

## QUESTIONNAIRE

1. Name, address and phone number.
2. Specific medical claims as to what is wrong, with as much detail as possible
3. Date of onset of symptoms
4. When and how the symptoms increased or decreased
5. Why you claim the symptoms are caused by microwave or electromagnetic transmissions (including date of installation of new equipment, transmittal lines, etc.)
6. Name and address of the person where medical assistance was sought and/or obtained
7. Copies of results of such examinations or treatments (including doctor's letter, hospital records, etc.)
8. A statement as to what if anything you are doing to solve the problem, including moving, going to Court, filing public complaints, speaking to local government official(s), etc.

Please return this form to attorney Curt Rogg-Meltzer, 516 Fifth Ave., 5th floor, New York, NY 10036. All information will be kept strictly confidential.

moves of Sprint, and Cellular One, and Pac Mobil, which are the 3 most prominent carriers here in the County.

Before we can really see progress here in the County, we're going to have to take on the FCC itself, Sec. 704(a), and the fact that it violates our constitutional rights and also negates the right of cities and counties and states to decide on public health and safety issues. It looks to me like a lawsuit is pending around that. If today I had backing, and a tenacious, truthful lawyer, who is really on the side of the people and well versed on this issue who would ride that wave with me, I would go for it big time because I feel like this is techno-rape. These signals are entering my body against my wishes, and I've said "No!" and they're still entering my body.

## Brief News From the Industry

Metricom Corp. recently won a contract to provide wireless Internet service from thousands of New York City lampposts, as noted elsewhere in this issue. Its Ricochet antennas are already mounted on lampposts throughout the greater San Francisco Bay area, Seattle, Washington, DC, the campuses of 12 universities and many K-12 schools across the nation, and several corporate campuses including Hewlett Packard, Sun Microsystems and Cisco Systems. The antennas are located every 1/8 to 1/4 mile in a checkerboard pattern. Installation requires about 15 minutes.

Lamppost antennas will also be used for:

- remote reading of water and utility meters, thus requiring microwave transmitters inside homes
- point of sale credit card swipe machines
- remote transmission of billing information
- tracking of messenger and delivery services

Antennas on windowsills are already here. A new company called Cellularvision is installing them in Brooklyn, Queens and Manhattan. The product is TV, telephone, and Internet service. Microwaves will be broadcasting from bedroom windows.

The first 5 Iridium satellites were launched into orbit on May 5th at Vandenberg Air Force Base and are now broadcasting from 480 miles up. 14 more launches are planned to complete the network of 72 satellites which will provide global cellular service (and global microwave rain). "Gateways", or earth links to public telephone networks, are already under construction or planned in Tempe, Arizona; Matsumoto City, Japan; near Seoul, Korea; Dighi, India; and at locations in Brazil, Russia, Taiwan, and Thailand.

## Potential Lawsuits and Questionnaire

by Curt Rogg-Meltzer

This is a description of our three potential lawsuits:

We are in the process of researching and developing a suit against the FCC and possibly other government agencies to challenge the safety guidelines they have established as to the minimum levels of electromagnetic emissions that they deem safe for the public. We intend that the suit will be based on the Americans With Disabilities Act and Civil Rights Act in that the regulations discriminate against that segment of the population more sensitive to such effects, and discriminate against them by depriving them of their health and welfare. If we are successful in the suit, we have the potential to overturn or at least get the FCC to revise their national standards and to potentially void the issue of preemption of local concerns, which has also become a national issue.

The second suit that we are developing and researching will be for a group of plaintiffs and will be a straightforward personal injury suit against a specific telecommunications carrier(s) that we will have chosen. The critical component of that proposed litigation is the solid medical support establishing that the electromagnetic emissions have caused the injuries we will be claiming. If we are successful in establishing such a case, that will go a long way towards making it easier for any other injured parties to make similar claims throughout the country. Our goal in such a suit is to establish a blueprint as to how a plaintiff will be able to develop the proofs necessary to win in court (such as how to develop a record, how to establish the medical conditions they are claiming and how to overcome the "causation" hurdle that this type of litigation has a problem with).

The third suit that we are contemplating would be specifically to challenge the award of franchises to add thousands of microwave antennas to lamp posts in New York City. The basis of that challenge would be whether or not proper procedures were followed, including but not limited to the absence of an environmental impact statement which the City has deemed not necessary in such circumstances. If we can establish that the Telecommunications Act does not preempt that issue and that such environmental impact statements are required, we can delay the implementation of this expansion of microwave antennas in New York City, require significant further medical and environmental studies be made by government, and indeed again provide a blueprint for other local communities to use as a basis for stopping the spread of this potential danger at this time. (Editor's Note: We are also contemplating a more limited lawsuit based on lack of re-

stricted access to rooftops where antennas are placed. See Maureen Anello's article elsewhere in this issue.)

We need to accumulate as much information as possible from all people claiming microwave and/or electromagnetic injuries and therefore we ask that each such injured person fill out and return to us the attached form.

## **Announcements**

**The next meeting of the Cellular Phone Taskforce is August 3, 1:30 P.M. at 49 E. Houston St., Manhattan.**

**If you still have petitions with signatures that you haven't returned, please send them to Arthur Firstenberg, P.O. Box 100404, Brooklyn, NY 11210.**

**The Taskforce needs: physicians to help us document microwave illness; an engineer to take measurements of 1.9 GHz signals with a spectrum analyzer.**

**Donations to the legal fund are welcome. The lawsuits we are contemplating could ultimately cost up to \$100,000. The Cellular Phone Taskforce is organized as a not-for-profit corporation in the State of New York.**

**A new edition of *Microwaving Our Planet: The Environmental Impact of the Wireless Revolution* will be available in about three weeks. The price will be \$15.00, plus \$3.00 postage and handling.**

Arthur Firstenberg  
Cellular Phone Taskforce  
PO Box 100404  
Brooklyn, NY 11210

# No Place To Hide

Volume 1, Number 2

October, 1997

## Accelerating Trends

by Arthur Firstenberg

Something changed, at least on this corner of the earth, around the beginning of August. "This corner of the earth" appears to be a fair-sized chunk of North America. For those of us who hear EMR, the high-pitched noise suddenly became a lot louder, and on Friday, August 15 it was so loud it hurt my ears and I could not sleep. I have gotten similar reports from as far away as Florida and Texas. My health has also taken a turn for the worse.

Still going on the theory that I was hearing microwaves, I visited a wild cave in Clarksville, New York, hoping for some relief. There were a busload of teenage Hasidic girls from New York City in long dresses crawling around in the cave at the same time, which made the trip more interesting. Anyway, as I descended, the noise in my head did get less, but even 30 feet below the surface I was still hearing it. My meter—a cellular phone—said there were zero microwaves down there, zero at 30 feet down and zero even at 3 feet down. The microwave theory was seriously flawed.

So I dredged up the article by Clarence Wieske which had been reprinted in *Electrical Sensitivity News* last year, and read it a little more carefully. He had clearly demonstrated in 1963 that certain people heard high pitched sounds in their head that corresponded accurately to the frequency of some electric currents in their environment—not microwaves—and that those electric currents were reaching them through the ground.

I also sat down with Duane Dahlberg's book, *Electromagnetics Ecology*, and carefully read what he had to say about ground currents and how they are sickening dairy cows and dairy farmers throughout this country. Their symptoms are almost identical to what so many have been experiencing from 2 GHz microwaves. Dr. Dahlberg has pointed this out in his writings, one of which appears in this issue, and in conversation with me: electricity of all frequencies has a similar effect on living organisms. I agree with Regie Sibersky, who has told me that as activists we have to address the electromagnetic problem in its entirety.

The fact that the earth is deliberately used, instead of wires, to transmit large amounts of electricity is not well known to the public. In a way we are all playing out Nikola Tesla's fantasies: a century ago he used to impress spectators with how safe it was to have millions of volts pass across his body. Well, now we are all walking on the products of his

dreams, and we are finding out it's not so safe after all. Our cells don't dance well to alternating current, not when they're forced to do it a whole life long without stopping.

