DEPARTMENT OF THE AIR FORCE
AIR FORCE INSTITUTE FOR OPERATIONAL HEALTH (AFMC)
BROOKS CITY-BASE TEXAS

21 Feb 06

MEMORANDUM FOR 143 AW/CF
1 MINUTEMAN WAY
NORTH KINGSTOWN RI 02852

FROM: AFIOH/SDR
2350 Gillingham Drive
Brooks City-Base TX 78235-5103

SUBJECT: Consult Letter, IOH-SD-BR-CL-2006-0034, Radio Frequency Radiation (RFR) Hazards Assessment, Rhode Island Air National Guard (ANG), RI

1. Introduction: SMSgt Healis, Information Technology Supervisor, 143 AW/CF, requested the Air Force Institute for Operational Health, Radiation Surveillance Division, Health Physics Consulting Branch (AFIOH/SDRH) to assess radiofrequency radiation (RFR) hazards at 143 AW/CF. 1Lt Williams, 1Lt Fyffe, and SSgt Valverde conducted an on-site assessment and measurements from 24-28 October 2005. Measurements indicated that the hazard distance for each of the emitters did not exceed two feet.

2. Background:

a. The Rhode Island ANG is part of Air Mobility Command (AMC) and is located at North Kingstown, RI at the Quonset State Airport. Their mission is to provide quality worldwide Combat Airdrop/Airlift capability with the C-130J aircraft.

b. The current Air Force Occupational Safety and Health (AFOSH) Standard, 48-9, *Radio Frequency Radiation (RFR) Safety Program*, 1 August 1997, establishes maximum PELs for controlled and uncontrolled environments. This standard is based on the Institute for Electrical and Electronics Engineers (IEEE) C95.1-1991, *Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.* The personnel hazard distance is the distance where the power density equals the PEL. Measurement locations with associated power density levels and general findings are listed in the following sections. The PELs are listed in Attachment 2, Rhode Island RFR Emitter Hazard Evaluations-AF Form 2759.

3. Findings:

a. The following workplaces have RFR emitters installed: Security Police, Communications and Safety in Building (Bldg.) P-1, Civil engineering in Bldg. P-2, Vehicle Maintenance in Bldg. P-3, Base Supply in Building P-5, Operations and

Command Post in Bldg. P-7, Fire Department, Security Police, Aerial Port in Building P-13, Fuels in Bldg. P-14, Maintenance Control in Building 575 and aboard the C-130Js. This survey did not identify any systems or areas with hazardous conditions for personnel.

b. C-130J: The hazard distances for the controlled and uncontrolled PEL for both the Electric field (E-field) and the Magnetic field (H-field) did not exceed two feet.

Table 1. RF Emitters found on the C-130J

Emitter	Description
HG-9550	A combined altimeter
AN/APN-241	Low-power color radar
SKE-2000/CAPS	Station-keeping radar aide
AN/ARN 153	TACAN navigational radar aide
AN/ARC-190 HF	HF radio with the most power of any RF emitter found on a C-130J
AN/ARC-222	VHF radio emitter, two per aircraft
AN/ARC-164	UHF radio emitter, two per aircraft
AN/ARC-210	Satellite communications emitter

c. Motorola Spectra mobile radio: There are ten on the installation located on the rooftop of buildings: 1) P-1, used by Communications and Safety, 2) P-3, used by vehicle maintenance, 3) P-5 used by Supply and Operations, 4) P-13 used by the Fire Department, Security Police and Aerial Port, 5) P-14 used by Fuels and 6) 575 used by Maintenance Control. The emitter located on the rooftop of Bldg. P-1 for the Safety office was characterized as a representative of all ten of these emitters. The ladder leading to the roof is locked and access is controlled. The hazard distances for the controlled and uncontrolled PEL for both the E-field and the H-field did not exceed one foot.

d. Harris URC-119 (HF transceiver): This emitter is a radio tactical B station used for State emergencies by the Communications section. There is one in the installation inventory on the rooftop of Bldg. P-1. The ladder leading to the roof is locked and access is controlled. The hazard distances for the controlled and uncontrolled PEL for both the E-field and the H-field did not exceed two feet.

