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To: Friends of the Electrically Sensitive

Hello! Hope you are well. In 2004 an important event occurred regarding electrical sensitivity which compels me to write you.

The World Health Organization (WHO) in Geneva, Switzerland held several conferences in 2004 about the link between electromagnetic radiation (EMR) exposure and health effects. One of these was specifically about electrical sensitivity and entitled "WHO International Seminar and Working Group meeting on EMF Hypersensitivity." This conference took place in Prague, Czech Republic during October 25-27, 2004. According to the WHO conference information on the Internet, "Sensitivity to EMF has been given the general name "Electromagnetic Hypersensitivity" or EHS. It comprises nervous system symptoms like headache, fatigue, stress, sleep disturbances, skin symptoms like prickling, burning sensations and rashes, pain and ache in muscles and many other health problems. Whatever its cause, EHS is a real and sometimes a disabling problem for the affected persons, while the level of EMF in their neighbourhood is usually no greater than is encountered in normal living environments." (See website info at http://www.who.int/peh-emf/meetings/hypersensitivity_prague2004/en/index.html .)

This conference notice calls electrical sensitivity "electromagnetic hypersensitivity", a term previously used by some of the researchers in Western Europe. Now that this name appears formally accepted, the medical community likely will tend to use it as well. Of course, informally the term electrical sensitivity is still ok and easier to say. The WHO also is using the medical abbreviation of "EHS" rather than ES. I suggest using EHS now instead of ES as EHS appears to be the formal medical abbreviation.

The World Health Organization is a medical authority that publishes the internationally used ICD-10 (International Statistical Classification of Diseases and Related Health Problems, 10th Revision), a database of medical diagnoses used by physicians; however, EHS is not yet formally listed there. To move the EHS medical designation forward as a physiological condition, I suggest having medical doctors help us update the ICD-10. This resource is continuously being updated for new and emerging conditions. See in particular the WHO website instructions at <http://www.who.int/classifications/icd/en/> . By adding electromagnetic hypersensitivity into the ICD-10 as a physiological condition, we will be giving medical doctors a diagnosis category to use internationally. This ICD-10 update seems more likely to be accomplished in Western Europe, where EHS is more commonly known and discussed at this time.

I was not able to get to the WHO conference, but **I want to thank everyone who attended on our behalf!** About 127 people from 26 countries were there. The list of attendees primarily looks like a mix of scientists, medical doctors, cell phone/electrical industry representatives, government employees, and EHS support group leaders (Sweden, UK, Finland, Germany). A book summarizing everyone's presentations was given out at the meeting but is no longer available. The WHO posted slides from their invited speakers at http://www.who.int/peh-emf/meetings/hypersensitivity_prague2004/en/index.html . The main WHO website is at www.who.int; a search there by "electromagnetic fields" (EMF) will find their current EMF meeting schedule and related information.

So, how did the meeting go? Some of the attending EHS said they were saddened by talk of a possible psychological link advocated by some of the speakers although that was certainly not the main focus. It seems a historical trend for illnesses with a difficult diagnosis to get pressure for placement in the psychological bin early on – requiring the patients to fight the misdiagnosis as well as their health problem until better research is available. Some illnesses which have experienced this initially include multiple sclerosis, chronic fatigue syndrome, fibromyalgia, multiple chemical sensitivity (MCS), light sensitivity, and hyperacusis (sound sensitivity). Of course, having economic pressures of industry groups as MCS and EHS do increases problems in getting proper research/diagnosis/treatment.

On our behalf I should mention that in March 2002 the then active Director-General of the WHO, Dr. Gro Harlem Brundtland – a medical doctor, was reported in the European media to have electromagnetic hypersensitivity herself and became unable to use a computer or cell phone any longer. Microwave News confirmed this report. An overview of her situation is posted to Sweden's FEB website in English at www.feb.se under news dated March 9, 2002. She retired from the WHO not long after this disclosure. However, it is a significant boost to the EHS to have a former WHO Director-General among our ranks. She revealed publicly that for her, EHS is real. Too bad she missed the Czech Republic get-together.

Now, under a new director, the WHO has moved on to their first EHS conference. Despite this progress, the WHO recently pulled back from advocating an EMF precautionary principle should be followed until more is known about its health effects. (See www.microwavenews.com Nov. 2, 2004 item "WHO EMF Project Rejects Stricter Exposure Limits to Reduce Childhood Leukemia Risk" and their December 2004 commentary "The Case for EMF Precautionary Policies.") This despite the WHO being aware their International Agency for Research on Cancer (IARC) has classified ELF (extremely low frequency) magnetic fields as a possible class 2B carcinogen. This frequency is the 50/60 Hertz power line current of the modern world. Further, in 1998 a working group of scientists organized by the US government's National Institute of Environmental Health Sciences (NIEHS) used IARC procedures to review the electromagnetic literature and similarly concluded: ELF electromagnetic fields are possibly carcinogenic to humans as class 2B carcinogens.