Television cartoons from my childhood are also coming true, and they are reported in this issue as well. The Jetsons have arrived! See the article on Intelligent Transportation Systems.

For those who have wondered why I don't want the Cellular Phone Taskforce on the Internet, the satellite industry has explained it better than I can. It is in this issue in "The Internet in the Sky."

Force of circumstances has taught me more than I want to know about coping with electromagnetic injury. I lost my tolerance for my car, but learned that I could get by by driving barefoot. I lost my tolerance for the telephone, but have been able to cope by using a \$10 device from Radio Shack. It's called a "telephone listener" and turns any phone into a speaker phone. I have learned to wear rubber-soled shoes when currents are coming up from the ground, and to go barefoot when currents are coming from elsewhere. I now avoid houses with metal roofs like the plague: they magnify the noise in my head tremendously and make me feel awful. Mountainous areas aren't so good either: the conductivity of the air is greater there and AC seems to flow up from the ground more readily. My asthma got so bad in the motel I had to leave. That's one problem I'm not coping with.

So I'll close by repeating my plea of last November, as I find myself again in the same situation: Can anybody please offer me a safe place to live, anywhere in the United

*No Place To Hide* is a bimonthly publication of the Cellular Phone Taskforce, an environmental organization dedicated to halting the expansion of wireless communications. We serve as a clearinghouse for information about injury to health and environment from wireless broadcasts.

Arthur Firstenberg, Editor. Annual subscription rate: \$20.00 USA. Make checks payable to the Cellular Phone Taskforce. P.O. Box 100404, Brooklyn, NY 11210. Phone: (718) 434-4499.

States? (rent/buy/share/anything). Anybody with information, please leave a message on my answering machine at 718-434-4499.

## Antennas Wreak Havoc With Wheelchairs

by Sharon Brown

*Sharon Brown is the founder and coordinator of Wheels As Wings, a support group of New York City wheelchair users on Manhattan's Upper West Side. She was interviewed by Lucia Rajner and Arthur Firstenberg.*

In April of this year, while I was traveling at full speed in my electronic wheelchair, it stopped suddenly and I was thrown 14 feet onto the pavement. This had happened once before. This time I landed face down and sustained a permanent shoulder injury.

I sent the electronics of my chair back to the manufacturer, Permobil of Boston, where it was determined that cell phone interference had caused the mishaps.

Chuck Gill, head of the technical division there, told me of an instance where someone was near a cliff. In this instance there was a radio station nearby, and the chair ran amok and went over the cliff. There were also 2 or 3 other instances of people who lost control of their chairs due to cell phone interference with the magnetics of the chair.

In my case, I did not see anyone using a cell phone when my chair stopped, but Mr. Gill said it could have been someone driving down Broadway, or in a store, or even using a phone a considerable distance away. If I was traveling down the street under a lamppost with an antenna on it, that would certainly be close enough to affect my wheelchair.

Now that I've learned to watch for it, when I see people walking with phones, I go to the side of the sidewalk, and just stop and wait until they are well past me.

In the owner's manual for Permobil wheelchairs, there is a page and a quarter of warnings about electromagnetic interference. I understand the 3 major wheelchair manufacturers are working feverishly with an agreement to share standards and technology, but there is no available magnetic shielding at this time, nor are these manufacturers optimistic for the foreseeable future. As cell phones and their antennas proliferate, mobility will become impossible for those in powered scooters and wheelchairs.

I also spoke with Phil Sutton of the Food and Drug Administration about this problem, and he said it's very important to get this information out to people in areas where there are going to be a lot of antennas.

Recently I noticed something on the adjacent roof pointing at my windows. I had no idea what these things were at first, but they looked like white Styrofoam. Now I know they are cell phone antennas, there are 12 of them, 3 on each side of the roof. In my apartment on the 23rd floor, I am almost level with these antennas, just a little above them. I don't know how much those are affecting my health, but I suffered a total adrenal collapse on January 6 and was hospitalized for the first 3 months of this year. Since then I've not been able to stand much more than a few seconds at a time on my crutches. I'm basically without adrenal function, and this is the kind of thing where people don't live. My doctor says I'm writing the book on survival.

I've also had a couple of instances here in the apartment when I've started my chair up when it was sitting right in front of the window facing the antennas, where it hasn't started the way I wanted it to, I've had to turn it off and on several times to get it running.

I've been in a wheelchair for about two and a half years because of a spinal cord injury. Wheels As Wings is a result of my going through rehab at Mr. Sinai Hospital and finding that most of the people going into wheelchairs are very angry and upset. My reaction was not like the reaction of people around me. As I saw it, the wheelchair was going to be my wings, considering the alternative. You either have mobility or you don't have mobility. And if the way in which you're going to have mobility is in a chair, then be grateful for that. I began to think in terms of finding people, many of whom don't even go out because they're just not comfortable in their chairs, or they don't feel safe, or they don't feel attractive, or whatever, they feel in some way diminished by needing their chairs—I began to look at ways that together as a group we could begin to turn disability into possibility.

## Intelligent Transportation Systems

Electronic toll collection is only the first in an explosion of technologies that will soon see digital radio frequency beacons placed at ½ to 1½ mile intervals along every major non-local highway in the world.

Unlike cellular phone broadcasts, which are directed toward the horizon, these microwave beacons are aimed directly at passing cars. On some highways the antennas are being placed invisibly underneath the pavement.

The Intelligent Transportation Society of America (ITS America) is a nonprofit, educational association which boasts among its members over 350 large corporations, 135 federal, state and municipal transportation agencies, and 75 universities and research institutions.

In its May 19 petition to the Federal Communications

Commission, ITS America stated:

"Commercial vehicle operators and highway departments have installed DSRC\* "weigh-in-motion" and automatic safety check and electronic clearance stations that allow states to weigh trucks, check permits, track hazardous materials, and authorize further inspections if necessary, without slowing a truck's progress along the highway. Emergency response vehicles and bus drivers will have improved response time and schedule adherence with DSRC control of traffic signals. Traffic managers have reduced the amount and length of traffic jams with the use of DSRC traffic probes. These first generation DSRC systems have brought significant benefits to the traveling public and have far surpassed initial market forecasts in their usage. They are also engendering public acceptance of, and familiarity with, ITS services and demonstrating the many public benefits attainable from a widespread ITS deployment. The continued availability and operation of these systems is thus essential to the accomplishment of the Congress' objectives as called for in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)."

ITS America's petition asks the FCC to allocate 75 MHz of spectrum in the 5.850-5.925 GHz band for use by intelligent transportation systems. This is a band that is already used along highways in Europe, Australia, Argentina, and in many Asian countries including China, Malaysia, Japan, Singapore, and Korea. Existing transportation technologies in the United States use the 902-928 MHz band. 2.45 GHz is also in use in many countries.

This technology is going to be used for:

- Toll collection
- Remote inspection of trucks. Beacons will be placed in terminals, warehouses, fueling facilities, commercial scales, and truck stops.
- Freight management. All truck shipments will be equipped with RF tags.
- International border clearance
- In-vehicle signing. Every vehicle will be equipped with an electronic billboard to receive information about road conditions.
- Remote scanning of vehicles by police officers
- Electronic License Plate. An RF tag will be built into every license plate.
- Every car will be electronically tagged with its Vehicle Identification Number. Chrysler, Hyundai, Honda, and other companies are already doing this.
- Monitoring traffic density and speed
- Intersection collision avoidance
- Emergency vehicle priority clearance
- Transit vehicle priority clearance
- Management of transit fleets. RF beacons will be posi-

\* Dedicated Short Range Communications

tioned at every bus stop, 6 feet from the bus.

- Parking payments
- Access control at shipping yards, warehouses, airports, universities, etc.
- Drive-thru payments (at fast food businesses, for example)

Stanford University is already using RF tags for access control. So is the San Francisco subway system (BART), to identify disabled persons.

