From:	Jon H
To:	PDS_Planning_Commission
Cc:	Kaylee Galloway; Tyler Byrd
Subject:	6/23/2022 Public Meeting about Wireless Service Facilities
Date:	Tuesday, June 14, 2022 2:46:49 PM
Attachments:	pdf-emf-final-november-2010.pdf

Hello, I hope you are doing well today. I am writing about a matter that has come up with the planning commission before. The many problems with installing wireless service facilities. While the industry claims that these devices are safe, there is a large, growing, body of evidence showing otherwise.

Even the insurance industry has refused to insure these wireless devices due to unknown risk factors associated with them. As highlighted in the "Lloyds of London" report I attached below Lloyds highlights the many problems with the reports submitted by the industry claiming that these devices are safe and has demanded further study. In short, even Lloyds considers these devices too risky to insure.

The problems don't stop there. I highlight 8 of the biggest issues in this article here but should note that there are even more.

https://nwcitizen.com/entry/130-foot-cell-tower-approved-for-geneva-neighbors-blindsided/category/councilmember-murphys-proposed-rental-ordinance-is-deeply-flawed

They are:

1. Placement of the devices often makes no sense and needs to be regulated.
2. People deserve a right to vote on an issue that affects all of them. With these new regulations they get no say at all. They hardly have any now.
3. A 20% loss in home values is common as almost no one wants to live by these devices.
4. The environmental impact of these devices is huge when considering everything from power consumption to tech waste. They use a MINIMUM of 61 times the power of fiber-optic cabling and in many cases can even use hundreds of times more power depending on the configuration. Is this smart to do during a climate crisis?
5. The performance of these devices is terrible, especially when compared with the fiber-optic to the home infrastructure we actually need. Fiber is perfectly safe.
6. More and more studies show us that there are health risks associated with non-ionizing radiation like those found in wireless devices. Especially in the way that they specifically affect VGCCs (Voltage Gated Calcium Channels) in cells. Leading to problems ranging from headaches to tumors. (A link to the VGCC study https://pubmed.ncbi.nlm.nih.gov/23802593/)
7. The fake safety argument. (The waves needed for cell phone communications and safety are much larger than being reported to you by the industry and therefore infrastructure can be placed far away from people. We need better bandwidth allocation not small cells, etc.)

-- Many other developed countries have much lower EMF/EMR exposure limits than the US does and their equipment works better than ours does because they back it up with enough fiber. Current wireless schemes put the cart before the horse and try to solve our communications issues by refusing to build the backbone infrastructure needed to do so first. That will never work well.

-- Overall, the way that big wireless is behaving is very much like how the Tobacco Industry behaved when they were claiming that cigarettes are safe. In short, the industry backed studies say wireless is safe **but the independent studies say it's not**.

The current test for cell phone, and related, equipment safety is only 10 minutes long. It's conducted on a mannequin named Sam that is filled with a fluid more like antifreeze than bodily fluid and the mannequin is only checked for heating. No cellular level studies are done. The average American uses their cell phone 5 to 7 hours a day. So obviously we're not doing proper testing to ensure the safety of these devices before distributing them.

I ask the planning commission to halt approval of these new laws in relation to the installation of these devices until further, independent, studies can be done on the many impacts of this technology.
Further justification can be found in my articles and in many other peer reviewed sources like the Environmental health Trust.
https://ehtrust.org/climate-change-and-5g/
I am happy to meet with you. A few minutes at a "public meeting" that you've held only after meeting with industry reps. and other special interests is inadequate to explain the other side of this argument. And yes there are 2 sides.
I have almost 30 years of professional IT experience. I have studied tech waste most of my life and even I'm concerned about all of this. Not all technology is benevolent by default. The stakes are too high to blindly approve these new, industry driven, rules.
I can provide many other resources too. Let's break the cycle of Whatcom County blindly making decisions about technology without proper discussions about and research into these topics.

Thanks,
Jon Humphrey
360-389-2527

LLOYD'S

ELECTRO-MAGNETIC FIELDS FROM MOBILE PHONES:
RECENT DEVELOPMENTS

LLOYD'S EMERGING RISKS TEAM REPORT

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Date and version: November 2010, version 2.0

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EMERGING RISKS TEAM

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More details can be found at **www.lloyds.com/emergingrisks**

EXECUTIVE SUMMARY

This paper considers whether exposure to electromagnetic fields (EMF) from mobile phone use can cause health problems and the impact this could have on the insurance industry. The main conclusions of the report are:

1 THE WORLD HEALTH ORGANISATION RECOMMENDS A PRECAUTIONARY APPROACH. Despite the view of the WHO and the European Union that there is at present no conclusive evidence of adverse effects caused by EMF they believe the slow emergence of health impacts means that governmental bodies should impose exposure limits as recommended by the International Commission for Non-Ionising Radiation Protection. They also recommend longer term studies with people exposed for over ten years and with those exposed to higher levels.

2 THE MAJORITY OF EPIDEMIOLOGICAL STUDIES SHOW NO INCREASED RISK OF BRAIN CANCER. Most new scientific research studies into the health effects of EMF focuses on the possible increased risk of brain cancer. Although the majority find no increased risk they conclude that the long latency periods (time between exposure and the appearance of the disease) of some cancers mean that more long-term studies are needed before any risk can be ruled out. Two studies have shown an increased risk of certain types of brain cancer but there are problems associated with the methodology of these studies. Neither in vivo (experiments on laboratory animals) nor in vitro (experiments on cell cultures) studies provide evidence that exposure to EMF can cause an increase in cancer risk.

3 NO CONCLUSIVE EVIDENCE OF OTHER MEDICAL ISSUES HAS YET BEEN DEMONSTRATED. Other potential health issues resulting from exposure to EMF include self-reported symptoms such as headaches and dizziness, nervous system effects and impacts on reproduction and development. So far there is no conclusive evidence to support the theory that EMF causes any of these problems.

4. MORE RESEARCH NEEDS TO BE CONDUCTED ON HOW EXPOSURE AFFECTS CHILDREN. It is very difficult to make conclusions about the affects on children from studies on adults. There is some evidence showing that due to physiological differences children are actually subject to exposures higher than the recommended limits. Further research is needed to rule out risks in this area.

5 LEGAL CASES TO DATE FAVOUR THE MOBILE PHONE INDUSTRY. In *Newman v Motorola* (2002) the judge rejected the plaintiffs' expert witness' evidence that EMF causes brain cancer on the grounds that it was generally not widely accepted by the scientific community, and that there were flaws with recall bias in the studies. In *Murray v Motorola* (2009) the judge ruled that plaintiffs are not able to claim for damage caused by mobile phones which conform to US legislation. However, the case is proceeding alleging the defendants have fixed the results of their exposure tests and have suppressed information.

6 EMF CASES COULD BE MORE COMPLEX THAN ASBESTOS CLAIMS. Similar issues would occur such as the definition of an actionable injury, policy triggers and apportioning liability. The latter would be even more difficult than asbestos cases since in 70% to 80%[1] of cases mesothelioma is caused by exposure to asbestos, whereas brain cancer arises in many more cases where there has been no exposure to EMF.

CONTENTS

1. INTRODUCTION

Mobile phone use has increased rapidly worldwide since the early 1990s. In June 2009 there were more than 4.3 billion mobile phone connections around the world[2]. Mobile phones emit radio and microwave frequency electromagnetic fields (EMF), and there are many concerns about possible health effects of such EMF exposure.

There has been wide coverage of this issue in the press as well as a large body of scientific research into the issue. Unfortunately, due to the potential long term impacts of EMF exposure on health, there are so far no definitive conclusions as to whether EMF is harmful or not.

To judge any potential impact of EMF on the insurance industry we should look at both the available scientific research and the implications that a conclusive link between EMF and disease could have to applicable policies.

This document looks first at current views on EMF as stated by international bodies such as the World Health Organisation and the European Union, and then goes on to examine recent scientific research into the field. It finally considers the implications for the insurance industry by scrutinising current legal cases on EMF and any comparisons which can be drawn with asbestos.

2. CURRENT INTERGOVERNMENTAL POSITION

The position of the WHO and the EU is that at present there is no conclusive evidence that EMF exposure under the current legislative levels causes adverse effects on health. More research is needed on long-term studies with people exposed for over ten years. They therefore recommend a precautionary approach to the use of this technology and that governmental bodies impose exposure limits as recommended by the International Commission for Non-Ionising Radiation Protection (ICNIRP).

2.1 WHO

The WHO document 'What effects do mobile phones have on people's health?' published in November 2006 states that "the evidence available does not provide a clear pattern to support an association between exposure to radio frequency (RF) and microwave radiation from mobile phones and direct effects on health."[3] However it cautions that lack of available evidence of detrimental effects on health should not be interpreted as evidence of absence of such effects and recommends a precautionary approach to the use of this communication technology until more scientific evidence becomes available. The WHO intend to update its position on EMF and health effects in 2010, after publication of the Interphone study (see section 3.2.1.1).

2.2 EU

The Scientific Committee on Newly Identified and Emerging Health Risks (SCNIEHR) updated its position on the *Health Effects of Exposure to EMF* in 2009[4]. It concludes that mobile phone use for less than ten years is not associated with cancer incidence, though further studies are required to identify whether longer term human exposure might pose some cancer risk. It therefore also recommends a precautionary approach in line with the WHO. In 2008 the EU parliament passed a resolution on the mid-term review of the European Environment and Health Action Plan 2004-2010 which means it must update is position on the health risk associated with EMF and review exposure limits[5]. The parliament is due to respond in 2010.

2.3 Exposure Limits

Guidance on exposure limits is given by the International Commission for Non-Ionizing Radiation Protection (ICNIRP)[6], which has been adopted by over 80 countries, and the Institute of Electrical and Electronics Engineers (IEEE) in the US. The rate at which radiation is absorbed by the human body is measured by the Specific Absorption Rate (SAR), and maximum levels are set by many governments, based on the ICNIRP and IEEE recommendations.

In the US, the Federal Communications Committee has set a SAR limit of 1.6 watts per kilogram(W/kg), averaged over a volume of 1 gram of tissue, for the head. In Europe, the limit is 2 W/kg, averaged over a volume of 10 grams of tissue[7]. SAR values are difficult to measure and heavily dependent on the size of the averaging volume and so it is not possible to compare the two standards.

Mobile phones are tested under worst case conditions by the committee - at the highest power level. The emitted power is often considerably lower than the maximum power due to various factors like power control and discontinuous transmission.

Guidelines are drawn up with the intention of protecting against acute effects of high levels of EMF exposure, such as stimulation of nerve and muscle cells due to induced currents and tissue heating. The current potential health issues surround the possibility that health effects could occur at exposure levels below those set in the guidelines when exposure is over a longer term.[8]

3. SCIENTIFIC EVIDENCE OF HEALTH EFFECTS

This section looks at recent research into whether EMF exposure from mobile phones can cause adverse health effects. It first considers whether there is an increased risk of cancer by considering epidemiological, in vivo and in vitro evidence. The majority of epidemiological evidence shows no increased risk of brain cancer with EMF exposure. Two studies have shown an increased risk of certain types of brain cancer on the same side of the head as phone use, which is where the EMF is absorbed, however, it could not be concluded whether this was due to a causal effect or recall bias. Neither in vivo nor in vitro studies provide evidence that exposure to EMF can cause an increase in cancer risk. It then goes onto look at other potential health issues including self-reported symptoms, nervous system effects, reproduction and development and potential effects on children – so far there is no conclusive evidence to support the theory that EMF causes any of these problems. It should be noted, however, that more long-term studies are needed before any risk can be ruled out, particularly on children.

3.1 Background

In the 1980s first generation mobile phones, using analogue technology, only transmitted sound. Digital transmission and the global system for mobile communication started in 1991 and included new developments such as data and image transmissions. Third and fourth generation mobile phones currently on the market offer additional services to the user such as high speed internet access. All mobile phone signals transmitted and received are in the form of waves in the Radio Frequency (RF) and Microwave parts of the spectrum.

