

# Looming Health Crisis: Wireless Technology and the Toxification of America

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*As a multitude of hazardous wireless technologies are deployed in homes, schools and workplaces, government officials and industry representatives continue to insist on their safety despite growing evidence to the contrary. A major health crisis looms that is only hastened through the extensive deployment of "smart grid" technology.*

In October 2009 at Florida Power and Light's (FPL) solar energy station President Barack Obama announced that \$3.4 billion of the American Reinvestment and Recovery Act would be devoted to the country's "smart energy grid" transition. Matching funds from the energy industry brought the total national Smart Grid investment to \$8 billion. FPL was given \$200 million of federal money to install 2.5 million "smart meters" on homes and businesses throughout the state.[1]

By now many residents in the United States and Canada have the smart meters installed on their dwellings. Each of these meters is equipped with an electronic cellular transmitter that uses powerful bursts of electromagnetic radiofrequency (RF) radiation to communicate with nearby meters that together form an interlocking network transferring detailed information on residents' electrical usage back to the utility every few minutes or less. Such information can easily be used to determine individual patterns of behavior based on power consumption.

The smart grid technology is being sold to the public as a way to "empower" individual energy consumers by allowing them to access information on their energy usage so that they may eventually save money by programming "smart" (i.e, wireless enabled) home appliances and equipment that will coordinate their operability with the smart meter to run when electrical rates are lowest. In other words, a broader plan behind smart grid technology involves a tiered rate system for electricity consumption that will be set by the utility to which customers will have no choice but to conform.

Because of power companies' stealth rollout of smart meters a large majority of the public still remains unaware of the dangers they pose to human health. This remains the case even though states such as Maine have adopted an "opt out" provision for their citizens. The devices have not been safety-tested by Underwriters Laboratory and thus lack the UL approval customary for most electronics.[2] Further, power customers are typically told by their utilities that the smart meter only communicates with the power company "a few times per day" to transmit information on individual household energy usage. However, when individuals obtained the necessary equipment to do their own testing they found the meters were emitting bursts of RF radiation throughout the home far more intense than a cell phone call *every minute or less*.[3]

## America's Telecom-friendly Policy for RF Exposure

A growing body of medical studies is now linking cumulative RF exposure to DNA disruption, cancer, birth defects, miscarriages, and autoimmune diseases. Smart meters significantly contribute to an environment already polluted by RF radiation through the pervasive stationing of cellular telephone towers in or around public spaces and consumers' habitual use of wireless technologies. In the 2000 Salzburg Resolution European scientists recommended the maximum RF exposure for humans to be no more than one tenth of a microwatt per square centimeter. In the United States RF exposure limits are 1,000 microwatts per centimeter, with no limits for long term exposure.[4] Such lax standards have been determined by outdated science and the legal and regulatory maneuvering of the powerful telecommunications and wireless industries.

The Environmental Protection Agency (EPA) ceased studying the health effects of radiofrequency radiation when the Senate Appropriations Committee cut the department's funding and forbade it from further research into the area.[5] Thereafter RF limits were codified as mere "guidelines" based on the EPA's tentative findings and are to this day administered by the Federal Communications Commission (FCC).

These weakly enforced standards are predicated on the alleged "thermal effect" of RF. In other words, if the energy emitted from a wireless antenna or device is not powerful enough to heat the skin or flesh then no danger is posed to human health.[6] This reasoning is routinely put forward by utilities installing smart meters on residences, telecom companies locating cellular transmission towers in populated areas, and now school districts across the US allowing the installation of cell towers on school campuses.[7]

The FCC's authority to impose this standard was further reinforced with the passage of the 1996 Telecommunications Act that included a provision lobbied for by the telecom industry preventing state and local governments from evaluating potential environmental and health effects when locating cell towers "so long as such facilities comply with the FCC's regulations concerning such emissions." [8]

In 2001 an alliance of scientists and engineers with the backing of the Communications Workers of America filed a federal lawsuit hoping the Supreme Court would reconsider the FCC's obsolete exposure guidelines and the Telecom Act's overreach into state and local jurisdiction. The high court refused to hear the case. When the same group asked the FCC to reexamine its guidelines in light of current scientific studies the request was rebuffed.[9] Today in all probability millions are suffering from a variety of immediate and long-term health effects from relentless EMF and RF exposure that under the thermal effect rationale remain unrecognized or discounted by the telecom industry and regulatory authorities alike.