The ultimate goal of ITS America is the full automation of our nation's highways. The petition states that "automated highway systems (AHS), in their fullest envisioned implementation, will operate by transferring full control of equipped vehicles to automated systems operating on designated AHS lanes...Once in the AHS lane, the system manages the vehicle's individual components (e.g. lights, throttle, brakes, steering) until the vehicle reaches the destination exit, where the system transfers control back to the driver."

The industry estimates it can place 593,048 transmitters along U.S. highways without interfering with satellite broadcasts.

### One trucker's experience

These proliferating antennas are already having a serious impact on those who must make their living driving.

Bob from West Virginia is a 36-year-old trucker whose life has not been the same since October 16, 1996.

"I was driving my truck from here to Phillipsburg, New Jersey every other day at that time, I-78, then I-68 across Maryland to Pennsylvania, I-81 and I-78 across Pennsylvania to New Jersey. I would stay in a motel all day, leave 8:00 at night, and travel all night coming back. Sleep during the day, travel all night. Every night.

"On October 16 I noticed my eyes started swelling up, I thought I was developing a sty. On October 18 I got out of bed, and my eyes were swelled shut, and they stayed swelled shut for a week. I saw 4 different doctors, and was given 6 different antibiotics. Nothing helped. It went away after two weeks. But I also got pain in my elbows, wrists, and shoulders, as if I was getting arthritis. I figured it was sore muscles. Now I can't even pick up a can of coke with my arms. Doctors gave me creams, Motrin, exercises, but it doesn't help. They told me I have "tennis elbow," but I don't play tennis. Sometimes I have pain in my right hip, my legs go numb, and I have to pull over and stand up. I have to pull over and sleep after 2 to 3 hours, sleep for an hour, drive for 2 to 3 hours, and sleep for an hour. I used to drive 10 hours straight without a problem. I've never been sick in my life before, I'm 36 years old and I feel like I'm ready to retire.

"I also never had allergies before. Now I have allergies to dust and pollen, so bad that my sinuses swelled up, I couldn't breathe through my nose for the last 6 months, and it put pressure on my eyes. I drive at night, and the eye

strain caused my eyes to swell up that much more. I had sinus surgery on August 27 to open up my sinuses, I can breathe now, but I'm still tired all the time."

"It feels as though the problem comes from driving on certain routes. I can still drive from here to Pittsburgh non-stop, and come straight back, without problem, ninety percent of the time. I can also drive nonstop to Columbus, or to Roanoke. But here to Philipsburg or Baltimore, Route 68 through Maryland is where the problem is."

## 1997 World Radiocommunications Conference (WRC-97)

The International Telecommunication Union (ITU) is a specialized agency of the United Nations, headquartered in Geneva, which makes telecommunications policy for most of the nations of this world. It holds a World Radiocommunication Conference every two years to make regulations for the international community.

WRC-97 will take place in Geneva, Switzerland from October 27 to November 21, 1997.

## The Internet in the Sky (and blimps too!)

by Arthur Firstenberg

Lucinda Grant reported in September's *Electrical Sensitivity News* that the first 17 satellites of the Iridium system have already been launched. Unfortunately I run across people all the time who think the way to avoid cellular antennas here on earth is to put them in the sky instead, but that is threatening to become a nightmare too, beyond any sane person's wildest imaginations. People just have no idea the *scale* at which these things are being planned.

Plans for over 250 satellite *networks* had been filed with the International Telecommunication Union as of January 1996. They are running out of radio spectrum for everything that they want to do, so the ITU keeps granting them higher and higher frequencies to play with. The FCC, and all the other agencies of all the other governments in the world that are signatories to the International Telecommunication Convention, follow suit.

In April of 1997 I filed Comments on behalf of the Cellular Phone Taskforce with the FCC regarding its new proposal to allocate spectrum in the 37.5–50.2 GHz bands for satellite systems. Among the Comments from the industry were the following.

Motorola, whose M-Star network of 72 satellites will broadcast between 37.5 and 50.2 GHz, wrote:

"The Commission's 40 GHz band proposals represent the first major step in establishing millimeter wave bands as the next frontier for a new generation of telecommunications services. As the upper boundary of the usable spectrum expands, the promise of worldwide broadband communication satellite systems—an integral piece of the Global Information Infrastructure—comes closer to reality. Motorola's M-Star System represents a major step forward toward fulfilling this promise."

Hughes Communications, Inc., which builds satellites, wrote the following, which is best summary of what is

causing this nightmare that I have ever read. The environmental movement is blind to it:

"Our society and economy, as well as those of the world, are increasingly based on the rapid exchange of increasingly large amounts of information. The digital revolution and the fantastic growth in computing power have enabled the exponential spread of applications that facilitate rapid and ubiquitous access to information. Area codes are multiplying with the proliferation of facsimile machines, wireless telephone and paging, and, perhaps most importantly, modems for access to the Internet. Although the dispersion of voice-based communications has been most visible to the public in recent years, the composition of traffic on our communications infrastructure is increasingly shifting from bandwidth-frugal voice traffic to bandwidth-hungry data traffic. This trend is largely driven by the fantastic growth of data-applications such as the Internet, video conferencing and video file transport. The rapid adoption of these data-intensive technologies by business has fueled the demand for high-bandwidth communications services. There is no indication that this accelerating demand for transportation of information, and especially high-bandwidth, high-speed transportation, will moderate in the future...Creation of alternative paths for the transport of data traffic is therefore a vital national interest."

Terrestrial users of the 40 GHz band were not absent. The Comments of the Fixed Point-to-Point Communications Section of the Telecommunication Industry Association (TIA) revealed what we can expect in the future:

"Unfortunately, as demand for these essential fixed [point-to-point] services increases, available spectrum to support these services has not. This recent erosion began when FS users were required to clear the 2 GHz band for

PCS, and to relocate in bands above 3 GHz. The bands designated for the relocating 2 GHz FS users, primarily the 6 and 11 GHz bands, already are quite congested, and no relief is anticipated...Rapidly escalating activity in the bands between 30 and 50 GHz is a strong indication that spectrum in bands above 50 GHz is the next growth area for the FS. Just as in the lower millimeter wave bands, technology for the United States government for above 50 GHz terrestrial fixed systems is expected to soon be adapted for commercial applications."

TIA also revealed the real reason antennas are coming to city lampposts. It has nothing to do with dead spots or clarity of signals:

"To support cellular, PCS, LMDS, and other emerging wireless technologies, adequate spectrum must be available for HDFS applications. Capacity can be increased by adding cell sites placed closer together, which requires additional point-to-point links to interconnect cells. As the distance between cell sites decreases, the frequency band of choice to

interconnect cell sites has shifted from 2 GHz to 18 GHz. As cell sites continue to move closer together, licensees will show substantial interest in the bands above 30 GHz."

TIA also contends that Motorola's satellite signals will be strong enough to interfere with terrestrial point-to-point networks.

Finally, there was mention in TIA's comments of an up-and-coming technology called "stratospheric repeaters." Like so much else that is happening, this sounds like science fiction but it's not any more. There is even a new company called Sky Station, which has already been granted approval by the FCC to float fleets of blimps above metropolitan areas to provide wireless Internet access and high speed data transmission from 13 miles up. It will broadcast at 47 GHz. Plans are to begin offering worldwide service in the year 2000. The blimps will be bigger than a football field and spew blue flame. Sky Station is not just some crackpot's wild-eyed fantasy. The company is headed up by one retired Secretary of State, General Alexander M. Haig.

## Reports From Other Countries

### JAPAN

*Nami Adachi*

In Japan, little attention has been paid to electromagnetic radiation's environmental impact. The electric companies still say "it is safe under 50 gauss," and build high voltage powerlines in densely populated areas. The companies just own the land under the towers, so people can live under the powerlines. It isn't hard to find houses above 10 milligauss. The cellular system has been introduced in such a country.

