

# **PRACTICAL GUIDELINES**

## **TO PROTECT HUMAN HEALTH AGAINST ELECTROMAGNETIC RADIATION EMITTED IN MOBILE TELEPHONY**

### **SUMMARY**

**JUNE 2001**

#### ***----- HUMAN HEALTH RIGHTS -----***

*HEALTH TARGET: TO ESTABLISH LONG-TERM HEALTH "GUARANTEES"  
INDUSTRIAL TARGET: TO ESTABLISH "SAFE DISTANCES" AND LIMIT OF "POWER"*

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# **PRACTICAL GUIDELINES TO PROTECT HUMAN HEALTH AGAINST ELECTROMAGNETIC RADIATION EMITTED IN MOBILE TELEPHONY.**

## **A. INTRODUCTION. WRONG CRITERIA: THERMAL UNIT AND TWO COEFFICIENTS**

These Guidelines contain practical and verified information concerning the Power emitted in the mobile telephony, with respect to the Neuronal waves and the "Natural" radiation from the Sun.

Documented with scientific references from doctors of world-wide prestige it evaluates the health hazard with a simplified practical SCALE: NINE Degrees. This Scale allows an efficient understanding to everyone from University, Law, Town Council and people affected by it.

***Focusing the attention. Two alterations:*** To value the present Health Hazard and "Years delay".

- **"Blood Brain Barrier alteration"**. Published in the former USSR (1972) over 25 ys. ago.
- **"Chromosome damage"**. Published in the EEUU (1995) by Dr. H. Lai and Dr. N. P. Singh

The long-term health alteration is known as "Microwaves Syndrome", based on the radiation over people in Moscow, which led to the death of three successive U.S. Ambassadors: Lilienfeld study. This long-term radiation with low intensity "microwave bombardment", during years, limited to 40 hs. per week, has also caused cancer in 30 women and children 25 ys. ago.

Dr. Neil Cherry. (May 2000). *"Electromagnetic Radiation is damaging to Brains, Hearts, Embryos, Hormones and Cells. It is therefore a threat to Intelligent Hearty Life. Electromagnetic radiation resonantly interacts with bodies and cells, Interfering with cell-to-cell communication, cell growth and regulation, and is damaging the genetic basis of life."*

Dr. William Steward. *"Concerns have been expressed that the pulsed nature of the signals from mobile phones and masts may have an impact on brain function."* (1.56)

- **Health hazard refused to be underwritten by insurance companies: Allianz and LLOYD's.**

Who is responsible for informing authorities and people living close-by, about the adverse effects of the radiation emitted by base stations? Does a mobile phone user actually know about the long-term health hazard involved? Does it alter stress and our capacity to react? Is it a "non-effectual course" and "delaying tactics"? Are recommended researchers looking for "non-evidences" ?

Dr. George Carlo. (October 1999). *"I am especially concerned about what appear to be actions by a segment of the **industry to conscript** the FCC, the FDA and The World Health Organization with them in following a **non-effectual course** that will likely result in a regulatory and consumer backlash."*

- **Health hazard evaluation: "micronuclei diagnosis". Don't gamble with your health!**

Dr. George Carlo, (October 1999). *"I am concerned that the wireless industry is missing a valuable opportunity by dealing with these public health concerns through politics, **creating illusions** that more research over the next several years helps consumers today, and **false claims** that regulatory compliance means safety. The better choice by the wireless industry would be to implement measured steps aimed at true consumer protection."*

**The objective of these Guidelines is practical:** To present rigorous information with the strict evaluation of “Nine degrees of health hazard”, based on the “Unit of Power”. Users must be aware of the “*potential for harm*” from microwave emitted by one mobile telephone into the brain. Hazard due to the high Power, millions times greater than the direct Natural Sun radiation.

Dr. George Carlo said (October 1999): *"Since I presented my findings, which they found surprising, they have failed to do anything. In that time there have been another 15 million users in the States and thousands more in Britain. From a consumer point of view the **delaying tactic** is not good but from a business point of view its great".*

Is it correct to study only “short-term” health alteration as stated by ICNIRP?. The Precautionary principle should suggest security measures to protect the immediate health hazard, caused especially in children, by opening the Blood Brain Barrier, DNA alteration and break chromosomes.

It is prudent to limit the investigation on cancer as recommended by World Health Organisation? The cancer takes years to appear. Such study can be “non-evident”: There are more contaminants.

Dr. Robert O. Becker (May 2000). *“I think that any time you have an extraneous energetic source of electromagnetic energy introduced into a body carries a potential for harm”*.

- **Focusing the attention:**

**Radiation from base station.** Emits high Power density as microwaves reaching 35 Km distance. Includes “high frequencies” and “pulsed low frequencies” of 217 Hz. It is important to value the health hazard from lower frequencies such as 8 Hz, 2 Hz and the interference on the Brain waves.

People living close by a base station are permanently suffering this radiation, without information whatever about this aggression of "microwave bombardment ", during 168 hs/ week. It causes evident non-thermal health alteration: Headache, insomnia, irritability and Deficit Attention. Night radiation causes Brain melatonin alteration, not experimented over people in Moscow.

**Radiation from a mobile telephone.** In the form of microwave sphere 1,000 m radius. User’s brain is in its centre, exposed to 10,000,000,000 times greater radiation than Neuronal waves. The microwave can open the Blood Brain Barrier in “2 minutes” and also break Chromosomes.

Dr. Neil Cherry (27 Oct. 2000) *“Lief Salford’s research on microwaves and the Blood Brain Barrier is probably very relevant. The BBB protects the brain from toxins and viruses. About 2 minutes on a cell phone can open the BBB and allow toxins, **including prions**, into the brain”*.

Alluring microwave transmitters capable of Breaking Chromosomes within 10 mts. are sold with no health "guarantees" at all. *War-game? Is a microwave transmitter a toy for children?*

Dr. Neil Cherry. *“A cell phone against the head exposes the premier organ of the human body to serious interference with its processes and serious damage to its tissues and cells”*.

**Informed judgement and changes in the technology: Demanded long-term health guarantee.**

Dr. George Carlo (October 1999). *“The most important measures of consumer protection are missing: complete and honest factual information to allow informed judgement by consumers about assumption of risk; the direct tracking and monitoring of what happens to consumers who use wireless phones; and, the monitoring of changes in the technology that could impact health”*.

## 1. EVALUATION OF HEALTH HAZARD CAUSED BY MICROWAVE RADIATION.

All users should be clearly informed about the power of the microwaves, which their fascinating mobile phone transmits. Parents should have *informed judgement*, so as to evaluate the health hazard involved prior to buying this microwave transmitter of daring colours for their children.

Does it harm their parents' health? Does it affect pregnant women? Is it really a toy for children? Town council authorities should be in possession of real, practical and easy to understand information so as to control the microwave radiations emitted within close range by base stations.

Are there any available health hazard reports? Russian researchers stated more than 25 ys. ago that microwave radiation weakens the Blood Brain Barrier; thus the glucose in the blood and proteins may enter into the brain. According to Russian researchers: adverse effects to the health caused by microwave radiation are **irreversible when emitted over a number of ys. and appear long-term**.

Dr. William Steward. Independent Expert Group Report. UK. (May 2000) *"There are two direct ways by which health could be affected as a result of exposure to RF radiation. These are by thermal (heating) effects caused mainly by holding mobile phones close to the body, and as a result of possible non-thermal effects from both phones and base stations."* (1.4)

### 1.1 HOW TO INFORM: PROPOSALS "EUROPEAN COMMISSION EXPERT GROUP".

#### **Year 1996. Proposals for a research programme by a European Commission Expert Group.**

**Thermal effects.** *"There is currently a general consensus in the scientific and standards community that the most significant parameter, in terms of biologically relevant effects of human exposure to radiofrequency electromagnetic fields, is the specific energy absorption rate (SAR) in tissue, a quantity properly averaged in time and space and expressed in watts per kilogramme (W/kg).*

**Non-thermal effects.** *"A large number of biological effects have been reported in cell cultures and in animals, often in response to exposure to relatively low-level fields, which are not well established but which may have health implications and are, hence, the subject of on-going research"*.

**"It is not scientifically possible to guarantee that low levels of microwave radiation which do not cause deleterious effects for relatively short exposures will not cause long-term adverse health effects"**.

**Basic repetition frequency.** *The basic repetition frequency is 217 Hz for GSM and DCS 1800 systems and 100 Hz for DECT; however, the spectrum also contains a number of higher harmonics due to the narrow pulse, there are also frequencies in the kilohertz region. Owing to the complexity of these communications systems, there are also 2 and 8 Hz components in the signal, apart from multiples of 100 and 217 Hz".*

### 1.2. HOW TO INFORM. EVALUATION "SCALE" AND "UNIT OF POWER"

Insurance companies such as Allianz and LLOYD's are unwilling to underwrite health hazard in mobile telephony. How should authorities be informed so as to ensure health protection?

In order to inform Town Council authorities and general public about this new long term health hazard caused by non-heating effect, a practical and highly reliable EVALUATION SCALE has been developed to measure "NINE DEGREES OF HEALTH HAZARD".

This SCALE measures the health hazard with the UNIT OF POWER (micro watts / cm<sup>2</sup>). This unit of power is easy to measure and remember for those suffering this radiation directly. The SCALE of NINE DEGREES OF HEALTH HAZARD allows efficient understanding to everyone from University, Law, Town Council and to people affected by the radiation.

