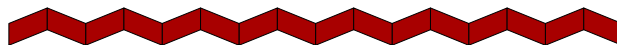




CELL AND PCS PHONE MONOPOLES



Safety & Security Fact Sheet

✓ **ARE ANY HEALTH HAZARDS ASSOCIATED WITH LIVING, WORKING, PLAYING, OR GOING TO SCHOOL NEAR A CELL PHONE OR A PERSONAL COMMUNICATION SYSTEM (PCS) BASE STATION ANTENNA?**

No. The consensus of the scientific community--both in the United States and internationally--is that the power from these base station antennas is far too low to produce health hazards as long as people are kept away from direct access to the antennas.

✓ **DO CELLULAR PHONE AND PCS BASE STATIONS PRODUCE RADIATION?**

Yes. Cellular and PCS phones and their base station antennas are radios and produce radio frequency (RF) radiation. This RF radiation is nonionizing, and its biological effects are **fundamentally different** than ionizing radiation produced by X-ray machines. At the extremely high frequencies characteristic of X-rays, electromagnetic particles have sufficient energy to break chemical bonds (ionization). This is how X-rays damage the genetic material of cells. At lower frequencies, such as radio waves, the energy of the particles is much too low to break chemical bonds. Thus, radio waves are nonionizing. Because non-ionizing radiation cannot break chemical bonds, no similarity exists between the biological effects of ionizing radiation (X-rays) and non-ionizing radiation (radio waves).

✓ **DO RADIO WAVES PRODUCE BIOLOGICAL EFFECTS?**

Yes. If exposure is sufficiently intense, radio waves can cause biological effects. Most, if not all, of the known biological effects from exposure to high-power radio frequency sources are due to heating. Except possibly within a few feet of the antenna receivers themselves, the power produced by cellular phone and PCS base station antennas is too low to cause heating.

✓ **WHAT ARE THE SAFETY STANDARDS FOR CELL PHONE AND PCS BASE STATION ANTENNAS? AND DO THE CELL PHONE AND PCS BASE STATION ANTENNAS IN THE COUNTY MEET THOSE STANDARDS?**

The most widely accepted standards are those developed by the American National Standards Institute and the Institute of Electrical and Electronics Engineers (ANSI/IEEE). These radio frequency standards are expressed in plane wave power density, which is measured in mW/cm-sq (milliwatts per square centimeter). For PCS antennas, the 1992 ANSI/IEEE exposure standard for the general public is 1.2 mW/cm-sq.

For cell phone and PCS base station antennas located in the county, the Technology Review Division, of the Fairfax County Department of Information Technology has been charged to review site plans, review safety and health plans, and perform RF radiation hazard assessments before installation of cell and PCS base station antennas. Of the 200 cell and PCS base station antennas installed in Fairfax County, the average power density measurements around the base station antennas is one half a percent of the ANSI/IEEE standard.

Much of the content of this fact sheet is contained in the article, "Cellular Phone Antennas (Base Stations) and Human Health," John Moulder, Medical College of Wisconsin, December 20, 2000, at www.mcw.edu/qcrc/cop/cell-phone-health-FAQ/toc.html.

or visit

www.fcc.gov/oet/rfsafety/cellpcs.html.

If you need assistance, call the safety section at 571-423-2010.