PHS systems are Japanese style CRP (Convenience Radio Phone), and developed by NTT. Before the PHS system was introduced in 1995, the so-called classical cellular system had not yet spread enough. They had to compete with PHS systems also.

In Tokyo, there were 6 companies for classical systems, and 3 companies for PHS. In order to get the higher market share, they tried to build as many towers and antennas as possible.

At the end of 1994, 4 million people were subscribers to cellular phones in Japan. By the end of July 1997, the number grew to 31.4 million, including PHS, and the saturation level in Japan became higher than the one in the United States.

Another reason for such a rapid growth was unusual price reduction, which was more than 35% on the basic service price, and the cellular phone became even cheaper than the wired phone for long distance calls. Many of them offer services without subscription fees by now, and even offer

their hand-held machine at extremely low prices, less than 10 yen, which is 12 cents in the U.S., or even free.

Not a small number of subscribers became frequent users of the cellular system, because of the price reductions and their little knowledge of electromagnetic radiation. They may not know of the many lawsuits concerning cellular phones and brain tumors, and so many moratoriums on cellular towers, in other countries. Young people and high school students use cellular or PHS phones for chatting. In densely crowded areas, the system has to work at full power to accommodate the ever-increasing volume. However many subscribers still complain of bad connections.

To offer sufficient services, the cellular companies tried to make the cells smaller. They adjusted the tower's output, and built them more densely to offer their services in the same limited area, at the same time, with their limited frequencies to many more people. They also developed much smaller antennas this January.

The usage of a wider range of frequencies made the situation even worse. There are already 800 MHz analog and digital, 1.5 GHz digital, and 1.9 GHz digital for PHS. The NTT Docomo has built towers which emit 11 GHz with parabolic antennas. Even the private railway company plans to use 43.5 GHz to operate a train without a conductor, and has already done a test operation this spring.

Metropolitan areas are already densely covered, and rural areas are not being neglected. The national government supports financially, when an under-populated local

government plans to built the cellular towers. The Minister of Post and Telecommunication has stated that the areas where there is no cellular phone service should be reduced.

NTT Personal, PHS's company, exports its systems to China and Singapore. Seven million people are subscribers of PHS systems in Japan. There are so many lampposts having PHS antennas, and some public schools have already leased space to put up PHS antennas.

Some psychiatrists report "VDT Syndrome" or "cellular phone syndrome" as new types of mental illnesses, and give them psychological explanations. The suspicion of VDT syndrome was the name of a disease I was told I had this January. I needed to convince myself to quit my job, and to leave Tokyo, which I have done, for my condition got worse and worse. A number of experiences made me strongly suspect I was being affected by electromagnetic radiation, including microwaves emitted from PHS antennas.

Psychiatrists say the number of such patients is increasing.

## IRELAND

*Colette O'Connell, CAMR—Communities against Microwave Radiation, Davis Street, Dungarvan, Co. Waterford, Ireland.*

Ireland is currently under siege from a tidal wave of mobile phone transmitter masts being erected nationwide.

Two well financed mobile phone operators, Eircell (state

owned), and Esat Digifone (privately owned), are competing to install these transmitters as quickly as possible.

Government and business are hand in glove pushing this profitable commercial operation; over £200 million is available to the two operators. (Esat Digifone raised £80 million in the United States last year.)

The politicians have given the operators a series of exemptions from the planning laws to facilitate the erection of microwave masts.

1. In the early '90's the state owned operator Eircell received an exemption from normal planning procedures for a six month period, during which they erected hundreds of transmitters anywhere they wished, i.e., next door to homes, schools, hospitals, hotels, etc.; there was no legal recourse for objectors.

2. In July 1996, the Central Government directed local government authorities to disregard health problems when considering planning applications for microwave masts.

3. A year ago, in autumn 1996, the central government did a deal with the private company, Esat Digifone, to allow their transmitters the use of communication masts in all police barracks across the country.

4. The fierce resistance by local residents and communities to the haphazard siting of these masts in their midst resulted in the politicians coming to the aid of their friends in the telecommunications business. On the 13th Feb. 1997, central government enacted new planning regulations that allow for the placing of up to 12 microwave transmitters on any existing mast WITHOUT a requirement for planning approval.

As happened in the United States, a "false market" has been created with mobile phones being given away for free, huge discount on bills, free insurance, etc. etc.

This increase in the number of mobile phone users has resulted in an ever increasing number of mobile phone transmitters being sited in residential areas, and has resulted in more and more Irish people being irradiated every day. And so too the problems reported to us have increased.

Margaret in County Cork has an "exempted" mast adjoining her home.



The home of Karen Heneghan, Dublin City

During the first six months of its operation there was a loud humming noise from the vicinity of the mast. During this time Margaret and her husband received electric shocks when touching their motor car. On three separate occasions Margaret saw blue flashes when inserting her key into her car door lock.

Peggy from County Limerick is sixty years old and is housebound with arthritis. There is an exempted mast TWELVE FEET from her home. Her arthritis has become more debilitating since the mast was erected two years ago. On waking after a night's sleep, Peggy finds that when she sits down, she falls into a very heavy sleep. Television reception is worse than useless due to the interference from the microwave transmitter. All bird life has disappeared from her garden since the erection of the transmitter. (Also reported from other sites.) Foliage on trees in the garden has turned yellow.

Peggy's neighbour suffers from M.E.. She has just returned from a two week vacation during which she was symptom free.

Dick and Bridie live in County Kilkenny. Six months ago a mobile phone transmitter was erected on an existing mast 10 metres from their home. They have repeatedly reported their problems of radio, television, and telephone interference. Bridie has started having headaches, eyelid tremors and is tired all the time. When they attempted to sell their home of thirty years to get away from the health problems, they discovered that their property was devalued by half.

Vanessa lives with her family in County Waterford. On the 26th March last, a mobile phone transmitter was erected on an existing mast, 50 metres from her home. For two months from that date she had a temperature of between 99.5 F and 100.5 F and felt extremely ill. A chest x-ray was clear. Since April she has felt excessively tired and constantly thirsty. She has had excessively sensitive hearing, buzzing in her ears, very disturbed sleep. She has had a permanent headache, sore eyes, blurred peripheral vision and trouble focusing her eyes. She has previously had very good eyesight testing 100% in both eyes. Since April 1997, Vanessa's skin has become very sensitive to sunlight. On a hot clear day any exposed skin erupts into red itchy blisters.

Vanessa's three children ages 5, 4, and 2 1/2 have suffered mouth ulcers, sore throats, flu-like symptoms and tiredness. Vanessa's husband suffers from excessive tiredness, inability to concentrate, mouth ulcers, sore throats, buzzing in the ears, sensitive hearing, problems focusing his eyes, irritated eyelids and disturbed sleep.

We also have a few reports of horses that have developed skin sensitivity or blistering.

To end this isolation we have formed a national organisation to pool information and to promote co-ordination among neighbouring groups at national and provincial level.

We appreciate the assistance which we have received from the U.S., Australia, and New Zealand. We intend to widen the scope of our contact to non-English speaking countries; we have little information on developments on the European mainland.

"Educate that you may be free". Please keep the information flowing!

## AUSTRALIA

*Sarah Benson*

### The Political Situation

To say that Australia is a country of vast open spaces, and that Australians love freedom, is a cliché. This country, never having known invasion, is generally regarded as the "lucky country" - land of milk and honey! It was this promise of freedom that drew me here from England 25 years ago.

Australians, of course, are also notorious for their complacency - "she'll be right mate!" However, in the last couple of years this has begun to change. Australia has been invaded. Yes! By the mobile phone/information industry.

It all began in 1994 when the government passed legislation that enabled telecommunications carriers to unrestrictedly cover the country with mobile phone antennae. A year later they were springing up like mushrooms—and people began to worry. About the same time scientists, concerned citizens, and the Australian Democrats began to mobilise the available research to inform the public of the dangers, both of the transmission towers and of the headsets. Various groups formed around the country: the EMR Alliance of Australia (EMRAA) in Sydney, Australian Citizens Against Communications Towers (ACATT) in South Australia, EMFacts in Tasmania, and EMR Awareness Network here in Victoria, to name just a few. There are currently many such groups around the country, and even a political party has been set up for the sole purpose of dealing with this issue—Against Mobile Phone Towers! Spokesperson Linda Lawson recently addressed an anti-tower rally in NSW.