This SCALE of simplification "NINE DEGREES" highlights the long-term health hazards, cancer and brain tumour, caused by the non-heating effect. These illnesses are a matter of great concern for the population and deserve more attention from the law.

The research carried out by Lilienfeld study established the effects caused by this real radiation: "microwave bombardment" 40 hs. per week led to the death of three successive U.S. ambassadors and caused cancer to women and children in Moscow (1953). Lilienfeld's study proved the extreme danger which "microwave bombardment" entails. It was suggested and prudent, that this experiment should be carried out with animals.

### 1.3. HOW NOT TO INFORM. CONFUSION: "THERMAL UNIT" AND "SHORT TERM".

Official information relies solely on the unit called "SAR" (Specific Absorption Rate) which only takes into consideration THERMAL effects calculated on W/Kg, and a "SHORT TERM" basis.

This unit "SAR" is very confusing, it cannot be measured "only calculated" and does not establish degrees of health hazard.

In order to "calculate" the heating undergone by the human brain scientists use "Spherical Artificial Models", made of plastic and filled with a sugar solution, that is supposed to represent a living being according to physicists and engineers.

Wouldn't it be more practical to admit that users are not interested in what the "SAR" shows? The users' major concern is on cancer and DNA or other genetic alterations. The heat which a user feels on his hand or head is not a major issue. His "DNA" is not a "sugar solution".

### 1.4. DOUBLE ERROR: "THERMAL UNIT" AND "SHORT TERM" EVALUATION.

Official world legislation only contemplates the adverse effects caused by "heating". Changes on behaviour as a consequence of the increase in temperature of the tissues. Strictly short-term effect

**ICNIRP Statement (March 31, 1999)** *"While all the scientific literature was reviewed, the only adverse effects on humans that were fully verified by a stringent evaluation **were short term, immediate health consequences** such as stimulation of peripheral nerves and muscles, functional changes in the nervous system and other tissues, shocks and burns caused by touching conducting objects, and changes in behaviour caused by **elevated tissue temperatures.**"*

This current and confusing lack of health "guarantees" rests upon one ERRONEOUS and to us ludicrous CRITERION: the "Unit of POWER" is Censored (-) in the EUROPEAN UNION COUNCIL RECOMMENDATION dated July 12 1999. This is an error liable to confuse the "Lawyer" and "Town Council" authorities.

## 2. THERMAL EFFECT AND DOUBLE ERROR IN TWO "SAFETY COEFFICIENTS"

To clarify this confusion the "SAR" UNIT has been renamed: FALSE "SAR" THERMAL UNIT.

Furthermore it has been suggested that the two negligible "safety coefficients" **10 and 5** from the European Commission **RECOMMENDATION (12.7.1999) be revised.**

### 2.1. THERMAL EFFECT AND ERROR IN COEFFICIENT 10 "WORKERS "

Exposure to powerful microwave radiation (RF) increases the temperature of animals and human beings. It may cause adverse health effects immediately. This increase in temperature has been studied by physicists and engineers using artificial spherical models.

They based their findings on the "spherical cow concept". The initial heating undergone by a cow's body as a result of microwave radiation allowed them to establish a "safe level": the power of radiation is "10 times smaller"!

Dr. William Steward. *"Both the NRPB and ICNIRP guidelines are based on the need to avoid known adverse health effects. At the time these guidelines were drawn up, the only established adverse effects were those caused by the heating of tissues (1.15)."*

Dr. Robert Becker. New York. Twice Dr. Becker has been nominated for a Nobel Prize in Medicine. **Published by Linda Moulton Howe in EARTHFILES London (May 2000).** *"That level was applied for several decades to everything that concerned electromagnetic pollution. Of course, this is not correct."*

### 2.2. CORE WRONG CRITERIA TO ESTABLISH COEFFICIENT 10 "WORKERS".

Dr. Robert Becker also states: *"So, the premise that was applied by the physicists and the engineers was erroneous from the start."*

### 2.3. THERMAL EFFECT AND ERROR IN COEFFICIENT 5 "GENERAL PUBLIC"

The world guidelines of the NRPB and of the ICNIRP (International Commission on Non-Ionizing Radiation Protection) are based on the "SAR" unit and its "short term" effects. ICNIRP uses the name "Non-Ionizing" fundamental in the confusion, and a doubtful coefficient 5 "General Public".

The artificial Power emitted by a mobile telephone into the brain is 10,000,000,000 greater than Neuron currents. Hence for these powers a coefficient 10,000,000,000 greater **5** is negligible.

Two coefficients **10** and **5** are responsible for agreeing Protocols of Political and Legal illusions.

**ICNIRP Statement (March 31, 1999).** *"Introduction and purpose: Since the publication of the ICNIRP guidelines for limiting EMF exposure up to 300 GHz several institutions have criticized the guidelines as lacking clear interpretation on exposure safety or direct application to equipment in existence. **Concerns have also been expressed about the use of safety factors, precautionary aspects and long term exposure as well as points not included in the ICNIRP guidelines.**"*

#### 2.4. CORE WRONG CRITERIA: COEFFICIENT 5 "GENERAL PUBLIC"

This coefficient 5 used to establish vital protection is 900 in former Czechoslovakia. This coefficient 900 brings home the fact that conclusive scientific research had been previously carried out and set a "precaution principle".

Dr. Neil Cherry (May 2000). *"Another important conclusion: Cell phone radiation mimics the effects that we have found for EMR across the spectrum, in over 45 published studies showing adverse biological and human health effects specifically from cell phone radiation."*

Dr. Robert Becker states (May 2000): *"As far as I'm concerned, these factors DO have biological effects. I think that the overwhelming evidence indicates that happens. There is an effect even though physicists and engineers continue to say it's impossible."*

**Should the standards set by the ICNIRP be revised under a different light?** Are these erroneous coefficients 10 and 5 a solid basis to misinform about the power emitted in the brain?

To protect the Brain against "Chromosome damage" this coefficient (5) should be (10,000). And to protect the brain against higher powers than those emitted by the sun: NATURAL SUN, this negligible Coefficient (5) should be "one million" (1,000,000).

#### 2.5. SCIENTIFIC CRITERIA TO REVISE COEFFICIENT ( 5 ) "General Public".

From Dr. Neil Cherry to Roy Beavers (30 May 2000). *"Cell phones and cell sites are producing significant health effects right now but few direct studies are attempting to identify them. You only see what you look for. **If nobody is looking then nobody will see anything.**"*

##### **BASIC SCIENTIFIC CRITERIA**

##### **SAFETY COEFFICIENT**

Coefficient ICNIRP " General Public "	<b>5</b>
Coefficient former Czechoslovakia	<b>900</b>
<u>Coefficient Power " Chromosome damage "</u>	<u>10,000</u>
Coefficient Power " Melatonin alteration "	<b>50,000</b>
Coefficient "NATURAL SUN"	1,000,000

Dr. William Steward. *"We conclude therefore that it is not possible at present to say that exposure to RF radiation, even at levels below national guidelines, is totally without potential adverse health effects, and that the gaps in knowledge are sufficient to justify a precautionary approach.* (1.19)

#### 2.6. EPIDEMIOLOGICAL STUDIES. TO INVALIDATE PRECAUTIONARY PRINCIPLE?.

##### **Year 1996. Proposals for a research programme by a European Commission Expert Group.**

**Epidemiology.** *"Epidemiological studies, unlike most laboratory studies, tend to take several years and to be based on data arising from populations of many thousands or even millions of individuals".*

*“The Expert Group considers that studies should be inaugurated of risks of certain cancers originating in parts of the head that receive radiation exposures from handsets: namely, tumours of the brain and cerebral meninges; acoustic neuroma, and salivary gland tumours”. “Leukemia in adults is considered worth investigation because of the suspected sensitivity of the haemopoietic and animal systems to electromagnetic energy”.*

- **5 YEARS NEW RESEARCH PROGRAMME?**

*“Definitive answers about health hazards related to the use of radiotelephones are unlikely to come about in the short term”.*

## **2.7. CORE WRONG CRITERIA: TWO "NON-SAFETY COEFFICIENTS 5 AND 10"**

The FALSE THERMAL UNIT "SAR" must be urgently revised and its non-scientific value admitted. This FALSE UNIT "SAR" is useful for evaluating thermal efficiency and heat loss in microwave ovens designed to cook food. "SAR" is an INDUSTRIAL UNIT.