Waves

RF wave radiation is non ionizing radiation with wavelengths that range from 3kHz to 300MHz.

Microwaves have wavelengths which range from 300Mhz to 300GHz and are also non ionizing.

Non ionizing radiation means that the radiation does not have enough energy to cause direct damage to DNA, and so is unlikely to cause cancer formation via the mechanism of DNA damage.

Since mobile phones are used close to the head and the radiofrequency is absorbed mainly within a small area of the skull near the handset, most research is into the possibility of mobile phone use increasing the risk of brain cancer, focusing on intracranial tumours [9].

Other research into health effects of mobile phone use looks at self reported symptoms: nervous system effects; reproduction and development; and effects on children, all of which will be considered briefly below.

3.2 Cancer

There are three lines of investigation into whether exposure to EMF is involved in carcinogenesis:

- Epidemiology (the study of groups of people to see if certain factors affect the health of populations).
- In vivo experiments (on laboratory animals).
- In vitro experiments (on cell cultures).

Epidemiology

Epidemiology is the field where the most research has been carried out. Absorption of EMF from mobile phones is highly localised; therefore the preferred side of the head during mobile phone use becomes an important parameter of the exposure estimation. This means there is particular interest in the comparison of cancer rates in ipsilateral phone use (where the phone was used against the same side of the head to where the tumour occurred) and contralateral phone use (where the phone was used against the opposite side of the head to where the tumour developed). It is also interesting to see if more brain tumours occur in the region of the brain nearest the ear, as this is where most of the EMF will be absorbed.

Most epidemiological studies look at whether there is a greater risk of brain cancer with EMF exposure. Many of these studies refer to odds ratios (OR) and confidence levels (CL). The glossary at the conclusion of this report provides an explanation of these terms.

1. Interphone Study

The Interphone study is a series of multi-national case-control studies (see glossary) coordinated by the International Agency for Research on Cancer, designed to assess whether RF exposure from mobile telephones is associated with cancer risk. There were 13 participating countries, and the studies included 2,708 cases of gliomas and 2,408 cases of meningiomas (both benign and malignant), as well as around 1,000 cases of acoustic neuroma, 600 cases of parotid gland tumours and their respective controls(see glossary)[10]. Information on past mobile phone use was collected during face-to-face interviews with regular users of a mobile phone. Regular was defined as having had an average of at least one call per week for a period of more than six months.

The results of the study on gliomas and meningiomas (see glossary) were published on 17 May 2010,[11] [12,] Surprisingly, the results showed that people who had been a regular mobile phone user are less at risk of developing brain tumours (Glioma OR 0.81, 95% CL 0.70-0.94, Meningioma OR 0.79, 95% CU 0.68-0.91). This possibly reflects participation bias or other methodological limitations. No elevated risks were seen more than ten years after first phone use, or for all deciles of lifetime number of phone calls and nine deciles of cumulative call time. In the highest decile of recalled cumulative call time (more than or equal to 1,640 hours), an increase in risk was seen (Glioma OR was 1.40, 95% CR 1.03-1.89, Meningioma OR 1.15, 95% CL 0.81-1.62) but there were implausible values of reported use in this group, which prevents conclusions being drawn. Increased risks were seen for gliomas in the temporal lobe (the region of the brain located nearest the ear) compared to other lobes of the brain, but because the CLs around the lobe-specific estimates were wide it is again difficult to draw firm conclusions. ORs for glioma tended to be greater in subjects who reported usual phone use on the same side of the head as their tumour than on the opposite side.

Overall the study concludes no increase in risk of glioma or meningioma was observed with use of mobile phones. Though there are suggestions of increased risk in the top 10% of

cumulative call time, gliomas in the temporal lobe and in subjects who reported ipsilateral phone use biases and errors limit the strength of the conclusions and no causal link can be drawn from the study. The study also concludes that the possible effects of long-term heavy use of mobile phones require further investigation

There have been several issues with regards to the Interphone study design:[13]

a) Selection bias – refusal to participate is related to lower use of mobile phones in controls, and this could result in a downwards bias in odds ratios for regular mobile phone use.
b) Potential error in the recall of phone use – errors appeared to be larger for duration of calls than for number of calls, and phone use was underestimated by light users and over estimated by heavy users.
c) The possible effects of recall errors were evaluated and results suggest that random recall errors can lead to a large underestimation in the risk of brain cancer associated with mobile phone use.

In response to these criticisms the IARC published a paper on the methodology used and recalculated the results before production of the findings outlined above[14]. This was one of the reasons publication of results were delayed (they were expected in 2005), and though the IARC have made efforts to correct these issues, there is still criticism of the Interphone study. Methodological limitations could be the reason behind some of the findings, particularly those indicating people using mobile phones are less likely to develop brain cancer.

The report concludes saying that the majority of subjects in this study were not heavy users by today's standards, with a median of two to two and a half hours of reported use per month. Today it is not unusual for young people to use mobile phones for an hour a day or more, though increasing use is tempered by lower emissions from newer technology phones and the increasing use of texting and hands free operations that keep the mobile phone away from the head. As this increase in use in young people was not covered by Interphone, CREAL is co-ordinating a new project, MobiKids[15] to investigate this issue This project is funded by the EU to investigate the risk of brain tumours from mobile phone use in childhood and adolescence.

Two of the most interesting papers in the Interphone study, which do find raised ORs (see glossary) are discussed below.

2. Lahkola et al 2007[16]

This paper used the protocol of the Interphone study to look at 1,521 glioma patients and 3,301 controls. The study found no evidence of increased risk of glioma related to regular mobile phone use (OR 0.78, 95% CL 0.68-0.91), nor any significant association with duration of use, years since first use, cumulative numbers of calls or cumulative house use. However, for more than ten years of mobile phone use reported on the side of the head where the tumour was located (ipsilateral use), an increased OR of borderline statistical significance (OR 1.39, 95% CI 1.01, 1.92) was found, whereas similar use on the opposite side of the head (contralateral use) resulted in an OR of 0.98 (95%CL 0.71, 1.37). This result was particularly important as it was the first study where an observed increased OR for ipsilateral use was not compensated by an accordingly decreased OR for contralateral use, as would be expected under a hypothesised real effect. However, assuming causality, it would also be expected that the effect of laterality becomes stronger with increasing exposure. For ipsilateral and contralateral use ORs would be more or less close to 1.0 among short-term or occasional mobile phone users, but would then grow with increasing exposure, and this was not found in this study. The report concludes that it found an indication of increased risk in

relation to reported ipsilateral phone use of more than ten years duration, but that this could be due to either chance, causal effect or information bias. As well as the methodological problems outlined above for the whole Interphone study, this paper discussed the potential uncertainty in reporting the side where the mobile phone is held, which introduces random error and potential bias if the case believes the mobile phone was the cause of the cancer.

3. Schoemaker et al 2005[17]
This study also used the shared Interphone protocol to look at 678 cases of acoustic neuroma and 3,553 controls. The study found that the risk of acoustic neuroma in relation to regular mobile phone use in the pooled data set was not raised (OR 0.9, 95% CL 0.7–1.1). There was no association of risk with number of years of use, time since first use, lifetime cumulative hours of use, number of calls, or for analogue or digital phones separately, though as noted above cumulative number of hours of phone use and number of calls are subject to substantial misclassification in recall.

The interesting results of this study were that risk of a tumour on the same side of the head as reported phone use (ipsilateral use) was raised for use of ten years or longer (OR 1.8, 95% CL: 1.1–3.1), though risks were not raised for shorter durations of ipsilateral use, nor for overall ipsilateral use.

Owing to the potential for the reported side of use being influenced by recall bias, the study also analysed the relation of tumour laterality to side of handedness, but this produced results which were compatible with, but not strongly supporting, the results on reported side of use. Again, the study outlines the potential of self reported side of phone use as an extremely biased variable, since hearing loss produced by the tumour could cause the user to change use to the other ear, cases could over-report ipsilateral use because they believe it caused their tumour and tumours might be detected earlier in ipsilateral use as they may notice the hearing loss sooner. These biases can act to increase and decrease the risk, and given the multiple, contrary sources of bias the paper concludes no firm conclusions can be drawn from the analysis of side of use.

4. Findings of the WHO[18]
The WHO document ‘What effects do mobile phones have on people’s health?’ published in November 2006 states that although weak and inconclusive, epidemiological evidence does not suggest that there are adverse health effects attributable to long term exposure to radio frequency and microwave frequency from mobile phones. However, it notes that recent studies have reported an increased risk of acoustic neuroma and some brain tumours in people who use an analogue mobile phone for more than ten years.

5. Findings of the SCNIEHR[19]
The SCNIEHR Reports ‘Health Effects of Exposure to EMF’ published in 2007 and 2009 comment on the draft findings of the Interphone study. It mentions the pooled analysis of glioma (Lahkola et al. 2007) which showed no increased relative risk for long-term mobile phone users of ten years or more as well as no increased relative risk estimates for the highest categories of lifetime cumulative number of calls or lifetime cumulative duration of calls. It also discusses the meningioma pooled analysis (Lahkola et al. 2008) where relative risk estimates were slightly decreased, e.g. for mobile phone users of ten years or more (OR=0.91, 95% CL: 0.67-1.25). It comments on two meta-analyses of case-control studies which were not part of the Interphone study, Hardell et al. 2008, Kan et al. 2008. No overall risk for brain tumours were found in the work by Kan et al. (2008), whereas both meta-analyses show an increased risk for brain tumours in long-term users (≥ ten years).

However, it concludes that both studies are of limited use because of inappropriate exclusion criteria and the combination of studies.

The paper discusses the validation studies conducted on the Interphone project, as outlined above, and concludes that it remains an open question whether increased ORs observed for ipsilateral use in many studies are a mixture of true effect and reporting bias or are due to such reporting bias in their entirety.

In vivo studies

The SCNIEHR 2009 Paper states that the results of new studies add to the evidence that the RF fields such as those emitted by mobile phones are not carcinogenic in laboratory rodents. Some of the new studies have also used exposure levels up to 4 W/kg which is higher than most previous studies. Thus, these studies provide additional evidence that carcinogenic effects are not likely even at SAR levels that clearly exceed human exposure from mobile phones. Animal studies have not provided evidence that RF fields could induce cancer, enhance the effects of known carcinogens, or accelerate the development of transplanted tumours. However, there remain questions about the adequacy of the experimental models used and scarcity of data at high exposure levels.

The WHO 2006 paper agrees with the SCNIEHR position, and stated that in vivo studies have found very small and reversible physiological changes. Evidence for an increased risk of developing cancer after exposure to RF or microwave fields was extremely weak. However, it cautions that there are difficulties in extrapolating findings from laboratory studies since the whole brain of rodents is exposed to the radiation as opposed to the small part of the brain with human mobile phone use, and thermal effects seen in rodents due to the increase in local temperature of the brain induced by the microwaves are negligent in humans (local increase in brain temperature has been estimated to be up to 0.1^{o} C in humans). As the results of in vivo studies are inconclusive, it therefore concludes that the hypothesis that RF or microwave radiation is harmful and could have unknown or unrecognised effects on health, cannot be rejected.

In vitro studies

The radiation from mobile phones has much lower energy than the energy necessary to break chemical bonds, and it is therefore generally accepted that RF fields do not directly damage DNA and cause cancer by this mechanism. However, it is possible that certain cellular constituents are altered by exposure to EMF, such as free radicals, indirectly affecting DNA[20]. The WHO 2006 paper[21] stated that in vitro studies have shown abnormal cell proliferation, changes in cell membranes and movement of ions and substances across membranes, though there are large difficulties interpreting these results. Moreover, a biological mechanism that explains any possible carcinogenic effect from RF or microwave fields has yet to be identified. The EU concurs, stating that in vitro studies regarding genotoxicity fail to provide evidence for an involvement of RF field exposure in DNA damage.

Conclusions on cancer

- Exposure to RF fields in unlikely to cause brain cancer in humans with exposure lasting under ten years[22]. For exposures over ten years, there are some indications that exposure to EMF can cause increased odds ratios for gliomas[23] and acoustic neuromas[24]. However, it is not known whether these are causal effects or due to recall bias.

