

## Telecom Towers Tsunami

By B. Blake Levitt

*There are medical and political ramifications to cell tower siting in our county*

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Litchfield County—along with the rest of the country—is suffering a telecommunications tower blitzkrieg. The local press has done an excellent job of covering the subject with one exception—the medical implications of tower siting.

**At its core, this is a medical and an environmental issue. In emphasizing aesthetics, such as hiding antennas in church steeples, our premier planners are missing a critical opportunity to exercise prudent avoidance and precautionary principles—wise courses of action now recommended by doctors and public health officials all over the world.**

**Here is a partial list of MD's who are calling for prudent avoidance when siting antennas close to the population, particularly near schools:** Dr. David Ozonoff, Dept. of Environmental Health, Boston University; Dr. Kathleen Thurmond, Harvard Medical School; Dr. Joseph Brain, Harvard School of Public Health, State University of New York at Albany; Dr. Kathleen M. Fagan, Division of Occupational and Environmental Medicine, Cleveland, Ohio; Dr. Cathey Falvo, International and General Public Health, New York Medical College; Dr. Philip J. Landrigan, Department of Community and Preventive Medicine, Children's Health and the Environment, Mt. Sinai School of Medicine and many others.

**And from the ever-blunt Helen Caldicott, MD, co-founder of Physicians for Social Responsibility, this e-mail statement:** "Radiofrequencies emitted from mobile telephone towers will have deleterious medical effects to people within the near vicinity according to a large body of scientific literature. Babies and children will be particularly sensitive to the mutagenic and carcinogenic effects of this radiofrequency radiation. It is therefore criminal to place one of these aerials on or near a school..."

**So what's going on here? Could we really have another emerging public health problem? Like lead poisoning? DDT? Asbestos? Tobacco smoke? This time with ambient, low-level, non-ionizing radiation? Many now suspect so.**

**What we are talking about is the buildout of a new technology in close proximity to the human population for the first time in our evolutionary history, with no clear understanding of the bioeffects.** Despite what industry says, no safe level of radiofrequency radiation has ever been determined. The standards in place at the Federal Communications Commission (FCC) are considered seriously flawed. **Important questions raised over 50 years ago regarding radiofrequency (RF) radiation used in these and myriad other wireless technologies have never been resolved.**

Outside of industry spokesmen, few experts who take an in-depth (vs. a cursory) look at the science feel comfortable with this today. The FCC standards are based on models for acute, thermal exposures only, with downward extrapolations built in for presumptions of safety. But adverse *non-thermal* effects, far below the standards, have been noted time and again in the research. **In other words, the standards can guarantee we won't cook—like in a microwave oven which uses frequencies very close to digital PCS cell-phone technology—but they cannot guarantee anything else.**

**The studies used to reach these conclusions about safety are also suspect.** Scientists, from the physics and engineering disciplines (the non-living sciences), have traditionally used test designs of high-power, short-term exposures then extrapolated to presumptions about long-term, low-level exposures such as those who live near RF installations experience. But are these comparable? Again, many think not.

Scientists from the biology disciplines (the living sciences) point out that living systems are far more complex than inanimate physics models. **They say that inappropriate research has consistently been used to reach inappropriate conclusions and it's been generated by the wrong professions.**

There is a federal RF Interagency Work Group comprised of division directors from the FCC, FDA, OSHA, EPA and NIOSH trying to address some of these problems.

In June 1999 the group issued an RF guidelines paper outlining the tasks at hand. In it they recognize that the current standards are based on acute exposures that are engineering dosimetry models, not on biological principles. They acknowledged that extrapolation of acute effects data to chronic exposure conditions is uncertain.

**The zoning preemptions for RF contained in the Telecommunications Act of 1996 were not an accident.** The telecom industry knew they could never develop a ground-based system (vs. a more expensive satellite system) without such preemptions because whenever the subject of RF health effects gets a serious airing at the local level, the industry loses. **Individuals may want their cell phones, which are voluntary RF exposures, but no one wants a 24-hour involuntary exposure near an antenna array.**

**Behind the scenes, this industry plays hardball.** In 1994, they asked the FCC to preempt all local zoning. In 1997, they asked the FCC to forbid the discussion of RF health effects at local zoning. (Don't they know we have a First Amendment here?) Also in 1997, they asked the FCC to declare it illegal for communities to make them prove they are in compliance with the standards. (The FCC hasn't granted any of these requests.)

The industry has repeatedly tried for interstate commerce status, which would override local zoning. John McCain heads the commerce committee. He is a pro-industry advocate. He has refused to allow citizens to testify at committee hearings; only industry reps are allowed. During the first six months of 1999 alone, telecommunications companies spent over \$3,000,000 on lobbying legislators. Few vote against them.

**But most ominously for our churches and towns, this industry has consistently tried to shift all liability onto the site owners and away from themselves as providers of the service.** Using third-party tower builders--vertical real estate companies like SBA currently trolling Litchfield County--is another way of shifting liability. The service providers get an extra layer in between themselves and the community. And the tower companies understand the RF risks only too well. They are set up as holding companies with their assets tied up in subsidiary companies, meaning most of their assets are untouchable in lawsuits. High-risk companies always do this.