**ICNIRP Statement (March 31, 1999).** *“The use of safety factors”. “There is no rigorous basis for determining precise safety factors”. “Safety factors are based on a conservative value judgement by experts. In the new ICNIRP guidelines the safety factors vary from approximately 2 to >10 depending upon the extent of uncertainty in knowledge of thresholds for health effects for direct and indirect field interaction at various frequencies.”*

Dr. George Carlo (October 1999). *“Laboratory studies looking at the ability of radiation from a phone's antenna to cause functional genetic damage were definitively positive, and were following a dose- response relationship”.*

## **2.8. CORE WRONG CRITERIA: “NO-LIMIT OF POWER" AND "NO-DISTANCE"?**

Dr. G J Hyland. University of Warwick. U.K. *“Existing safety guidelines governing exposure of the public to the radiation employed in mobile telephony **are totally inadequate, and the philosophy underlying their formulation is fundamentally flawed.**”*

Dr. George Carlo (October 1999). *“I also indicated that while our overall study of brain cancer occurrence did not show a correlation with cell phone use, the vast majority of the tumours that were studied, were well out of range of the radiation that one would expect from a cell phone's antenna”. “ Because of that distance, the finding of no effect was questionable“. “Today, I sit here extremely frustrated and concerned that appropriate steps have not been taken by the wireless industry to protect consumers during this time of uncertainty about safety”.*

### **SUNDAY MIRROR (19.3.2000). "SWITCH OFF YOUR MOBILES UNION WARNS STAFF"**

*“THOUSANDS of civil servants have been warned by their union to stop using mobile phones amid fears they could be damaging their health.”*

**Union leader Barry Reamsbottom said:** *“We are probably the first union to warn all its members against using mobile phones”. “We are simply saying medical opinion is still divided over the possible health implications of long term usage.”*

- *“Our message is, 'Don't gamble With Your Health'.”*



### 3. NON-THERMAL ALTERATION. "POWER AND DISTANCE" OF VITAL PROTECTION.

Dr. William Steward. *"There is now scientific evidence, however, which suggests that there may be biological effects occurring at exposures below these guidelines".* (1.18)

Dr. Robert Becker wrote in 1990 *"That radiation once considered safe, is now correlated with increases in cancer, birth defects, depression, learning disabilities, Chronic Fatigue Syndrome, Alzheimer's Disease and Sudden Infant Death Syndrome."*

#### 3.1. NON-THERMAL ALTERATION AND PULSED NATURE OF THE SIGNALS

Dr. William Steward. *"Concerns have been expressed that the pulsed nature of the signals from mobile phones and masts may have an impact on brain function."* (1.56)

Dr. Alan Preece (Bristol University) reports on the alteration of human brain functions. Proves there is scientific evidence.

Dr. William Steward. *"There is now evidence that effects on biological functions, including those of the brain, may be induced by RF radiation at levels comparable to those associated with the use of mobile phones. There is, as yet, no evidence that these biological effects constitute a health hazard but at present only limited data are available. This is one reason why we recommend a precautionary approach."* (1.56)

#### 3.2. NON-THERMAL ALTERATION AND "ATTENTION DISORDER DEFICIT" (ADD)

Dr. Madeleine Bastide (Montpellier University). Shows that the low frequency of mobile phones generates malfunction in the system which controls stress. Concludes that this phenomenon may be responsible for the increase of violence observed in areas exposed to mobile phone and base station fields.

Linda Moulton Howe interview Dr. Robert O. Becker (May 14, 2000) *"AND WOULD YOU PUT AT THE TOP OF THAT LIST IRRATIONAL VIOLENCE AND ROAD RAGE?"*

Dr. Robert Becker: *"Yeah, I would put it up there. I don't know if it's the first thing on the list. If you look at the proliferation of what is called Attention Deficit Disorder (ADD) - that wasn't even here when I was young. That was not a diagnosis. It never existed."*

#### 3.3. "NON-THERMAL" ALTERATION AND "DNA" ENERGY ABSORPTION

Dr. Swicord has verified using the DNA of "Scherichia" that the **DNA may absorb 400 times more energy than water**. Nuclear cells absorb more energy by unit of mass. Basic error of the "SAR" Unit.

Dr. William Steward. *"There are well-established examples in the literature of the genetic predisposition of some groups, which could influence sensitivity to disease. There could also be a dependence on age."* (1.19)

### 3.4. NON-THERMAL ALTERATION AND BRAIN LOW FREQUENCY SIGNALS.

Regarding human Brain Neuron currents (Schumann Resonances) was stated by Dr. Neil Cherry, Lincoln University, New Zealand of 0.0000001 microW/cm<sup>2</sup>. The power of microwaves within the brain of a mobile user can be 10,000,000,000 times greater than the natural **BRAIN SIGNAL**.

Dr. Neil Cherry. University of Lincoln (February 5, 2000) *“Since our brains detect and use very low frequency signals from the Schumann Resonances, which have a mean intensity of about **0.0000001 microwatts/sq. cm.** (0.1 picowatts/sq. cm.), it is not surprising that at exposures which are millions of times higher, there is increased brain cell damage and an increased risk of brain tumor in a dose-response manner. This kind of result is indicative of cause and effect.”*

### 3.5. DOSE-RESPONSE CANCERS IN THE VICINITY OF BROADCAST TOWERS:

Dr. Neil Cherry. (June 2000). *“With the similarity of FM radio and TV signals and analogue cell phones, studies of health effects at very low mean exposure levels for those living in the vicinity of broadcast towers is relevant to the consideration of the health effects around cell sites.”*

### 3.6. THREE REPORTED NON-THERMAL HEALTH ALTERATIONS.

#### 3.6.1. BLOOD BRAIN BARRIER ALTERATION

**This alteration was well-known in the former USSR over 25 vs. ago.** It was confirmed in the U.S. 20 ys ago, report pending publication. Recently the Universitetssjukhuset (LUND, Sweden) has confirmed Blood Brain Barrier alteration.

**"Biological effects due to exposure to electromagnetic radiation of 915 MHz modulated amplitude".** Person, Bertil; Malmgren, Lars; Salford, Lief G; Brun, Arne. *"Permeability of the Blood-Brain Barrier in rats Biological effects of amplitude modulated RF fields upon the blood-brain barrier (BBB) has been investigated by exposure of Fischer 344 rats". "The presence of albumin and fibrinogen were demonstrated immunohistochemically. The controls show albumin leakage in 15% of the examined rat brains."*

With the weakening of the Blood Brain Barrier, the human brain is powerless against viruses, blood impurities and food additives. The glucose in the blood penetrates into the brain and destroys neurons. Proteins present in the brain may cause Alzheimer and Parkinson diseases. The barriers of cells are drastically weakened as well.

Dr. George Carlo (October 1999) *"The rate of death from brain cancer among handheld phone users was higher than the rate of brain cancer death among those who used non-handheld phones that were away from their head."*

SUNDY MIRROR. (23.4.2000). *"Mobile masts fear after two friends die". "Shocked neighbours demand probe". "Mother-of-two Julie Meconi, 49, and best friend Margaret Aldridge, 54, both suffered identical haemorrhages."*

**Alisdair Phillips, of the pressure group Powerwatch, said:** *“These deaths must be investigated. The microwaves break down the blood brain barrier which keeps out noxious substances. A powerful mast could also lead to haemorrhaging.”*

### 3.6.2 ELECTROENCEPHALOGRAM ALTERATION E.E.G.

Dr. L Von Klitzing from Lübeck (Germany) studied this alteration 6 ys. ago. Reports that microwave radiation emitted by a mobile phone may alter the E.E.G. of human beings standing **10 mts away from it. The power which alters the E.E.G. is 0.1 microW / cm<sup>2</sup> .**

### 3.6.3. HEALTH ALTERATION: CHROMOSOME DAMAGE.

Dr. H. Lai and Dr. N. P. Singh, Washington University studied this phenomenon 6 ys. ago. "*Acute Low-intensity Microwave Exposure Increase DNA Single-strand Breaks in Rat Brain Cells.*" Bioelectromagnetics, 16, 207-210. 1995.

- **The power which alters the Chromosome is 0.1 microW / cm<sup>2</sup> .**

### 3.7. CHROMOSOME DAMAGE AND "WAR-GAME":

**Norm Sandler. Motorola company mail:** "*I think we have sufficiently war- gamed the Lai / Singh issue*". This research was deliberately blocked for 5 ys. as reported by a BBC video programme.

Dr. Neil Cherry, University of Lincoln. New Zealand. (February 2000). "*But don't keep the phone in a breast pocket or on your belt near your liver, kidneys, womb or testes because the microwave radiation **can break chromosomes wherever they are.***"

Dr. G J Hyland. (February 2000) "*iv) A six-fold increase in chromosome damage in cows, subject to a likely maximum exposure of 0.1 microW/cm<sup>2</sup> [65].*"

Dr. Neil Cherry, (May 2000). "*My problem is that there is **so much research that shows adverse biological and health effects**, but there is a concerted campaign to ignore, discredit or attack the messengers.*"

Dr. George Carlo (October 1999). "*Laboratory studies looking at the ability of radiation from a phone's antenna to cause functional genetic damage were definitively positive, and were following a dose- response relationship.*"

### 3.8. CORE WRONG CRITERIA: DISREGARD for the alterations: Cancers and Neurological.

Dr. Robert Becker (May 2000) "*There are now too many industrial and political interests vested in the exponential growth and profits of the global telecommunications industry, **regardless** of the impact on **cancers and neurological disease***".

Dr. G J Hyland (February 2000). "*The microwave signals used in the digital GSM system of mobile telephony similarly 'flash', **217 times per second**, this flashing being 'punctuated' at the much slower rate of **8.34 per second**. More precisely, the transmitted signal is divided into 8 time slots, allowing 8 channels to co-exist within each carrier. The total time to transmit all 8 slots (known as a 'frame') is 4.6 milli-seconds, so that 217 frames are transmitted per second. These (main) time frames are, however, grouped into multi-frames, each containing 26 frames, one of which, however, is simply a synchronisation frame; it is this feature that gives rise to the 8.34Hz component in the emitted signal (i.e. there are approximately 8 distinct groups per second, each containing 25 'flashes') - a frequency that happens to lie in the range of the important alpha brainwaves!*".

#### 4. W.H.O. WORLD REPORT AND "DELAYING TACTICS". TO WAIT "YEAR 2006"?

Mobile phone operators have been repetitively stating over a long period of time, that the final word on the health hazard issue will come out from the W.H.O. world report on cancer expected to be published in the year 2006 under Dr. Elisabeth Cardis I.A.R.C. (Lyon) supervision.