e. Motorola Quantar Repeater: This emitter is a repeater base station used by security police. There is one in the installation inventory on the rooftop of Bldg. P-1. The ladder leading to the roof is locked and access is controlled. The hazard distances for the controlled and uncontrolled PEL for both the E-field and the H-field did not exceed one foot.

f. Vertex 2011: This emitter is a mobile radio base station used by civil engineering. There are two in the installation inventory, both on the roof of Bldg. P-2. The hazard distances for the controlled and uncontrolled PEL for both the E-field and the H-field did not exceed two feet.

g. General Electric MPFH1055: This emitter is a mobile radio used by civil engineering. There is one in the installation inventory on the roof of Bldg. P-2. The emitter was inoperable at the time of this survey.

h. General Electric MLSL261: This emitter is a mobile radio base station used by civil engineering. There is one in the installation inventory on the roof of Bldg. P-2. The hazard distances for the controlled and uncontrolled PEL for both the E-field and the H-field did not exceed two feet.

i. ICOM IC-200: This emitter is a mobile radio. There is one in the installation inventory on top of a 30 foot tower on the roof of Bldg. P-13. An individual could only come within three feet of the emitter if they climbed up the 30 foot tower. Measurements performed three feet away from the emitter and at the base of the tower were equivalent to background.

j. General Dynamics URC-200: This emitter is a UHF/VHF transceiver, line of site radio. There are two on the installation. Both emitters are on top of a 60 foot tower along the side of Bldg. P-7 and are used by Operations and the Command Post. The radio was keyed and measurements were performed at the base of the tower because it was deemed too dangerous to climb to the top. Measurements performed at the base of the emitter were equivalent to background.

k. TRC-176: This emitter is a UHF/VHF Tactical radio. The two in the installation inventory are also at the top of a 60 foot tower along the side of Bldg. P-7 and are being replaced by the aforementioned General Dynamics URC-200 emitters. An individual could not come in contact with the emitters unless they climbed the 60 foot tower. The radio was keyed and measurements were performed at the foot of the tower. The measurements were equivalent to background.

l. AN/ARC-164: This emitter is an airplane radio. There is one being used as a base station on the side of Bldg. 575 by maintenance control. There are also ARC-164s aboard the C-130Js (see section b). An individual could not access it unless they procured a boom truck which still would not get them closer than two feet. The measurements were equivalent to background.

m. AN/GRC-171: This is a tactical radio. There is one on the installation located along the side of Bldg. 575 that is only able to be used as a receiver by maintenance control. Therefore, measurements were not performed.

n. ARSS-1 Ground Surveillance emitter: There is one such emitter in the installation inventory. It is currently not being used because they are waiting for funding to have it properly set up. Measurements were not performed.

5. Recommendations:

a. Although none of the emitters pose an RFR hazard, there is a potential for electric shock if a person is touching the emitter while it is being keyed. It is important for personnel to maintain a safe distance of at least six inches to avoid this hazard.

b. Once the fuse for the General Electric MPFH1055 emitter is replaced it is recommended that an RFR survey be performed to determine if any hazards exist.

c. When the ARSS-1 Ground Surveillance emitter is operational, it is recommended that an RFR survey be performed to determine if any hazards exist.

d. Rhode Island ANG RFR safety program records are up-to-date and meet AFOSH Std. 48-9 requirements. The RF emitter inventory and shop-specific safety training indicate proper oversight of base RFR safety by SMSgt Healis and MSgt Larsen. We recommend that the Bioenvironmental Engineering Flight continue appropriate surveillance of work areas with RF emitters and assist each shop supervisor with RFR awareness training programs.

6. We would like to thank MSgt Jones, MSgt Hogan, SMSgt Stromberg, and MSgt Larsen and SMSgt Healis for their help during this survey. If you have any questions, please contact 1Lt Piper Williams at DSN 240-6034, send an email to piper.williams@brooks.af.mil, or call the ESOH Service Center at 1-888-232-ESOH. To assist us in improving our services, please complete and return the attached critique form.