- The conclusion that exposure to RF fields is unlikely to lead to an increase in cancer in humans is consistent with the observation that no visible increases are seen in the age specific incidence rates of tumours of the central nervous system in the Nordic countries over the last decade (Figure 2)[25]. A noticeable increase in the central nervous system tumour incidence rates from 1970 to the late 1980s, particularly in older men and women, is assumed to be an effect of improved diagnostic methods and appeared long before the widespread use of mobile phones.

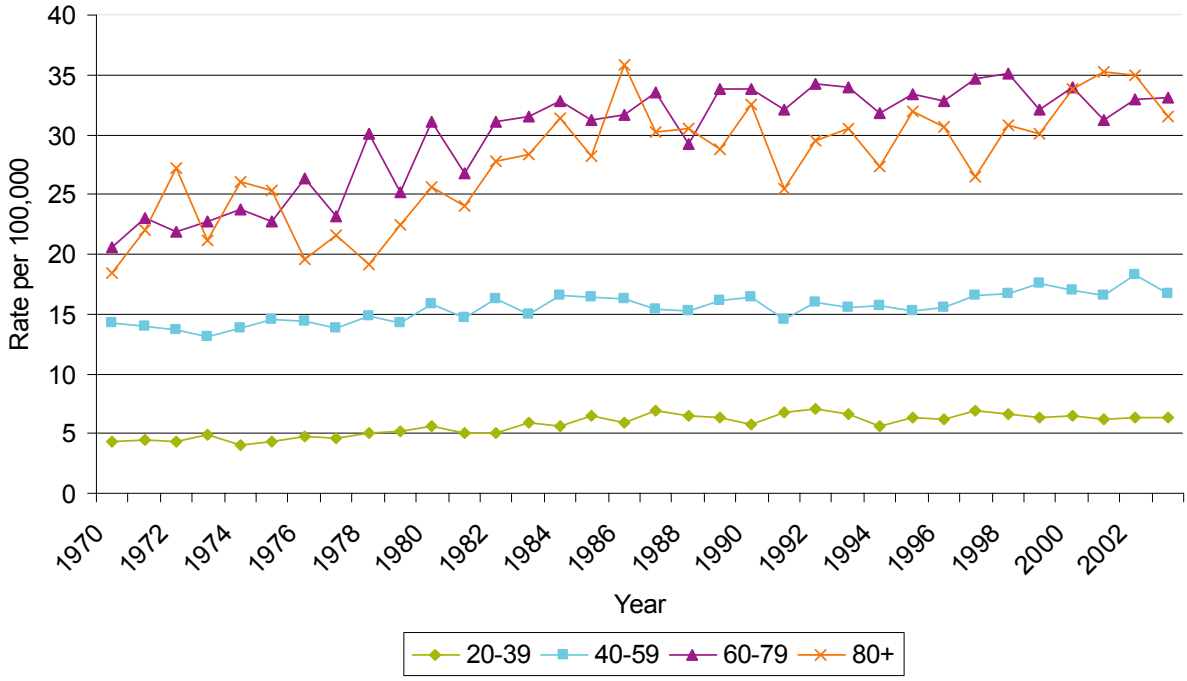

Figure 2: **Incidence of tumours of the central nervous system** (CNS) from 1970 to 2003 among men in the Nordic countries (Denmark, Finland, Iceland, Norway, Sweden), by age groups 20-39, 40-59, 60-79 and 80+ years (Engholm et al. 2008)[26]

- However, due to very long latency times of some cancers (up to thirty years), it is widely agreed that long term studies are required to identify whether longer-term human exposure to mobile phone radiation may pose cancer risk[27].

- The recent implementation of digital mobile phone technology means that studies with exposures over ten years are small, and face many challenges as discussed above. The WHO[2] cautions that "lack of available evidence of detrimental effects on health should not be interpreted as evidence of absence of such effects" and concludes that more long term studies are required before it can be determined whether long-term exposure to EMF does increase cancer rates.

3.3 RF and self reported symptoms

The SCNIEHR 2009 report[28] concluded that scientific studies have failed to provide support for an effect of RF fields on self-reported symptoms, such as headache, fatigue, dizziness and concentration difficulties or well being, sometimes referred to as electromagnetic hypersensitivity (EHS). Scientific studies have indicated that a nocebo effect (an adverse non-specific effect that is caused by expectation or belief that something is harmful) may

play a role in symptom formation. There is no evidence supporting the theory that individuals, including those attributing symptoms to RF exposure, are able to detect RF fields.

3.4 Nervous system effects

The SCNIEHR 2009 report[29] states that with the exception of a few findings in otherwise negative studies, there is no evidence that acute or long-term RF exposure at SAR levels relevant for mobile telephony can influence cognitive functions in humans or animals. There is some evidence that RF exposure influences brain activity as seen by electroencephalography (EEG) studies which record electromagnetic activity along the scalp in humans. Human studies also indicate the possibility of effects on sleep and sleep EEG parameters. However, findings are contradictory and there is a need for further studies into mechanisms that can explain possible effects on sleep and EEG. Other studies on functions and aspects of the nervous system, such as cognitive functions, sensory functions, structural stability and cellular responses show no or no consistent effects. There is also no evidence that exposure to RF fields at the levels relevant for mobile telephony have effects on hearing or vision.

3.5 Reproduction and development

The SCNIEHR 2009 reports concludes that the recent studies that addressed RF field effects on prenatal development in animals and the association of maternal mobile phone use with behavioural effects in children show that there are no adverse effects at non-thermal exposure levels.

3.6 Children

There are many concerns about the exposure of children to EMF from mobile phones. The SCNIEHR 2009 report discusses this in detail. Children's nervous systems have completed anatomical development at around two years of age, however, functional development continues up to adulthood, and could possibly be disturbed by RF fields.

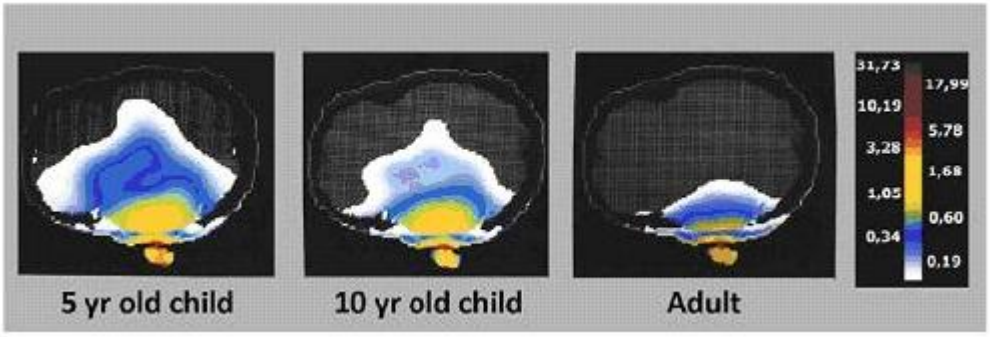

Figure 3: Estimation of the penetration of electromagnetic radiation from a cell phone based on age using computer generated models (scale on right shows the SAR in W/kg)[30]

There are several differences between exposure to EMFs for children and adults, in that children will have much greater cumulative lifetime exposures and also that dosimetric effects may be different. Part of this is due to children having smaller brains, so more of the brain is exposed to EMF, and part of it is due to greater conductivity of the brain tissue as children's brains contains more water than adult brains.

Several studies (Gabriel 2005, Martens 2005, Schmid and Uberbacher 2005, Peyman et al 2007, Gandhi et al 1996) have indicated children have more conductive brain tissues, which

would lead to higher exposures. However, these were studies on the brains of dead animals and there are difficulties extrapolating this data from animals to children and from dead to living conditions. As shown in figure 3, the study by Gandhi et al (1996) was based on computer generated models.

In another study of a computer generated model of a five year old child it was shown that when the model is exposed to electromagnetic fields at the ICNIPR reference levels of public exposure, the standardised limits were exceeded by 40% (Conil et al. 2008). It is important to realise that this study refers to far-field exposure only, for which the actual exposure levels are orders of magnitude below existing guidelines. Far field exposure can be roughly defined as the recipient of the exposure being more than two wavelengths away from the source of the EMF. This would be from, for example, a transmitter rather than near field exposure which is the recipient being around one wavelength away from the source.

There are many difficulties extrapolating data from adult studies to children, and so it is important that further studies of the exposure of children to EMF should be carried out using a variety of models and exposure conditions. One positive conclusive result with regards to children and EMF exposure is that recent well conducted epidemiological studies provide evidence against an association between RF EMF exposure from broadcast transmitters and the risk of childhood leukaemia.

4. INSURANCE IMPLICATIONS

When considering the potential impact EMF could have on the insurance industry it is of course important to look at what will happen if it is scientifically demonstrated that EMF causes adverse health effects. It is difficult to be certain of any future outcomes so this section looks at where insurance cover is likely to be triggered, the current legal situation with EMF cases and finally considers the issue of asbestos and whether any comparisons can be drawn. If EMF is proved to cause an increased risk of brain cancer it is likely the insurance industry will see claims under product liability policies for bodily injury.

It is informative to look at recent legal cases to assess the current situation and the two following cases will be discussed in more detail below. *Newman v Motorola* (2002) is a very interesting case because the judge rejected the plaintiffs' expert witness' evidence that EMF causes brain cancer on the grounds that it was generally not widely accepted by the scientific community, and that there were flaws with recall bias in the studies.

Murray v Motorola (2009) is another intriguing case because the judge ruled that plaintiffs are not able to claim for damage caused by mobile phones which conform to US legislation. However, the case is proceeding regarding allegations that Motorola et al fixed the results of their exposure tests and have suppressed conclusive information about the health risks EMF poses.

Finally this section will draw comparisons between EMF and asbestos. The issue of asbestos and its implications is widely known throughout the insurance industry, and many comparisons can be drawn with EMF – the initial impression that it was a 'wonder product' coupled with potential very long-term serious health issues not understood at the start of its use. Like asbestos any EMF litigation will probably be long and complex – similar issues could occur such as the definition of an actionable injury, policy triggers and apportioning liability. The last issue will be particularly difficult, since brain cancer occurs without exposure to EMF, whereas mesothelioma usually arises from exposure to asbestos.

4.1 Insurance Cover

Should EMF prove to cause brain cancer, or any other adverse health effects, it is likely the main effect on the insurance industry will concern product liability claims for bodily injury. It is therefore interesting to look at recent legal cases where claimants have taken mobile phone manufacturers to court for bodily injury claims and also to look at asbestos and see what comparisons can be drawn between the two issues.

4.2 Legal cases

Newman v Motorola 2002[31]

In this US case Dr Newman claimed that his use of a wireless handheld telephone manufactured by Motorola caused his brain cancer. He filed for $800m compensation in 2000. The court focused on the issues of general and specific causation – ie can the use of wireless handheld telephones cause brain cancer and did the use of the Motorola phone cause Dr Newman's brain cancer.

The plaintiff's expert witness claimed that EMF exposure causes brain cancer, a theory which relies on maximum exposure occurring at the location where the phone was held and the cancer occurred. Other witnesses gave evidence that in fact the cancer Dr Newman had was 'deeper' in the brain than normal, and that the highest exposure had in fact not been in the location of the tumour

Both sides filed motions to exclude the other's expert testimony. Because no sufficiently reliable and relevant scientific evidence in support of either general or specific causation had been offered by the plaintiffs, the defendants' motion was granted and the plaintiffs' motion

denied because it failed the Daubert principle (a set of guidelines governing the use of expert witness testimony in the US courts).

The reasons the judge gave for not accepting the plaintiff's evidence was that there had been no acceptance of the plaintiffs' theory and technique of demonstrating cancer causation in the scientific community, pointing to problems with recall bias in the studies he put forward as evidence.

The judge also said that overdue emphasis was put on the positive finding for isolated subgroups of tumours, and pointed out that there has been no overall change in the incidence of tumours such as Dr Newton's, despite the increasing use of cell phones. The judge said that reliable epidemiology evidence is essential before any link between animal studies and human cancer causation can be made. The decision was appealed, but upheld by the appeals court.