Appalling delay? Should this microwave bombardment at close range, 168 hs./ week be allowed?

Dr. Neil Cherry (May 2000). *"Electromagnetic Radiation is damaging to Brains, Hearts, Embryos, Hormones and Cells. It is therefore a threat to Intellegent Hearty Life. Electromagnetic radiation resonantly interacts with bodies and cells, Interfering with cell-to-cell communication, cell growth and regulation, and is damaging the genetic basis of life."*

- **Do mobile phone operators and the "recommended investigators" have 500 W antennas under "realistic exposure conditions" into their meeting rooms?**

#### 4.1. "DELAYING TACTICS" AND YEAR 2006. WHO ARE PROFITING FROM THEM?

Year 2006. Is it the longest period to wait while the base station network is installed under no control? Base stations are installed offering no information and no reliable health specifications.

- June 2000. Dr. M. Repacholi from W.H.O recommended the following:

Mobile phone makers should reduce microwave emissions if possible. He fails to indicate to what extent and makes no reference to safety distances.

He also adds that people should limit their exposure to these emissions and users should reduce the length of the calls. He gives no explanation whatever about the reasons underlying these recommendations. However he recommends to wait until the year 2006.

#### 4.2. "DELAYING TACTICS". PERMANENT NO-INFORMATION. WHO AND YEAR 2006.

Dr. George Carlo (October 1999). *"Alarmingly, indications are that some segments of the industry have ignored the scientific findings suggesting potential health effects, have repeatedly and falsely claimed that wireless phones are safe for all consumers including children, and have created an illusion of responsible follow up by calling for and supporting more research."*

Dr. William Steward. "We commend the World Health Organization (WHO) for encouraging the use of standard experimental protocols under realistic exposure conditions relevant to mobile phone technology. (1.56)"

**May new health risks be evaluated?**

- **Will the year 2006 be the dawn for new illnesses?**

#### Aftonbladet (2.7.1998). Sweden.

Reports alleged that two men Anders Olsson aged 38 and Krister Nyberg from the city of Sundsvall (Sweden) are said to have lost the sight of the eye closest to the phone when in use. Loss of sight began **after 8 ys.** of extensive use of phone. Doctors diagnosed **ulcers in the cornea** but failed to give any explanation for them.

**Svenska Dagbladet. October 18 1998.** Professor Yngve Hamnerius (Gotheburg University): Even if these microwave radiations are below the accepted standards, they are still not zero. We know nothing today about the long term effects which these radiations may provoke.

#### 4.3. LILIENFELD REPORT: "MICROWAVE BOMBARDMENT" AGAINST PEOPLE.

Microwave radiation had been used against the U.S. Embassy in Moscow since 1953 until it was detected at the beginning of the 60's. Dr. Koslow who was responsible for this method of "microwave bombardment" against people established the "power" and "time of exposure".

- **Low "Power":** Microwave “external” radiation limited to 5 - 18 microW/cm<sup>2</sup>.
- **Limited "Time":** “Microwave bombardment” limited to 40 hs. per week.

Two researchers Dr Cyril M. Smith and Dr. Simon Best reported that the frequency used was in the range of 2.56 and 4.1 GHz and power remained steady at 5 microW/ cm<sup>2</sup>. Two supplementary beams appeared between 1973 and 1975 with powers of 18 microW/ cm<sup>2</sup>.

- **Repetitive Deaths:** Three consecutive U.S. Ambassadors died of cancer.

Dr. John Goldsmith from Israel remarks on the general increase of deaths caused by leukemia and cancer, **preferably in women and children.**

##### 4.3.1. U.S. EMBASSY IN MOSCOW STUDY

Dr. Neil Cherry. (June 2000). “Goldsmith (1997) reported elevated mutagenesis and carcinogenesis among the employees and dependents that were chronically exposed to a very low intensity radar signal the U.S. Embassy in Moscow in the 1950's to 1970's. For most of the time the external signal strength was measured at 5  $\mu\text{W}/\text{cm}^2$  for 9 hours/day on the West Facade of the building where the radar was pointed, Lilienfeld et al. (1978)”.

“To get the full strength of the signal a person would have to stand at an open window on the west side of the building at the 6<sup>th</sup> floor, Pollack (1979). Hence allowing for the internal signal strengths to be between 20 and 100 times lower, the occupants of the embassy were exposed to a long-term average radar signal in the range of 0.02 to 0.1  $\mu\text{W}/\text{cm}^2$ . Blood tests showed significantly elevated chromosome aberrations in more than half of the people sampled. Leukaemia rates were elevated for adults and children.”

**Microwave Syndrome.** “These symptoms are consistent with the "Microwave Syndrome" of the "Radiofrequency Radiation Sickness", Johnson-Liakouris (1998). Mild et al. (1998) identified significant dose-response relationships for the following symptoms from the use of mobile phones: Memory Loss, Difficulty in Concentrating, Headache and Fatigue. Hence it is now shown and known that RF/MW exposure from extremely low but chronic exposure over many years, occupational exposure and cell phone use all produces significant and consistent neurological symptoms.”

**Dominant cancers** “The dominant cancers are brain tumor and leukaemia and reproductive organ cancer. But this study, like the Korean War Study, confirms that extremely **low level chronic microwave** exposure is associated with very significant increases in illness and mortality in organs across the whole body, consistent with widespread cellular chromosome damage.”

#### 4.4. MICROWAVE BOMBARDMENT “DAY AND NIGHT”: WITHIN CLOSE RANGE.

In August 2000 we acknowledge response from the U.S. Consul in Barcelona Mr. Douglas R. Smith regarding our petition to confirm the deaths and case cancers in women and children described in the Lilienfeld report.

Information given to Mr. Gary Alexander in Washington. Mr. Douglas R. Smith point out the expression "**microwave bombardment**". Hence our decision to adopt it in this Guidelines.

#### 4.5. NON- EFFECTUAL COURSE. Conscript the FCC , FDA, and WHO. **Violent reaction?**

Dr. George Carlo. (October 1999). *"I am especially concerned about what appear to be actions by a segment of the industry to conscript the FCC, the FDA and The World Health Organization with them in following a non-effectual course that will likely result in a regulatory and consumer backlash."*

#### 4.6. "DELAYING TACTICS" AND CLAIMS ARE OVERRIDDEN: VIOLENCE LEGALLY?

Dr. George Carlo. The Express (UK) (16.10.1999) *"Following my presentation I heard by voice vote of those present, a pledge to do the right thing in following up these findings. But since I presented my findings, which they found surprising, they have failed to do anything. In that time there have been another 15 million users in the States and thousands more in Britain. From a consumer point of view the **delaying tactic** is not good but **from a business point of view its great**".*

**Environment Secretariat:** Claim was "filed" hastily. Prosecutor informs that *"the claim should be taken to the Court of Litigation"*.

**Court of Litigation:** Repeals any claim concerning health matters. It is not contemplated in the Penal Code. Legal ruling is thus limited to “non-vital” urban matters.

“Delaying Tactics” are detrimental for the consumer. **Is it a means of exerting violence legally?**

Dr. George Carlo (October 1999) *"The question of wireless phone safety is unclear".*

#### 4.7 CORE WRONG CRITERIA: "DELAYING TACTICS AND CONFUSION SINCE 1976".

**Dr. G J Hyland (MEMORANDUM) (February 2000).** *"What is so appallingly scandalous from a regulatory point of view is that the majority of these symptoms **have been known** - from experience with radiation having certain features in common with that now used in mobile telephony - **for over 25 years**, but have been studiously ignored, presumably on account of the negative impact their revelation would undoubtedly have had on the market growth and development of mobile telephony products; it is interesting in this connection to note the following statement that appeared in a United States Defence Intelligence Agency Report [16] on contemporary Soviet research into biological effects of low intensity microwave radiation, dating from as long ago as 1976:*

*'If the more advanced nations of the West are strict in the enforcement of stringent exposure standards, there could be unfavourable effects on industrial and military functions.'*"

## **B. HEALTH CONFUSION. PRACTICAL EVALUATION: SCALE "NINE DEGREES".**

### **5. DEMANDED STRICT LIMIT OF "POWER" AND "LONG-TERM SAFETY DISTANCE".**

In order to guarantee long term protection, strict limits on "Power" and "Safety distance" should be established. Humankind ought to know what health "guarantees" exist against "microwave bombardment" in close range day and night on childrens and pregnant womens.

Microwave energy generated by the Sun forms an inseparable part of life, but these powers of radiation emitted in mobile telephony are millions of times higher. How can we safely protect the **Blood Brain Barrier**, the **Hormone system** and the **Melatonin** as vital cancer protectors?.

Why should this form of "Genetic violence" be prolonged until the year 2006? Are we all guinea pigs for a new trial called "post- marketing surveillance"?

#### **5.1. NO-CONTROL AND NO-STANDARDS. POWER DENSITY UNIT IS CENSORED (-)**

**RECOMMENDATION** from **European Commission (12. 7. 1999)**: *"It is imperative to protect members of the general public within the Community against established adverse health effects that may result as a consequence of exposure to electromagnetic fields;"*

The European Commission has declared to protect people against health alterations. However **CENSORS ( - )** the UNIT OF POWER when implementing **BASIC RESTRICTIONS**.

In this way the "technical, legal and health" framework is limited to health hazard caused by THERMAL alteration, estimated on a "SHORT-TERM" basis measured with the "S.A.R." UNIT.

