It is long past time for the FCC to examine and revise US exposure standards for radiofrequency radiation. The FCC has been, as the DC Circuit Courts has said, “arbitrary and capricious” in simply renewing these obsolete, inadequate and dangerous standards. We have long known about the damaging effects of non-thermal radiation. Some of the effects mentioned in this letter were cited in a project called “Air as Habitat” by the Health Council of Marin. I hope the FCC takes this data, along with thousands of other studies, into account when reviewing the current standards for exposure.

As early as fifty years ago, the dangers of airborne radiofrequency radiation and electromagnetic frequencies (RFR/EMFs) were apparent. Zorach Glaser, PhD, LT, MSC, USNR conducted studies for the Naval Medical Research Institute, as well as six other Naval departments. An international expert in radiofrequency bioethics, Glaser found central, peripheral, and autonomic nervous system effects; blood and vascular disorders; enzyme and biochemical changes in vitro; psychological disorders; gastrointestinal disorders; histological and endocrine gland changes; metabolic disorders; behavioral changes in animals; and genetic chromosomal changes. These effects were all coincident with low-level, nonionizing electromagnetic frequency exposure to “radiofrequency radiation initially [from] radar; then RF heat sealers and computers; and more recently

various sources of wireless technology including mobile phones, broadcast, and WiFi or WiMax antennas, wireless routers, [and] smart meters . . .” (Glaser). These results are significant precisely because the studies were done with no agenda except to test the safety of wireless equipment for military personnel—not to stop an industry rollout. Since that time, wireless towers and devices have proliferated in modern society, and people have been exposed worldwide.

Since Glaser first wrote, there have been thousands of independent, peer reviewed studies on the harmful effects of RFR that the FCC has declined to review. Here is one compelling study that only the most jaded reviewer would ignore.

In 2004 a group of Los Angeles firefighters began fighting the installation of cell towers on their fire stations for health reasons. According to a report on the website Physicians for Safe Technology:

> Within a week of installation in one station most of the firefighters developed unusual symptoms of headaches, fatigue, insomnia, memory loss, confusion, nausea and weakness. After a time, these firefighters in stations with adjacent cell towers were found to have forgotten CPR or became lost responding to a fire in a city they grew up in. (“Firefighters Fighting Fires”)

As a result, the International Association of Firefighters (IAFF) commissioned a neurological study on six of these firefighters who had lived in stations for up to five years. The study was led by Gunnar Heuser, MD, PhD. Heuser's study found symptoms that included "slowed reaction time, lack of focus, lack of impulse control, severe headaches, anesthesia-like sleep, sleep deprivation, depression, and tremors." Moreover, SPECT scans found "a pattern of abnormal change which was concentrated over a wider area than would normally be seen in brains of individuals exposed to toxic inhalation, as might be expected from fighting fires" ("Firefighters Fighting Fires").

Gunnar Heuser's results are compelling. They indicate severe damaging effects of radiofrequency radiation and demand a significant reduction in allowable exposure limits. Firefighters are among the fittest, most dedicated, courageous people in our society. They put their lives on the line for us every day. They, along with everyone else, deserve to be protected too.

Because of the negligence of the FCC and other government officials, our current United States standards for safe exposure are compromised by a lack of scientific oversight, and they are markedly weaker than those in many other countries. By comparison, Russia, China, India, Bulgaria, Switzerland, Italy, Poland, Lichtenstein, Belgium, and Ukraine have established radiofrequency radiation exposure limits ten to a hundred times lower than those in the United

States, and they recognize the nonthermal biological effects of wireless radiation ("Conversion Chart").

According to James Lin, who helped create radiofrequency radiation exposure limits when he was a member of the International Commission on Nonionizing Radiation Protection (ICNIRP) and the Institute of Electrical and Electronic Engineers, our current standards

> are not applicable to long-term exposure at low levels. Instead of advances in science, they are predicated on assumptions using outdated exposure metrics, thus their ability [sic] to protect children, workers, and the public from exposure to the RF radiation or people with sensitivity to electromagnetic radiation from wireless devices and systems. Furthermore, the limits are based on outdated information and circumvent important animal data. These issues are even more relevant in the case of millimeterwave radiation from 5G mobile communications for which there are no adequate health effects studies in the published literature. Finally, the guidelines do not adequately address conclusions from scientific organizations, such as the IARC [International Agency for Research on Cancer]. Thus, many of the recommended limits are questionable from the standpoint of scientific justification for the safety and public health protection. (Lin)

The time to act is now. Review these standards and revise them in order to protect humans and the environment.

Citations

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