The information in this report is required by 14 CRF 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)
(Require by 14 CRF 108.17, 14 CRF 129.26)

FIELD TEST SERIAL NO. 11-7 T

Form Approved OMB No. 2120-0098

AA 1.1 Name and Address of Facility and Specific Location of X-ray System
- Name of Facility (18.60): Richmond Int'l Airport
- FDA Region: VA
- **BB** St. No. R.R. or Airline/Airport (10.60): 1 Richard E Byrd Terminal Dr
- **CC** City (10.73): Richmond
- State Code: VA
- Zip Code: 23250
- Room No. or Other Location of System (10.32): Bravo lane 3
- Person Interview (23.64): [redacted]
- Telephone No: [redacted]
- Certification Label Present: Yes
- **DD** Instruments: (type and serial number) Model: 451P Serial No. 580

01 1.2 Manufacture And Product ID
- A. Manufacture (Responsible Firm): Rapiscan
- B. 04446
- C. System Model No. and/or Name: TRX 5208
- D. 115VAC Unique I.D. 60 Hz
- E. System Serial No. 7020811
- F. Date of Manufacture Mo. 02 Yr. 2002
- 1.4 Operator Instructions Available: Yes
- 1.5 Maintenance Schedule Available: N/A

02 2.0 Warning Labels Indicators
- 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
- 2.3 Two Indicators Labeled "X-Ray On" Present at Controls (One May Be Labeled "mA Meter"): Yes
- 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: N/A
  - B. At Least One Interlock Dependent on No Moving Part Except 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: N/A
  - B. Use of X-Ray Control Necessary to Resume Operation Following Interruption: N/A
- 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: Pelican Case for Inovision Meter

05 7.2 Technical Factures: 140 kVp, .700 mA

7.3 Location	Exposure Levels	Non-Continuously Activated Systems Only Number of Exposures Initiated	Location	Exposure Levels	Non-Continuously Activated Systems Only Number of Exposures Initiated
	.075 mR/hr	exp		.060 mR/hr	exp
	.075 mR/hr	exp		.054 mR/hr	exp
	.064 mR/hr	exp		.054 mR/hr	exp
	.062 mR/hr	exp		.053 mR/hr	exp

06

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
- 8.1 168 μR per pass
- 8.2

09
- 8.3

10
- 8.4

11
- 8.5

12

13 Surveyor Information
- Surveyor Name (18.20) (Print 1 - 6 char): [redacted]
- [redacted]
- Date of Survey: 3/7/11
- Surveying Agency Code:

Remarks:

FAA Form 105-17 (8-81)

SGS Document# DOED-0014, Rev. Jun 81

FAA HQ

RLS

SIEMENS

Siemens Government Services, Inc.

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

WO#: 3750878

Location: Bravo lane 3 Background Reading: 8 µR/hr Date: 3/7/11

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 (µA) Readings;
   d. Convert Anode Current readings from µA to mA by dividing the µA value by 1000 (example: 100 µA = 0.100 mA);
   e. Transfer the Observed Voltage and Converted Anode Current readings to Box 65, Section 7.2 (Technical Factures) of DOEO-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)
☐ Smiths Heimann 5030a	s/n	+___ kV, -___ kV, ___ µA	___ mA
☐ Smiths Heimann 6040i	s/n	+___ kV, -___ kV, ___ µA	___ mA
☐ Smiths Heimann 7555i	s/n	+___ kV, -___ kV, ___ µA	___ mA
☐ Rapiscan 519	s/n	___ kV, ___ µA	___ mA
☑ Rapiscan 520B	s/n 7020811	140 kV, 700 µA	.700 mA
☐ Rapiscan 522B	s/n	___ kV, ___ µA	___ mA
☐ Other ___	s/n	___ kV, ___ µA	___ mA