Dr. Neil Cherry. (May 2000). *"My problem is that there is so much research that shows adverse biological and health effects, but there is a conserted campaign to ignore, discredit or attack the messengers. The studies are not generally known by authorities who trust bodies that appear to be reliable but who deliberately mis-quote and mis-represent the published research. This continues to delay measures to protect public health by retaining the **strongly misproven assumption of tissue heating being the only effect.**"*

#### **5.2. FALSE THERMAL UNIT "SAR." AND FALSE "NON- SAFETY DISTANCE".**

Dr. William Steward. *"The base stations for macrocells have power outputs of tens of watts and communicate with phones up to about **35 kilometres** (22 miles) distant."* (1.8)

- **FOR A BASE STATION. NON SAFETY DISTANCE WITH FALSE UNIT "SAR": 3 mts.**

The FALSE THERMAL UNIT "SAR" enables physicists and engineers to take a bold decision and suggest **3 mts** as a proposed distance against thermal effects from a base station. This is in fact a ten thousandth part of its real range: **1/10,000 of 35,000 metres** (22 miles).

- **FOR A MOBILE PHONE. NON SAFETY DISTANCE WITH FALSE UNIT "SAR": 5 cm.**

The FALSE THERMAL UNIT "SAR" enables to "suggest boldly a safe distance of **0.05 mts**" against thermal effects for a mobile phone. **Its real range is 800 – 1,000 metres.**

### 5.3. FOR A BASE STATION: "EXCLUSION ZONE" AND DUTY TO INFORM

Dr. William Steward. *"We recommend the establishment of clearly defined physical exclusion zones around base station antennas, which delineate areas within which exposure guidelines may be exceeded."* (1.44)

### 5.4. ESTABLISH A LIMIT IN "POWER" AND "DISTANCE": "NO HUMAN PRESENCE".

- **VITAL TARGET: establish a strict limit in Power for "NO HUMAN PRESENCE".**

Limit in "Power" and "Safe Distance" should be controlled so as to guarantee health long-term. Strict and vital limit: It is imperative to "guarantee" the health long-term. People are passively bearing the aggression of "microwave bombardment" 168 hs. per week devoid of information and protection.

#### 5.4.1. YEAR 1993. PENNSYLVANIA COUNCIL (U.S.): HEALTH DISTANCE 610 mts.

The "Butler Pennsylvania Council" ruled in **1993** that a protection distance of 610 mts (2,000 feet) should exist between antennas and buildings such as schools and apartments.

#### 5.4.2. YEAR 1995. HEALTH EXPOSURE LIMIT of 2 microW/cm<sup>2</sup> . NEW ZEALAND.

Dr. Neil Cherry (June 2000). *"In 1995 a New Zealand Environment Court (as the Planning Tribunal) decided to set a **public exposure limit of 2 microW/cm<sup>2</sup>** for from a BellSouth GSM cell site. This was based on evidence of biological effects, including calcium ion efflux, enhanced ODC activity and EEG change down to 2.9microW/cm<sup>2</sup>. There was also epidemiological evidence of childhood leukaemia at 2.4microW/cm<sup>2</sup>. The primary expert witness for BellSouth was WHO staff member Dr Michael Repacholi from Australia."*

*"Public health surveys of people living in the vicinity of cell site base stations should be being carried out now, and continue progressively over the next two decades. This is because prompt effects such as miscarriage, cardiac disruption, sleep disturbance and chronic fatigue could well be early indicators of the adverse health effects. **Symptoms of reduced immune system competence, cardiac problems, especially of the arrhythmic type and cancers, especially brain tumour and leukaemia are probable.** However, since cell phone radiation has already been shown to reduce melatonin, damage DNA and chromosomes, surveys should look for a very wide range health effects and not be limited to a narrow set."*

#### 5.4.3. YEAR 1995. MADRID UNIVERSITY. PROF. DR. JOSE M<sup>a</sup> HERNANDO.

Professor Dr. José M<sup>a</sup> Hernando (Madrid University) suggested as "Precautionary principle" the **"Restrictive power" of 1 microW/cm<sup>2</sup>**, for all base stations to ensure long-term health hazard.

According to the SCALE of NINE DEGREES OF HEALTH HAZARD, for an antenna of 40 W Input power the **Restrictive NO HUMAN PRESENCE** distance should be **60 mts**. For a 160 W antenna the **Restrictive NO HUMAN PRESENCE** distance should be **100 mts**.

- **FOR A BASE STATION: "NO HUMAN PRESENCE DISTANCE": 60 - 100 mts.**



According to the SCALE of NINE DEGREES OF HEALTH HAZARD a 1 W power mobile phone (maxim power **2 W**) the users' health safety distance corresponding to the "**Restrictive value**" of 1 microW / cm<sup>2</sup> should be **2.50 mts.**

- **FOR A MOBILE PHONE: "NO HUMAN PRESENCE" DISTANCE": 2.50 mts.**

#### **5.4.4. YEAR 1996. EXPERT GROUP. PUBLIC EXPOSURE DISTANCE OF BASE STATION.**

- **Base stations. Expert Group: 58 m. security distance and heights 15-50 m.**

*"The transmitting antennas of base stations are formed from vertical arrays of co-linear dipoles which are phased to give a very narrow vertical beam width of about 7°, with a downward beam tilt so that the **main beam is incident on the ground** from about **100 m to the edge of the cell**. The arrays are often mounted in corner reflectors to give sector antennas with beam widths of either 60° or 120° in the horizontal plane. Either three or six antennas are then used to provide coverage of a cell".*

*"Base station antennas are normally mounted either on towers with typical heights in the range 15-50 m or on the roofs or sides of tall buildings. The antenna beams have a downward tilt of less than 10°, therefore public exposure to their main beams should not be possible at radial distances of less than 58 m".*

#### **5.4.5. YEAR 1999. LOUVAIN UNIVERSITY "NO HUMAN PRESENCE" DISTANCE.**

The Louvain University (Belgium) has recently published a highly reliable scientific report (Dec 1999) under the supervision of Dr. A. Vander Vorst and Dr. B Stockbroeckx. This report **establishes a strict and precise limit for both "Power and Distance"**.

- **For Base station: "2 micro W/cm<sup>2</sup> for Power" and "54 - 64 mts for outside distance"**

This strict limit for distance restricts and guarantees the limit of **2 microW/cm<sup>2</sup>**, as "NO HUMAN PRESENCE". This "Distance" is **0.2 % of the total range** of a base station ( Range 35.000 m.).

#### **5.4.6. YEAR 2000. SALZBURG RESOLUTION. OUTSIDES LIMIT of 0.1 microW/cm<sup>2</sup>.**

*"Recommendations of specific exposure limits are prone to considerable uncertainties and should be considered preliminary. For the total of all highfrequency irradiation a limit value of 100 miliW/m<sup>2</sup> (**10 microW/cm<sup>2</sup>**) is recommended".*

*"For preventive public health protection a preliminary guideline level for the sum total of all immissions from ELF pulse modulated high-frequency exposure facilities such as GSM base stations of 1 miliW/m<sup>2</sup> (0.1 microW/cm<sup>2</sup>) is recommended".*

#### **5.5. ENDOCRINE EFFECTS OF "LOW INTENSITY MICROWAVE EXPOSURE"**

From: Deb Carney To: Roy Beavers (29.2.2000). *"Our thanks to Dr. Lai, who has identified 2 papers on the effect of low intensity microwave exposure on **insulin (diabetes connection), stress and sex hormones.**"*

*“There is a paper by two Russians (Ukrainians) Navakatikian and Tomashevskaya on effects of low intensity microwave exposure on stress hormones, insulin (the hormone related to diabetes), and sex hormone. The paper is published in English (Navakatikian, M.A., and Tomashevskaya, L.A., 1994, Phasic behavioral and endocrine effects of microwaves of nonthermal intensity. In: "Biological Effects of Electric and Magnetic Fields, vol. 1", D.O. Carpenter, ed., Academic Press, San Diego, CA., pp. 333-342).”*

#### 5.6. POWER LIMIT AND "DEATH HAZARD" DISTANCE. IN LONG-TERM EXPOSURE.

Scientific reference based on real experiment: "microwave bombardment" against people. Deadly radiation from Lilienfeld's report, about microwave in Moscow, 25 ys ago. (Also the health hazard from Blood Brain Barrier alteration has been reported since 1972).

- **"Outside Power" 5 - 18 microW / cm<sup>2</sup> and "Exposure Time" 40 hs per week.**

Based on the SCALE of NINE DEGREES OF HEALTH HAZARD the "DEATH HAZARD" distance for the Power density of 18 microW /cm<sup>2</sup> is:

- **FOR A BASE STATION: "DEATH HAZARD DISTANCE": 22 - 40 mts.**

For a 40 W antenna: "Death hazard" distance: 22 mts. (40 hs. per week exposure)

For a 160 W antenna: "Death hazard" distance: 40 mts. (40 hs per week exposure)

This is the horrible reality, which many families are facing today as “microwave bombardment” with anguish and the need of a recommended health control during tow decades.

#### 5.6.1 WHAT SHOULD BE THE "DEATH HAZARD DISTANCE" FOR “168 hs./ week”?

- **FOR A BASE STATION "Death hazard" distance is 22-40 mts for 18 microW/cm<sup>2</sup>, and 40 hs. per week radiation?. What should be the "Distance for 168 hs. per week radiation"?**

Do parents know of this vital information concerning “microwave bombardment” liable to alter neuron currents, sleep, stress, attention and even cause chromosomes to break?

