

RADAR SYSTEM SAFETY

Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid.

Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment.

Extreme caution should be taken at all times when working on live electrical circuits. When equipment enclosure panels are removed for maintenance, terminal boards and equipment are exposed which pose an electrical hazard when power is applied.

The highest equipment voltages are present in the transmitter area of the radar. All transmitter equipment enclosures are equipped with interlocks that remove high voltage when the enclosure is open. However, these interlocks can be circumvented by pulling out the interlock button. **Exercise extreme care when any interlock is by passed.** Lower the high voltage and disable the transmitter before opening any transmitter enclosure.

An electrical hazard potential exists in all units. When troubleshooting, care must be taken to avoid an electrical shock.

Never work on any live circuit without a partner.

RADIATION HAZARD – A RADIATION HAZARD EXISTS WITHIN CERTAIN RANGES AND BOUNDRIES WITHIN THE RADAR ANTENNA'S MAIN BEAM. BARON SERVICES PERFORMED A RADAR SITE SURVEY FOR YOUR RADAR INSTALLATION. THE SITE SURVEY INDICATED POTENTIAL HAZARD ZONES FOR PERSONS IN THE VICINITY OF THE RADAR ANTENNA AND SHOULD REMAIN ON FILE WITH YOUR COMPANY. IF YOU ARE UNABLE TO LOCATE THE SITE SURVEY LETTER, PLEASE CONSULT THE FACTORY FOR ANOTHER COPY. THE RADAR SITE SURVEY DEPICTED ANY AREAS OF POTENTIAL CONCERN UNCONTROLLED ACCESS FOR THE MAIN BEAM OF THE RADAR SYSTEM.

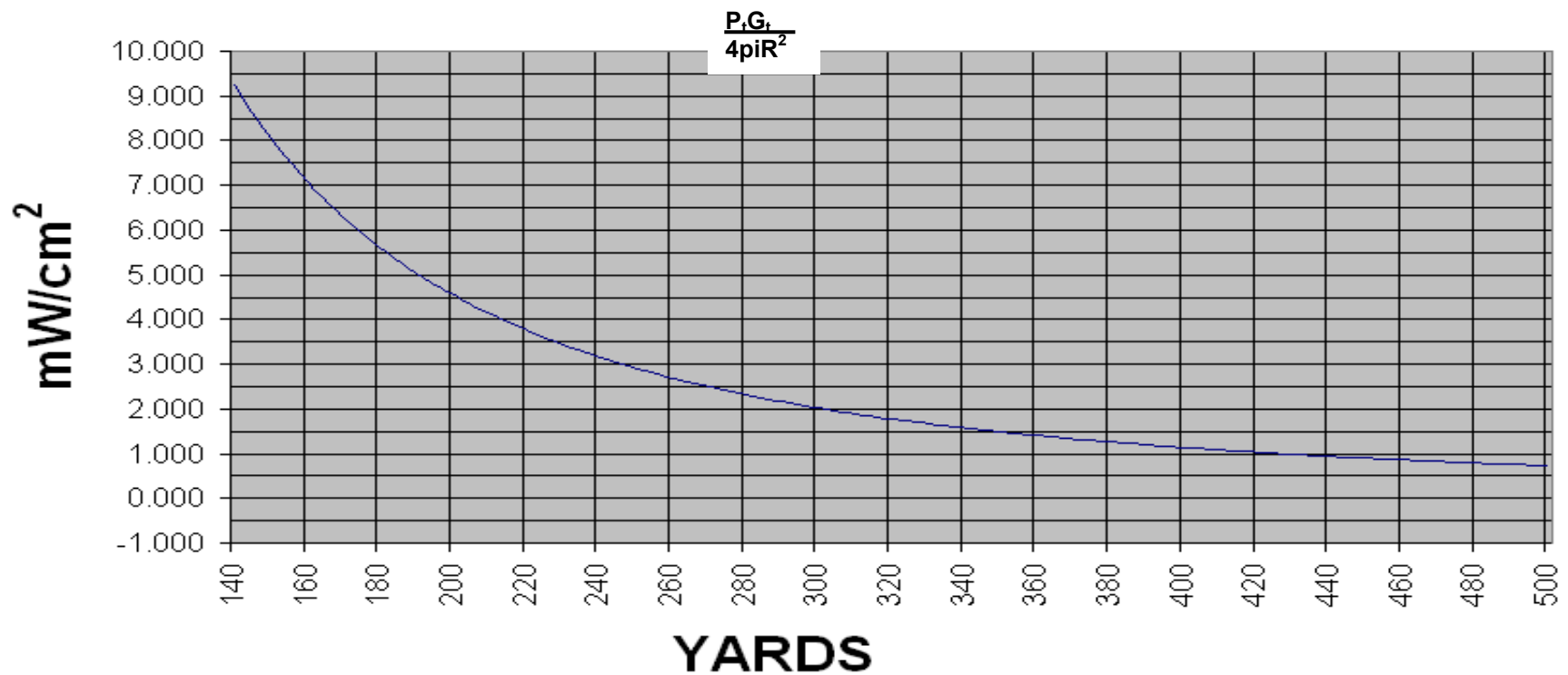
RADAR ON-AXIS ANTENNA EMISSIONS EMANATE FROM THE RADAR ANTENNA IN A 14FT DIAMETER CIRCLE THAT INCREASES IN DIAMETER WITH RADIAL RANGE AND COVERS AN ANGULAR SECTOR OF 1 DEGREE.