Both EMRAA and EMFacts publish newsletters—and Lyn Ward at EMRAA has been very effective in lobbying the government to include community groups on parliamentary committees. She and a colleague at EMRAA have been nominated for a position on the State Radiation Committee in NSW. Lyn has also begun action to alert federal parliamentarians and the public on the nature of the new Low-Impact legislation about to be passed through parliament.

This low impact code came into operation on the 1 July

of this year with the deregulation of the industry and the passing of infrastructure planning to State and local governments. It disallows local control over low-impact facilities—which include the transmission towers. It also makes no reference to radiation and health, and only considers the aesthetic aspects of siting. However, negotiating powers have been extended to include more council input.

The main political player in this conflict though has been the Australian Democrats—and in particular Senator Lyn Allison, with whom I have been privileged to work. This party, formed 21 years ago, holds seats in the Senate and is responsible for the accountability of the government. It is socially and environmentally oriented. It has the power, in conjunction with the opposition, to amend or block legislation.

Since starting to campaign on this issue we have distributed information to the community, media, scientists, and politicians around the country. We have written “fact sheets” to clarify issues, done numerous media interviews to publicise tower battles and phone health issues. We have submitted questions to parliament and done adjournment speeches—particularly on the topic of the public exposure standard that last year was on the verge of being relaxed. We alerted the press and public and parliamentarians, and as this effort tied in with the results of Dr. Bruce Hocking’s TV tower study appearing in the media we were successful in preventing this from happening. Our standard therefore remains at 200 microwatts per square centimeter. However, there is a general push now by community groups and the Democrats to have this standard tightened. We have also been moderately successful in having the removal of advertisements for the phones that feature children.

The combination of research with people who won’t be told what to do or have their right to be heard blocked, proved to be a volatile one, and in the ensuing years there have been many bitter and protracted battles between community groups and the carriers, with the local councils often helplessly sandwiched in between.

A rally of about 500 people in Sydney a few weeks ago saw protesters setting fire to an effigy of the Federal Communications Minister, Richard Alston. This is a true reflection of the anger and frustration brought about by lack of control over this “invasion”, and by the arrogance of the carriers and government.

A picket line in a tourist town in Victoria earlier this year saw over 40 arrest in one day—with protesters being dragged off the site kicking and screaming. This continued for weeks, with the power union eventually becoming involved and electing not to connect the power. Telstra contracted someone else though, and now the tower is operational. This conflict had extensive media coverage. All conflicts here have involved negotiating for an alternative site by the council.

Similar battles have occurred in South Australia, with

arrests that involved violence, and moderately severe injury to an elderly woman. This incident resulted in a furious speech to State Parliament from the local member, who had attended the picket and seen the violence first hand.

Here in Melbourne a three-month long picket has been successful recently in its bid to have an antenna moved to another site. This picket was conducted with the full support of the local council (not always the case) who supplied the protesters with a caravan for sleeping in at night. As it has been winter this was most welcome. Local traders supplied wood for the communal fire, and others supplied electricity, water and food. The community feeling was fantastic—the picketers said—and they had many visitors throughout the long cold days and nights! The council were impressed at how the picket served to bring the community together.

There have been other such successes around the country, with much downing of champagne, etc.

Antennae have also been sited on churches and hospitals and in school grounds. The school and churches have been keen to accept money offered by the carriers—a one-off payment of \$A50,000. Some parents have been concerned enough to remove their children from schools that have accepted the tower though, and the State parent body in NSW has banned towers from school grounds.

The Royal Children’s Hospital in Adelaide has been successful in preventing a tower from being erected on the roof of the children’s cancer ward—but only after much wrangling with the carrier over a six-month period.

## Health Effects

In Melbourne last year an elderly couple were horrified to discover that a tower had been installed onto the roof of their top-floor city flat without their permission or notification. The body corporate of the flats had given the go-ahead without consultation of individual owners, and the couple eventually had to sell their flat when their health began to deteriorate.

Recently we heard from an elderly man who has developed large growths on his head since having a tower installed next to his home four years ago, and we have heard from people who have developed headaches, migraines, fatigue and sleeplessness and in one case, cataracts from living in proximity to a tower.

We are also in contact with a woman who has developed breast cancer after living near a tower for about four years, and is going ahead with litigation. There is a cancer cluster around this particular tower.

We have also received anecdotal evidence of people who contracted brain tumours after long-term mobile phone use—as well as the usual headaches and hot-spots. This correlates with Dr. Hocking’s recently released study on head pain amongst users. This study received widespread

media coverage in Australia.

A nurse who worked in a hospice in NSW found that five young men who came there to die with inoperable tumours in the hip area, all had one thing in common: mobile phones that were clipped to their belts over a long period of time. However, no one was able to convince the authorities of the significance of this.

Don Maisch at EMFacts in Tasmania has begun work in conjunction with medicos and campaigners in the U.S. to make public the relationship between ELF exposure, melatonin, and breast cancer.

## Electrosensitivity

A Sydney man (29 years old) who works for one of the carriers has developed severe electrosensitivity since using his mobile for work purposes. He realises that the phone has caused it—and so does his doctor. He says he also feels the radiation emitted from the towers.

I am in touch with around a dozen people in Australia who feel themselves to be electrosensitive, although generally speaking, electrosensitivity is regarded with some suspicion by the media and the medical profession—although the government have offered to consider it as part of the new research deal. It is still an area in Australia which is regarded as being a figment of the sufferers' imagination. It seems hard for people to accept certain symptoms as being associated with exposure to any environmental contaminants—although it is easier in regard to mobile phone use where the connection is obvious.

I mailed a brochure on electrosensitivity to about 50 naturopaths in Victoria but only received one reply.

I was invited to participate as an electrosensitive person last August in a government exercise in "consultation" with community members in regard to health and EMR. The three hour meeting was a blatant attempt by the government's EME committee to intimidate us. The government and AMA officials were aggressive and unrelenting in their determination to persuade us that we had no case to argue. Personally I left that meeting feeling shaken, and decidedly less naive than when I walked in about what the government are about here. I think I was able to make some important points all the same.

Australia does not yet have "second generation mobile telephony" known as PCS. The SMA was planning to sell off this portion of the spectrum (1.8 GHz) earlier this year, but has not seen much interest to date from possible purchasers, according to their spokesperson. Consequently, we don't yet have this problem to deal with in our cities. However, as an electrosensitive I can vouch for its effect on health, for travelling interstate last year I had great difficulty on the trains where it is used—especially when I was tired.

## Research

Throughout the last three years the government have remained stubborn and intractable, repeating endlessly that "the weight of national and international scientific opinion is that there is no substantiated evidence from athermal microwave radiation", etc., etc., even as the evidence pours in from all over to the contrary. In March 97 for example, Lyn Allison invited New Zealand physicist Dr. Neil Cherry to Canberra to address interested parliamentarians and media on the latest research. Shortly afterwards the Minister for communications responded by attacking Dr. Cherry in Question Time, calling him a "snake-oil merchant" and charlatan.

In spite of this, though, they have committed \$4.5 million to research over the next five years.

This research effort is very positive, with Dr. Bruce Hocking and Dr. Peter French involved in innovative and ongoing work that is showing up more and more problems in the area. There are also other researchers who have not such a high profile. They have been very supportive of the community's efforts to persuade the government to at least adopt a precautionary approach to the technology.

Overall the Australian community is now well aware of the inherent dangers of low level microwave irradiation, but generally speaking, acceptance of the health risks involved in this technology by the authorities is far behind.