- **FOR A MOBILE PHONE : "DEATH HAZARD" DISTANCE : 0.5 mts**

0.5 mts is the estimated hazard Distance for a Pacemaker to malfunction. Is there not a strong likelihood then that children and foetuses be affected with distances shorter than 0.5 mts.?

**April 2000.** Mobile phones were banned by one of Japan's leading railway companies.

#### 5.7. LIMIT OF POWER AND DISTANCE TO PREVENT "CHROMOSOME DAMAGE"

- **CHROMOSOME DAMAGE occurs at 0.1 microW/ cm<sup>2</sup> Power.**

Dr. G.J. Hyland: “A six-fold increase in chromosome damage in cows, subject to a likely maximum exposure of 0.1μW/cm<sup>2</sup>.”

The use of microwave which has shown to cause "Chromosome damage" ought to be regulated. Is important that a "Safety distance" be established for the use of one mobile phone in public spaces?

Should this radiation be listed as **dangerous**? As a weapon liable to cause Chromosome damage?

- FOR A BASE STATION: "CHROMOSOME DAMAGE" DISTANCE: 500 mts.

According to the NINE DEGREES OF HEALTH HAZARD SCALE for a **40 W** antenna power this "Distance" is **300 mts**, for 160 W antenna power safety distance should be **500 mts**.

- FOR A MOBILE PHONE: "CHROMOSOME DAMAGE" SAFETY DISTANCE: 10 mts.

The 10 mts. security distance coincides with the one established by Dr. L. Klitzing in 1995 for a mobile phone **0.1 microW/cm<sup>2</sup> power** which causes E.E.G. alteration.

### 5.7.1. "10 MTS. DISTANCE". IS THE SAFETY DISTANCE FOR MOBILE PHONE?

EL PERIÓDICO Barcelona. (August 2000). SAFETY DISTANCE TO PREVENT RISK OF EXPLOSIONS OR INTERFERENCES:

*"Esso, Shell, British Petroleum and Cepsa (Spain) have banned the use of mobile phones in their stations owing to risks of explosions or interferences in their pumps. Prevention measures restrict use in an area 10 mts in radius." "It is suspected that the use of mobile phone caused an explosion in a petrol station in Japan two years ago. Shell on the contrary regards this possibility as very unlikely though it concludes "our studies lead us to recommend the ban".*

### 5.8. LIMIT OF POWER AT NIGH. HEALTH DISTANCE IN "MELATONINE ALTERATION"

"MELATONINE ALTERATION" occurs at an established Power: 0.02 microW/cm<sup>2</sup>.

According to the SACLE of NINE DEGREES for a 40 W antenna power "Melatonin alteration" occurs within a distance of **600 mts.**, and for a 160 W antenna power is **1.000 mts.**

According to the SCALE of NINE DEGREES OF HEALTH HAZARD the "Melatonin alteration" for a mobile phone **1 W Power** occurs within a distance of **20 mts.**

### 5.8.1. "MELATONINE ALTERATION" AND PULSED NIGHT RADIATION.

Dr. Neil Cherry. (February 2000). *"Melatonin is a potent free radical scavenger. A good night's sleep produces good melatonin. Unfortunately as we age, we have lower and lower natural melatonin which causes accelerated cell death and cell damage. This is why cancer rates rise very significantly after 65 years. It is also the cause of neurological degeneration and disease." "The new digital phones are microwave. The signal is pulsed to produce the digital signal. **Pulses are shown to be worse than continuous waves in causing cell damage and cancer.**"*

Dr. Denis Henshaw. THE TIMES (12, March,2001). A study last week linked power lines to leukaemia.: *"The dominant effect of the magnetic field, Henshaw says, is in influencing mood. His survey of existing data leads him to the figure of 60 suicides a year, as well as thousands of cases of depression". "There have been papers on this for 20 years". "Melatonin is produced by the*

*pineal gland at night. Populations living near these things are obviously sleeping near them, and they show striking effects. Utility company workers show lower effects but they are exposed during the daytime, so that's what you would expect."*

### **5.9. CORE INFORMATION: LAW ENFORCEMENT FOR POWER AND DISTANCE.**

- **"NON-ARBITRARY DISTANCE" FOR PERMANENT AND "NIGHT" RADIATION.**

<b><u>BASIC SCIENTIFIC DATA</u></b> <b><u>(POWER OF TRANSMITTER)</u></b>	<b><u>BASE STATION</u></b> <b><u>( 40W – INPUT - 160 W )</u></b>		<b><u>MOBILE PHONE</u></b> <b><u>( 1 W )</u></b>
<b>THERMAL Distance "SAR"</b>	<b>3 mts</b>	<b>6 mts</b>	<b>0.05 mts.</b>
<b><u>"Death hazard" (40 h/week)</u></b> <b><u>"Microwave bombardment"</u></b>	<b><u>22 mts</u></b>	<b><u>40 mts</u></b>	<b><u>0.5 mts.</u></b>
<b>NO HUMAN PRESENCE</b> <b><u>"Bombardment DAY and NIGHT"</u></b>	<b>60 mts</b>	<b>100 mts</b>	<b>2.5 mts.</b>
<b><u>CHROMOSOME DAMAGE</u></b>	<b><u>300 mts.</u></b>	<b><u>500 mts.</u></b>	<b><u>10.0 mts.</u></b>
<b>MELATONINE ALTERATION</b>	<b>600 mts.</b>	<b>1,000 mts.</b>	<b>20.0 mts.</b>

Dr. William Steward. *"We recommend that particular attention should be paid initially to the auditing of base stations near to schools and other sensitive sites". (1.41)*

The power which triggers "Melatonin alteration" of 0.02 microW/cm<sup>2</sup> should be recorded in order to protect people against long-term health hazards. Melatonin is a natural protector against cancer. **Its damage especially during night-time causes brain malfunction.**

#### **5.9.1 CORE INFORMATION: "UNIT OF POWER" AND "LONG-TERM GUARANTY"**

It is of paramount importance to protect people against the high Power transmitted at close range and the "Long-term" exposure to "microwave bombardment" of 168 hs. per week.

THE UNIT OF POWER discloses information concerning the FALSE THERMAL UNIT "SAR" which limits the "legal distance" to 3 mts. inside the **EPICENTRE** of the radiation. With levels of Power exceeding millions of times the power of neuronal BRAIN SIGNAL.

***Focusing the attention: The enforcement of a law that establishes an adequate safety distance for base stations should lead to mobile phones being detached from the user's hands and brains.***

The current **DISTANCE ZERO** for a mobile phone means **ZERO PROTECTION**. This ERROR "DISTANCE ZERO" subjects the Brain to powers 10,000,000,000 times greater than the neuron currents BRAIN SIGNAL thus exposing it *to open the BBB in 2 minutes.*

- **HEALTH HAZARD AND CHILD POPULATION: UNDER 16.**

Dr. William Steward: *"If there are currently unrecognised adverse health effects from the use of mobile phones, children may be more vulnerable because of their developing nervous system, the greater absorption of energy in the tissues of the head." (1.53)*

Dr. William Steward: "In line with our precautionary approach, at this time, we believe that the widespread use of **mobile phones by children** for non-essential calls should be **discouraged**". (1.53)

Dr. Robert O Becker (May 2000) "***I certainly would not permit any child of mine under the age of sixteen to walk around with a cell phone in their pocket.***"

- HEALTH HAZARD AND MOTORCAR DRIVING

Dr. William Steward. "There is evidence that using a mobile phone whilst driving can increase the risk of accidents." (1.5). "The use of mobile phones whilst driving is a major issue of concern and experimental evidence demonstrates that it has a detrimental effect on drivers responsiveness." (1.22)

#### 5.10. WRONG CRITERIA AND "FALSE-SAFETY DISTANCE" IN BASE STATIONS.

<u>BASIC SCIENTIFIC DATA</u>	<u>IN A BASE STATION</u>	<u>MOBILE PHONE</u>
<b>ERROR IN DISTANCE</b>	<b>NO LEGISLATION</b>	<b>ZERO DISTANCE</b>
<b>ERROR IN METRES</b>	<b>Metres? <u>kilometres</u></b>	<b>Error: <u>0.00 Metres.</u></b>

Dr. George Carlo (October 1999). "From a public health perspective, it is critical for consumers to have the information they need to make an informed judgement about how much of this unknown risk they wish to assume in their **use of wireless phones**. Informing consumers openly and honestly about what is known and not-known about health risks is not liability laden - it is evidence that your industry is being responsible, and doing all it can to assure safe use of its products."

- CORE WRONG CRITERIA: ONE MOBILE PHONE HAS "ZERO DISTANCE".

**ERROR IN A BASE STATION: "WRONG SECURITY DISTANCE" DAY AND NIGHT.**  
**INDUSTRIAL EXPANSION : NEW FREQUENCIES DEVOID OF GUARANTEE.**

Dr. G J Hyland. University of Warwick. U.K. "Existing safety guidelines are, however, **inadequate** in a quite different, more fundamental way. Namely, that they completely fail to consider the possibility of adverse health effects linked to the fact that living organisms – and only living ones – have the ability [2] to respond to aspects of **technologically produced radiation, other than its intensity**, and can, accordingly, respond at intensities well below the limits imposed by the safety guidelines".

