ELECTRIC & MAGNETIC FIELDS (EMF)

During recent years, questions have been raised about the possible health effects of 60-hertz (power frequency) electric and magnetic fields (EMF), which are found wherever you have electricity. **Electric Fields** are produced by the voltage (electrical “pressure”) in a wire, such as when an appliance is plugged in (but not turned on), and can be blocked or partially shielded. **Magnetic Fields** are created by the current (flow of electricity) through a wire, such as when an appliance is turned on, and can pass through most objects. The National Research Council (NRC) announced on October 31, 1996, that after examining more than 500 studies in 17 years of research, there is no conclusive evidence electromagnetic fields play a role in the development of cancer, reproductive and developmental abnormalities, or learning and behavioral problems.

**National Research Council (NRC) Experimental Studies**

- Researchers found no evidence to show that EMFs can alter the functions of cells at levels of exposure common in residential settings.
- Only at levels between 1,000 and 100,000 times stronger than residential fields have cells shown any reaction at all to EMF exposure, and even these changes (mainly in the chemical signals that cells send to each other) are not a clear indication of the potential for harmful health effects.
- Exposure may help the body in subtle ways (by speeding up the healing process after a broken bone).
- There has been no case where tremendously high exposure to EMFs has been shown to affect the DNA of the cell, damage to which is believed to be essential for the initiation of cancer.
- No experiments have shown that EMFs, even at high doses, can act as a direct carcinogen or can affect reproduction, development, or behavior in animals.
- People don’t need to change the way they use electric appliances or equipment.
- If you feel reducing your EMF exposure would be beneficial, increase distance from electric appliances and/or limit the amount of time you use appliances at home or work (place phone answering machines and electric clocks away from the head of your bed, increasing your distance from TVs, computer monitors, microwave ovens, hair dryers, electric razors, heating pads, and electric blankets).

Visit [www.ehs.ucr.edu](http://www.ehs.ucr.edu) for additional information or call EH&S at 827-5528 if you have any questions. An additional non-ionizing radiation resource is [www.umich.edu/~radinfo/introduction/spec.htm](http://www.umich.edu/~radinfo/introduction/spec.htm).