//signed//

SCOTT M. NICHELSON, Lt Col, USAF, BSC, CHP, CIH
Chief, Radiation Surveillance Division

Attachments:
1. Personnel Contacted & Instrumentation Used
2. Rhode Island RFR Emitter Hazard Evaluations-AF Form 2759

Attachment 1

Personnel Contacted:

SMSgt Roy Stromberg, 143MXG
MSgt Kevin Hogan, 143MXG
SMSgt Michael Healis, 143CF
MSgt Mark Larsen, 143CF
MSgt Christopher T. Jones, 143MDG

Instrumentation Used:

1. Narda meter, Model 8718, Serial Number (SN) 01017, Calibration date 28 Jul 04, (due date 28 Jul 06).
   Probes: Model 8712, SN 15002, Calibration date 28 Jul 04, (due date 28 Jul 06).
   Model 8712, SN 15001, Calibration date 28 Jul 04, (due date 28 Jul 06).
   Model 7823, SN 08028, Calibration date 28 Jul 04, (due date 28 Jul 06).

2. Narda meter, Model 8718, SN 01030, Calibration date 22 Jan 04, (due date 22 Jan 06).
   Probes: Model 8721, SN 14048, Calibration date 22 Jan 04, (due date 22 Jan 06).
   Model 8721, SN 13037, Calibration date 22 Jan 04, (due date 22 Jan 06).
   Model 8723, SN 05003, Calibration date 22 Jan 04, (due date 22 Jan 06).

DATE *(YYMMDD)*	WORKPLACE IDENTIFIER
050926	

(Use this space for mechanical imprint)	BASE	ORGANIZATION
	Rhode Island ANG	
	WORKPLACE: Security Police, Communications	
	BLDG NO / LOCATION: P-1	ROOM / AREA

NAME OF KEY CONTACT	GRADE	POSITION	ORGANIZATION/OFFICE SYMBOL	DUTY PHONE
Healis	SMSgt	Installation Spectrum Manager	143MXG	DSN 476-3232
Larsen	MSgt	Installation Spectrum Manager	143CF	DSN 476-3123

HAZARD EVALUATION AND CONTROL DATA

NOMENCLATURE	Motorola Quantar Repeater	Motorola Spectra	Harris URC-119 HF Transceiver	
DESCRIPTION	Repeater Base Station	Mobile Radio Emitter	Tactical Radio Base Station	
LOCATION OF EMITTERS	Rooftop	Rooftop P-1(2), P-3, P-5(2), P-13 (3), P-14, 575	Rooftop	
QUANTITY	1	10	1	
FREQUENCY (MHZ)	136-154	136-154	3-30	
PULSE WIDTH *(microsec.)*	0.00	0.00	0.00	
PULSE REPETITION FREQ *(pps)*	0.00	0.00	0.00	
PEAK POWER *(KW)*	0.125-But unauthorized. 0.025 is typically used.	0.025	0.1 with 0.5 kW amps	
ANTENNA CODE	DP	GP	Whip	
ANTENNA SIZE *(ft.)(hor./ver.)*	12		30	
ANTENNA BW *(deg)(hor./ver.)*	360	360	360	
ANTENNA GAIN *(dB)*	5.5	3.0	3.0	
SCANNING CODE	F	F	F	
SCAN RATE *(rpm)*	N/A	N/A	N/A	
PERMISSIBLE EXPOSURE LIMIT (mW/cm^2)	Cont – E)1.0 H) 1.0 Uncont – E) 0.2 H) 0.2	Cont – E)1.0 H) 1.0 Uncont – E) 0.2 H) 0.2	Cont – E)1.0 H) 11.1 Uncont – E) 0.2 H) 11.1	
ESTIMATED HAZARD DISTANCE *(ft)*	Cont – 2.8 Uncont – 6.2	Cont – 1.3 Uncont – 2.9	Cont – 9.2 Uncont – 20.7	
HAZARD CODE(S)	SH	SH	SH	
HAZARD CONTROL CODE(S)	NR	NR	NR	
HAZARD DISTANCE MEASUREMENTS *(ft)*	Cont - E) 0.25 H) 0.7 Uncont - E) Below PEL H) 0.25	Cont/Uncont E)Below PEL Cont/Uncont H)0.5	Cont - E) 0.4 H) 0.75 Uncont - E) 0.08 H) 1.25	

SURVEYED BY (Name, Grade, AFSC)