## Growing Evidence of Health Risks From RF Exposure

The main health concern with electromagnetic radiation emitted by smart meters and other wireless technologies is that EMF and RF cause a breakdown in the communication between cells in the body, interrupting DNA repair and weakening tissue and organ function. These are the findings of Dr. George Carlo, who oversaw a comprehensive research group commissioned by the cell phone industry in the mid-1990s.

When Carlo's research began to reveal how there were indeed serious health concerns with wireless technology, the industry sought to bury the results and discredit Carlo. Yet Carlo's research has since been upheld in a wealth of subsequent studies and has continuing relevance given the ubiquity of wireless apparatuses and the even more powerful smart meters. "One thing all these conditions have in common is a disruption, to varying degrees, of intercellular communication," Carlo observes. "When we were growing up, TV antennas were on top of our houses and such waves were up in the sky. Cell phones and Wi-Fi have brought those things down to the street, integrated them into the environment, and that's absolutely new." [10]

In 2007 the BioInitiative Working Group, a worldwide body of scientists and public health experts, released a 650-page document with over 2000 studies linking RF and EMF exposure to cancer, Alzheimer's disease, DNA damage, immune system dysfunction, cellular damage and tissue reduction.[11]

In May 2011 the World Health Organization's International Agency for Research on Cancer categorized "radiofrequency electromagnetic fields as possibly carcinogenic to humans based on an increased risk for glioma, a malignant type of brain cancer, associated with wireless cellphone use." [12]

In November 2011 the Board of the American Academy of Environmental Medicine (AAEM), a national organization of medical and osteopathic physicians, called on California's Public Utilities Commission to issue a moratorium on the continued installation of smart meters in residences and schools "based on a scientific assessment of the current available literature." "[E]xisting FCC guidelines for RF safety that have been used to justify installations of smart meters," the panel wrote,

"only look at thermal tissue damage and are obsolete, since many modern studies show metabolic and genomic damage from RF and ELF exposure below the level of intensity which heats tissues ... More modern literature shows medically and biologically significant effects of RF and ELF at lower energy densities. These effects accumulate over time, which is an important consideration given the chronic nature of exposure from 'smart meters.'" [13]

In April 2012 the AAEM issued a formal position paper on the health effects of RF and EMF exposure based on a literature review of the most recent research. The organization pointed to how government and industry arguments alleging the doubtful nature of the science on non-thermal effects of RF were not defensible in light of the newest studies. "Genetic damage, reproductive defects, cancer, neurological degeneration and nervous system dysfunction, immune system dysfunction, cognitive effects, protein and peptide damage, kidney damage, and developmental effects have all been reported in the peer-reviewed scientific literature," AAEM concluded. [14]

### **Radiating Children**

The rollout of smart meters proceeds alongside increased installation of wireless technology and cell phone towers in and around schools in the US. In 2010 Professor Magda Havas conducted a study of schools in 50 US state capitols and Washington DC to determine students' potential exposure to nearby cell towers. A total 6,140 schools serving 2.3 million students were surveyed using the [antennasearch.com](http://antennasearch.com) database. Of these, 13% of the schools serving 299,000 students have a cell tower within a quarter mile of school grounds, and another 50% of the schools where 1,145,000 attend have a tower within a 0.6 mile radius. The installation of wireless networks and now smart meters on and around school properties further increases children's RF exposure. [15]

Many school districts that are strapped for cash in the face of state budget cuts are willing to ignore the abundance of scientific research on RF dangers and sign on with telecom companies to situate cell towers directly on school premises. Again, the FCC's thermal effect rule is invoked to justify tower placement together with a disregard of the available studies.

