	06	.050 mR/hr exp	
	.096 mR/hr		Exp		.039 mR/hr exp	
	.073 mR/hr		exp		.016 mR/hr exp	
.066 mR/hr		exp	.014 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					
09	8.1 Dosage per inspection = 89 µS					
10	8.2					
11	8.3					
12	8.4					
13	8.5					
13	Surveyor Information	[Redacted]		Date of Survey	3/9/11	
Remarks:						

WO 3714036
EQ 33563
ANNUAL PM
PDX

WO 3713577
FAA HQ
ANNUAL RIS

Cabinet X-Ray Unit Radiation Survey Form

WO#: 3714036 + 3713577

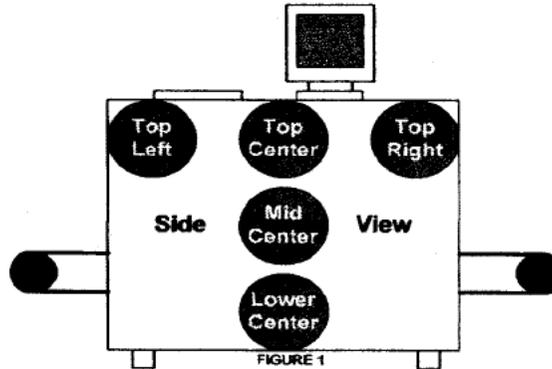
Location: PDA DECKpt. Lane 7

Background Reading: 8 μ R/hr

Date: 3/9/11

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.

Make / Model	Serial Number	Observed Voltage and Anode Current	Convert Anode Current to mA for FAA form (divide μ A by 1000)
<input type="checkbox"/> Smiths Heimann 5030s	s/n _____	+ _____ kV, - _____ kV, _____ μ A	_____ mA
<input checked="" type="checkbox"/> Smiths Heimann 6040i	s/n <u>57079</u>	+ <u>70</u> kV, - <u>70</u> kV, <u>403</u> μ A	<u>.403</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.

FRONT

BACK

TOP LEFT	<u>.012</u> mR/hr	TOP LEFT	<u>.039</u> mR/hr
TOP CENTER	<u>.014</u> mR/hr	TOP CENTER	<u>.016</u> mR/hr
TOP RIGHT	<u>.011</u> mR/hr	TOP RIGHT	<u>.009</u> mR/hr
MID CENTER	<u>.010</u> mR/hr	MID CENTER	<u>.010</u> mR/hr
LOWER CENTER	<u>.008</u> mR/hr	LOWER CENTER	<u>.011</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
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WO#: 3714036 + 3713577
X-Ray Serial #: 57079

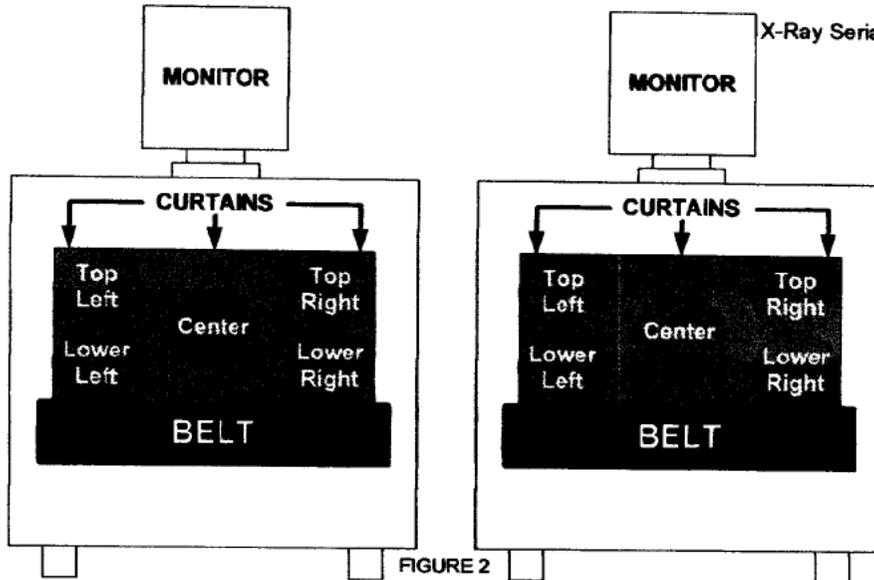


FIGURE 2

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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):

ENTRANCE		EXIT	
TOP LEFT	<u>.013</u> mR/hr	TOP LEFT	<u>.073</u> mR/hr
TOP RIGHT	<u>.009</u> mR/hr	TOP RIGHT	<u>.102</u> mR/hr
LOWER LEFT	<u>.009</u> mR/hr	LOWER LEFT	<u>.050</u> mR/hr
LOWER RIGHT	<u>.010</u> mR/hr	LOWER RIGHT	<u>.066</u> mR/hr
CENTER	<u>.007</u> mR/hr	CENTER	<u>.096</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: 890 μ R
 - Divide the cumulative exposure value by 10 to obtain the **Dosage per Inspection**;
 - Record this result in Section 8.1 (Additional Information) of DOE0-0014 FAA Form 165-17.

Survey Performed by: _____
Signature: _____ Date: 3/9/11