PIPER C.M. WILLIAMS, 1Lt, USAF, BSC

PERIODIC CHECKS

CHECK FREQUENCY

[X] ANNUALLY [ ] QUARTERLY [ ] OTHER

	FINDINGS		
DATE (YYMMDD)	SIGNS CURRENT	OTHER	CHECKED BY (Name, Grade, AFSC)

SYSTEM DIAGRAM, CALCULATIONS, AND MEASUREMENTS

Hazard control codes

AS-Audible Signal; BA-Rope or Chain Barrier, CA-Check RF Absorbers; CO-Constant Observation; CW-Check Waveguides; FE-Fence; FL-Flashing Lights; LF-Locked Fence; SC-Special Cooridination; SO-SOP; WS-Warning Sign; NR-No Control Required; OM-Other

DATE *(YYMMDD)*	WORKPLACE IDENTIFIER
050926	

(Use this space for mechanical imprint)	BASE	ORGANIZATION
	Rhode Island ANG	
	WORKPLACE: Civil Engineering	
	BLDG NO / LOCATION: P-2	ROOM / AREA

NAME OF KEY CONTACT	GRADE	POSITION	ORGANIZATION/OFFICE SYMBOL	DUTY PHONE
Healis	SMSgt	Installation Spectrum Manager	143MXG	DSN 476-3232
Larsen	MSgt	Installation Spectrum Manager	143CF	DSN 476-3123

HAZARD EVALUATION AND CONTROL DATA

NOMENCLATURE	Vertex 2011		GE MPFH1055		GE MLSL261		
DESCRIPTION	Mobile Radio Base Station		Mobile Radio		Mobile Radio Base Station		
LOCATION OF EMITTERS	Rooftop		Rooftop		Rooftop		
QUANTITY	2		1		1		
FREQUENCY (MHZ)	136-154		136-154		30-50		
PULSE WIDTH *(microsec.)*	0.00		0.00		0.00		
PULSE REPETITION FREQ *(pps)*	0.00		0.00		0.00		
PEAK POWER *(KW)*	0.025		0.025		0.025		
ANTENNA CODE	GP (Whip)		GP		Dipole		
ANTENNA SIZE *(ft.)(hor./ver.)*		8	3	9	4	15	
ANTENNA BW *(deg)(hor./ver.)*	360		360				
ANTENNA GAIN *(dB)*	3.0		3.0		3.0		
SCANNING CODE	F		F		F		
SCAN RATE *(rpm)*	N/A		N/A		N/A		
PERMISSIBLE EXPOSURE LIMIT (mW/cm^2)	Cont – E)1.0 H) 1.0 Uncont – E) 0.2 H) 0.2		Cont – E)1.0 H) 1.0 Uncont – E) 0.2 H) 0.2		Cont – E)1.0 H) 4.0 Uncont – E) 0.2 H) 2.0		
ESTIMATED HAZARD DISTANCE *(ft)*	Cont – 2.0 Uncont – 4.6		Cont - 2.0 Uncont - 4.6		Cont – 2.0 Uncont – 4.6		
HAZARD CODE(S)	SH		SH		SH		
HAZARD CONTROL CODE(S)	NR		NR		NR		
HAZARD DISTANCE MEASUREMENTS *(ft)*	Cont – E)0.6 H) 0.3 Uncont – E) 0.3 H) 1.4		Not working at the time of this survey		Cont – E) 0.8 H) 0.5 Uncont – E)1.5 H) 0.5		

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PIPER C.M. WILLIAMS, 1Lt, USAF, BSC

PERIODIC CHECKS

CHECK FREQUENCY

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	FINDINGS		
DATE (YYMMDD)	SIGNS CURRENT	OTHER	CHECKED BY (Name, Grade, AFSC)

SYSTEM DIAGRAM, CALCULATIONS, AND MEASUREMENTS

Hazard control codes

AS-Audible Signal; BA-Rope or Chain Barrier, CA-Check RF Absorbers; CO-Constant Observation; CW-Check Waveguides; FE-Fence; FL-Flashing Lights; LF-Locked Fence; SC-Special Cooridination; SO-SOP; WS-Warning Sign; NR-No Control Required; OM-Other