THE CALCULATIONS ON THE FOLLOWING PAGE WERE MADE IN ACCORDANCE WITH: FCC - OET Bulletin 65, Supplement B (Edition 97-01). We recommend that our customers maintain a copy of this bulletin on file for Engineering reference.

RADAR SYSTEM SAFETY INSERT
TO BE INSERTED IN THE FRONT OF ALL
1 MEGAWATT RADAR OPERATIONS & MAINTENANCE MANUALS, TAB SAFETY

Tx Average Power (dBm)	60	dBm	Antenna Gain	44.7	dBi	RADAR #	1000C
Transmission Loss (dB)	1.9	dB	Start Range	140	yards	EIRP	19.05 Gigawatts
Power @ Antenna	58.1	dBm	Plot Every	2	Yards	Rad Hazard Minimum Distance	
OET 65, Supplement B (Edition 97-01)			Controlled Access - 6 minute average exposure			5mW/cm ²	571.6 feet
Pulsed Radar Calculations			Uncontrolled Access - 30 minute average exposure			1mW/cm ²	1278.1 feet

On-Axis RF Power Density



WARNING

UNDER NO CIRCUMSTANCES SHOULD PERSONNEL REMAIN IN THE ON-AXIS ANTENNA RADIATION PATTERN IN EXCESS OF ANY 6 MINUTES CONTINUOUS DURATION. IN ACCORDANCE WITH THE FCC GUIDELINES FOR CONTROLLED ACCESS THE LIMIT IS $5\text{mW}/\text{cm}^2$ AND THE MINIMUM DISTANCE IS 571.6 FEET. THE MINIMUM FOR UNCONTROLLED ACCESS IS 30 MINUTES DURATION AN RF LEVEL OF $1\text{ mW}/\text{cm}^2$ AND THE MINIMUM DISTANCE IS 1278 FEET.

MAINTENANCE PERSONNEL MUST STAY BEHIND THE PARABOLIC REFLECTOR WHEN MAINTENANCE REQUIREMENTS DICTATE WORK ON THE ANTENNA/PEDESTAL AREA DURING TRANSMITTER OPERATION.

WARNING

RF RADIATIONS FROM THE ANTENNA AND ASSOCIATED EQUIPMENT ARE POTENTIALLY HAZARDOUS TO PERSONNEL. ENSURE PERSONNEL ARE NOT EXPOSED TO RF RADIATIONS OF HAZARDOUS INTENSITY LEVELS.