Having said that, what did this WHO EHS meeting discuss that was useful? First, Dr. Mike Repacholi of the WHO spoke of this conference being necessary because of public concern about EMF health effects accompanied by the increasing EMF exposures in our technological society. In other words, this occurred because the EHS illness has reached a critical mass of international proportion and can no longer be ignored. Dr. Repacholi said EHS symptoms can cover several categories, according to a 1997 European Commission working group report: nervous system symptoms (headache, fatigue, stress, sleep disturbances); skin symptoms (facial prickling, burning, rashes); eye symptoms (burning); other (muscle aches/pains, ear/nose/throat problems, digestive disorders). He further said EHS is a collection of various symptoms but not a diagnosable syndrome distinct from other illnesses at this time. He discussed that studies to assess whether symptoms in the EHS could be brought forth by EMF exposure have not gone well enough to prove EMF exposures are the cause. I would add -- these provocation tests only seem valid when patients have easily discernible symptoms that come and go quickly plus are sensitive to the frequency being tested. Symptoms delayed or prolonged can confound brief testing where the frequency is turned on/off in intervals of a few minutes. These tests also need to be conducted in EMR-shielded rooms to reduce interference with other exposures.

As Dr. Repacholi reported, studies to determine a connection between EMF exposures and EHS symptoms are ongoing internationally. (EHS studies reported by others as pending/on-going are in the UK, Germany, Japan, Italy, Switzerland, and Austria.) I suggest medical doctors explore the electromagnetic history of Russia in particular which shows ill health among EMR-exposed workers. They will find the commonly reported EHS symptoms already have a history in the electromagnetic realm. (See, for example, the McRee/Silverman/Dodge papers listed at the end of this letter.) It has been

a common practice for medical doctors to concern themselves with possible cell phone interference of cardiac pacemakers and electrical equipment in the hospital setting. Signs of electromagnetic interference (EMI) can show forth as equipment malfunction, static on a wireless broadcast, or flicker on a computer/TV screen. Some doctors, however, seem oblivious to the fact that the living human body is a low-current electrical device easily susceptible to EMI as well. The body, with brain electricity measured by EEG and heart electricity measured by EKG, has warning symptoms of its own.

Right now the Russians are in a defensive position because they advocate very strict radiation standards. The cell phone industry and other electrical/electromagnetic industry on the other hand, want a worldwide “harmonization” of standards that would allow a universal set of standards easy for them to meet. While some countries such as Russia have stricter limits it poses an unresolved issue which makes other countries and the public wonder who is right. The WHO has become engulfed in this harmonization topic and held a Moscow conference in September 2004. The WHO suggested the early Russian studies showing low-level “non-thermal” (non-heating) EMF health effects be carried out again, this time jointly by Russian and non-Russian scientists in order to either prove or disprove their standards. A two-page summary of the Moscow meeting is posted to the WHO website and seems to shroud the facts – that the Russians seek to defend their standards, they oppose the International Commission on Non-Ionizing Radiation Protection (ICNIRP) radiation standards, and are concerned in particular about cell phone use by children. (See, for example, http://www.buergerwelle.de/pdf/russian_conf.doc.) Therefore, I do not believe contacting the WHO directly with our requests is worthwhile right now given the significant political and economic hot potato this EMF dilemma has become. Dr. Repacholi of the WHO concluded his EHS presentation in Prague by stating “There is a need to study EHS in detail to determine what is known about this condition and what further research is necessary to fill any gaps in knowledge.”

Dr. Berndt Stenberg of Sweden also attended the Prague meeting and mentioned the 1997 European Commission report’s proposed definition: “Electromagnetic hypersensitivity is a phenomenon where individuals experience adverse health effects while using or being in the vicinity of devices emanating electric, magnetic, or electromagnetic fields (EMFs).” Dr. Patrick Levallois of Canada cited this definition at the conference as well. The skin is a vulnerable site of EMR exposure with facial rashes, burning, and itching reported in both computer users and cell phone users. Dr. Stenberg, whose focus is dermatology, discussed dividing EHS into two groups: the skin cases and those patients with more/other symptoms. He said the skin-symptom group tended to have a better prognosis than the other. Although not necessarily stated, the skin symptoms can be an early warning of the person not being tolerant of the radiation exposure, which can lead to further symptoms if ignored.