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050926	

(Use this space for mechanical imprint)	BASE	ORGANIZATION
	Rhode Island ANG	
	WORKPLACE: Operations, Civil Engineering	
	BLDG NO / LOCATION: P-7	ROOM / AREA

NAME OF KEY CONTACT	GRADE	POSITION	ORGANIZATION/OFFICE SYMBOL	DUTY PHONE
Healis	SMSgt	Installation Spectrum Manager	143MXG	DSN 476-3232
Larsen	MSgt	Installation Spectrum Manager	143CF	DSN 476-3123

HAZARD EVALUATION AND CONTROL DATA

NOMENCLATURE	General Dynamics URC-200			
DESCRIPTION	UHF/VHF Transceiver			
LOCATION OF EMITTERS	Rooftop			
QUANTITY	2			
FREQUENCY (MHZ)	225-400			
PULSE WIDTH *(microsec.)*	0.00			
PULSE REPETITION FREQ *(pps)*	0.00			
PEAK POWER *(KW)*	0.05			
ANTENNA CODE	GP			
ANTENNA SIZE *(ft.)(hor./ver.)*				
ANTENNA BW *(deg)(hor./ver.)*	360			
ANTENNA GAIN *(dB)*	3.0			
SCANNING CODE	F			
SCAN RATE *(rpm)*	N/A			
PERMISSIBLE EXPOSURE LIMIT (mW/cm^2)	Cont – E)1.0 H) 1.0 Uncont – E) 0.2 H) 0.2			
ESTIMATED HAZARD DISTANCE *(ft)*	Cont – 2.9 Uncont – 6.5			
HAZARD CODE(S)	IH			
HAZARD CONTROL CODE(S)	NR			
HAZARD DISTANCE MEASUREMENTS *(ft)*	Below PEL at accessible locations. Antennas at top of 50' tower.			

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PIPER C.M. WILLIAMS, 1Lt, USAF, BSC

PERIODIC CHECKS

CHECK FREQUENCY

[X] ANNUALLY [ ] QUARTERLY [ ] OTHER

	FINDINGS		
DATE (YYMMDD)	SIGNS CURRENT	OTHER	CHECKED BY (Name, Grade, AFSC)

SYSTEM DIAGRAM, CALCULATIONS, AND MEASUREMENTS

Hazard control codes

AS-Audible Signal; BA-Rope or Chain Barrier, CA-Check RF Absorbers; CO-Constant Observation; CW-Check Waveguides; FE-Fence; FL-Flashing Lights; LF-Locked Fence; SC-Special Cooridination; SO-SOP; WS-Warning Sign; NR-No Control Required; OM-Other

DATE *(YYMMDD)*	WORKPLACE IDENTIFIER
050928	

(Use this space for mechanical imprint)	BASE	ORGANIZATION
	Rhode Island ANG	
	WORKPLACE: Maintenance Control	
	BLDG NO / LOCATION: 575	ROOM / AREA

NAME OF KEY CONTACT	GRADE	POSITION	ORGANIZATION/OFFICE SYMBOL	DUTY PHONE
Healis	SMSgt	Installation Spectrum Manager	143MXG	DSN 476-3232
Larsen	MSgt	Installation Spectrum Manager	143CF	DSN 476-3123

HAZARD EVALUATION AND CONTROL DATA

NOMENCLATURE	AN/ARC-164			AN/GRC-171					
DESCRIPTION	Airplane Radio being used as a Base Station			Transmitter, Tactical Radio					
LOCATION OF EMITTERS	Rooftop			Rooftop					
QUANTITY	1			1					
FREQUENCY (MHZ)	225-400			225-400					
PULSE WIDTH *(microsec.)*	0.00			0.00					
PULSE REPETITION FREQ *(pps)*	0.00			0.00					
PEAK POWER *(KW)*	0.025			0.025					
ANTENNA CODE	GP			GP					
ANTENNA SIZE *(ft.)(hor./ver.)*		12		3	3				
ANTENNA BW *(deg)(hor./ver.)*	360			360					
ANTENNA GAIN *(dB)*	3.0			3.0					
SCANNING CODE	F			F					
SCAN RATE *(rpm)*	N/A			N/A					
PERMISSIBLE EXPOSURE LIMIT (mW/cm^2)	Cont – E)1.0 H) 1.0 Uncont – E) 0.2 H) 0.2			Cont – E)1.0 H) 1.0 Uncont – E) 0.2 H) 0.2					
ESTIMATED HAZARD DISTANCE *(ft)*	Cont – 2.07 Uncont – 4.62			Cont – 2.07 Uncont – 4.62					
HAZARD CODE(S)	SH			SH					
HAZARD CONTROL CODE(S)	NR, Needed a boom truck to access antennas.			NR, Needed a boom truck to access antennas.					
HAZARD DISTANCE MEASUREMENTS *(ft)*	Cont – 0.3 Uncont – 0.6			Below PEL at closest accessible point.					