RF RADIATION FROM THE RADAR ANTENNA CAN CAUSE ELECTRICALLY INITIATED AMMUNITION TO FUNCTION.

POTENTIALS GREAT ENOUGH TO PRODUCE ARCS CAN BE INDUCED IN METALLIC OBJECTS BY THE RADAR BEAM. NEVER ALLOW ANY REFUELING OPERATIONS WITHIN 300 FEET OF THE RADAR BEAM AXIS WHILE THE RADAR SYSTEM IS OPERATING.

FIRST AID FOR ELECTRICAL SHOCK

1. General

In case of electrical shock, shut off the high voltage at once and ground the circuits. If the high voltage cannot be turned off without delay, free the victim from contact with the live conductor as promptly as possible. Avoid direct contact with either the live conductor or the victim's body. Use a dry board, dry clothing, or another non-conductive item to free the victim. An axe with a dry wooden handle may be used to cut the high-voltage wire. Use extreme caution to avoid the resulting electric flash.

2. Symptoms

- a. Breathing stops abruptly in the victim of electrical shock if the current passes through the breathing center at the base of the brain. If the shock has not been too severe, the breath center recovers after a while and normal breathing is resumed, provided that a sufficient supply of air has been furnished meanwhile through artificial respiration.
- b. The victim is usually very white or blue. The pulse is very weak or entirely absent and unconsciousness is complete. Burns are usually present. The victim's body may become rigid in a very few minutes. This condition is a reaction to the flow of electricity through the body and is not to be considered rigor mortis. **Artificial respiration must still be given, as several cases have recovered. The general test for death should never be accepted.**

3. Mouth-to-Mouth Artificial Respiration

Start artificial respiration immediately. Do not wait for a mechanical resuscitator; when an approved model is available, use it. At the same time, send for a medical officer, if assistance is available. Do not leave the victim unattended. Perform artificial respiration at the scene of the accident unless the victim's or operator's life is endangered by such action. **IN THIS CASE ONLY**, remove the victim to another location, but no farther than is necessary for safety. If the new location is more than a few feet away, artificial respiration should be given while the victim is being moved. Artificial respiration, once started, must be continued without loss of rhythm. The mouth-to-mouth method of artificial respiration is described here.

4. Technique for Mouth-to-Mouth Artificial Respiration

- a. Position of Victim.

Place the victim in the face upward position and kneel close to his left ear.

- b. Clear the Throat.

Turn the head to one side, and quickly wipe out any fluid, mucus, or foreign bodies from the mouth and throat with the fingers.

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c. Open and Align Air Passages.

Tilt the head back and extend the neck to open and align the air passages so that they do not become blocked by kinking or pressure.

d. Lift Jaw Forward.

Place the thumb into the mouth and grasp the jaw firmly. Lift the jaw forward in order to pull the tongue forward out of the air passage. Do not attempt to hold or depress the tongue.

e. Pinch Nostrils Closed.

Using the other hand, keep the victim's nostrils pinched closed to prevent an air leak.

f. Form Tight Seal with Lips.

The rescuer's WIDE-OPEN mouth should completely surround and seal the open mouth of the victim. This is not a kissing or puckered position, the mouth of the rescuer must be wide open.

g. Blow.

Exhale firmly into victim's mouth until the chest is seen lifting. This can be seen by the rescuer without difficulty.

h. Remove Mouth and Breathe In.

During this time, the rescuer can hear and feel the escape of air from the victim's lungs.

i. Repeat Steps f, g, and h.

Continue at a rate of 12-20 times per minute.

j. Remember.

1. Keep the airway clear of fluid and other obstructions.
2. Change the victim's position if air does not flow freely in and out.
3. Keep the neck extended and chin pulled forward.
4. Do not breathe too forcibly if the victim is an infant or small child.

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**BE
PREPARED
for the
EMERGENCY**

KNOW HOW!