The School District of Palm Beach County, the eleventh largest school district in the US, provides one such example. Ten of its campuses already have cell towers on their grounds while the district ponders lifting a ban established in 1997 that would allow for the positioning of even more towers. When concerned parents contacted the school district for an explanation of its wireless policies, the administration assembled a document, "Health Organization Information and Academic Research Studies Regarding the Health Effects of Cell Tower Signals." The report carefully selected pronouncements from telecom industry funded organizations such as the American Cancer Society and out-of-date scientific studies supporting the FCC's stance on wireless while excluding the long list of studies and literature reviews pointing to the dangers of RF and EMF radiation emitted by wireless networks and cell towers. [16]

### **The Precautionary Principle / Conclusion**

Surrounded by the sizable and growing body of scientific literature pointing to the obvious dangers of wireless technology, utility companies installing smart meters on millions of homes across the US and school officials who accommodate cell towers on their grounds are performing an extreme disservice to their often vulnerable constituencies. Indeed, such actions constitute the reckless long term endangerment of public health for short term gain, sharply contrasting with more judicious decision making.

The 1992 Rio Declaration on Environment & Development adopted the precautionary principle as a rule to follow in the situations utilities and school districts find themselves in today. "Where there are threats of serious or irreversible damage lack of full scientific certainty shall not be used as a reason for postponing cost effective measures to prevent environmental degradation." [17] In exercising the precautionary principle, public governance and regulatory bodies should "take preventive action in the face of scientific uncertainty to prevent harm. The focus is no longer on measuring or managing harm, but preventing harm." [18]

Along these lines, the European Union and the Los Angeles School District have prohibited cell phone towers on school grounds until the scientific research on the human health effects of RF are conclusive. The International Association of Fire Fighters also interdicted cell towers on fire stations pending "a study with the highest scientific merit and integrity on health effects of exposure to low-intensity [radio frequency/microwave] radiation is conducted and it is proven that such sitings are not hazardous to the health of our members." [19]

Unwitting families with smart meters on their homes and children with cell towers humming outside their classrooms suggest the extent to which the energy, telecom and wireless industries have manipulated the regulatory process to greatly privilege profits over public health. Moreover, it reveals how the population suffers for want of meaningful and conclusive information on the very real dangers of RF while the telecom and wireless interests successfully cajole the media into considering one scientific study at a time.

"When you put the science together, we come to the irrefutable conclusion that there's a major health crisis coming, probably already underway," George Carlo cautions. "Not just cancer, but also learning disabilities, attention deficit disorder, autism, Alzheimer's, Parkinson's, and psychological and behavioral problems—all mediated by the same mechanism. That's why we're so worried. Time is running out." [20]

### **Notes**

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[3] Dr. Bill Deagle, "Smart Meters: A Call for Public Outrage," Rense.com, August 30,

2011, <http://www.rense.com/general94/smartt.htm>. Some meters installed in California by Pacific Gas and Electric carry a "'switching mode power-supply' that 'emit sharp spikes of millisecond bursts' around the clock and is a chief cause of 'dirty electricity.'" See Perlingieri, "Radiofrequency Radiation: The Invisible Hazards of Smart Meters." This author similarly measured bursts of radiation in excess of 2,000 microwatts per meter every 30 to 90 seconds during the day, and once every two-to-three minutes at night.

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[9] Worthington, "The Radiation Poisoning of America."

[10] Sue Kovach, "The Hidden Dangers of Cell Phone Radiation," *Life Extension Magazine*, August 2007, [http://www.lef.org/magazine/mag2007/aug2007\\_report\\_cellphone\\_radiation\\_01.htm](http://www.lef.org/magazine/mag2007/aug2007_report_cellphone_radiation_01.htm)

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[14] American Academy of Environmental Medicine, "The American Academy of Environmental Medicine Calls for Immediate Caution regarding Smart Meter Installation," April 12, 2012, <http://www.aeonline.org/>

[15] Havas, BRAG Antenna Ranking of Schools, 31-38.

[16] Donna Goldstein, "Health Organization Information and Academic Research Studies Regarding the Health Effects of Cell Tower Signals," Planning and Real Estate Development, Palm Beach County School District, January 30, 2012.

[17] Havas, BRAG Antenna Ranking of Schools, 17.

[18] Multinational Monitor, "Precautionary Precepts: The Power and Potential of the Precautionary Principle: An Interview with Carolyn Raffensperger," September 2004, <http://multinationalmonitor.org/mm2004/09012004/september04interviewraffen.html>.

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[20] Kovach, "The Hidden Dangers of Cell Phone Radiation."

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