SURVEYED BY (Name, Grade, AFSC)

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PERIODIC CHECKS

CHECK FREQUENCY

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FINDINGS

DATE (YYMMDD)	SIGNS CURRENT	OTHER	CHECKED BY (Name, Grade, AFSC)

SYSTEM DIAGRAM, CALCULATIONS, AND MEASUREMENTS

Hazard control codes

AS-Audible Signal; BA-Rope or Chain Barrier, CA-Check RF Absorbers; CO-Constant Observation; CW-Check Waveguides; FE-Fence; FL-Flashing Lights; LF-Locked Fence; SC-Special Cooridination; SO-SOP; WS-Warning Sign; NR-No Control Required; OM-Other

DATE *(YYMMDD)*	WORKPLACE IDENTIFIER
050926	

(Use this space for mechanical imprint)	BASE	ORGANIZATION
	Rhode Island ANG	
	WORKPLACE: Fire Department	
	BLDG NO / LOCATION: P-13	ROOM / AREA

NAME OF KEY CONTACT	GRADE	POSITION	ORGANIZATION/OFFICE SYMBOL	DUTY PHONE
Healis	SMSgt	Installation Spectrum Manager	143MXG	DSN 476-3232
Larsen	MSgt	Installation Spectrum Manager	143CF	DSN 476-3123

HAZARD EVALUATION AND CONTROL DATA

NOMENCLATURE	ICOM IC-200			
DESCRIPTION	Mobile Radio			
LOCATION OF EMITTERS	Rooftop			
QUANTITY	1			
FREQUENCY (MHZ)	118-136			
PULSE WIDTH *(microsec.)*	0.00			
PULSE REPETITION FREQ *(pps)*	0.00			
PEAK POWER *(KW)*	0.01			
ANTENNA CODE	DP			
ANTENNA SIZE *(ft.)(hor./ver.)*		4		
ANTENNA BW *(deg)(hor./ver.)*	360			
ANTENNA GAIN *(dB)*	3.0			
SCANNING CODE	F			
SCAN RATE *(rpm)*	N/A			
PERMISSIBLE EXPOSURE LIMIT (mW/cm^2)	Cont – E)1.0 H) 1.0 Uncont – E) 0.2 H) 0.2			
ESTIMATED HAZARD DISTANCE *(ft)*	Cont – 1.3 Uncont – 2.9			
HAZARD CODE(S)	SH			
HAZARD CONTROL CODE(S)	NR			
HAZARD DISTANCE MEASUREMENTS *(ft)*	Antenna at the top of a 30' tower. Background at closest, accessible point of 3'.			

SURVEYED BY (Name, Grade, AFSC)

PIPER C.M. WILLIAMS, 1Lt, USAF, BSC

PERIODIC CHECKS

CHECK FREQUENCY

[X] ANNUALLY [ ] QUARTERLY [ ] OTHER

	FINDINGS		
DATE (YYMMDD)	SIGNS CURRENT	OTHER	CHECKED BY (Name, Grade, AFSC)

SYSTEM DIAGRAM, CALCULATIONS, AND MEASUREMENTS

Hazard control codes

AS-Audible Signal; BA-Rope or Chain Barrier, CA-Check RF Absorbers; CO-Constant Observation; CW-Check Waveguides; FE-Fence; FL-Flashing Lights; LF-Locked Fence; SC-Special Cooridination; SO-SOP; WS-Warning Sign; NR-No Control Required; OM-Other