#### 5.11. ERROR IN CONTROL AND ERROR IN "POWER" FOR A MOBILE PHONE: 2W.

The highest Power for a mobile phone is **2 W**. Higher than the "Thermal RECOMMENDATION" by the ICNIRP. **Basic Error in Control. According to the University of Louvain (12.1999):**

- "ICNIRP'S recommendations are not always met by mobile phones":

"To set an example, ICNIRP'S recommendations for the general public are 2W/kg average for a 10 g mass of tissue. This limits **the average power** transmitted by a **mobile phone to less than 0.6 W** at 900 Mhz. however the highest power transmitted by a GSM at 900 Mhz is 2 W."

## 6. CONFUSION IN HEALTH CONCEPTS. A NEW DANGER OF FALSE ASSURANCES.

### 6.1. THE EUROPEAN COUNCIL RECOMMENDATION (12.7.1999). ADDS CONFUSION?.

- The reason for this EUROPEAN COMMISSION RECOMMENDATION (12.7.1999) and present CONFUSION could well be the broad **generalisation of its "Declaration"**.

**Broad generalisation : From 0 Hz to 300 Ghz.** Without discriminating types of frequencies and the nature of the fields. The "Declaration" includes "the whole spectrum of frequency ranges". This spectrum includes static fields, extremely low frequencies, traditional city lights of 50 Hz, right up to the penetrating microwaves of mobile telephony, cooking ovens and 300 Ghz frequencies.

### 6.2. INFORMING THE CONSUMER USING THERMAL UNIT "SAR". ADDS CONFUSION?.

**Dr William Steward's (11.5.2000).** "*We recommend that information on the SAR values for mobile phones must be readily accessible to consumers (paragraph 6.77):" (1.62)*

*"At the point of sale with information on the box." "On leaflets available in stores giving comparative information on different phones and with explanatory information." "As a menu option on the screen of the phone and as a label on the phone".*

**NEWS PUBLISHED THE DAY AFTER. Guardian Unlimited (12.5.2000) "Mobile phone warning creates confusion".** Tim Radford, science editor. "*An official inquiry into the safety of mobile phones only added to the confusion with its report yesterday.*"

### 6.3. "NON-THERMAL" CONCEPT AND "VIENNA RESOLUTION". ADDS CONFUSION?.

In Vienna, Austria. "*Workshop on Possible Biological and Health Effects of RF Electromagnetic Fields*", (October 25-28.1998) adopted the resolution. According to Dr. Michael Kundi,

*MICROWAVE NEWS November 1998. "The preferred terminology to be used in public communication: Instead of using the terms "athermal", "**nonthermal**" or "microthermal" effects, the term "low intensity biological effects" is more appropriate."*

- **Why should a fundamental concept as "non-thermal" be changed?**

### 6.4. DISCARD RESEARCH WITH ANIMALS: "RESEARCH CENTRE CLOSED DOWN".

From my own experience, since I am exposed to radiation at close range (5 mts away), and as an Industrial Engineer I submitted to the European Commission (22.6.1999) a proposal to carry out research with animals 168 hs/week using the SCALE of NINE DEGREES. **Research rejected.**

**Research programme:** *The research programme consisted basically of exposing 168 h/week "farm animals" to direct microwave radiation at close range from a base station antenna Power 500 W.*

- The International Congress of Bioelectromagnetism: Science, Medicine and Progress was held in Alcalá de Henares (Madrid). Institute directed by Dr. J. L. Bardasano. On the morning of November 12 I personally submitted to the Congress the SCALE of NINE DEGREES OF HEALTH HAZARD. **And today remained closed.**

## 6.5. LAWSUIT OVERRULED. EUROPEAN COURT FOR HUMAN RIGHTS

As a person exposed to direct radiation at close range (5 mts.) away from a base station (children included) I requested help from the European Court for Human Rights to fight **Against: Radiation from a 500 W antenna power**". Lawsuit N° 49257/99 on June 30 1999.

The following response was sent on September 4 2000 : "According to article 56 § 2 of the Court Regulation"

"The European Court for Human Rights (Section 4), gathered on July 10 2000 decided, after deliberation to overrule the referred demand"

## 6.6. WRONG HEALTH HAZARD ASSESSMENTS. MACHINES AND INTERFERENCE?.

*ICNIRP. Statement. CONCLUSION 9.* "The use of radiotelephones should be restricted to areas where interference effects are unlikely to occur (for example, well away from hospital intensive care departments and similar locations). Manufactures of electrical equipment are encouraged to design and manufacture equipment that is insensitive to RF interference."

*ICNIRP Statement. CONCLUSION 5.* "At the frequencies and power levels involved in the use of hand-held radiotelephones there will be no concern about shocks and burns."

- **No concern about shocks and burns means INNOCUOUS?**

## 6.7. CORE WRONG CRITERIA: THE INVERTION OF "SCIENTIFIC METHODOLOGY".

1°. FIRST ERROR: Pollute day and night (168 hs/week) with "high power density of microwaves.

2°. SECOND ERROR: REPEAT CONSTANTLY "INNOCUOUS" (with no proof at all).

3°. THIRD ERROR. "Solemn and permanent wait for results": **Year 2006?**

*ICNIRP Statement. CONCLUSION 1.* "The results of published epidemiological studies **do not form a basis for health hazard assessments** of exposure to RF fields, and neither can they be used for setting quantitative restrictions on human exposure. They **do not provide a basis for hazard assessment** in relation to the use of hand-held radiotelephones and base transmitters."

## 6.8. A NEW DANGER: A DANGER OF FALSE ASSURANCES.

Helpful report presented to the Honorable Peter Franchot, Delegate Maryland General Assembly.

**Dr. George Carlo (February 2001)** "Recent reports in the news media that three statistical studies found no link between cell phones and cancer were widely hailed as reassuring news by the wireless industry".

"But those studies contained crucial flaws that received little media scrutiny. That's why they actually pose a new danger — a danger of false assurances that could lull people into thinking they don't need to take basic precautions to protect themselves when using cell phones. Your bill corrects that problem".

## **7. SCALE OF PRACTICAL EVALUATION: “NINE DEGREES OF HEALTH HAZARD”**

Health Target: To increase understanding of Power level as Dose and “Health hazard protection”.

Technical Target: To evaluate Degrees of Power and the monitoring of changes in the technology.

### **7.1. SCALE OF HEALTH HAZARD EVALUATION. NINE DEGREES OF POWER.**

This SCALE describes NINE DEGREES OF POWER, as DOSES, of long-term radiation on “living organisms”. At extreme radiation levels this biological aggression causes irreversible health alteration in the *genetic system and cell*. This practical SCALE evaluates the health hazard and enables to establish a long-term “precautionary principle” for mobile telephone radiation.

- **PRACTICAL UNIT OF CONTROL. Power Density: microW/cm<sup>2</sup>.**

The fundamental “NATURAL Power fields” are basic to evaluate the health hazard as Dose. Health hazard as proportional to “Natural Radiation” is a fundamental and vital reference level. Documented by the WHO publication: **Fact Sheet N° 183 World Health Organisation.**

- “OVERALL HOUSEHOLD” 0.0001 microW/cm<sup>2</sup>
- “NATURAL SUN”, **0.001 microW/cm<sup>2</sup>**
- “AVERAGE BACKGROUND” 0.01 microW/cm<sup>2</sup>

It is included as Brain Dose reference, the Power level by “E.E.G. alteration”: **0.1 microW/cm<sup>2</sup>**. The Restrictive value in the permanent radiation for 168 hours/weekly, is: **1. microW/cm<sup>2</sup>**

ZERO DEGREE is the Broadband “NATURAL BACKGROUND”, for the frequencies of 300-3000 MHz: **0.000001 microW/cm<sup>2</sup>**.

*Basic Feature Alive*, “Aliveness”, is the BRAIN SIGNAL. Power level from Schumann Resonance that the human brain detects and uses with the intensity of around **0.0000001 microW/cm<sup>2</sup>**. This vital reference as established by Dr. Cherry’s findings stands out on account of its wisdom.

NINE Degrees of Health Hazards expresses the proportion that exists between the high Power radiation Dose, emitted close to antenna: “THERMAL EPICENTRE” and “NEAR FIELD”, with reference to “NATURAL SUN”, and “AVERAGE BACKGROUND”.

#### **7.2.1. REPRESENT IN GRAPHICS THE ENORMOUS HIGH POWER LEVEL EMISSIONS**

**Power Density is easy to measure.** Power Density enables us to evaluate and represent in graphics, the enormous high Power level emissions. If the “OVERALL HOUSEHOLD” (The Power of a house in the U.S. with the home appliances included) it is charted using a segment **one millimetre long**. Then, CENELEC level can also be charted.

To chart the Power level of “NATURAL SUN” radiation the height would be **One centimetre**. To chart the Power level of E.E.G. and Chromosome alteration the segment should be **One meter** high.

- To chart the Dose of CENELEC 50166-2 **Coefficient (5) “General public”**, the enormous segment’s height should be **450 meters**.

Finally to chart height the dose CENELEC: “**Workers**”, (Limited to 6 minutes), but *exceeded by close range mobile telephone use*, the height should be **2,250 meters** as for the THERMAL EPICENTRE.



7.3. SCALE OF HAZARD EVALUATION: “NINE DEGREES OF HEALTH HAZARDS”.

- POWER DENSITY: Expressed in **microW/cm2**.