Although the ruling on this case was several years ago, there has not been a large amount of new scientific evidence since then. The judge's verdict shows that to be liable, there must be relevant and reliable evidence that exposure to EMF causes brain cancer, and this must be generally accepted in the scientific community. It is also worth noting the emphasis on epidemiological evidence above that of in vivo and in vitro.

Murray v Motorola 2009 [32]

In this US case six separate complaints filed in November 2001 or February 2002 suing defendants including Verizon, Vodaphone, Nokia and Motorola were amalgamated together. The case was first heard in the Superior Court of the District of Colombia and then heard in the appeal courts in 2009.

The complaints asserted virtually identical causes for action for intentional fraud and misrepresentation, negligent misrepresentation, strict product liability, failure to warn and defective manufacture and design, negligence, gross negligence, breach of express warranty, breach of implied warranty, conspiracy, violations of the Columbia Consumer Protection Act 2000, civil battery and loss of consortium.

The plaintiffs alleged that Motorola et al have long been aware of numerous studies revealing that EMF from mobile phones have both thermal and non thermal effects that are severely harmful to human health. They allege mobile phone companies manipulated the research of the American National Standards Institute before the standards came in, and when SARs were specified in 1996, the Federal Communications Commission (the US regulator for interstate and international communications) allowed mobile phone manufacturers to self-certify their mobile phones within the SAR limits, even though SAR results are easily manipulated.

The complaints continue that SAR values that the defendants report to the FCC are below the real values and actual values exceed the SAR limits established by the FCC. They also allege that though they were aware of numerous solutions that could virtually eliminate the health hazards, the companies did not adopt these nor warn their users of potential risks or methods that could be used to minimise exposure.

Judge Long, in the original case, said that the gist of the plaintiff's complaints is that mobile phones that are sold in compliance with current FCC rules may nevertheless be deemed unreasonably dangerous under state law, so that wireless carriers and equipment manufacturers potentially may be subject to civil liability on that basis.

Judge Long concluded that the complaints are barred by doctrine of conflict pre-emption because, if successful, they would stand as an obstacle to the accomplishment of federal objectives. By urging a jury to find that the defendant's cell phones emit unreasonably dangerous levels of RF radiation, even though the phones' emissions are within the SAR guidelines adopted by the FCC, the plaintiffs are effectively seeking to lower the FCC's current SAR standards.

The FCC explained that the RF limits it uses "provide a proper balance between the need to protect the pubic and workers from exposure to excessive RF electromagnetic fields and the need to allow communications services to readily address growing marketplace demands".

The Superior Court ruled that all of the claims are barred on the basis of both express and implied federal pre-emption. Although the Appeal court found no express pre-emption, they concluded that federal law does impliedly pre-empt the plaintiff's complains insofar as they seek to hold defendants liable for bodily injuries from cell phones that met the radio frequency radiation standards adopted by the Federal Communication Commission. However, they concluded that insofar as the plaintiffs' allege that they were injured through use of cells phones that only met the FCC standard due to manipulation of the results; the claims are not federally pre-empted. Federal pre-emption also does not apply to the plaintiffs claims that phones purchased prior to 1996 (when the FCC applied SARs) have caused injury.

This case is interesting because it shows that as long as manufacturers are making phones which comply with the FCC limits they are not liable for bodily harm caused by the exposure. The case about phones which do not meet the FCC standards has been allowed to proceed – it will be interesting to see the verdict because if the manufacturers are found to have been fixing the results of the standards tests, or to have suppressed evidence that EMF does cause harm then they will not only become liable for damages in this case, but many other cases are likely to follow.

Were a similar case to occur in the UK, then it is possible a "state of the art" defence could be used, whereby as long as at the time of manufacture there was no indication that the product would be dangerous, manufacturers are not liable. This defence is an exception to the Consumer Protection Act 1987 which in the main, states that manufacturers are strictly liable for defective products, and claimants do not have to prove negligence. There is much discussion about the "state of the art defence" in British law and its future is uncertain.

4.2 Lessons from Asbestos

Many comparisons can be drawn between EMF and asbestos, and it is useful to look at the history of asbestos and the implications for the insurance industry to see what could happen with mobile phones if they prove to be harmful.

Asbestos was a 'wonder fibre' when it was first discovered, able to withstand high temperatures but remain soft and pliable[33]. Its resistance to heat, electrical and chemical damage, as well as sound absorption and tensile strength properties meant it was widely used in the construction industry as fire retardant coatings, pipe insulation, fireproof drywall, flooring and roofing[34].

When it emerged in the 1980s that asbestos caused lung diseases claims for bodily injury started being made, and class action suits were brought in the US. Though asbestos primarily affected workers, it was not a workers compensation act or employer liability problem, but a products liability problem.

The impact on the insurance industry in general, and Lloyd's in particular, is well known. The predicted cost of asbestos to the insurance industry is still rising. The UK Asbestos Working Party Update 2009 stated that the undiscounted cost of UK mesothelioma related claims to UK insurance market from 2009-2040 would be over £8bn which is double their estimate of £4bn presented in a 2004 paper[35]. Long latency periods and increasing life expectancy mean mesothelioma claims are likely to be with us for many years. The comparison here with EMF is obvious – if it is proven to cause cancer, then the injuries may not become clear until many years after the exposure due to similarly long latency periods. The danger with EMF is that, like asbestos, the exposure insurers face is underestimated and could grow exponentially and be with us for many years.

Asbestos claims are complex, and there have been a large number of court cases on the issues, some of which are still ongoing. The three major issues with asbestos are injury, apportioning liability and the trigger of the insurance contract.

Injury

In terms of injury, simply inhaling asbestos fibres is not an injury, let alone an actionable one, as established in *Bolton MBC v Municipal Mutual Insurance Limited* (2006) and *Durham v BAI (run off)* (2009). In fact, people on the street will have a few thousand asbestos fibres in their lungs, whereas people exposed in industry have a few billions of fibres in their lungs[36]. Pleural plaques, small localised areas of fibrosis found within the pleura of the lung caused by exposure to asbestos fibres which have no symptoms, were compensated for since the 1980s. However in 2007 the House of Lords ruled on the *Rothwell v Chemical & Insulating Co. Ltd (Rothwell)* case that plaintiffs could not claim for pleural plaques as they do not increase susceptibility to other asbestos related diseases, or shorten life expectancy and so do not constitute an actionable injury unless symptomatic[37]. The situation differs in Scotland, as in 2009 the Damages (Asbestos-Related Conditions) Scotland Act was introduced, which means insurers will have to compensate for pleural plaques in Scotland. In 2010 the Government upheld the previous House of Lords judgement and restated that this is not the case in England and Wales. In addition, it is worth noting that in the UK psychiatric illness due to anxiety about future disease is not actionable because it is not inevitable that exposure to asbestos will lead to mesothelioma. This is not the case in the US. Anxiety about mobile phones causing cancer is therefore not actionable in the UK, though may be in the US.

Liability

The second major problem with asbestos was how to apportion liability, since claimants may have worked in several workplaces and been exposed to asbestos in more than one place.

In *Fairchild v Glenhaven Funeral Services* (2002) the judge ruled that employers were joint and severally liable and that it was sufficient for the claimant to prove that the defendant had materially increased the risk of contracting the disease. However in *Barker v Corus* (2006) the judge ruled that proportionate liability should be applied, with employers severally but not jointly liable. This was immediately followed by the Compensation Act 2006, in which the government decided all parties were jointly and severally liable[a].

This means a person liable in tort for having caused or permitted a negligent exposure to asbestos shall be 100% liable. *Sienkiewicz v Grief* (2009) confirmed this new tort, and that no mesothelioma is required to prove causation. This is where the biggest difference between asbestos and EMF occurs. Although if it is proved that EMF does cause cancer, the

[a] This Act applies only to asbestos

problem of apportioning liability due to different cell phones used at different times will be similar to the difficulties witnessed in determining which company was responsible for the injury caused by asbestos. However the situation is more complex with EMF than asbestos. Mesothelioma is, as a rule of thumb[38] caused only by asbestos exposure. In contrast, incidences of brain cancer have been known for many years, and incidence varies hugely due to unknown factors.

This can be seen by looking at a map of the US (Figure 3), which shows the huge variation in brain and nervous system cancers in the US by state. Therefore, it will be hard to decide who is responsible for the injury and whether cell phone antenna contribution can be separated from other potential radio-frequency radiation.

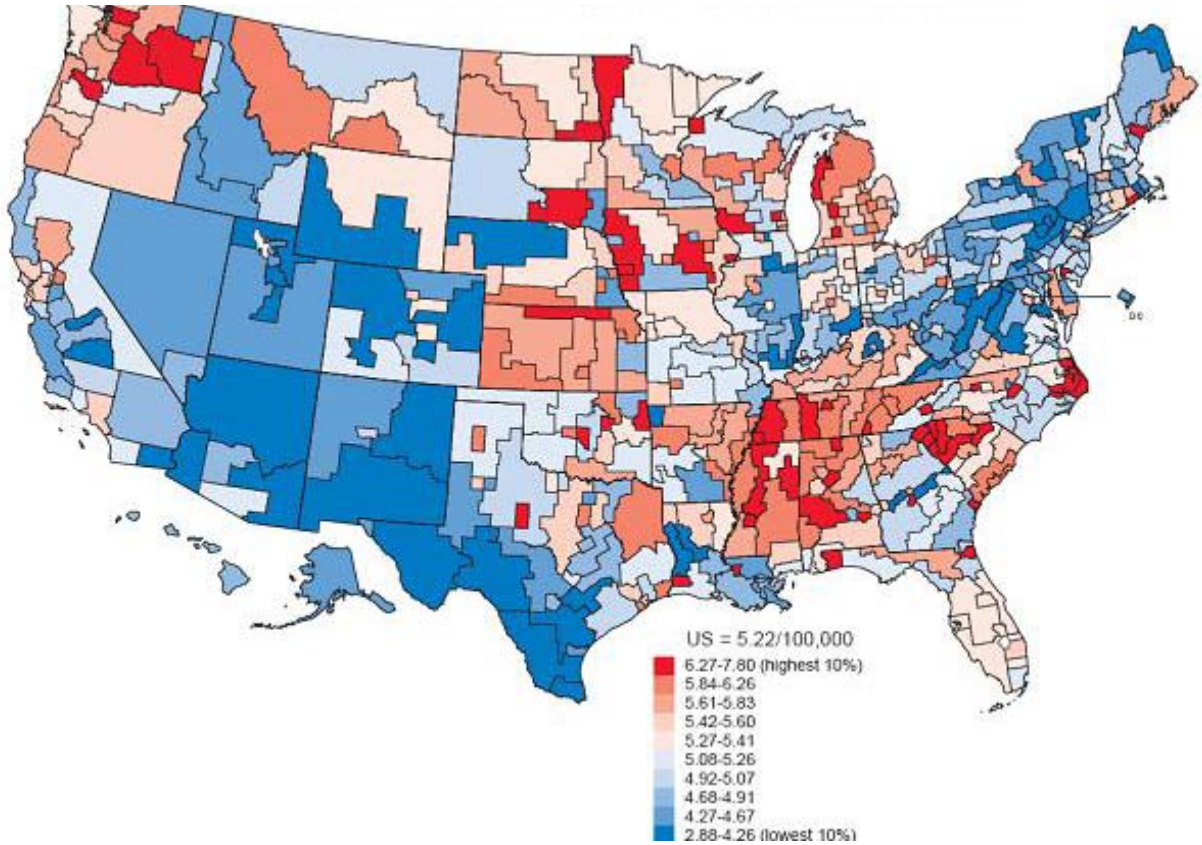

Figure 3: **Cancer Mortality Rates in the US for brain and other nervous system, white males 1970-94**, National Cancer Institute, Cancer Mortality Maps and Graphs[39].

Trigger of the insurance contract

Another interesting aspect is deciding when an injury was sustained or caused and accordingly whether an insurance policy will be triggered.

