FACT SHEET NO. 24-032-0520

# EXPOSURE TO RADIO FREQUENCY RADIATION FROM ELECTRONIC COUNTERMEASURES

## PURPOSE

Provide information on possible exposures from Electronic Countermeasure systems and symptoms related to overexposure.

## BACKGROUND

Electronic countermeasures are used to degrade or neutralize combat capabilities. This action is commonly referred to as jamming. One of the technologies used to defeat remote controlled improvised explosive devices (RCIED) are the Counter RCIED Electronic Warfare (CREW) systems. These CREW systems include the Duke and CREW Vehicle Receiver/Jammer. They are installed on a wide variety of combat and tactical vehicles. Portable versions of these systems are also carried by dismounted soldiers. They all have in common the generation and transmission of radio frequency radiation (RFR).

Some are understandably concerned about RFR exposure from the use of these devices. The prevalence on the battlefield and the continuous emission of RF energy lend to these concerns. However, RFR overexposure is a rare occurrence as these systems have reliable safety procedures to prevent overexposure to RFR. The RFR exposure limits are designed to protect even the most sensitive individuals (e.g., children and pregnant women). These limits have been adopted by Federal and state regulatory bodies and by the Department of Defense (DoD) (see DoD Instruction 6055.11).

When CREW systems are used, personnel are cautioned to follow the standing operating procedures associated with each device. The output power of the particular CREW system is the primary factor that determines the RFR intensity near the antenna. Personnel should stay beyond the recommended safe or “stand-off” distances because RFR levels decrease with increasing distance from the antenna. Outside of the “stand-off” distance, while the CREW system is on, there is no health hazard associated with RFR exposure. Also, avoid physical contact with the antenna to prevent shock and burn injury.

Although there is no expectation of adverse health effects to users of the CREW systems, if someone is sick, they should seek medical care to identify and treat any specific conditions that may be responsible for the symptoms. In hot climates, Soldiers commonly report ailments such as headache, tiredness (malaise), and nausea. These symptoms are also attributable to workplace factors (e.g., excessive noise or poor lighting) and combat (e.g., blast and trauma). Stress is another factor associated with these ailments. In some cases, the command may order an assessment of the workplace for factors that might contribute to the symptoms.

If you suspect that someone has been overexposed to RFR, refer to the information in the Fact Sheet on RFR Incident Reporting found here:
https://tiny.army.mil/r/cFZon/

## ADDITIONAL INFORMATION ABOUT RFR EXPOSURE IS AVAILABLE HERE:

http://www.osha.gov/SLTC/radiofrequencyradiation/index.html
https://www.cdc.gov/niosh/topics/emf/
https://www.fcc.gov/engineering-technology/electromagnetic-compatibility-division/radio-frequency-safety/faq/rf-safety

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