These skin symptoms, etc. related to computer use were significant enough in the 1980’s for Sweden’s white-collar labor union TCO to request computer manufacturers reduce computer monitor radiation emitted. As a result, computer monitors meeting the TCO standards are widely available from the major manufacturers. See www.tcodevelopment.com for a long list of TCO-certified products. Despite the radiation reduction and moving from cathode-ray tubes to LCD screens, computer-related health problems are still being reported. One of these is burning skin, sometimes simulating a sunburn, potentially due to radiation from the computer screen. Whether lighter-skinned folks, who are naturally sun-sensitive, are more prone to skin effects from other radiation sources seems a good question. Some early studies indicated airborne particles coupled with static electricity may have been factors in the skin effects reported at that time. Turning the screen away from the computer user can reduce the burning effect, but is not ergonomically correct and leaves ambient EMR exposure. Some EHS have found using a grounded, shielded computer screen filter of help in reducing onset of the skin symptoms, although computer avoidance is far better. The TCO standards are not health-based but were designed as a middle-ground, offering some level of radiation reduction while being a cheap/easy fix for the computer manufacturers. It is apparent that TCO needs to further tighten down their radiation standards and this

time include the computer keyboard too. A review of computer monitor chemical emissions and further reductions/substitutions is also necessary.

Dr. Olle Johansson from Sweden's prestigious Karolinska Institute presented information at the WHO meeting about his extensive skin studies. He found a significant increase in mast cells among facial skin samples of the EHS. In a related study using normal, healthy volunteers, computers and TV sets were demonstrated to produce a similar skin effect. He said, "The high number of mast cells present may explain the clinical symptoms of itch, pain, edema, and erythema." He has several published articles outlining the very technical details of his skin studies. Mast cells relate to histamine, which has been implicated in such illnesses as hives (urticaria), asthma, motion sickness, and some types of allergies. This indicates a broad illness mix if EMR exposures increase mast cell activity/histamine. Some of the early Russian reports showed an increase of blood histamine in EMR studies. The Merck Manual lists various hypersensitivity states and includes a section marked "Physical Allergy" related to health problems such as hives from physical exposures such as the sun, heat, cold, etc. I wonder whether we fit into this group as one component of the symptom picture?

Dr. Bruce Hocking, a physician from Australia, attended this talk as well. He told about a test of one woman who had pain symptoms she blamed on cell phone use. He tested her A and C nerve fibers in the skin both before and after cell phone use. While the patient's A fibers had little noticeable reaction after the test, the C fibers on the phone side showed a significant change. Exactly how this test was performed I don't know but some general information about it is on the WHO meeting slides. I did not see any control tests to show what a non-EHS person's C fibers would do in a similar procedure.

The C fibers seem very important regarding pain research. Dr. Hermann Handwerker of Germany, who has no interest in EHS, has investigated skin C fibers using contact electrical currents to study pain. (M. Schmelz, et al.) He found electricity can turn on seemingly insensitive branches of certain C fibers that seem dormant (mechano-insensitive) unless inflamed. He has even tried mapping out the areas around these C fibers that seem "electroreceptive". Once activated, he suspects they may contribute to pain states. He found some of these touch-insensitive areas could be sensitized by certain chemical applications, making the insensitive area now touch-sensitive. This may provide a clue as to how MCS could lead to EHS; skin sensors, overstimulated by chemicals or EMR, may become chronically sensitized and ultimately lead to a chronic pain state. Dr. Handwerker of Germany and co-workers also found an acidic pH state could maintain a touch-sensitive state in many of the C fibers he studied. (Kay H. Steen, et al.) Unfortunately, he used a non-living animal model (rat skin) because a chronic acid state is difficult to maintain under normal conditions. However, if certain disease states affect pH it could indicate a vulnerable subgroup. Whether pH plays a part in EHS is unknown. It appears we need pain specialists involved in this field.

The fact that EHS can be very painful was expressed by Anne Silk of the UK. She said the EHS people there are often diagnosed with fibromyalgia and can develop increased sensitivity to touch and heat exposures. Anne talked of "central sensitization" which is a chronic pain state. According to the Gray's Anatomy book, central sensitization is believed to be tied to NMDA (N-methyl-D-aspartate) receptor sites and nitric oxide, a body chemical. Dr. Martin Pall, a US scientist not at the WHO conference, recently theorized that NMDA receptors and nitric oxide are factors in MCS, chronic fatigue syndrome, fibromyalgia, and post-traumatic stress disorder. He proposes these chemical effects could cause a chronic cycle of illness, although he has not tested out his theory regarding humans yet. Whether his theory has anything to do with EHS is unknown although it would seem to be more appropriate regarding later-stage EHS cases where other conditions can co-exist rather than early EHS cases where none of these other illnesses may be apparent. A curious thing about nitric oxide is its classification as a "radiosensitizer" in some medical studies, meaning the chemical can sensitize tumors to radiation therapy. In other words, it is well known in the medical profession that certain chemicals can sensitize human

biological components to radiation. Further, many prescription drugs are known to sensitize a person to the sun; the herb St. John's wort is a natural sun sensitizer, for example. Whether nitric oxide has any part in EHS is not known; it would be interesting to see how EMR exposure affects body nitric oxide levels.