<u>DEGREE</u>	<u>DESCRIPTION</u>	<u>microW/cm2.</u>
•	“ <b>BRAIN SIGNAL</b> ” <i>BASIC FEATURE “ALIVE”.</i>	<b>0.0000001</b>
0.	NATURAL BACKGROUND	0.000001
1.	MINIMUM TRANSMISSION	0.00001
2.	“OVERALL HOUSEHOLD”	0.0001
<b>3.</b>	<b>“NATURAL SUN”</b>	<b>0.001</b>
4.	“AVERAGE BACKGROUND”	0.01
5.	<i>CHANGE E.E.G. AND CHROMOSOMES.</i>	<i>0.1</i>
6.	<i>Restrictive value. (Prof. Jose M<sup>a</sup> Hernando)</i>	<i>1,-</i>
7.	<i>Law former UdSSR.. ( 1984 )</i>	<i>10,-</i>
8.	NEAR FIELD.	100,-
<b>9.</b>	<b>THERMAL EPICENTRE.</b>	<b>1,000,-</b>

This SCALE enables us to evaluate the enormous high Power levels of artificial microwave radiation emitted by these new and appealing **non-shielded** emitters with no health protection. Microwaves are emitted without control by base stations and mobile phones.

It is expressed in the following card the Dose of “Increasing Rate” between the highest radiation’s Power of the mobile telephony taking like reference the level **DEGREE 3: NATURAL SUN**.

7.4. “INCREASING RATE”, WITH REFERENCE TO “NATURAL SUN”: DEGREE 3.

<u>DEGREE</u>	<u>DESCRIPTION</u>	<u>INCREASING RATE</u>
<b>3.</b>	<b>“NATURAL SUN”</b>	<b>1</b>
4.	“AVERAGE BACKGROUND”	10
5.	<i>CHANGE E.E.G. (Dr. L.V. Klitzing)</i>	<i>100</i>
6.	<i>Restrictive value. (Prof. Jose M<sup>a</sup> Hernando)</i>	<i>1,000</i>
7.	<b>Law former UdSSR. (1984)</b>	<b>10,000</b>
8.	NEAR FIELD.	100,000
<b>9.</b>	<b>THERMAL EPICENTRE.</b>	<b>1,000,000</b>

**DEGREE 9: THERMAL EPICENTRE.** It is ONE million times higher than DEGREE 3 “NATURAL SUN”. Ten millions times higher than DEGREE 2 “OVERALL HOUSEHOLD”

**DEGREES 8 and 7** are **millions times higher**, as Dose, than the neuronal: BRAIN SIGNAL. These Power Doses are present in the level of radiation suffered in passive form, and at close range as microwave bombardment from base station, without protection day and night: 168 hours/ week.

## 7.5. SCALE “NINE DEGREES” AND DISTANCE: MOBILE PHONE AND BASE STATION

MOBILE PHONE POWER **1 W**: TO VERIFY DISTANCE-HEALTH HAZARD DEGREE.

BASE STATION POWER Input **40 W**: TO VERIFY DISTANCE-HEALTH HAZARD DEGREE.

**To inform over the HEALTH HAZARD DEGREE:** To verify first the Distance to one mobile telephone and the Distance to a Base Station: To check the level of “Health Hazard” DEGREE.

**Power increases 10 times at every DEGREE.** As Precautionary principle it is prudent to value the increment of Power as Degree of Health Hazard in relation to the **Natural Sun: DEGREE 3.**

<u>DEGREE</u>	<u>DESCRIPTION</u>	<u>RADIATION</u> UNIT <u>microW/cm2</u>	MOBILE PHONE Power (1 W) Distance: metres	BASE STATION Power (40 W) Distance: metres
<b>9</b>	<b>THERMAL EPICENTRE</b> <i>Degree 9 is one million (1,000,000) times higher than Natural Degree 3: “Natural Sun”. About 2 minutes on a cell phone can open the Blood B. B. and allow prions into the brain.</i>	<b>1000.</b>	<b>0.08 m.</b>	<b>3 m.</b>
<b>8</b>	<b>NEAR FIELD</b> <i>Degree 8. Thousand (1.000) times higher than Degree 5: Change EEG and Chromosomes.</i>	<b>100.</b>	<b>0.25 m.</b>	<b>9 m.</b>
<b>7</b>	<b>LAW FORMER UdSSR</b>	<b>10.</b>	<b>0.80 m.</b>	<b>30 m.</b>
<b>6</b>	<b>RESTRICTIVE VALUE</b> <i>Degree 6 is fifty (50) times higher than 0.02 microW/cm2: As “Melatonin alteration”. Dr. Neil Cherry: Epidemiological evidence of children leukaemia by 2.4 microW/cm2.</i>	<b>1.</b>	<b>2.50 m.</b>	<b>90 m.</b>
<b>5</b>	<b>ALTERATION CHROMOSOMES</b> <b>CHANGE E.E.G.</b> <i>Health Hazard level documented by Dr. Henry Lai, Dr. Neil Cherry y Dr. G.J. Hyland.</i>	<b>0.1</b>	<b>8.00 m.</b>	<b>300 m.</b>
<b>4</b>	<b>AVERAGE BACKGROUND</b> <i>Power of 0.02 microW/cm2. Is Melatonin alteration during the night-time. Pineal gland.</i>	<b>0.01</b>	<b>25.00 m.</b>	<b>900 m.</b>
<b>3</b>	<b>NATURAL SUN</b>	<b>0.001</b>	<b>80.00 m.</b>	<b>3,000 m.</b>
<b>2</b>	<b>OVERALL HOUSEHOLD</b>	<b>0.0001</b>	<b>250.00 m.</b>	<b>9,000 m.</b>
<b>1</b>	<b>MINIMUM TRANSMISSION</b>	<b>0.00001</b>	<b>800.00 m.</b>	<b>30,000 m.</b>
<b>0</b>	<b>NATURAL BACKGROUND</b>	<b>0.000001</b>	<b>2,500.00 m.</b>	<b>90,000 m.</b>
<b>•</b>	<b>BRAIN SIGNAL</b> <i>Basic feature “alive”. Resonance of Schumann by Dr. Neil Cherry. (New Zealand)</i>	<b>0.0000001</b>		

## 8. DEMANDED LONG-TERM HEALTH PROTECTION. NEW INDUSTRIAL STRATEGY.

Health target: Long-term health protection by DEGREE 4 and Power level 0.01 microW/cm<sup>2</sup>.  
**New safety Coefficient.** To substitute CENELEC (5) and **increase to: 10,000 and 100,000.**

### TWO STRATEGIES OF COMMUNICATION. "TWO LEVELS" OF HEALTH HAZARD:

1°. MOBILE COMMUNICATION IN URBAN CENTRES. NEW COLLECTIVE EMITTER

2°. PERSONAL MOBILE COMMUNICATION. INDIVIDUAL EMITTER. (Coefficient 10,000)

#### 8.1. COLLECTIVE EMITTER. NEW MOBILE TELEPHONY IN URBAN CENTRES

*New target: "Non-shielded microwave emitters" must be **banned inside buildings and transport.***

- COLLECTIVE FIXED GROUPS: EMITTER-RECEPTOR-ANTENNA.

Global microwave radiation is reduced and limited with COLLECTIVE GROUPS EMITTER-RECEPTOR-ANTENNA, placed on the top of buildings or public transport. Equipped with metal screens in order to ensure health protection for the population and "safety distances" as well.

This COLLECTIVE GROUP EMITTER-RECEPTOR-ANTENNA is linked directly to the far off base station and satellite by **microwaves**. Mobile communication inside buildings or close-by and transport is established by infrared signals, using infrared sensors fitted in- and outside buildings.

These fixed infrared sensors are connected to the COLLECTIVE EMITTER-RECEPTOR-ANTENNA placed on the top of buildings and on transport, that entails the lowest health hazard

- PERSONAL COMMUNICATION "MICROWAVE-FREE": NEW MOBILE PHONE

**The user establishes communication with a mobile phone "microwave-free".** This new mobile phone maintains all the features of conventional mobile phones. This GROUP PERSONAL COMMUNICATION has the elements of present mobile phone, communicated by infrared sensor, which links directly to the fixed infrared sensors placed inside and outside. Are connected by cable to the COLLECTIVE EMITTER-RECEPTOR-ANTENNA on the **top of buildings and transport**

New mobile phone and compact that incorporate a Power metre to warn the user about the global radiation of non-controlled microwave emitters, for maximal Power level of 0.1 microW/cm<sup>2</sup>.

#### 8.2 INDIVIDUAL EMITTER: METHOD LIMITED TO PRIVATE AND AUTHORISED USE.

Each user has a new INDIVIDUAL GROUP "EMITTER-RECEPTOR-ANTENNA-HANDLE" which sends "microwave signals" to attain the private mobile communication. This GROUP is connected by wire/wirelessly to the PERSONAL COMMUNICATION GROUP mentioned above.

Both GROUPS fit together and resemble a conventional mobile phone. This GROUP "EMITTER-RECEPTOR-ANTENNA-HANDLE" must be placed at a **safety distance of 10-20 metres**, in order to protect the user in DEGREE 5 The handle protects user's hand against power **banned "Workers" in the distance of 5-15 cm.** (Protection today ignored in the use of mobile phones).

It is important to protect the user and the "general public" by DEGREE 5, **0.1 microW/cm<sup>2</sup>** as health hazard "break chromosome". In **urban centres** the user communicates with the traditional mobile phone "microwave-free" and to base stations in a **security distance of 1,500-9,000 metres.**