In *Bolton v Municipal Mutual* (2006) it was established that angiogenesis (when the blood supply is established to the tumour), rather than the presence of the first mesothelial cell was the critical turning point. Angeniosis could be up to five years before diagnosis, whereas the first mesotheliomal cell could appear 10-20 years before diagnosis. Product liability policies are usually on a “claims made” basis, meaning the trigger is an injury happening or occurring

during the policy period. The policy is therefore not triggered until an actionable injury occurs ie when the claimant gets cancer, as opposed to when they breathe in asbestos fibres.

Employers' liability policies, on the other hand, are generally not on a "claims made" basis. Before the 1980's they were usually indemnified on injury "sustained" during the policy. In the 1980's this wording was changed to injury "caused" during the policy. There is currently ongoing employers' liability trigger litigation on this issue.

In *Durham v BAI Run off Ltd* (2009) Judge Burton said "sustained" meant "be caused", deciding that injury is sustained and disease is contracted on angiogenesis but that the wording in insurance contracts should be construed to have effect as if there was a causation trigger because that is what everyone would have understood it to mean at the time the contracts were written. There was an appeal on the grounds that this is not in accordance with the ordinary meaning of the word "sustained" and a decision is awaited.

5. CONCLUSIONS

The large bulk of scientific evidence shows that exposure to EMF from mobile phones does not cause cancer, with the exception of exposure over ten years where there are some indications of an increased risk of certain types of brain cancer, namely acoustic neuromas and gliomas. Similarly, other health problems, such as self-reported symptoms do not seem to be caused by EMF. However, the lack of long-term data coupled with the long latency periods of many cancers means that further long-term studies are needed to confirm there is no health risk from long-term low EMF exposure.

With regards to the implication to insurance, as the current scientific evidence stands, it is unlikely that insurers will be liable for compensation for bodily injury on product liability policies. However, as asbestos has shown, new scientific developments coupled with a small number of key legal cases can change the situation very rapidly.

6. NEXT STEPS

Opinion on the issue of whether EMF causes adverse health effects is constantly changing, and therefore to monitor any potential impact EMF could have on the insurance industry it is important to keep up to date with new scientific research as well as legal cases on the subject.

It will also be instructive to review the outcome of *Murray v Motorola*, as this case could prove a turning point in EMF litigation if it is found that manufacturers have suppressed evidence of harmful effects of EMF and are guilty of negligence.

While this paper has looked at the potential health effects caused by EMF exposure during mobile phone use, much higher EMF exposure occurs in industrial situations, such as people working in the electricity generation, transmission and distribution industry[40], and it may therefore be worthwhile to investigate whether there is more conclusive evidence that EMF exposure in these situations can cause bodily injury.

GLOSSARY

Acoustic neuroma: an acoustic neuroma is a benign tumour that may develop on the hearing and balance nerves near the inner ear. Approximately 3,000 cases are diagnosed each year in the US.

Abestosis: A scarring of the lung tissue from an acid produced by the body's attempts to destroy the asbestos fibres, with a latency period of 10-20 years.

Averaging volume: When analysing the absorption rate, scientists take an area of the brain and average the SAR across that area. The size of this area varies across different countries.

Carcinogenesis: The process by which normal cells are transformed into cancer cells.

Case-control study: Persons who have developed a disease are identified and their past exposure to potential aetiological factors is compared to persons who do not have the disease.

Confidence intervals (CI): Instead of estimating the parameter by a single value, an interval is given that is likely to include the parameter. Thus, confidence intervals are used to indicate the reliability of an estimate. For a 95% confidence interval the smaller the range, the more reliable the result.

Contralateral: On the opposite side.

Dose response: A change in effect on an organism caused by differing levels of exposure (or doses) to a stressor (usually a chemical) after a certain exposure time.

Epidemiology: The study of how often diseases occur in different groups of people and why

Federal pre-emption: Invalidation of state law if it conflicts with federal law. It can be express or implied pre-emption.

Glioma: A cancer of the brain that begins in glial cells (cells that surround and support nerve cells. In the US, the incidence of glioma (the rate of new cases) has been estimated to be 20,000 cases per year[41]

Ipsilateral: On the same side.

Loss of consortium: The deprivation of the benefits of a family relationship due to injuries.

Mesothelioma: A cancer of the mesothelial lining of the lungs and the chest cavity, the peritoneum or the pericardium with a latency period of 20-50 years.

Meningioma: A type of slow-growing tumour that forms in the meninges (thin layers of tissue that cover and protect the brain and spinal cord). Most meningiomas are benign and usually occur in adults. In the US, around 6,500 people are diagnosed with this tumour each year. [42]

Odds ratios: A statistic used to asses the risk of a particular disease if a certain factor is present. It is a relative measure of risk, telling how much more likely it is that someone who is exposed to the factor under study will develop the outcome as compared to someone who is not exposed.

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[19] See endnote 4

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From:	Enoch J Ledet
To:	PDS_Planning_Commission
Cc:	Enoch J Ledet
Subject:	Re: 5G Cell Tower Health/Safety Concerns
Date:	Thursday, June 16, 2022 12:09:44 PM
Attachments:	5G Cell Tower, Cell Phones, Smart Meter Safety Concerns.docx

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Dear PDS Planning Commission members,

Please find attached website which contains many research review articles on 5G which express potential safety issues associated with broadcast frequencies. Included in this resource are recorded videos from prominent scientists and MDs warning readers/viewers of these safety/health concerns.

Respectfully,
EJ Ledet

Attachment

https://www.radiationhealthrisks.com/scientific-studies/

Sent from my iPhone

> On Jun 16, 2022, at 10:00 AM, Enoch J Ledet <enoch.ledet@gmail.com> wrote:
>
> As a concerned citizen, LWWSD fee payer, and SVCA member, I wanted to make each of you aware of potential safety issues discussed in attached word document which I compiled and summarized. The Word Document also contains hyperlinks to various resources used in this file.
>
> https://acrobat.adobe.com/link/track?uri=urn:aaid:scds:US:857ef3b0-04c3-3037-96e9-6259237ab344
>
> Respectfully,
> EJ Ledet
> Enoch.ledet@gmail.com
>
> From Jon Humphrey
>
> Thanks Can you share this with the planning commission too please. They're having a meeting on the 23rd to remove all barriers to wireless installation.
>
> Sent from my iPhone

From:	Enoch J Ledet
To:	PDS_Planning_Commission
Subject:	5G Cell Tower Health/Safety Concerns
Date:	Thursday, June 16, 2022 10:00:44 AM
Attachments:	5G Cell Tower, Cell Phones, Smart Meter Safety Concerns.docx

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As a concerned citizen, LWWSD fee payer, and SVCA member, I wanted to make each of you aware of potential safety issues discussed in attached word document which I compiled and summarized. The Word Document also contains hyperlinks to various resources used in this file.

https://acrobat.adobe.com/link/track?uri=urn:aaid:scds:US:857ef3b0-04c3-3037-96e9-6259237ab344

Respectfully,
EJ Ledet
Enoch.ledet@gmail.com

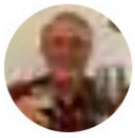
From Jon Humphrey

Thanks Can you share this with the planning commission too please. They're having a meeting on the 23rd to remove all barriers to wireless installation.

Sent from my iPhone

5G Cell Tower , Cell Phone, Smart Meter n IR Emissions Safety Concerns

From Sudden Valley NextDoor Discussions:



Enoch J Ledet · Sudden Valley

To solve any event based problem we need to know the what, where, location, impact, and significance. In reading various articles submitted by various neighbors in this blog, based upon what they have sensed (read, heard, etc.) there is disagreement on impact and significance in defining this problem.

So for those interested in continuing discussion on 5G Cell Towers (What) in Bellingham (Where), in 2022 (When), Let's attempt to define both the impact and significance (examples: health and costs).

3h **Like** **Reply** **Share**

Here are a few articles on potential health/safety/environmental public concerns to discuss /debate/fact check :

https://www.radiationhealthrisks.com/scientific-studies/

https://www.radiationhealthrisks.com/cell-phone-tower-radiation-harmful/

https://www.foxnews.com/tech/are-cellphone-towers-hazardous-to-your-health

https://blogs.scientificamerican.com/observations/we-have-no-reason-to-believe-5g-is-safe/

Excerpts:

Study Results Vary Depending On Who Pays For Study

You will see this over and over. Their are "thousands" of studies on both sides of this safety argument. The ones put out by government agencies or that are paid for by the technology industry all say that it is all safe and everything is fine.

But all of the truly independent studies, those not by government agencies nor paid for by industry all say that the RF or Microwave radiation put out by cell towers, cell phones, and other wifi or cordless technologies are not safe at all. In fact they say that they are very dangerous.

Comparison of our limit alongside other countries' standards:
USA\Canada = 1000 microwatts /m2 (same as ICNIRP 1998)
Australia = 200 microwatts /m2
Auckland (New Zealand) = 50 microwatts /m2
Now if the safety limits in the US are 1,000 microwatts per unit squared guess what the average smart meter puts out for example? Any guesses? You would think after reading this cell phone health facts website that anything wifi like internet or cell phones would have to be "thousands of times below safety limits set by the FCC" right?

Well the average smart meter on the average home puts out about 60,000 microwatts per unit squared! That is not thousands of times below the safety standard, it is 60 times the US safety standard!

A cell tower has many huge power cables running to it. If a little smart meter is putting out 60 times the RF radiation safety standards a cell tower must be putting out many many many times what a puny little smart meter puts out.

Where I am getting my information about how many microwatts per unit squared (60,000) a smart meter puts out is from Dr. Laura Pressley Ph.D., (who has a doctorate in Physical Chemistry and holds four U.S. Patents in semiconductor device technology). You can watch a video where she talks about this on the videos page of this website.

https://www.radiationhealthrisks.com/cell-phone-tower-radiation-harmful/

RF Radiation Independent Studies
In 2012 there is a report published called the Bioinitiative Report at www.bioinitiative.org which is an extensive summary of the health effects associated with low intensity, non-ionizing, electromagnetic radiation.

was released and published by 29 health professionals from ten countries, with medical and Ph.D. degrees. It summarizes the peer reviewed non-ionizing radiation research published from 1996 – 2011. It examines the dangerous health problems associated with exposure to RF and microwave radiation sources such as smart meters, cell phones, cell towers, and the like.

https://bioinitiative.org/

BIOINITIATIVE 2012 – CONCLUSIONS Table 1-1

Overall, these 1800 or so new studies report abnormal gene transcription (Section 5); genotoxicity and single-and double-strand DNA damage (Section 6); stress proteins because of the fractal RF-antenna like nature of DNA (Section 7); chromatin condensation and loss of DNA repair capacity in human stem cells (Sections 6 and 15); reduction in free-radical scavengers – particularly melatonin (Sections 5, 9, 13, 14, 15, 16 and 17); neurotoxicity in humans and animals (Section 9), carcinogenicity in humans (Sections 11, 12, 13, 14, 15, 16 and 17); serious impacts on human and animal sperm morphology and function (Section 18); effects on offspring behavior (Section 18, 19 and 20); and effects on brain and cranial bone development in the offspring of animals that are exposed to cell phone radiation during pregnancy (Sections 5 and 18). This is only a snapshot of the evidence presented in the BioInitiative 2012 updated report."

So the bottom line here is just in this report alone is over 1800 studies discussed and the report was put together by 29 independent scientists in from all around the world. Again the more you dig into this topic the more you will see this pattern. If the study or article was put out by a government or from some entity within the technology industry things are rosy and perfectly safe. If it was put out by someone independent of those sources, their findings are 180 degrees in the opposite direction.

https://www.biorxiv.org/content/biorxiv/early/2016/05/26/055699.full.pdf

Respectfully,
EJ Ledet
Enoch.ledet@gmail.com
Sudden Valley Community Association

Addendum Articles

American Cancer Society
RF radiation is "possibly" carcinogenic to humans (IARC).

More longterm studies are needed by FCC.