## CYPRUS

P.O. Box 6986  
3311 Limassol  
Cyprus

1 September 1997

Dear Arthur:

I read with interest in the *Earth Island Journal* of the Taskforce. (E I I is one of the organisations which send us their publication for no charge—we are a small volunteer Humane & Environmental education group and importing all the literature we need is financially impossible.)

I'd be very interested in reading any material on cellular phones and the damage they cause. Here in Cyprus, a cellular phone revolution has taken place. Every goatherd sports one and if there's one thing Mediterranean people can do, it's talk... and talk... Every driver, even of scooters, has one glued to his or her ear.

I myself am concerned that I have incurred damage. This is really ironic because I have always hated phones of

any kind and tried to avoid them. However, for the past three years we have been living in a small cottage far from neighbours and telephones and, since I suffer from hypoglycaemia, my husband insists on me having a mobile phone in case I pass out. The problem is that this is the only way of contacting me and, although I have asked people to state their message and hang up, people these days regard a phone call as being a minimum of 15 minutes; the message only comes after their life story. I have the habit of holding the phone in contact with my ear and was unaware that there was anything wrong in this.

I am, by the way, also a writer and, with my husband, am involved in the environmental movement here, so am in a good position to disseminate any info you may send.

Thank you in advance and congratulations on the good work.

Sincerely,

Pat Kyriacou

## SYRIA

The New York Times reported on September 18 (p. A35) that the Syrian government does not allow any Syrian to have a cell phone. There is a debate, however, over whether to let the Internet in.

## AUSTRALIA

Cellular Phone Taskforce  
P.O. Box 100404  
Brooklyn, New York 11210  
U.S.A.

8th August 1997

Dear Sir/Madam,

I am a technician for a telecommunications company in Australia. I've been a technician for the last 10 years. Since joining the company I currently work for, originally I used to repair and diagnose faults to mobilephones in a busy service centre in Sydney. It was here that I started noticing peculiar headaches especially after using mobilephones. Through a process of elimination I found the degeneration of my health and symptoms were linked to mobilephone use and exposure. I became sensitive to the mobilephone polling back to the nearest base station/cell tower. I'd develop chronic headaches around my right temporal region

(where I used to use mobilephones), spreading through my head and into my chest region, with palpitations.

So I transferred into another section and reduced the usage of mobilephones, though I could not escape the polling of or other nearby mobilephones being used, triggering my symptoms. So I stopped using mobilephones in November 1996.

It took great courage to tell my employer though I found that I wasn't the only one. Other technicians also have these symptoms to varying degrees.

I eventually had a collapse in health and became hypersensitive to almost all electromagnetic fields and had problems with domestic equipment I've never had problems with before.

I couldn't work for six and a half weeks, I had all dental metal removed and replaced including two metal backed porcelain crowns. I've seen numerous specialists, though I still have this debilitating problem. The extreme symptoms have subsided and I'm back at work, though I have to try and avoid people using mobilephones nearby.

This makes it difficult for me socially and particularly at work as my job requires me to attend customer premises. When I'm within 3 metres of a person using a mobilephone either analogue or digital I experience an involuntary cramping crushing sensation around the right temporal region with chest pains and palpitations. Increased exposure makes the pain and condition worse, bringing extreme hypersensitivity to domestic appliances, and other electromagnetic fields. I have documented my case with great detail, and keep a diary of my health problems associated from pulsed/microwave radiofrequency radiation emitted by mobilephones and base station/cell towers. I believe they caused my hypersensitivity to electromagnetic fields and continue to upset a localised headache I have had since March 1997.

I fear the future of my health, and possibly that of many other people who are being affected but can't match the initial vague symptoms. I am extremely grateful that there are support groups and networks of people globally who unfortunately also suffer from this hellish condition. If I could help in any way please don't hesitate to contact me. Please ensure my personal details remain confidential when and if reprinting my story. I would also like to be part of the class action suit if this is possible. I didn't receive the questionnaire on the back of the first issue of "NO PLACE TO HIDE", which is a very suitable title.

"Keep up the good work". To all those people who suffer, hang in there, you're not alone, there are people working hard to bring awareness that this is happening and hopefully positive changes aren't too far away.

Yours faithfully,

(Name withheld by request)

PATIENT SURVEY

Please indicate if you are experiencing any of the following:

	<u>occasional</u>	<u>frequent</u>	<u>constant</u>	<u>since</u> <u>Nov. 1996</u>	<u>before</u> <u>Nov. 1996</u>
<u>pressure behind</u> <u>the eyes</u>					
<u>other eye problems</u>					
<u>dry lips</u>					
<u>dehydration</u>					
<u>swollen throat</u>					
<u>pressure or pain</u> <u>in the chest</u>					
<u>shortness of breath</u>					
<u>sinusitis</u>					
<u>bronchitis</u>					
<u>asthma</u>					
<u>insomnia</u>					
<u>dizziness</u>					
<u>headaches</u>					
<u>nausea</u>					
<u>skin rash</u>					
<u>nosebleeds</u>					
<u>pain in soles</u> <u>of the feet</u>					
<u>pain in legs</u>					
<u>muscle or joint</u> <u>pain</u>					
<u>pains that move</u> <u>around the body</u>					
<u>abdominal pain</u>					
<u>digestive problems</u>					
<u>loss of appetite</u>					

occasional   frequent   constant   since   before  
Nov. 1996   Nov. 1996

craving for  
carbohydrates

pelvic discomfort

(men) pain in the  
testicles

frequent urination

muscle spasms

tingling

burning

electrical currents  
or shocks

fever

sweating

trembling

loss of memory

irritability

tiredness

weakness

dental pain

broken fillings

flu symptoms

allergy symptoms

ringing in the ears

# FCC Proposes to Preempt More Local Zoning Rights

1. The Federal Communications Commission is proposing to preempt all moratoria on antenna siting that (a) exceed 90 days, or (b) are open-ended, or (c) are based on RF emissions or health concerns. The Comment period for this proposal has already ended.

2. The FCC is proposing to limit the rights of local governments even to *monitor* communications equipment and antennas. It proposes: (a) to limit the type of information that a state or local government may seek from a personal wireless service provider; (b) that compliance with RF emission guidelines should consist only of a written statement, and that states and cities not be allowed to demand any kind of testing; (c) that all antennas are presumed to be in compliance unless a state or local government proves otherwise; (d) that even private entities such as homeowner associations and private land covenants not be allowed to keep antennas off their own land for health reasons; (e) that decisions to ban antennas are preempted even if they are only *partly* based on health reasons. In addition, the FCC is considering the request of the Personal Communications Industry Association (PCIA) to prohibit the public from testifying about health effects at local zoning board hearings.

The deadline for public comment on this one is October 9. An original and 4 copies must be sent to the Office of the Secretary, Federal Communications Commission, 1919 M Street, N.W., Room 222, Washington, DC 20554. It has to be double spaced, signed and dated, and it should begin with the following heading:

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**

In the Matter of

Procedures for Reviewing Requests )	WT Docket
for Relief From State and Local )	No. 97-197
Regulations Pursuant to Section )	
332 (c) (7) (B) (v) of the Commun- )	
ications Act of 1934 )	

### COMMENTS

I oppose the Commission's proposal to further limit the rights of states and local governments to protect my health...

3. The FCC is proposing to preempt states and local governments from keeping out digital TV and other broadcast transmission facilities. It proposes to require local gov-

ernments to act within (a) 21 days on all requests to increase the power of an existing radio or TV transmitter; (b) 30 days on all requests to relocate existing radio or TV towers within 300 feet, or to increase their height; (c) 45 days on all other request for broadcast facilities. It also proposes to prohibit local governments from rejecting a broadcast tower on the basis of (a) environmental or health effects; (b) RF interference with other telecommunication signals and consumer electronic devices; (c) lighting, painting, and marking requirements.

The comment date for this one is October 30. The heading for this one is:

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**

In the Matter of )	
Preemption of State and Local )	MM Docket
Zoning and Land Use Restrictions )	No. 97-182
on the Siting, Placement and )	
Construction of Broadcast )	
Station Transmission Facilities )	

### COMMENTS

I oppose this proposed outrageous infringement on local zoning authority...