NMDA receptor sites were early-on hypothesized to be involved in how the seizure medication and prescription drug Neurontin works, a drug sometimes found helpful for the EHS (6% of 100). (See our 1999 Treatment Survey results posted to the files on www.groups.yahoo.com/group/esens.) I have also occasionally heard of bad reactions to this drug as others could not necessarily tolerate it. Neurontin is now believed by some to be a type of calcium channel blocker. As I discussed in my 1996-97 Microwave Sickness series (See Less EMF, Inc. re this item.), several of the drugs listed as helpful for the EHS in the old Russian studies and the modern surveys have a chemical component listed as "meth" or "methyl". Even Neurontin has a methyl component. The long version of NMDA being N-methyl-D-aspartate may indicate a relationship with methyl compounds. Do these methyl-based chemicals have an affinity for the NMDA receptor sites? Whether NMDA receptor sites are a factor in EHS is unknown.

A recent Physician's Desk Reference (PDR) book reveals Neurontin approved for both seizure management and pain control for postherpetic neuralgia, a painful condition difficult to treat. I have heard of Neurontin used for pain reduction of headaches too although that is not an approved use. The PDR text also states Neurontin has been shown effective for neuropathic pain control in mice and rat studies. In one study, magnesium has shown a benefit in pain control of postherpetic neuralgia patients – the same disease Neurontin helps. Magnesium was reported to help several EHS patients in our last survey too (19% of 100). Magnesium is known to be a calcium channel blocker and some believe magnesium inhibits NMDA activity. A problem with taking magnesium is that it tends to have a laxative effect so it can easily lead to having diarrhea. On the other hand, calcium was shown to be helpful for 15% of 100 in our survey. Calcium is known to be mobilized in the body by EMR exposure. Does calcium involve a pH balancing effect? (Note: Neurontin is listed on a drug sheet as a drug which may cause tinnitus in some people. The incidence rate is listed as "infrequent" and did not rate over 3% among drug users. This drug sheet was published in 2004 by the American Tinnitus Association and distributed through The Hyperacusis Network.)

Russian researcher Dr. Natalya Lebedeva tested human EMR sensitivity and found people more sensitive to electromagnetic exposures also tend to be more sensitive to pain, as determined by contact electric current perception testing. She wrote that nociceptors (pain sensors- type not stated) are believed to be a factor in EMR sensing. Dr. Cristina Del Seppia of Italy and collaborators have studied how electromagnetic exposure of healthy humans can increase their sensitivity to pain, at least short-term in their case.(Sergio Ghione, et al. and Floriano Papi, et al.) Neither Dr. Lebedeva nor Dr. Del Seppia attended the WHO presentation. In fact, scientists/medical doctors who live in Russia did not come at all.

Dr. Joerg Schroettner of Austria came and talked about his electric current perception tests. In these studies of contact electric current perception threshold, he and co-attendee Dr. Norbert Leitgeb of Austria found the group of EHS patients quite sensitive to this applied electric current. Among them, more than 50% scored "sensitive or very sensitive" compared with a control group also tested. They suggest a test of this sort to exclude people who claim to have EHS but may not have it. (I don't see this as suitable for the EHS as they are already electrically overstimulated.) Further, they sought to differentiate between people who can more acutely sense the electric current without symptoms (they define as electrosensitivity), versus sensing with symptoms (they define as EHS). They concluded by saying "...increased electrosensitivity is a necessary but not a sufficient condition for electromagnetic hypersensitivity."

Dr. Monica Sandstrom and Dr. Kjell Hansson Mild, both of Sweden's National Institute for Working Life, attended the WHO conference. Their work on EHS is among the best and their co-worker Dr. Eugene Lyskov of Sweden outlined some of their findings. They monitored EHS patients using EEG,

EKG, blood pressure tests, heart rate variability studies, etc. Dr. Lyskov explained that their “physiological profile showed imbalance of autonomic regulation with a trend towards hypersympathotone and increased arousal.” He said the signs of autonomic nervous system imbalance are moderate but statistically significant. Further, Dr. Lyskov discussed that their studies on sympathetic skin responses to sound and visual stimulation and their work with evoked brain potential measurements showed a “hyper-responsiveness to external stimuli.” He said an autonomic nervous system problem of this type could lead to increased sensitivity to environmental factors. Dr. Sandstrom and co-workers, for example, found the EHS more sensitive to flicker in an early study. Their EHS studies overall have shown a tendency for decreased heart rate variability, increased heart rate, increased blood pressure, and decreased occipital alpha EEG band. (See his slides on the WHO website for additional particulars.) According to a book called “Pain and the Brain”, autonomic adjustments can be caused by overstimulation; EMR exposure certainly seems a major way.