Hmm, sounds similar to longterm studies on mRNA vaccines by CDC/FDA?
I
Again, it would appear there is a disagreement between large institutions , Gov Agencies, and smaller groups on RF , nIR study results .

https://www.cancer.org/healthy/cancer-causes/radiation-exposure/smart-meters.html

Are Smart Meters Safe? - EMP Shield
There are numerous findings and reports from independent studies and major institutes, including the World Health Organization, that indicate that the type of RF and EMF radiation generated by smart meters is considered a Class 2B Carcinogen. Those same studies have shown that these types of Carcinogens are repressible for all sorts of health issues including headaches, dizziness, nausea and even tumors or various types of cancer. Other research has indicated that the type of radiation emitted from

so called smart meters is even capable of altering or destroying DNA. I think we can all agree that having ones DNA irrevocably altered by a piece of technology can't be good for our children or our future generations…

https://www.empshield.com/smart-meter-safety/

https://pubmed.ncbi.nlm.nih.gov/24162060/

https://pubmed.ncbi.nlm.nih.gov/18242044/

Several PubMed articles Show: increases in brain temperature caused by exposure to non ionizing radiation from cell phones ; possible fertility effect on male Sperm;
Possible brain tumor-RF radiation in the frequency range 30 kHz-300 GHz is a Group 2B, that is, a "possible" human carcinogen;
Non-ionizing radiation progressed endometrial hyperplasia in an experimental rat model with/without estrogen exposure; Although radiofrequency from mobile phones has tumour effects on humans, the available scientific evidence is not robust.

More rigorous follow-up studies with larger sample sizes and broader periods are necessary to learn more about the long-term effects.

See attached articles:
https://pubmed.ncbi.nlm.nih.gov/10533916/

Males: possible effect on sperm production and infertility.

The study concludes that the RF-EMF may induce oxidative stress with an increased level of reactive oxygen species, which may lead to infertility. This has been concluded based on available evidences from in vitro and in vivo studies suggesting that RF-EMF exposure negatively affects sperm quality.

https://pubmed.ncbi.nlm.nih.gov/30445985/

An evaluation of the scientific evidence on the brain tumor risk was made in May 2011 by the International Agency for Research on Cancer at World Health Organization. The scientific panel reached the conclusion that RF radiation from devices that emit non ionizing RF radiation in the frequency range 30 kHz-300 GHz is a Group 2B, that is, a "possible" human carcinogen.

With respect to health implications of digital (wireless) technologies, it is of importance that neurological diseases, physiological addiction, cognition, sleep, and behavioral problems are considered in addition to cancer.

Well-being needs to be carefully evaluated as an effect of changed behavior in children and adolescents through their interactions with modern digital technologies.

https://pubmed.ncbi.nlm.nih.gov/28504422/

https://pubmed.ncbi.nlm.nih.gov/31349952/

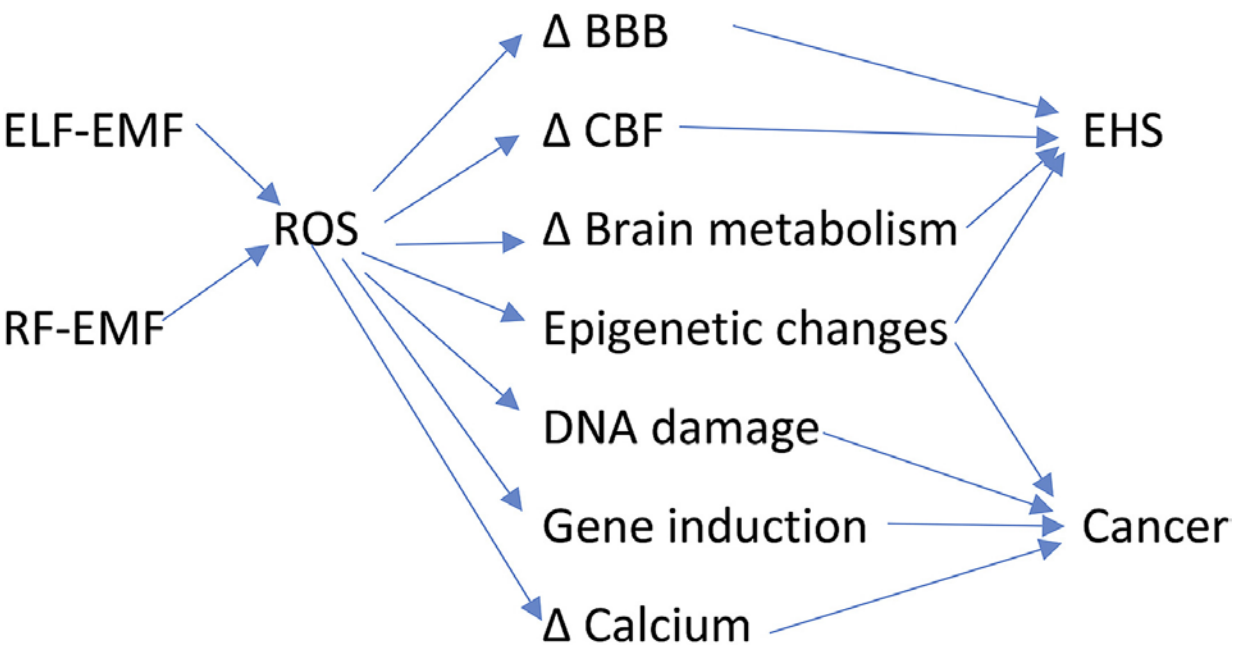
https://pubmed.ncbi.nlm.nih.gov/28411874/

More PubMed articles on non ionizing radiation from cell phones -1434 results

https://pubmed.ncbi.nlm.nih.gov/?term=Non+ionizing+radiation+from+cell+phones

Science Direct Article
https://www.sciencedirect.com/science/article/pii/S0269749118310157

Radio Frequency - electromagnetic radiation cause oxidative stress and formation of reactive oxygen species which can impact human health



The implication diagram that EMF cause ROS/ oxidative stress -but where is the evidence /causal relationship on affecting Ca channel in NADPH oxidation on cell membrane.

https://www.sciencedirect.com/science/article/abs/pii/S0269749118310157

It is known that small voltage changes of about 30 mV in the membrane potential are able to gate this kind of channel [14,15]. Such a change can be caused by the displacement of a single ion by 10−12 m from the electric field of the EMF and in the vicinity S4 of the voltage-gated channels. Hence, EMF-induced oscillating ions can disturb the electrochemical balance of the membrane via the gating of such channels, and those ions crossing such channels can change their normal positions and can produce a false signal for the gating such channels with their charge. This mechanism can also explain the biological action of oscillating magnetic fields by replacing the force of the electric field with the force exerted by an alternating magnetic field and also by accounting for the induced electric field, which is always generated by the pulsed magnetic one. The mechanism concludes that oscillating electric or magnetic fields with frequencies lower than 1.6 × 104 Hz (ELF and VLF fields) can be bioactive, even at very low intensities [2,16]. It is also claimed that pulsed EMFs can even further amplify their biological action compared to continuous EMFs [16,17,18].

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8470280/

A third, even more important, reason is based on the fact that the cell membrane has a very high electrical resistance, which acts as amplifier of the electrical gradient (the difference in electrical charge across the cell membrane), amplifying it by about 3000 times. Combining these three distinct reasons, it is implied that the total amplification of the exerted forces by the RF EMF electric fields on the VGCC voltage sensor's 20 electrical charges is equal to 20 × 120 times (due to the dielectric constant of the fatty inner space of the membrane) × 3000 times (due to the electrical gradient of the membrane), totaling 7,200,000 times. That is, the forces exerted on the VGCC voltage sensor by the RF EMFs are about 7.2 million times stronger than those in the electrically charged groups that are in the hydrophilic environment of our cells, which is where the safety guidelines for the RF EMF are set by ICNIRP.
EMFs act via the activation VGCC in the plasma membrane, producing excessive Ca2+, which leads to the pathophysiological effects associated with ROS, such as nitric oxide (NO), superoxide radical (O2•−), and peroxynitrite (ONOOH) [6]. Studies on the mechanisms related to VGCC and to the associated pleiotropic effects are presented elsewhere [1].
Recent evidence indicates that ROS/RNS-induced OS is among the main intracellular signal transducers, sustaining lysosomal autophagy and nuclear DNA damage response [57,58]. In general, DNA base damage by ROS involves the formation of single lesions in the pyrimidine and purine bases, intra/inter-strand cross-links, purine 5',8-cyclonucleosides, and DNA-protein adducts formed by the reactions of the 2-deoxyribose moiety and/or the nucleobases with ROS such as singlet oxygen (1O2), •OH, and HOCl [59

In human neuroblastoma cells, low-level GSM EMFs cause alterations on Amyloid Precursor Protein processing and cellular topology, and changes in monomeric alpha-synuclein accumulation and multimerization, which can happen concurrently by means of the induction of OS and cell death, which are possibly linked to Alzheimer's and Parkinson's diseases [80]. Neurological abnormalities by RF EMF (GSM) are extended to effects on transient and cumulative memory impairments [81] and on short-term memory in mice (by impairing them to pass successfully the Object Recognition Task [82]), possibly due to disturbance of cation channels, particularly that of Ca2+ (as also suggested by the EMF effect on the calcium binding protein [83]), and to proteome expression changes in the mouse brain hippocampus and other memory-related brain regions [56].

Conclusions

On the basis of the above findings, an EMF mechanism can involve ROS formation due to membrane and voltage-gated cation channel function deterioration [2,3,7,8] followed by stress activation and heat-shock protein overexpression [56], which may be associated with behavioural and physiological effects such as blood–brain barrier disruption, memory malfunction, changes in gene expression [53], autophagy, apoptosis [53,84] (especially due to modulation [85]), lifespan reduction, DNA damage, and cancer [18].

methods for the in vivo specific detection of the key biological free radicals •OH and O2•− ([89,90]) are needed in order to unequivocally prove the generation of carcinogenic OS by EMFs.

To the best of our knowledge, the present study provides for the first time a complete and precise biophysical/biochemical picture to explain the great number of experimental and epidemiological findings connecting human-made EMF exposure with DNA damage and related pathologies such as cancer, infertility and neurodegenerative diseases.

The long-existing experimental and epidemiological findings connecting exposure to human-made EMFs and DNA damage, infertility and cancer, are now explained by the presented complete mechanism. The present study should provide a basis for further research and encourage health authorities to take measures for the protection of life on Earth against unrestricted use of human-made EMFs.

18 more recent epidemiological studies, provide substantial evidence that microwave EMFs from cell/mobile phone base stations, excessive cell/mobile phone usage and from wireless smart meters can each produce similar patterns of neuropsychiatric effects, with several of these studies showing clear dose-response relationships. Lesser evidence from 6 additional studies suggests that short wave, radio station, occupational and digital TV antenna exposures may produce similar neuropsychiatric effects. Among the more commonly reported changes are sleep disturbance/insomnia, headache, depression/depressive symptoms, fatigue/tiredness, dysesthesia, concentration/attention dysfunction, memory changes, dizziness, irritability, loss of appetite/body weight, restlessness/anxiety, nausea, skin burning/tingling/dermographism and EEG changes. In summary, then, the mechanism of action of microwave EMFs, the role of the VGCCs in the brain, the impact of non-thermal EMFs on the brain, extensive epidemiological studies performed over the past 50 years,

and five criteria testing for causality,

all collectively show that various non-thermal microwave EMF exposures produce diverse neuropsychiatric effects.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8562392/

https://www.degruyter.com/document/doi/10.1515/reveh-2015-0001/html

https://www.sciencedirect.com/science/article/pii/S0891061815000599

https://pubmed.ncbi.nlm.nih.gov/26300312/

From:	Cindy Franklin
To:	PDS_Planning_Commission
Subject:	Federal grant $$ favors fiber - wireless broadband is INFERIOR for many reasons
Date:	Monday, June 20, 2022 11:16:47 AM

Hello,

Here is an article discussing the reasons that the NTIA is favoring FIBER over wireless for broadband federal grant $$:

https://potsandpansbyccg.com/2022/06/20/the-ntia-preference-for-fiber/

It is important to prioritize FiberOptic To and Through the Premises (FTTP) - to every home, school and place of business in Whatcom County. It is a faster, more reliable, safer, more cyber-secure and less energy-intensive on the electrical grid than inferior wireless (which is also a known public health risk due to the microwave radiation emissions.