Normally the FCC gets few or no comments from the general public. The Commission is required to address all the issues you raise, so long as your comments arrive before the deadline. Let's inundate them!

## Epidemiology

We need help gathering epidemiological data for the lawsuits we are contemplating. If you live in a PCS coverage area, you can help by asking doctors to have all their patients fill out the attached survey form. The November 1996 date on the form is good for about 2 dozen cities, including New York, Chicago, Honolulu, many cities in Texas and Florida, and elsewhere. Other cities, including Minneapolis, San Francisco, Los Angeles, and Boston, did not have any PCS service until the summer of 1997. If you can find out the startup date for your area, use that date on the patient survey form instead of November 1996.

If anybody can help, we also need to obtain up-to-date vital statistics from hospitals, the CDC, insurance companies, or wherever we can obtain them, in major metropolitan areas. We hope to be able to prove that in November and December of 1996, for example, in New York City,

there was a sudden increase in total deaths, heart attacks, and strokes. Increases in miscarriages should have followed. Birth defects will be showing up now too, more than

9 months later. Most of these statistics are not kept that up to date in official records. Any ideas?

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*In July I asked physicist Duane Dahlberg if he would submit testimony in our behalf in the public hearing process on the lamppost antennas. He wrote the following article for us.*

## **Environmental Toxins and Health: The Case of Cellular Transmitters and the Health of Residents of New York City**

*By Duane A. Dahlberg, Ph.D., Consultant  
The Electromagnetics Research Foundation, Inc.*

### **Introduction**

Many chemicals and energies have been and are being added to the environment of the world. Some of these are toxic to life. When in the human environment, radio and microwave electromagnetic energies are recognized internationally as a cause of health problems, and thus toxic to life. Health effects from environmental toxins involve a number of complex issues. Measurements for levels of both environmental toxins and health effects are difficult to quantify; numerous individual factors may be present at a single location; each location is different from every other; living organisms in general change locations frequently; those things that are toxic at some level can be beneficial at other levels; and synergistic interactions between toxins are likely.

The complexity of these interactions unfortunately drives many scientists away from conducting research on these problems, and consequently health practitioners are left in a vacuum with respect to health effects from environmental toxins. Without sufficient information the normal treatment for these health effects is to treat the symptom and not the cause. If treating the symptom fails the health problems are often classified as a mental illness. Sometimes the effects from environmental toxins have many of the characteristics associated with the stress syndrome. Diagnosing these health problems as associated with mental or emotional problems has some logic.

For many people impacted by common environmental toxins such as chemicals or electrical energies, appropriate medical diagnoses and treatments have not been available. The victims are required to live with the health problems and restrictions associated with the presence of environ-

mental toxins. The growing number of people experiencing health problems from toxins in their environment has resulted in at least two important actions. First those with similar experiences have begun to network and share information and support groups and organizations dealing with multiple chemical sensitivity and electrical sensitivity have organized. These organizations and groups assist people in networking, provide information on safe housing, and collect and critique relevant research information. The anecdotal information assembled by these groups and organizations is especially important in developing an understanding of possible causes and effects.

A second action is the development of an industry for designing and building safe housing for people who are either chemically or electrically sensitive or both. These industries exist in a number of regions of the United States as well as in Canada and Europe.

### **Research Information**

Electric currents and charges of variable magnitudes and forms play a significant role in the basic functioning of living organisms. They are important in controlling biological activities and in maintaining and operating the information system of the body. "Nerve cells propagate electrical signals from sensors of pressure, temperature, light, sound, etc. to the brain and return control signals to muscles, the heart, etc., yet if we choose to stimulate these processes with external electrical inputs, we have a relatively limited understanding of how a given electrical input will affect various biological organs, what the safe limits of exposure are (particularly over extended periods of time), and how

electrical signals are carried across cell membranes or propagated along nerves" (Polk and Postow 1986, p. 100).

One of these electrical sources is from radio transmission systems. There is a significant body of research literature available discussing the effects of radio frequency (Rf) electromagnetic sources. A small part of that information is provided subsequently.

From Eastern European research a set of subjective complaints among people working in Rf fields has emerged. "Workers complain of headaches and eyestrain, together with a flow of tears, of fatigue derived from over-all weakness, and dizziness after prolonged standing. At night their sleep is disturbed and superficial and they are sleepy in daytime. Such persons are moody, frequently irritated, even unsociable. They manifest hypochondriac reactions and a feeling of fear. Sometimes they perceive nervous tension or, on the contrary, mental depression combined with deterioration of intellectual functions (notably memory impairment). Over a longer period, definite sluggishness and inability to make decisions result. Those affected complain of a pulling sensation in the scalp and on the brow, loss of hair, pain in the muscles and in the heart region (together with a pounding of the heart), and breathing difficulties. Not infrequently they complain of difficulties in their sex life. It is moreover possible to observe slight trembling of the eyelids, the tongue, and the fingers, increased perspiration of the extremities, dermatographism (writing on the skin: hypersensitivity to mechanical stimulation), and brittleness of fingernails" (Marha et al., p. 30). In the Russian work there is also reference to a decrease in lactation of nursing mothers under exposure to 10 cm Rf fields.

Although the list of complaints is subjective, there is research that supports the reality of these effects under Rf exposure, especially effect on the nervous system such as inducing agitation, excitement and increase in motor activities. In some experiments tranquil animals can be turned into aggressive ones. In fact the reactivity of the entire nervous system can be affected by Rf fields. All of the various sensing systems such as seeing, hearing and feeling are changed by exposure to the fields. There appears to be an increase in the percentage of females born and a disruption in the menstrual cycle of women. Also pregnant women and female animals also show an increase in the number of miscarriages under Rf field exposure. Some research has also shown a retardation of the development of the fetus, congenital defects, and a reduction of the life expectancy of infants. The effects on the cardiovascular system recorded in research include change in blood flow, both high and low blood pressure and changes in heart rate. Hemorrhaging and bleeding can occur in organs under Rf exposure. "Irradiation of various kinds of insects by the Rf field produces an over-all reaction similar to that observed in experiments with mammals. The first symptom is unrest,

attempts to escape, then disturbance of motor coordination, stiffening and immobility, and, after a certain interval, death" (Marha et al., p. 38). At low field intensities there appears to be an increase in the growth of wood in trees, whereas at higher intensities growth is inhibited. Pulsed fields are observed internationally to be biologically more interactive than cw fields.

Because of electrical conduction the effects of radio frequency (Rf) can be observed at points away from the place of absorption. Cells appear to have the properties of semiconductors. Therefore, an Rf field causes cathodic excitation of a neuromuscular preparation to be increased and the anodic excitation to be decreased, resulting in a change in charge on the surface of a cell. Rf fields can produce electric negativity of a nerve. A change in the charge of a nerve cell has significant consequences for the functioning of the entire organism, since such a physiological change produces a change in its controlling functions. As a consequence an organism or its parts could function as an Rf detector. The cerebral cortex and inter-brain structures, especially the hypothalamus, may be the most sensitive to EM fields. The effects are broad band. It is possible that the effects are caused by DC resulting from the rectification action occurring within living organisms. The rectification occurring within the body is probably quite independent of frequency and may be quite independent of intensity as well.

The effect of an Rf field on the nervous system will also depend on the state of that system. Depending upon the chemical stimulation of the nervous system, Rf fields can produce a greater or lesser effect (Jaski 1961). For example if an animal is under the influence of a narcotic, a greater Rf field is required to cause damage to the animal. Psychotone in rats causes the opposite reaction. It appears as if these chemicals shift the ability to transmit signals in the organism. Such connections certainly emphasize the interrelationships between the various chemicals and energies to which organisms are exposed (Marha et al.). According to Marha chemicals that have carcinogenic effects have pi electrons in their molecules; this presence is closely related to their semiconductor properties. Thus the question is, therefore, raised as to whether the semiconducting nature of the chemicals plays an important role in their carcinogenic effect, and how this effect might be intensified by the presence of an EM field.