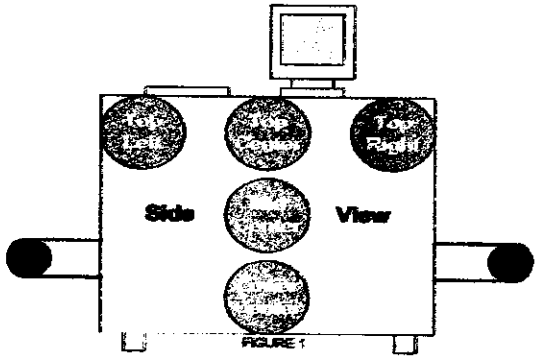

FIGURE 1

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 Inovision 451P Radiation Meter has a default range setting of µR/hr. Meter readings in µR/hr must be converted to mR/hr for this form and DOEO-0014 FAA Form 165-17.
Conversion: 100 µR/hr = 0.100 mR/hr.

FRONT		BACK	
TOP LEFT	.008 mR/hr	TOP LEFT	.009 mR/hr
TOP CENTER	.022 mR/hr	TOP CENTER	.009 mR/hr
TOP RIGHT	.013 mR/hr	TOP RIGHT	.009 mR/hr
MID CENTER	.012 mR/hr	MID CENTER	.011 mR/hr
LOWER CENTER	.007 mR/hr	LOWER CENTER	.008 mR/hr

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[redacted]

SIEMENS

Siemens Government Services, Inc.

WO#: 3750878

X-Ray Serial #: 7020811

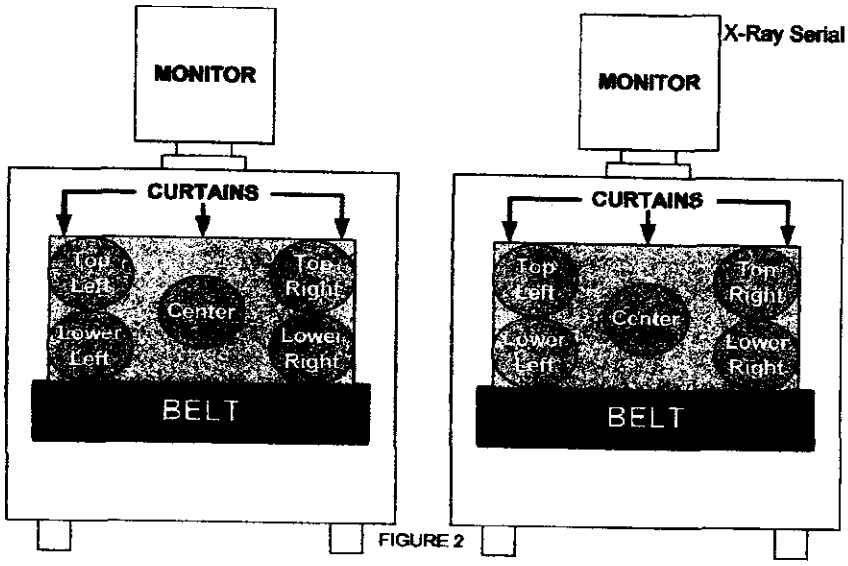

FIGURE 2

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	.060	mR/hr	TOP LEFT	.064	mR/hr
TOP RIGHT	.054	mR/hr	TOP RIGHT	.062	mR/hr
LOWER LEFT	.042	mR/hr	LOWER LEFT	.053	mR/hr
LOWER RIGHT	.054	mR/hr	LOWER RIGHT	.045	mR/hr
CENTER	.075	mR/hr	CENTER	.075	mR/hr

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

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

5. Perform **Cumulative Exposure Test:**
   a. Push the MODE button once on the Inovision 451P;
   b. Verify that the meter's scale changes from µR/h to µR (Cumulative Mode);
   c. Place the meter on the belt and run through the X-Ray beam 10 times in Cumulative Mode. Record total here: 1680 µR
   d. Divide the cumulative exposure value by 10 to obtain the Dosage per Inspection;
   e. Record this result in Section 8.1 (Additional Information) of DOEO-0014 FAA Form 165-17.

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

Signature: [redacted] Date: 3/7/11

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