At the WHO conference, Dr. Fabriziomaria Gobba of Italy spoke of a program to manage EHS cases there. A working group plans to send information out to physicians to educate them about EHS and EMFs. Then, as a second step, the physicians will receive a questionnaire to report EHS cases to the working group. The patients then undergo a medical and environmental review to see what is going on and what steps might help the EHS. If the patient gives consent, their case file will be posted to a “national archive of EHS cases” and may be pulled for further studies. Dr. Gobba hopes this program will cause “...prevention of the avoidable sufferance caused by irrational handling of EHS claiming subjects, (and) possibly an improvement of prognosis...” Dr. Gobba is also involved in an on-going study of EHS patients which includes testing re blood, urine, EKG, blood pressure, heart rate variability, plus several questionnaires.

Dr. Osmo Hanninen of Finland reported that he has tested EHS patients via heart rate, heart rate variability, and blood pressure. He found exposure to mobile phone radiation could cause changes in heart rate and blood pressure not seen in healthy test subjects.

Dr. Jill Meara, a physician with the National Radiological Protection Board (NRPB) in the UK, told the WHO participants that the NRPB, an advisory group for the government, has contracted with a public health consultant in Ireland to prepare a public health review of the EHS illness. Dr. Meara described how she found it impossible to develop a symptom-based case definition of EHS, given the wide variety of possible symptoms.

According to Professor Lawrie Challis of the UK, five EHS studies are pending there. One of these is regarding function of the inner ear using otoacoustic emission and video-oculography testing. This study proposes to determine whether cell phone radiation is stimulating the vestibular labyrinth in the inner ear. If so, this could explain the motion sickness type symptoms reported under some types of EMR exposure (nausea, dizziness, etc.). Other EHS studies there will examine blood hormone levels, heart rate, EEG, EKG, critical flicker fusion threshold, and/or symptom questionnaires. Non-EHS EMR mobile phone studies pending in the UK intend to check blood pressure, electrical changes in the brain, and thought processes.

Matti Wirmaneva, representing a Finland EHS support group, presented a poster at the conference about those who hear a humming noise simulating a diesel engine running at a distance. This noise is usually heard indoors or in a car with the windows closed. The poster notes that this sound can develop during microwave exposure. Cell phone technology uses microwave transmissions. The US government previously admitted to there being a phenomenon called “microwave hearing” that has occurred near radar installations, although they do not agree it can occur at current microwave intensities the general public is commonly exposed to now. People with tinnitus may find their condition diminishes from one location to another and, if so, it may be microwave-related.

That is how many of us determined EMR as a health problem – by noticing certain locations/situations cause us to feel worse. Of course, other environmental factors need to be considered as well, such as chemical exposures, mold, etc. Finding an environmental cause to symptoms can give us a chance to reduce the symptoms by changing our lifestyle. Sometimes these changes become very severe, as outlined in the poster presentation at the WHO meeting by Sweden’s EHS group, FEB. They posted a 143-page book called “Black on White: Voices and Witnesses about Electro-hypersensitivity – The Swedish Experience” compiled by Rigmor Granlund-Lind and John Lind. This book represents the commentary from about 400 Swedish EHS who submitted statements about their ill health during an open public comment period to the Swedish government in 2000. Their concerns were subsequently ignored by the government and later compiled by EHS supporters. This book shows the extent and severity of the EHS illness. In particular, a chapter is devoted to the “electro-refugees” – those who must leave home, jobs, and family to find an electromagnetically safer place to be. This flight to the country can cause a person to become homeless or live in extreme conditions without electricity. (If the person also has MCS, they are usually without the benefit of propane gas/natural gas or fire for heating and cooking purposes too.) Often the problem is in avoiding radiation from cell phone towers, but can involve other/all EMR sources in other cases. When the cellular phone industry was analog, there seemed less of a problem with people needing to move but as the technology evolved to higher frequencies that cycle faster, pulsed signals (digital), and the requirement for more transmitters closer together to cover an area, the EHS have found increased problems of EMR avoidance/tolerance. The Black on White book lists the factors the EHS believe originally caused their symptoms. From highest to lowest number of reports these are: computers, presence of dental amalgams/dental amalgam removal (mercury fillings), general electricity/fluorescent lights/low energy lamps, cellular phones/masts/telephones, chemicals, and photocopiers. Their EHS symptoms reported from highest to lowest incidence are: skin problems, light sensitivity/eye problems, tiredness/weakness, heart/blood pressure problems, headaches, muscle/ joint pain, dizziness, concentration difficulties, nausea/general poor health, memory disorders, endocrine reactions, lung problems, stomach/intestinal disorders, numbness, “influenza”/throat problems, sleep disorders, hearing problems/tinnitus, tremors/cramps, anxiety/depression, haziness/confusion, fainting/coma, asthma/allergies, speech difficulties, and irritability. What is seldom mentioned in the EHS literature is that some people die due to the severity of their case and the lack of treatments/proper EMR reduction. It should be further noted that typical medical tests such as x-rays may not be tolerated by the EHS, preventing proper diagnosis/treatment of other serious conditions, such as cancer. Also, hospitals can be electromagnetically and chemically intolerable; these are personal tolerance issues. The Black on White book is available in English free as an electronic book to print from the FEB website www.feb.se under their news archives of October 25, 2004.

