MICRO WAVE NEWS

A Report on Non-Ionizing Radiation

U.K. Microcell Exposure Survey

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Most people don't notice those little boxes stuck on the sides of buildings, but if you live in a city, they're most likely to be your principal source of microwave exposure. That is, of course, when you're not using a cell phone.

Those boxes house cell phone antennas. They are known as microcells because they radiate no more than 5 watts of energy. Of the more than 32,000 base stations in the U.K., some 3,000 are microcells with antennas that are less than 10 meters above the ground. Tim Cooper and colleagues at the Radiation Protection Division of the U.K. Health Protection Agency (HPA) —what used to be called the NRPB— have shown that if you're within 50 meters of a microcell you're exposed to more microwaves than you are from those tall, ugly mobile phone towers that spark so much concern. That's because microcell antennas are much closer to the ground than antennas on cell towers and are therefore closer to where people are. (The HPA survey results appear in the June issue of the *Journal of Radiation Protection*.)

According to Cooper, exposures from these 3,000 microcells are relatively low, usually less than 1% of the ICNIRP guidelines, though in some cases they can reach close to 10% of the limit. But many other mobile phone base stations that can entail higher exposures were left out of the survey. Cooper advises that there are about 2,000 antennas in the U.K., which are also no more than 10 meters above ground but which radiate more than 5 watts. Some transmit "several tens of watts," Cooper writes. He didn't take measurements around these more powerful, low-hung transmitters, because they give off too much energy to be called microcells and his survey was limited to microcells and picocells. The bottom line is that we don't know what the worst-case exposures may be.

Remember also that ICNIRP only recognizes the existence of thermal hazards and ignores any possible long-term health risks. If non-thermal effects do in fact exist —and we believe that they do— ICNIRP may offer only a small margin of safety, if any.

Mobile phone companies try to camouflage microcells so that they blend into their surroundings and don't generate NIMBY protests. This may not be such a good idea. Think, for instance, of those who work in newsstands or at pushcarts or of policemen who direct traffic. Odds are that they would never spot a nearby microcell and take steps to ensure they are not too close. For their sakes, we should make these transmitters more visible, perhaps by slapping a yellow non-ionizing radiation warning sign on them.

Cooper's microwave measurements were carried out a few years ago and were first released in a 2004 NRPB report. (It's a free download and has the added advantage of featuring colored illustrations and photographs; p.12 shows a couple of different microcells.) The abstract of the report concludes with the following sentence: "Exposures that comply with the [ICNIRP] guidelines are not considered hazardous." Those reassuring words were later deleted —apparently they didn't pass peer review as the paper made its way to the *Journal of Radiation Protection.*

cell towers, microcell, HPA, NRPB, Tim Cooper, ICNIRP,

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