DATE (YYMMDD)	WORKPLACE IDENTIFIER
050926	

(Use this space for mechanical imprint)	BASE	ORGANIZATION
	Rhode Island ANG	
	WORKPLACE	
	BLDG NO / LOCATION	ROOM / AREA

NAME OF KEY CONTACT	GRADE	POSITION	ORGANIZATION/OFFICE SYMBOL	DUTY PHONE
Stromberg	SMSgt	Avionics Supervisor	143 NX	DSN 476-3527
Hogan	MSgt	Comm Nav Technician		

HAZARD EVALUATION AND CONTROL DATA

NOMENCLATURE	HG-9550	ANAPN-241	SKE-2000/CAPS	AN/ARN 153
DESCRIPTION	Combined Altimeter	Low Power Color Radar	Station-Keeping Radar Aide	TACAN Navigational Radar Aide
LOCATION OF EMITTERS	C-130J	C-130J	C-130J	C-130J
QUANTITY	1	1	1	1
FREQUENCY (MHZ)	4200-4400	3300-3600	3300-3600	1025-1150
PULSE WIDTH *(microsec.)*	0.00	0.00	0.00	0.00
PULSE REPETITION FREQ *(pps)*	0.00	0.00	0.00	0.00
PEAK POWER *(KW)*		0.15	0.2	
ANTENNA CODE	Micro Strip Panel	Slotted Flat Plate Array	Omni-Directional	
ANTENNA SIZE *(ft.)(hor./ver.)*				
ANTENNA BW *(deg)(hor./ver.)*				
ANTENNA GAIN *(dB)*	Unknown	Unknown	Unknown	Unknown
SCANNING CODE				
SCAN RATE *(rpm)*				
PERMISSIBLE EXPOSURE LIMIT (mW/cm^2)	Cont – 10.0 Uncont – 2.9	Cont – 10.0 Uncont – 2.2	Cont – 10.0 Uncont – 2.2	Cont – 3.4 Uncont – 0.7
ESTIMATED HAZARD DISTANCE *(ft)*				
HAZARD CODE(S)	NH	NH	NH	NH
HAZARD CONTROL CODE(S)	NR	NR	NR	NR
HAZARD DISTANCE MEASUREMENTS *(ft)*	0.5 mW/cm^2 at 1" Below PEL in all accessible areas.	1.2 mW/cm^2 at 1" Below PEL in all accessible areas.	0.2 mW/cm^2 at 1" Below PEL in all accessible areas.	0.5 mW/cm^2 at 1" Below PEL in all accessible areas.

SURVEYED BY (Name, Grade, AFSC)

PIPER C.M. WILLIAMS, 1Lt, USAF, BSC

PERIODIC CHECKS

CHECK FREQUENCY

[X] ANNUALLY [ ] QUARTERLY [ ] OTHER

	FINDINGS		
DATE (YYMMDD)	SIGNS CURRENT	OTHER	CHECKED BY (Name, Grade, AFSC)

SYSTEM DIAGRAM, CALCULATIONS, AND MEASUREMENTS

Hazard control codes

AS-Audible Signal; BA-Rope or Chain Barrier, CA-Check RF Absorbers; CO-Constant Observation; CW-Check Waveguides; FE-Fence; FL-Flashing Lights; LF-Locked Fence; SC-Special Cooridination; SO-SOP; WS-Warning Sign; NR-No Control Required; OM-Other

DATE *(YYMMDD)*	WORKPLACE IDENTIFIER
050927	

(Use this space for mechanical imprint)	BASE	ORGANIZATION
	Rhode Island ANG	
	WORKPLACE	
	BLDG NO / LOCATION	ROOM / AREA

NAME OF KEY CONTACT	GRADE	POSITION	ORGANIZATION/OFFICE SYMBOL	DUTY PHONE
Stromberg	SMSgt	Avionics Supervisor	143 NX	DSN 476-3527
Hogan	MSgt	Comm Nav Technician		