Dr. Magda Havas of Canada, who is a scientific advisor to The EMR Policy Institute, reported to the WHO group about the reduction of “dirty electricity” in the indoor environment. She has used Graham/Stetzer filters to reduce higher frequencies coming indoors on power line current. She found these filters helped some multiple sclerosis patients reduce their pain and some diabetics reduce their insulin requirements. Dr. Kjell Hansson Mild of Sweden also mentioned higher frequency noise on electrical power line distribution systems due to electrical spikes from appliance usage, etc.

Other presentations at the WHO meeting included reports of population surveys to find the incidence rate of EHS among the public. Dr. Patrick Levallois, a physician from Canada, told of his work with the California state Department of Health EMF program. In June, 2002 this program reported that a phone survey of 2,072 people there showed about 3% of them stating they are EHS. The complete EMF report is posted online at <http://www.dhs.ca.gov/ps/deodc/ehib/emf/RiskEvaluation/riskeval.html> . The EHS part of this long report is at <http://www.dhs.ca.gov/ps/deodc/ehib/emf/RiskEvaluation/Appendix3.pdf> . He stated “...self-reported EHS seems quite common in general populations.” Dr. Levallois also mentioned

an EHS survey conducted by Dr. Lena Hillert of the Karolinska Institute, Sweden. In her 1997 study, 10,670 Swedish residents were surveyed by mail. Of those, 1.5% responded that they were indeed EHS.

Dr. Martin Roosli of Switzerland spoke about his 2004 phone survey of the Swiss population. A total of 2,048 residents participated. He found 2.7% of this group responded with symptoms they attributed to EMR exposure. An additional 2.2% reported having EHS in the past. Thus, overall about a 5% EHS response rate. Forty-three percent reported sleep disorders, 34% had headache, 11% had concentration problems, and 9% regarded nervousness. Symptom causes were listed as power lines 28%, mobile phone handsets 25%, TV/computers 21%, and mobile phone base stations 13%. Dr. Roosli's study found that while the Swiss population's main EMR concern is about health effects of cell phone towers, the EHS patients did not have this primary focus.

Of further interest, Dr. Torbjorn Lindblom of Sweden's FEB support group presented a paper showing the Swedish health ministry announced in its 2001 Environmental Health Report that about 3% of their population indicated having an electromagnetically-related health problem. Dr. Lindblom asked "**How shall electric injured people get a place in the community again?**", given that our personal world keeps shrinking with the ever-expanding wireless age.

These population surveys of EHS indicate perhaps between 1.5%-5% of the public have this health problem in the modern societies. This percentage may be understated because the homeless are often omitted, EHS people who don't use phones are excluded from the phone surveys, those unaware of EMR exposure as a factor in their illness are not counted, and those unwilling to publicly admit to this health problem due to the controversy involved are uncounted as well. These statistics are a sizeable portion of the general public and are certainly worthy of note in medical and public health circles.

No US government employees attended the WHO EHS conference but former US government employee Marija Hughes spoke on our behalf and gave the WHO a copy of her latest book "Computer, Antenna, Cellular Telephone and Power Lines Health Hazards (volume 3)". (See Less EMF, Inc. re her books.) Unfortunately, the US EHS medical expert Dr. William Rea did not attend the WHO conference. However, he does an annual symposium in Dallas, Texas and this year's main topic is titled "The Autonomic Nervous System and its Relationship to Environmental Pollutants including the Cardiovascular System and Electromagnetic Sensitivity". This symposium will be June 9-12, 2005. For particulars, contact the American Environmental Health Foundation at 8345 Walnut Hill Lane, Suite 225, Dallas TX 75231-4262; phone: (800) 428-2343 or (214) 361-9515.

Overall, it was a good start that the WHO had the EHS conference. It points to the need for solid studies and a focus on solutions. No doubt it provided a way for interested researchers to network and helped define the extent of the problem. A working group composed of WHO-appointed participants met on the third day of the conference for the purpose of preparing a report covering the EHS condition for future publication in a journal.

A resolution was brought forward during the conference by the EHS representatives asking for EHS to be properly recognized, receive handicapped status, and be assigned a medical diagnosis code (ICD-10). This resolution was not acted on by the WHO. Some of the EHS support groups contacted the WHO after the meeting as well, but no movement forward has been made regarding these requests. A German group is also in the process of petitioning the WHO for support in establishing areas with significantly reduced ambient EMR, called "protection areas" and prohibition of the DECT phone technology. As I previously stated, I believe the ICD-10 update method on page 1 of this letter may be useful but beyond that I don't expect much from the WHO at this time.