The Telecom Act only preempted for service providers, not for tower speculators. Tower companies hope local governments won't quite figure that one out.

This entire industry has carefully crafted insulation around itself, but the question remains, against what?

**Here's a sampling of the non-thermal "contraband" science they don't want us to talk about at public hearings:**

- In the 80's and 90's, Dr. William Ross Adey, a neuroscientist, and Dr. Carl Blackman, a biophysicist at the U.S. EPA, found in several studies that **the human anatomy has critical "windows" in which we respond to some frequencies, but not to others.** At set intervals in the non-ionizing bands they observed a dramatic cellular effect called calcium ion dumping. The cells use calcium for a host of important functions. This work could indicate any number of adverse cellular effects.
- In 1994, Drs. Henry Lai and N.P. Singh, at the University of Washington, Seattle, **found both double and single-strand DNA breaks in test animals exposed to cellular and PCS-frequency pulsed microwaves.** Double-strand DNA breaks are thought not to repair themselves and can lead to mutations. Dr. Lai recently published a study that found learning defects in test animals exposed to low-level pulsed microwaves.
- In 1996, Dr. Michael Repacholi **found a significant increase in B-cell lymphomas in test mice** exposed to long-term, low-level pulsed microwave frequencies in the cellular and PCS range. Changes in B-cells in the immune system are implicated in roughly 85 percent of all cancers.
- The work of Dr. Stanislaw Szmigielski in Poland on **microwave and radar personnel has found sharp increases in cancers--including lymphomas, melanomas, leukemias and brain tumors--as well as high blood pressure, headaches, memory loss, and brain damage.** Also noted were **immune system abnormalities.** About 10 other studies have found immune-system suppression.
- In 1984, Dr. William Arthur Guy, at the University of Washington, Seattle, found **an increase in malignant endocrine gland tumors and in benign adrenal gland tumors in test animals.**

- In 1975, researcher Alan Frey reported for the first time **increases in the permeability of the blood-brain barrier in test animals exposed to pulsed microwaves similar to what is used today in digital PCS systems.** The blood-brain barrier protects the brain from access by viruses, bacteria and toxins.
- In 1975, Dr. William Bise, using 10 human test subjects, **found severe alterations in human electroencephalograms at microwave and RF power levels that are now common in most urban areas due to ambient RF.** The yearlong study documented a kind of entrainment phenomenon of the test subjects' brain waves with the external exposures, and radical changes in mood and behavior.
- In 1992, Dr. Joseph Kirshvink, a **geobiologist, discovered magnetite in human brain tissue in the blood-brain barrier and in the meninges which covers the brain.** Magnetite interacts a million times more strongly with external magnetic fields than with any other biological material. Many species--bees, birds, butterflies, fish—manufacture magnetite and use it as a navigational tool. **Any standards for RF exposure presume humans do not manufacture magnetite.**
- **There are indications that some frequencies may be unsafe at any intensity.** This is a crucial point when telecommunications reps talk about how low-power their installations are, likening them to 25- and 100-watt lightbulbs. (What they leave out is that it is 100 watts of effective radiated power per channel. There can be dozens of channels on one antenna, and dozens of antennas on one installation.)
- **The pulsing factor of RF alone—such as that used in the newer digital PCS and High Definition Television (HDTV) technologies—has been found to be a significant variable in adverse effects.** Dr. Jerry Phillips has found in several studies that RF pulsing of tumorigenic cell cultures accelerated their already abnormal growth rates by 3000 percent. And recent research from China found that important portals on the cell's surface are fantastically sensitive to low-intensity pulsed RF signals. **The presence of such signals alone was found to completely alter the information reaching the interior of the cell.** This is critical information with implications for everything from cancer, to genetic mutations, to immune system dysfunction, among many other things.

**There is federal legislation to remedy this.** Senator Patrick Leahy (D-VT) introduced Senate Bill 1538 that would restore all local siting control for RF. Representative Bernie Sanders (I-VT) has introduced similar legislation at the U.S. House of Representatives (HR 2834 and 2835). There are \$10 million research appropriations attached to these bills, with funds directed to the National Institutes of Health. [*Reader, please note as of 10/02 the above bills were updated as separate bills: S.3102, S.3103 and HR.5631, HR.5632. Sponsors were Senators Leahy(VT), Jeffords(VT), Murray(WA), and Dodd(CT), and Congressmen Sanders(VT), Tancredo(CO), Davis(IL), and Shays(CT). These bills will be reintroduced in the new session .]*

**There is currently no federal research effort into RF. Industry, with its inherent bias and with decades of well-leveled accusations of research tampering, controls the show.** Four independent bioelectromagnetic research labs have folded within the last five years due to absence of funding. It's imperative, in the face of this buildout, that an unbiased research program without industry influence be initiated. It's a no-brainer, actually...

Is there contradictory science that would indicate we don't have reason for concern? Of course. Are there people of good faith on both sides of this issue? Of course.

But as laymen, it is still our obligation to err on the side of caution, especially where our children are concerned.

Hide antennas in church steeples? Near schools? Near homes? Our planners might want to rethink that recommendation. They can be held personally liable, too.