

3. Health Effects of RF Radiation

The proliferation of cellular antennas and other RF generating devices has led to concerns about the potential health effects from exposure to RF radiation. The short-term thermal effects of RF radiation on humans are well documented, but less is known about the long-term health effects.

The existing research has focused on the health risks associated with cell phone use and the public's exposure at ground level from RF radiation emitted from antennas located on rooftops, sides of structures, or towers. According to the American Cancer Society, "very few human studies have focused specifically on cellular phone towers and cancer risk." At this time, no available research has focused on occupational exposures to RF radiation among construction workers.

There are, however, several organizations that address the potential health effects of RF radiation, including

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3.1 Health Effects According to OSHA

According to OSHA: “At sufficiently high power densities, [RF radiation] can cause thermal effects that can cause blindness and sterility. . . [And] Non-thermal effects, such as alteration of the human body's circadian rhythms, immune system and the nature of the electrical and chemical signals communicated through the cell membrane have been demonstrated.”⁶

In its 2015 Request for Information on Communication Tower Safety, OSHA stated that: “General health effects reviews have found that high levels of exposure to radio frequencies may result in burns. . . [and] the link between exposure to radio frequencies and cancer, reproductive diseases, and neurological effects has not been thoroughly explored.”

3.2 Health Effects According to the Federal Communications Commission (FCC)

The FCC, which has regulatory authority over the telecommunications industry, relies on other agencies and organizations for guidance on health and safety. However, it acknowledges in its guidelines the potentially harmful thermal effects of RF radiation, noting that:

“[E]xposure to very high levels of RF radiation can be harmful due to the ability of RF energy to heat biological tissue rapidly [and]. . . two areas of the body, the eyes and the

3.3 Health Effects According to the World Health Organization (WHO)021

3.4 Symptoms of Overexposure

While there is uncertainty about the long-term health effects of exposure to RF, there is