Regarding EHS having handicapped status, many of our symptoms are common among the population in general and can have many causes. It seems the symptoms are not the question so much but the cause is the question and the fuss. It would seem that a person with the symptoms of EHS who listed them as serious enough would be eligible for and potentially receive Social Security disability benefits. Problems, however, and denial of benefits may arise if a diagnosis of electromagnetic hypersensitivity is listed instead of just listing the symptoms, due to the “new” and controversial nature of this illness. Therefore, legal and/or medical advice is strongly recommended in this matter.

In related news, there also was an EHS conference in London this year. Coghill Research Laboratories, an EMF research group in Gwent, UK sponsored this event titled “Electrosensitivity (ES) in Human Subjects.” The conference was held at the Royal Society of Medicine in London on September 11, 2004. I didn’t attend this one either; however, some of the WHO conference attendees presented at this one also – Dr. Olle Johansson, EHS campaigner Anne Silk, Roger Coghill, Dr. Magda Havas, author Marija Hughes, and Dr. Jill Meara. According to an article published in The Bioelectromagnetics Society Newsletter of Sept./Oct. 2004, Cyril Smith, UK author of the book “Electromagnetic Man”, and Don Maisch of EMFacts Consultancy, Australia spoke as well. About 35 people attended this meeting in London. Published proceedings are expected to be available for purchase soon. (Contact information: Roger Coghill, Coghill Research Laboratories, Lower Race, Pontypool, Gwent NP4 5UH, UK; website: <http://www.cogreslab.co.uk/>.)

I’ve included a list of some of the better EHS studies and possible related information at the end of this letter. The free Internet database PubMed at www.ncbi.nlm.nih.gov/PubMed can help you find EMR/EHS research papers. Your library may help you locate these as well. It seems most of the modern EHS research I’ve seen explores the phase 1 question “Is EHS real?” and the phase 2 question “What symptoms do the EHS experience/How is EHS expressed?” What comes further on will be attempts to answer the phase 3 question “What medical or other treatment(s)/procedure(s) can help the EHS?” As an EHS patient myself, I await further answers to this question, as you do. It would seem that understanding the workings of phase 2 will naturally bring on phase 3 studies in the future. Of course, ultimately government-regulated EMR reduction in a meaningful way will be the best answer.

In the meantime, it is of most importance to reduce electromagnetic exposures as you can, to reduce possible symptoms. Obtaining help with electromagnetic reduction in the home can be useful. A central contact to locate local help near you may be found by reaching the International Institute for Bau-biologie and Ecology, PO Box 387, Clearwater FL 33757; phone: (727) 461-4371; fax: (727) 441-4373; website: <http://www.bau-biologieusa.com/info.html>. Their “building biology” focus is from Germany and in part concerns EMF reduction in the home. I would like to see them working with medical doctors in helping EHS patients diagnose and treat their home environment. Meters to detect electromagnetic exposures in order to locate possible problems before they overwhelm you can be useful too. One source with many meter choices is Less EMF, Inc., 809 Madison Ave., Albany NY 12208; phone: (518) 432-1550; fax: (309) 422-4355; website: <http://lessemf.com>. They also have many books and EMR shielding resources. However, EMR reduction is a technical area. Although metal can be useful in some types of EMR shielding work, metal can hold a significant charge. Therefore, avoiding ungrounded, unshielded metal is often helpful. In addition, replacing a mattress that has metal springs for a futon mattress instead plus a wooden bed frame can improve sleep and reduce exposures. Energy-efficient lighting, in many new commercial buildings, also is best avoided to reduce symptoms. Use medical guidance to help you in your health decisions and use common sense: go with what seems to feel best for you.

Please remember that I am not a medical doctor or a scientist and am not active in this field now so contacting those who are and obtaining proper medical assistance regarding your individual case is vital. For medical assistance, the American Academy of Environmental Medicine at 7701 E. Kellogg, Suite 625, Wichita KS 67207; phone: (316) 684-5500; fax: (316) 684-5709; website: <http://www.aaem.com> can

help you locate a local medical doctor who specializes in environmental medicine. However, this group seems primarily focused on the MCS issue. They may have an awareness of EHS but may have little to offer regarding specific EHS treatments at this time. Beyond this, doctors who focus on natural healing methods may be of some help in alleviating symptoms by natural means. It is often useful to call the medical doctor or their office first before you make an appointment in order to assess their opinion/knowledge/treatment protocols re EHS before you decide whether to visit them. Alternative medicine practitioners often seem more aware and helpful to the EHS as they may use energy sensing/energy transfer techniques themselves such as traditional acupuncture, Qi Gong, Healing Touch, etc., although these particular treatments may not be suitable for you. In the event you cannot visit the doctor's office due to your condition, ideally they will make some provision for you such as a home visit, a phone consultation, turning off bothersome equipment/lights inside the office building and using natural daylight for lighting instead, or at least meeting you outside of the office building.