DROWNING

1. REMOVE FROM WATER
2. LOOSEN CLOTHING
3. PLACE PATIENT UPWARDS -
CLEAR MOUTH IF NECESSARY.
4. APPLY ARTIFICIAL RESPIRATION
5. SEND FOR DOCTOR
6. KEEP WARM-WITH BLANKETS, ETC.

GASSING

1. REMOVE TO FRESH AIR
2. LOOSEN CLOTHING
3. PLACE PATIENT UPWARDS -
CLEAR MOUTH IF NECESSARY.
4. APPLY ARTIFICIAL RESPIRATION
5. SEND FOR DOCTOR
6. KEEP WARM-WITH BLANKETS, ETC.

ELECTRICAL SHOCK

1. PROTECT YOURSELF - WITH DRY INSULATING
MATERIAL, DRY LEATHER, WOOD, RUBBER, ECT.
2. BREAK THE CIRCUIT - BY OPENING THE POWER
SWITCH OR BY PULLING THE VICTIM FREE OF LINE
CONDUCTOR.
3. DON'T TOUCH THE VICTIM WITH BARE
HANDS - UNTIL THE CIRCUIT IS BROKEN.
4. REMOVE FOREIGN MATTER, CHEWING GUM,
ECT. FROM THE VICTIM'S MOUTH.
5. START ARTIFICIAL RESPIRATION QUICKLY
6. SEND FOR A DOCTOR.
7. KEEP PATIENT WARM - WITH BLANKETS, ETC.

MOUTH TO MOUTH BREATHING



PARTIALLY BLOCKED
BY TONGUE

NOT ENOUGH TILT



EXTREME TILT WILL

CLEAR TONGUE
FROM AIR PASSAGE



PINCH NOSTRILS
TO PREVENT LEAKAGE


...PLACE MOUTH OVER SUBJECT'S MOUTH...BLOW IN



- REMOVE YOUR MOUTH
- RELEASE NOSTRILS
- LISTEN FOR AIR TO
COME OUT OF
SUBJECT'S LUNGS
- LOOK FOR THE FALL OF
SUBJECT'S CHEST

BLOW IN AGAIN

ADULTS: A BIG BREATH, 12 TIMES A MINUTE
CHILDREN: A SMALL BREATH, 16 TIMES A MINUTE

AIR PASSAGES MUST BE KEPT OPEN AT ALL TIMES

IF AIR PASSAGES ARE NOT OPEN THERE WILL BE

NO SOUND OF ESCAPING AIR
NO RISE OR FALL OF THE CHEST
RESISTANCE WHEN BLOWING INTO THE SUBJECT'S MOUTH

THEREFORE CHECK NECK AND HEAD POSITION AGAIN

CHECK MOUTH AND THROAT FOR FOREIGN
SUBSTANCES.

HOLGER-NIELSON METHOD OF ARTIFICIAL RESPIRATION

If breathing stops because of electrocution, drowning, sedative poisoning, gas poisoning, suffocation, or poliomyelitis, start artificial respiration immediately. Don't delay -- seconds count. As soon as possible, send someone for a physician.

THE TECHNIQUE FOR THE BACK PRESSURE/ARM LIFT METHOD IS AS



PLACE THE PATIENT FACE DOWN,
ELBOWS BENT, ONE HAND ON THE
OTHER WITH THE FACE TURNED
TO ONE SIDE



PLACE YOUR HANDS, THUMBS
TOUCHING, JUST BELOW A LINE
RUNNING BETWEEN THE ARMPITS.



ROCK FORWARD SLOWLY,
ELBOWS STRAIGHT, UNTIL
ARMS ARE VERTICAL.



ROCK FORWARD SLIDING
YOUR HANDS TO THE
PATIENT'S ARMS JUST
ABOVE THE ELBOWS.



RAISE THE ARMS UNTIL
RESISTANCE AND TENSION
ARE FELT AT THE
PATIENT'S SHOULDERS.

REPEAT THE CYCLE 12 TIMES PER MINUTE