HAZARD EVALUATION AND CONTROL DATA

NOMENCLATURE	AN/ARC-190 HF	AN/ARC-222	AN/ARC-164	
DESCRIPTION	HF Radio	VHF Radio	UHF Radio	
LOCATION OF EMITTERS	C-130J	C-130J	C-130J	
QUANTITY	1	2	1	
FREQUENCY (MHZ)	2-29.9	30-155.9	225-399.9	
PULSE WIDTH *(microsec.)*	0.00	0.00	0.00	
PULSE REPETITION FREQ *(pps)*	0.00	0.00	0.00	
PEAK POWER *(KW)*	0.4 (Most Power of C-130J Emitters)	0.01	0.2	
ANTENNA CODE	Single Element	AF/FM Combo	Dual Blade	
ANTENNA SIZE *(ft.)(hor./ver.)*				
ANTENNA BW *(deg)(hor./ver.)*				
ANTENNA GAIN *(dB)*	Unknown	Unknown	Unknown	
SCANNING CODE				
SCAN RATE *(rpm)*				
PERMISSIBLE EXPOSURE LIMIT (mW/cm^2)	Cont – E) 1.0 H) 11.1 Uncont – E) 0.2 H) 11.1	Cont – E) 1.0 H) 11.1 Uncont – E) 0.2 H) 11.1	Cont – E) 1.0 H) 1.0 Uncont – E) 0.2 H) 0.2	
ESTIMATED HAZARD DISTANCE *(ft)*				
HAZARD CODE(S)	NH	IH	IH	
HAZARD CONTROL CODE(S)	NR	NR	NR	
HAZARD DISTANCE MEASUREMENTS *(ft)*	Background at all accessible areas.	Cont – E) 0.83 H) Below PEL in all accessible areas Uncont – E) 2.0 H) Below PEL in all accessible areas	Cont – E) 1.0 H) 0.3 Uncont – E) 2.0 H) 0.83	

SURVEYED BY (Name, Grade, AFSC)

PIPER C.M. WILLIAMS, 1Lt, USAF, BSC

PERIODIC CHECKS

CHECK FREQUENCY

[X] ANNUALLY [ ] QUARTERLY [ ] OTHER

	FINDINGS		
DATE (YYMMDD)	SIGNS CURRENT	OTHER	CHECKED BY (Name, Grade, AFSC)

SYSTEM DIAGRAM, CALCULATIONS, AND MEASUREMENTS

Hazard control codes

AS-Audible Signal; BA-Rope or Chain Barrier, CA-Check RF Absorbers; CO-Constant Observation; CW-Check Waveguides; FE-Fence; FL-Flashing Lights; LF-Locked Fence; SC-Special Cooridination; SO-SOP; WS-Warning Sign; NR-No Control Required; OM-Other

Attachment 3

POINT OF CONTACT:	**Lt Piper C.M. Williams**	**BASE NAME:**	**Brooks City-Base**
POC PHONE:	**DSN 240-6034**	**DIVISION:**	**AFIOH/SDRH**
STINFO NUMBERS:	**IOH-SD-BR-CL-2006-**		

This survey is used to help us improve our service to you. Your answer will be held in confidence and will significantly impact on how we allocate resources to meet your needs. Please return this completed form promptly.

Grading Scale:

1	**2**	**3**	**4**	**5**	**6**
Extremely Dissatisfied	Dissatisfied	Slightly Dissatisfied	Slightly Satisfied	Satisfied	Extremely Satisfied

A	Timeliness: Did you receive your results within the published time limits?	1	2	3	4	5	6
B	Accuracy: Is the report in the proper format? Are your address and other data correct?	1	2	3	4	5	6
C	Content: Does the report answer your questions and provide the necessary data? Are our services per dollar adequate when compared to civilian sector?	1	2	3	4	5	6
D	Customer Support: Have we been courteous and helpful in meeting your special needs (priority service, reporting, format, etc.)?	1	2	3	4	5	6
E	Consult Service: Have we answered your questions and provided necessary materials or reviewed to support your mission requirements?	1	2	3	4	5	6
F	Overall Rating: How would you rate our overall service to you?	1	2	3	4	5	6

Comments / Suggestions: Are there other services that you would like provided in the future? Are there any specifics of your current service you would like to discuss? (Use additional pages if more space is required)

Please return to:

AFIOH/SDR
Attention: Lt Col Scott M. Nichelson
Chief, Radiation Surveillance Division
2350 Gillingham Drive
Brooks City-Base TX 78235-5103