The nonlinear and semiconducting nature of nerve cells is connected with the ability of some person, including the deaf, to "hear" the radiation from a pulse-modulated transmitter (Frey 1961, 1962). The sound source seems to be in the area of the occiput. Low frequency EM fields can also cause sounds. It is thought that weak currents are produced by the fields that excite the auditory cells or auditory nerves (Frey 1962, Wieske 1963).

Another electrical source to which all living organisms

are continuously exposed is the electrical power system. The electrical transmission and distribution system provides many sources of exposure. This is a 60 Hz electric and magnetic energy which is now present in all living organisms. The many different interactions of the electrical and magnetic energies from the transmission and distribution system assures that all living organisms will experience its presence. Research and investigation of effects experienced from the exposure to 60 Hz fields and currents reveals results similar to those from Rf exposure. There may be differences in the effects experienced from exposure to the Rf and 60 Hz frequency but the number of similarities is especially significant.

For many years the stray voltage problem has been an albatross around the necks of dairy farmers. From electrical causes they have watched cows fall over dead while in the dairy barn and they witness highly productive cows brought into their dairy barn only to be dead or shipped out before a year is ended. The dairy farmers cannot understand why their own health deteriorates as they work in the barn or why their children are so unhealthy. Not only dairy farmers but people all over America who live and work in electromagnetic (EM) environments such as near power lines, substation, etc., are asking the same questions about their health problems. As more and more information develops relating health problems to living near transmission lines, distribution lines, transformers, substations and the earth grounding systems, it is becoming clearer that we have a major environmental problem wanting to explode.

In attempting to assess this issue, a number of factors need to be explored. The first one is the design of our electric transmission/distribution system. Over the North American continent the earth is used as a major current-carrying conductor in the system. For the dairy farmers this means that because their farms are so well grounded, electricity can and does reach their farms as it is traveling in the earth. For school, homes and businesses it means that because electric current is in the earth, the current will most often concentrate in water pipes and other conductors in contact with the earth. One group of these conductors include the natural gas and oil pipelines. Especially in the rural areas they carry significant levels of 60 Hz alternating currents from the electrical distribution system as well as direct currents from cathodic protection rectifiers and direct current transmission lines. These currents move on and off the pipelines as the conductivity of the surrounding area changes. For the dairy farmers, electric current is producing EM fields and is in contact with cows and people, especially in the barns. For people who attend the schools, live in the homes and work in the businesses, electric currents in the conducting parts of the building produce AC magnetic fields that are often higher than those experienced near transmission lines. The electric currents themselves can

also be in contact with the people in the buildings.

A second factor related to this problem is the attitude of many stray voltage researchers. There is general recognition among researchers that dairy cows experience effects from electrical exposure, yet they have not been willing to investigate the possibility that people in the same electrical environment can also be affected. This attitude persists despite the fact that animal studies are widely used to approximate the human effects of chemical toxins. It seems logical that those factors producing negative effects on cows could also affect human beings, whether the factors are chemical or electrical. If this premise is false in the dairy barn then all animal studies which have helped to understand human health problems would be invalidated.

A third factor for consideration is the tendency to separate the stray voltage effects on the dairy farms from the effects associated with transmission lines, electric blankets, or transformers. In reality it is the same electricity interacting with humans and animals in each of these situations. The difference may be in the way the electricity enters the body of the person or the animal. Additional sources of EM energy such as cellular transmitters, police radar, radio waves and microwaves add to the foreign EM environment. There are differences in some of the effects from the different types of EM energy, but there seems to be a general effect which is very characteristic of the stress syndrome.

A fourth issue is the fact that electricity can produce many of the same effects as other toxins, especially chemicals. This factor taken together with the individual differences within a species, adds to the difficulty of designing research that will prove cause and effect. The fact is that living beings are as much electrical as they are chemical, and we are introducing electromagnetic energy into our environment at a rate not too different from that of chemicals. We need to apply the same effort to understanding electrical effects as we do to understanding chemical effects.

## Conclusion

Symptoms perceived by Gulf War Syndrome victims are very similar to those experienced by individuals exposed to significant and identifiable sources of toxic chemicals, to electric and magnetic energies, and to heavy metals. These symptoms are also quite similar to those associated with the stress syndrome. Such observations suggest the possibility of a common interaction mechanism for the health effects associated with the exposure to a number of environmental toxins, and in some manner that mechanism also relates to stress. Such a common mechanism does not, however, preclude the possibility that individual environmental toxins can produce additional and specific effects.

If such a common mechanism exists, healthiness becomes dependent upon the totality of environmental tox-

ins that share the common mechanism. Such a scenario would explain why chemically sensitive people are frequently electrically sensitive and why electrical sensitive people are frequently chemically sensitive. It would also help us to understand why builders of safe homes for chemically sensitive people are frequently required to search for ways to reduce electrical exposure in the safe homes. This scenario must also recognize the physical variations within the human population: A specific environmental toxin can be more of a problem for one person than another, and some people can have greater tolerance for all environmental toxins.

Research investigating the health effects of environmental toxins, in general considers one effect caused by one environmental toxin acting independently of all others. An example is research on the relationship of the environmental toxin, 60 Hz magnetic fields, and the effect, rare leukemia in children. Many other environmental toxins including other sources of electric and magnetic energies, chemicals, etc. may also exist in the environment, and other health effects associated with the toxins are likely to be present. Research results, therefore, are commonly quite different in different environments with different levels of a number of environmental toxins. Without considering the totality of environmental toxins, a valid picture of health effects is out of reach. When attempting to determine the effects of environmental toxins, the initial laboratory must be the region where health effects associated with an environmental toxin are perceived.

In the case of the cellular transmitters on lamp posts in New York City, the emissions from the transmitters is only one of the environmental factors to which people are exposed. There is research that documents effects from continuous Rf exposure at levels present in the human environment in New York City. Some cellular research has shown effects at levels 1 million times lower than the ANSI standards (Testimony by W. Ross Adey, M.D., Pettis Memorial VA Medical Center, Loma Linda, California before the Ad Hoc Subcommittee on Consumer and Environmental Affairs of the U.S. Senate Committee on Governmental Affairs, August 7, 1992). In addition, if other environmental factors are present which cause similar health effects, the activation of the cellular system has the potential of significantly affecting the health of the people living in the City. Equal effects are possible with high levels of Rf electromagnetic energy and low levels of other environmental factors or high levels of another environmental factor and a low level Rf electromagnetic energy. Given the research information available, information assembled by groups working with people who perceive health problems related to Rf exposure, and the presence of many other environmental factors in metropolitan areas, I would expect significant effects from a cellular transmission system in such close proximity to where people both live and work.

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## Updates

**New York:** The Franchise and Concession Review Committee finally approved the franchise agreements with Omnipoint and Bell Atlantic Nynex Mobile on September 10. By these agreements the City has agreed to lease up to 3000 lampposts to each company for the placement of cellular phone antennas.

**San Juan Islands:** San Juan County's moratorium is over. A new ordinance is in place requiring a setback of at least 500 feet from any property line to a cellular tower. A company would need a parcel of about 23 acres to site a tower under this law. In addition, the ordinance requires a company to pay for independent testing of RF emissions, using the Cobbs protocol. This is the first law of its kind in the country.

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## Announcements

**Meetings** of the Cellular Phone Taskforce will be held on the first Tuesday of every month at 7 PM, beginning October 7, at the Wetlands Preserve. The Wetlands has been a gathering place for environmental groups in New York City for many years. It is located at 161 Hudson Street, 3 blocks south of Canal Street in Manhattan.

**There were unavoidable delays** in getting out the new edition of *Microwaving Our Planet*, but the books are finally back from the printer, and back orders are being filled. They look fantastic! The cost is \$18 (\$20 international), postage included. Please make checks payable to Arthur Firstenberg.