RF Hazards

Finally, let's consider the safety hazards of being exposed to radio waves. When using high power, you are required to perform an RF exposure evaluation; even though VHF and UHF radio signals is non-ionizing radiation. (T0C01) RF radiation differs from ionizing radiation (radioactivity) in that RF radiation does not have sufficient energy to cause genetic damage. (T0C12)

Even so, small levels of RF energy can be unsafe. The maximum power level that an amateur radio station may use at VHF frequencies before an RF exposure evaluation is required is 50 watts PEP at the antenna. (T0C03)

How do you perform an RF exposure evaluation? All of these choices are correct as acceptable methods to determine if your station complies with FCC RF exposure regulations (T0C06):
- By calculation based on FCC OET Bulletin 65
- By calculation based on computer modeling
- By measurement of field strength using calibrated equipment

One of the factors to consider when performing an RF exposure evaluation is the duty cycle of your transmissions. The term "duty cycle," when referring to RF exposure, is the percentage of time that a transmitter is transmitting. (T0C11) Duty cycle is one of the factors used to determine safe RF radiation exposure levels because it affects the average exposure of people to radiation. (T0C10) A transmission with a lower duty cycle would be less hazardous than a high duty cycle transmission.

Consider this example: If the averaging time for exposure is 6 minutes, 2 times as much power density is permitted if the signal is present for 3 minutes and absent for 3 minutes rather than being present for the entire 6 minutes. (T0C13)

Because of the way radio waves interact with the body, the exposure limits are different for each amateur radio band. Exposure limits vary with frequency because the human body absorbs more RF energy at some frequencies than at others. (T0C05)

The 50 MHz band has the lowest Maximum Permissible Exposure limit. (T0C02) All of these choices are correct when talking about factors that affect the RF exposure of people near an amateur station antenna (T0C04):
- Frequency and power level of the RF field
- Distance from the antenna to a person
- Radiation pattern of the antenna

So, what should you do if your RF exposure evaluation shows that people are being exposed to excessive RF? One action amateur operators might take to prevent exposure to RF radiation in excess of FCC-supplied limits is to relocate antennas. (T0C08) You could also lower the power or simply transmit less.

After the initial RF exposure evaluation, you make sure your station stays in compliance with RF safety regulations by re-evaluating the station whenever an item of equipment is changed. (T0C09)

QUESTION POOL: (12)

T0C01	T0C12	T0C03	T0C06	T0C11	T0C10
T0C13	T0C05	T0C02	T0C04	T0C08	T0C09