It is important to realize that such simple and good things as strawberries, peanut butter, and the sun can cause a serious health problem for some members of the general public. For every type of whatever exposure, a sub-group of the public will be more sensitive/intolerant to it, healthwise; this will hold true for practically any exposure you could name. Other information in our treatment survey indicated that, for some, a vegetarian diet was of some help in improving health. Food intake can affect body pH, with macrobiotic/vegetarian diets tending to be more alkaline and meats/sugars generally being more acidic. Other foods sometimes omitted to good result were milk and gluten (wheat, rye, barley, mainly plus other wheat types – spelt, etc. Oats are sometimes listed in this group too as a problem for those with celiac disease.) Avoiding hot spices such as cayenne, mustard, and pepper, which may feed an inflamed condition, could be good too. Organic food is preferable to reduce chemical exposures, if available. Another important consideration is what Dr. William Rea of the USA has called the “rainbarrel” effect (total body load). He has likened the human body to a barrel in the rain, and this barrel can hold a variety of exposures, up to a point. After the body's tolerance limit is exceeded, the rainbarrel overflows – meaning the body then develops overt symptoms of ill health. Environmental medicine properly done is much more than a ten-minute doctor's visit. It may involve assessing a person's medical history, family health predispositions, current medical evaluation, environmental exposure history related to work, etc., current environmental analysis, and diet/food intolerances to get an overall picture of what is in that person's “rainbarrel”. Then, by detoxification/diet changes/treatment of disease states/environmental avoidance strategies, etc., the hope would be for an increased tolerance to exposures that had been troublesome before. By proper medical treatment, the rainbarrel then would be emptied to some extent allowing the body to adapt better to current exposures. Detoxification using environmental medicine can involve sauna treatment; in alternative medicine detoxification methods include enzymes (protease, lipase, etc.) and/or herbal treatment. The enzymes are usually mold-derived so may not suit the MCS/mold-sensitive. Raw foods are another enzyme source. I believe some MCS cases may be viral-based. Reviewing initial symptoms/exposures that started the condition helps determine the cause but because some toxic chemical exposures can be odorless, the cause of the MCS may be unknown.

Although our survey did not indicate much benefit in taking melatonin or beta carotene supplements, they may have some benefit for the EHS. For instance, Dr. Olle Johansson of Sweden found beta carotene/vitamin A helpful in treating the sun sensitivity symptom of an EHS patient. Beta carotene is listed as a treatment for sun sensitivity, according to The Merck Manual. Melatonin has occasionally come up as helpful for some EHS, although I have not seen any widespread use of it for that purpose. Melatonin is a natural body chemical, the quantity of which can be influenced by light and electromagnetic exposures, according to some studies. Melatonin has shown some good effect in pain control studies. Of course, we are a large and diverse group; what helps one may harm another due to our various symptoms and conditions.

In other news, an excellent new book is out - *The Invisible Disease: The Dangers of Environmental Illnesses caused by Electromagnetic Fields and Chemical Emissions* by Gunni Nordstrom. Gunni is an investigative journalist in Sweden who writes about the evolution and politics of EHS in Sweden (ISBN 1-903816-71-8; O Books, UK; Price: \$14.95 USA). She went to the Czech Republic for the WHO EHS conference in October.

The Independent Living Resource Center of San Francisco, California, a disability consulting service, recently conducted a survey of MCS/EHS patients to see how their disabilities are being handled in the working environment. Their final report on the survey results, titled "Canaries in the Mine", is 55-pages of real-life experiences and advice regarding MCS/EHS disability accommodations in the workplace and the often lack thereof. Information about use of the Americans with Disabilities Act is included. For a copy, contact the Independent Living Resource Center – San Francisco, 649 Mission St., 3rd Floor, San Francisco CA 94105; phone: (415) 543-6222; fax: (415) 543-6318.

Some EHS/EMF websites which may be interesting: www.groups.yahoo.com/group/esens , www.buengerwelle.de , www.electrosensitivity.org.uk , www.electroallergie.org . Chemical Injury Information Network, which focuses on the chemically sensitive has a monthly newsletter that sometimes includes EHS items too. Their contact information is CIIN, PO Box 301, White Sulphur Springs MT 59645; phone: (406) 547-2255; fax: (406) 547-2455; website: www.ciin.org . The former Microwave News newsletter is now discontinued, but Dr. Louis Slesin maintains his website online and occasionally adds breaking news. He has requested funds to keep his website (www.microwavenews.com) available and updated. His new address is Microwave News, 155 East 77th St., New York NY 10021; phone: (212) 517-2800. On the brown sheet enclosed is an overview of recent happenings by The EMR Policy Institute. If you feel that any of these organizations are helping you, please support them financially.

Happy New Year and God bless,

Lucinda Grant

PS: You have my permission to copy this letter for anyone you feel needs it.

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