Thank you for your consideration of this request,

Cindy Franklin
829 Briar Rd.
Bellingham, WA 98225

From:	Enoch J Ledet
To:	PDS_Planning_Commission
Subject:	EJ Ledet 3 Minute Presentation regarding Safety/Health Concerns from 5G Cell Towers, Phones, Smart Meters
Date:	Monday, June 20, 2022 11:27:21 AM
Attachments:	20 Adverse Side Effects from RF Radiation.docx

Dear respected Commissioners,

I have previously emailed several prior Word Documents on subject with hyperlinked resources. Due to the 3 minute time allocation, I will confine my comments to attached Word document.

Via Zoom Webinar: Join the meeting using this registration link:
https://us06web.zoom.us/webinar/register/WN_ji3f38tdQn28qf5HChxXpQ

Respectfully,
EJ Ledet
Retired Biochemist/Chemist
Bellingham 98229

Sent from my iPhone

20 Negative Health Symptoms/ Adverse Side Effects from RadioFrequency (RF)Radiation

1. Sleeping Problems
2. Fatigue
3. Learning Problems and Concentration
4. Headaches
5. Tinnitus (Ringing In Ears)
6. Eye Problems
7. Heart Problems, Heart Palpitations and Heart Arrhythmias
8. Leg Cramps
9. Vertigo (Balance Problems)

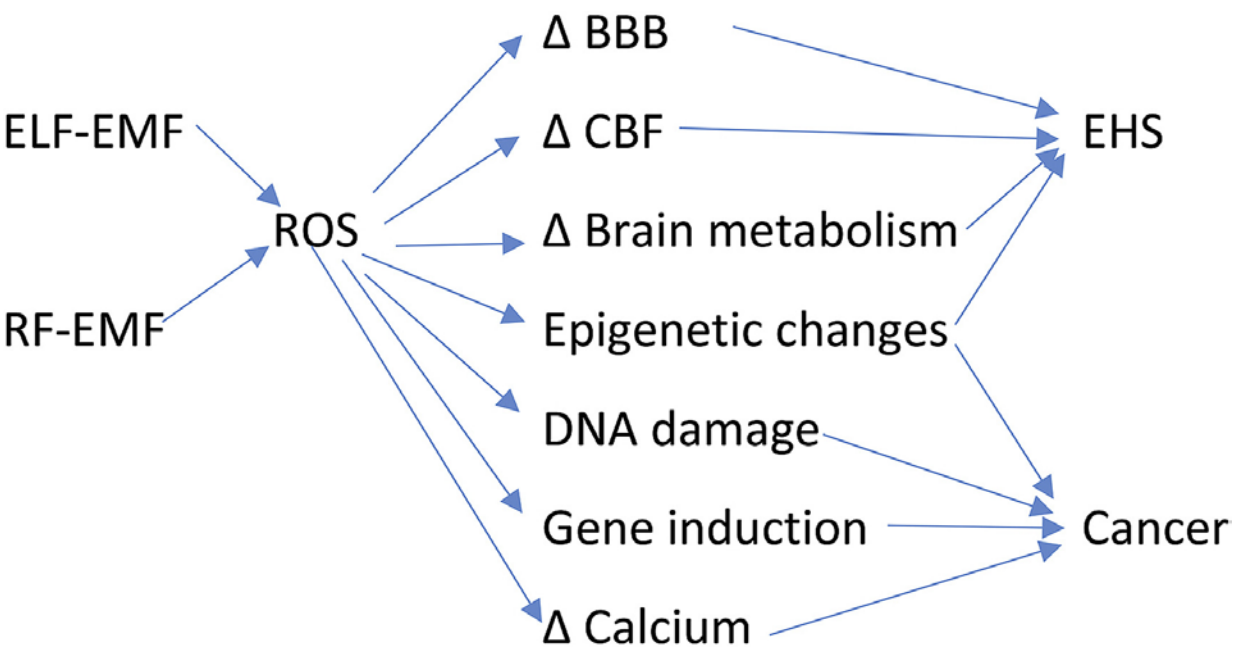
10. Cancer IARC stated that there is limited evidence that RF radiation causes cancer in animals and humans, and classifies RF radiation as "possibly carcinogenic to humans" (Group 2B). This was based on the finding of a possible link in at least one study between cell phone use and a specific type of brain tumor."

11. Stress, Agitation, Anxiety, Irritability
12. Depression
13. Seizures
14. Arthritis, Sharp Stabbing Pains, Body Pain
15. Nausea, flu-like symptoms
16. Sinus Problems and Nosebleeds
17. Respiratory Problems and Cough
18. Skin Rashes and Facial Flushing
19. Endocrine Disorders, Thyroid Disorders and Diabetes
20. Children Behavior Problems & Mental Effects

https://www.radiationhealthrisks.com/health-symptoms-rf-radiation/

Citing this large body of research, more than 240 scientists who have published peer-reviewed research on the biologic and health effects of non ionizing electromagnetic fields (EMF) signed the International EMF Scientist Appeal, which calls for stronger exposure limits. The appeal makes the following assertions:
"Numerous recent scientific publications have shown that EMF affects living organisms at levels well below most international and national guidelines. Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing evidence of harmful effects to both plant and animal life."
The scientists who signed this appeal arguably constitute the majority of experts on the effects of non ionizing radiation. They have published more than 2,000 papers and letters on EMF in professional journals.
https://blogs.scientificamerican.com/observations/we-have-no-reason-to-believe-5g-is-safe/

Radio Frequency - electromagnetic radiation(RF-EMF) , non-ionizing radiation(nIR) emitted by 5G Cell towers and cell phones can cause oxidative stress (OS) and formation of reactive oxygen species (ROS) which can impact human health.



The implication diagram that EMF cause ROS/ oxidative stress – on Ca ion channels in cell membranes.

Conclusions

On the basis of the above findings, an EMF mechanism can involve ROS formation due to membrane and voltage-gated cation channel function deterioration [2,3,7,8] followed by stress activation and heat-shock protein over-expression [56], which may be associated with behavioral and physiological effects such as blood–brain barrier disruption, memory malfunction, changes in gene expression [53], autophagy, apoptosis [53,84] (especially due to modulation [85]), lifespan reduction, DNA damage, and cancer [18].

https://www.sciencedirect.com/science/article/abs/pii/S0269749118310157

https://www.cell.com/cancer-cell/fulltext/S1535-6108(17)30518-4

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7089381/

RF Radiation Independent Studies
In 2012 there is a report published called the Bioinitiative Report at www.bioinitiative.org which is an extensive summary of the health effects associated with low intensity, non-ionizing, electromagnetic radiation.

This report was released and published by 29 health professionals from ten countries, with medical and Ph.D. degrees. It summarizes the peer reviewed non-ionizing radiation research published from 1996 – 2011. It examines the dangerous health problems associated with exposure to RF and microwave radiation sources such as smart meters, cell phones, cell towers, and the like.

https://bioinitiative.org/

BIOINITIATIVE 2012 – CONCLUSIONS Table 1-1

Overall, these 1800 or so new studies report abnormal gene transcription (Section 5); genotoxicity and single-and double-strand DNA damage (Section 6); stress proteins because of the fractal RF-antenna like nature of DNA (Section 7); chromatin condensation and loss of DNA repair capacity in human stem cells (Sections 6 and 15); reduction in free-radical scavengers – particularly melatonin (Sections 5, 9, 13, 14, 15, 16 and 17); neurotoxicity in humans and animals (Section 9), carcinogenicity in humans (Sections 11, 12, 13, 14, 15, 16 and 17); serious impacts on human and animal sperm morphology and function (Section 18); effects on offspring behavior (Section 18, 19 and 20); and effects on brain and cranial bone development in the offspring of animals that are exposed to cell phone radiation during pregnancy (Sections 5 and 18). This is only a snapshot of the evidence presented in the BioInitiative 2012 updated report."

So the bottom line here is just in this report alone is over 1800 studies discussed and the report was put together by 29 independent scientists in from all around the world. Again the more you dig into this topic the more you will see this pattern. If the study or article was put out by a government or from some entity within the technology industry things are rosy and perfectly safe. If it was put out by someone independent of those sources, their findings are 180 degrees in the opposite direction.

https://www.biorxiv.org/content/biorxiv/early/2016/05/26/055699.full.pdf

Respectfully,
EJ Ledet
Enoch.ledet@gmail.com
Sudden Valley Community Association

From:	Leslie Shankman
To:	PDS_Planning_Commission
Subject:	Public Comments for June 23rd Planning Commission Meeting
Date:	Monday, June 20, 2022 12:02:35 PM
Attachments:	2022 June WCFRT to WC Planning Commision.docx

Dear Tammy,
May we ask you to please disperse this email and attachment to the members of the Planning Commission for consideration during the upcoming June 23rd Commission meeting.

The below information via e-mail is most viable as the information links are live, but I have attached the Word Document containing this information as well.

Thank you for acknowledging receipt of this and thank you for delivering it to the Commission.
Sincerely,
Leslie Shankman

June 20, 2022

To: Planning Commission
Re: June 23rd Planning Commission Meeting

We understand that the primary purpose of the upcoming June 23rd meeting is to consider amendments that create consistency between Whatcom County Code and Federal Laws and Regulations regarding small and macro wireless facilities.

We write to you as Whatcom Citizens for Responsible Technology**, a group of citizens** with a spectrum of skills who promote awareness and sponsor efforts to develop safe, reliable, and equitable Broadband connections.

While we understand that seeking to align County and Federal mandates makes "sense" and would appear to be responsible governing on the part of the Commission, we would like to go on record with information that calls for giving serious consideration to not falling in lock-step with federal mandates.

It is unfortunate that our federal agencies are not making responsible choices for the country's citizenry, and it is inconvenient that localities are forced to either comply or push back.

For the record, this article from the Environmental Health Trust highlights efforts

by municipalities that have sought to preserve some autonomy and to serve their citizens with higher standards:
https://ehtrust.org/usa-city-ordinances-to-limit-and-control-wireless-facilities-small-cells-in-rights-of-ways/

There is a long list of reasons to consider non-compliance with some of the federal mandates. These include safety, environmental, economic, and sociological considerations.
However, herein we have elected to focus on the public health considerations--along with the fact that **in August 2021 the U.S. Court of Appeals found that the FCC has failed to establish adequate safety limits for the wireless microwave radiofrequency radiation** (RFR) that is now so ubiquitous and quickly growing in intensity throughout our communities.

We ask that you read and digest the information below and bring these perspectives into your discussion and actions. As fellow citizens of Whatcom County, we thank you for your studied consideration of the information that follows.

Research from epidemiologists, cancer investigators, physicians and other scientific experts has concluded that the 26-year-old FCC wireless radiation exposure limits do not protect public health, especially that of children and pregnant women. In fact, there are no exposure limits for wireless devices simulating use by the smaller developing brains and bodies of children.

A recently conducted $30 million U.S. National Toxicology Program (NTP) study was commissioned by the FDA to research biological effects of microwave radiofrequency radiation (RFR) on humans and designed by the nation's top researchers at the NIEHS. The results show "clear evidence" that cell phone radiation causes cancer.

FCC lost a recent landmark legal challenge by wireless health and safety advocates regarding the failure of the agency's exposure limits to protect public health

In August, 2021, the U.S. Court of Appeals - DC Circuit ruled in Environmental Health Trust et al v. FCC that the FCC's 2019 decision to maintain their 26 year-old thermal-based exposure limits demonstrated that the FCC was acting in an "**arbitrary and capricious**" manner "**in its complete failure to respond to comments concerning harm caused by RF radiation**" below the current FCC limits.

The Court pointed out that the FCC ignored the scientific evidence documenting

biological harm at levels hundreds, and even thousands of times below the current FCC wireless exposure "safety" guidelines. The federal Court ruling stated:

"That failure undermines the Commission's conclusions regarding the adequacy of its testing procedures, particularly as they relate to children, and its conclusions regarding the implications of long-term exposure to RF radiation…all of which depend on the premise that exposure to RF radiation at levels below its current limits causes no negative health effects."

To date, the FCC has ignored the Court's August 2021 ruling to re-assess the outdated basis for their current wireless "safety" exposure limits. Instead of acting to protect public health, the FCC continues to facilitate the wireless industry's unfettered rollout of over 800,000 powerful wireless 4G and 5G transmitters which are being installed right outside homes, schools, and places of work, emitting ever-increasing levels of harmful microwave radio frequency emissions 24/7.

It is apparent that the FCC is captured by the industry it is supposed to regulate. This is documented in a report by Norm Alster of Harvard's Safra School of Ethics, titled "Captured Agency: How the Federal Communications Commission Is Dominated by the Industries It Presumably Regulates":

"Industry controls the FCC through a soup-to-nuts stranglehold that extends from its well-placed campaign spending in Congress through its control of the FCC's congressional oversight committees to its persistent agency lobbying," Alster wrote.

Verizon, AT&T and the other wireless providers will tell you that exposure to wireless radiation is safe…..**this is not true!** Referencing the manipulative and deceitful tactics used by the wireless industry to spread disinformation about the known public health risks of microwave RFR exposure, a 2018 in depth investigative report in The Nation titled, "How Big Wireless Made Us Think That Cell Phones Are Safe" reports:

"*As happened earlier with Big Tobacco and Big Oil,* ***the wireless industry's own scientists privately warned about the risks" …and "like their tobacco and fossil-fuel brethren, wireless executives have chosen not to publicize what their own scientists have said about the risks of their products*****."**

There has been a scientific paradigm shift over these 26 years since the current FCC limits were established. It is now widely accepted by the researchers who study the biological effects of RFR exposure that serious debilitating health

effects can result from exposure to levels far below those currently allowed by the FCC.

These serious public health impacts are documented in thousands of published studies to cause increased cancer risk, cellular oxidation, damage to DNA, disruption to the blood brain barrier, reduced fertility, increased risk of miscarriage, learning and memory deficits and other neurological impacts.

Insurance companies do not insure telecom companies for liability for personal injury that results from RFR exposures

Insurance companies (i.e., Lloyd's of London and Swiss Re) have declined to insure telecom companies for any liability for personal injury that results from RFR exposures. The insurance industry acknowledges the high potential of claims of RFR injuries from the public arising from RFR exposure.

Facts and Statements by U.S. Preeminent Scientists and Experts In the Area of RFR Research

The following facts and statements by United States' preeminent scientists and experts in the area of RFR research clearly show that the FCC's 26 year old exposure "safety" limits fail to protect the public from biological harm.

1. In 2011, the World Health Organization/International Agency for Research on Cancer (IARC) classified radiofrequency electromagnetic fields as possibly carcinogenic to humans.

2. In 2018, the final peer-reviewed results of the $30 million U.S National Toxicology Program study showed "clear evidence" of cancer and damage to DNA associated with exposure to cell phone radiation. Since completion of the U.S. NTP study, the results have been replicated by the Ramazzini Institute which strengthens the study's overall findings.

3. Christopher J. Portier, Ph.D., former Director of the National Center for Environmental Health at the Centers for Disease Control and Prevention (CDC) and a scientific advisor for the WHO, reviewed the most recent body of scientific research and literature regarding the feasibility of RFR causing specific brain tumors in humans and concluded in March, 2021:
"*Given the human, animal and experimental evidence, I assert that, to a reasonable degree of scientific certainty, the probability that RF exposure causes gliomas and neuromas is high.*"

4. Linda Birnbaum, Ph.D., former Director of the U.S. NIEHS and the National Toxicology Program (NTP), has stated:

- "*Effects from [wireless] radiofrequency radiation (RFR) such as….*increased permeability of the blood brain barrier were reported in these [scientific] publications."
- "*The [U.S. NTP] studies established that [very low exposure levels] of RFR exposure had toxicological implications in biological systems.*"
- "*The NTP found and published evidence of DNA damage after only 90 days of exposure.*"
- "*Overall, the NTP findings demonstrate the potential for RFR to cause cancer in humans. The independent peer review of the entire proceedings carried out by toxicologists, pathologists and statisticians independent of the NTP staff conducted March 26-28, 2018, concluded that there was 'clear evidence of cancer,'…..exposure to RFR is associated with an increase in DNA damage.*"

The FCC does not include protection for children in their Federal RFR "safety" limits

5. Hugh Taylor, Chair of Obstetrics, Gynecology & Reproductive Sciences, Yale School of Medicine:

- "*The fetus is perhaps most vulnerable to these types of environmental insults. When the brain is just forming, when all of the organ systems are just beginning to develop, that's when we are perhaps at our most vulnerable stage.*"
- "*The rise in behavioral disorders in human children could be linked to prenatal cell phone exposure.*"

6. The American Academy of Pediatrics, stated in a letter to the FCC:
"*Children … are not little adults and are disproportionately impacted by all environmental exposures, including cell phone radiation. In fact, according to IARC, when used by children, the average RF energy deposition is two times higher in the brain and 10 times higher in the bone marrow of the skull, compared with mobile phone use by adults.*"

7. **Ronald Melnick, Ph.D., former NIEHS Senior Toxicologist who led the design of the US NTP study** states:
"*I strongly feel health and regulatory agencies should promote policies that reduce cell phone radiation exposure, especially for children and pregnant women….The risk can be greater for children than adults due to the increased penetration of the radiation within brains of children and the fact that the developing nervous system is more susceptible to tissue damaging agents*."

In conclusion:

Turning this ship around must start on the local level. Your decisions matter—particularly if the tide of law based on the 2021 Court ruling does finally start to snowball change. ***We do not want Whatcom County to be locked into contracts that might be established now with local telecoms if the greater tide can carry us to more responsible policies and ordinances over the next few years.*** And to create that tide of response and change it is incumbent on local municipalities to push back on laws that put at risk the public health and economic vitality of their citizens.

We, as **Whatcom Citizens for Responsible Technology,** are **motivated by the vision of seeing** Whatcom County as a hub of economic vibrancy that fosters social, intellectual, and business opportunities created by a robust Fiber Optic Network delivering safe, fast, and cyber-secure broadband directly to every home, school, and business setting.

As articulated in *Fiber, The Coming Tech Revolution and Why America Might Miss It,* Susan Crawford, 140-141:
"*Fiber brings that entrepreneurial spirt. Fiber brings a relentless optimism and a willingness to act collectively that is fundamental to identity as a community. It offers a culture conducive to trying to be a little bit outside the box. There is no silver bullet in this…it is a silver buckshot approach. We have to do dozens of things because if we don't do something different, we're only going to get the same results…."*

Respectfully**,**
Cindy Franklin: Long-time Bellingham resident and environmental activist, researcher and wireless radiation health and safety advocate.
Linda Fels: Member of Bellingham Broadband Advisory Workgroup; retired software developer & nutritional therapist
Jon Humphrey: Tech expert, tech writer, initiator and volunteer in numerous tech projects and advocate for safe, effective, and equitable Broadband and Policy.
Kevin Bardosh: Affiliate Assistant Professor, Center for One Health Research, School of Public Health, University of Washington.
Danica Theissen: Writer, Researcher, Citizen Advocate. Expert in EMF intolerance syndrome.
Leslie Shankman: Writer, Citizen Advocate, Committee Facilitator

From:	Kevin Bardosh
To:	PDS_Planning_Commission
Subject:	Concerning the FCC wireless regulations
Date:	Tuesday, June 21, 2022 9:11:21 PM

Dear Tammy Axlund,

Please forward our communication to the 9 planning commission members as soon as you are able to (thank you kindly).

Dear Stephen Jackson, Kimberley Lund, Robert Bartel, Jim Hansen, Dominic Moceri, Atul Deshmane, Alvin Scott Van Dalen, Kelvin Barton, and Julie Jefferson,

Thank you for taking the time to read this prescient email concerning the upcoming June 23rd decisions. We know that everyone at that meeting will want to make the best decisions for the greatest number of Whatcom County residents. We are making an appeal for the position that the best thing for the people of Whatcom County is fibre optic service in residential areas and a *ban* on all high-energy, 'fifth-generation', wireless Gigahertz frequencies.

The FCC regulations that Whatcom County is being pressured to conform to are regulations that undermine citizen empowerment and local authority. They were propagated under Ajit Pai, former head of the FCC and prior Verizon Communications associate. Ajit Pi's dual role is because the FCC represents the interests of telecommunication corporations. As Ajit Pai says at a Verizon conference, the FCC is what we understand as a 'captured Regulator'.*

We believe that our local planning commissioners are placed specifically to 'stand in the gap' as it were and protect us from the interests of large, profitable corporations. In this case, the telecommunications corporations are manipulating the law through captured federal regulators to favour their own exorbitant profits at the cost of the autonomy of those who reside in Whatcom county and call it home. If there is one reason why *trust* is such a problematic issue in our times it is this plague of corporatism, where corporate interests and profits trump the needs of the human/earth community.

Because of the economic and political climate, many of us don't realize that telecommunication corporations have been de-platforming and censoring (through cooperation with technology platforms such as Google) any discussion about the environmental and health impacts of wireless infrastructure. As unbelievable as it sounds, these same corporations have perpetrated smear campaigns against world renown radiation and bioelectrical experts. Since many of these corporations have ownership of legacy media, all questioning is 'blanked out' on this platform as well. Don't we know the playbook by now with the old tobacco industry tricks?

All media outlets run the mantra that '5G' is safe and you're 'a nutter' to question otherwise- but a little digging reveals that this mantra is in itself corporate propaganda, and very profitable at that.

It's unfortunate that we, a local family in Whatcom County, are caught in the cross-fire. I, Danica, am electro-sensitive, a condition where I suffer symptoms of radiation sickness- migraines, dizziness, vertigo, nauseousness, insomnia and other neurological symptoms around RF radiation. Since I have

this condition, our family can't use cell phones or any wireless devices, though we do use wired internet. Adding more wireless infrastructure to Whatcom County would be catastrophic for me, as the current cell towers already affect me negatively. This condition, known as electro-sensitivity, is rapidly growing, and more and more Americans are realizing that their wireless devices and cell towers are hurting their health and the wellbeing of other fragile species.**

If you do *not* support the FCC wireless regulations you can be completely confident that your position would be ethical and environmentally-friendly. The law is catching up with the telecommunication corporations since their platform, the FCC, recently lost a federal court case for *not* protecting US citizens from dangerous levels of RF radiation. The judges deemed that the FCC was *not protecting citizens from RF radiation that caused health effects such as 'reproductive problems and neurological problems that span from effects on memory to motor abilities.'* ***

How do you think Whatcom citizens are going to feel if you condone these codes that disempower local people when it becomes increasingly clear that corporate influence has undermined public health and safety?

After analysing the scientific evidence on wireless radiation, the judges deemed the FCC 'safety' limits to be *'arbitrary and capricious in its complete failure to respond to comments concerning environmental harm."****

We are, at its core, asking you to take a hard and seemingly 'unpopular' stance and protect us from corporate profiteering and predatory capitalism- at least until a transparent social/scientific discussion can take place about what is best for our local communities.

We would be happy to meet with you to discuss this issue.

Kindly,

Danica Thiessen, MSc

Kevin Bardosh, PhD

- See video of Ajit Pai here: https://gizmodo.com/leaked-video-shows-fcc-chair-ajit-pai-roasting-himself-1821134881?utm_medium=sharefromsite&utm_source=Gizmodo_twitter

Leaked Video Shows FCC Chair Ajit Pai Roasting Himself With 'Jokes' About Being a Verizon Shill - Gizmodo

The video is a skit that opens to 50 Cent's "In Da Club" and takes place at "Verizon's DC Office" in 2003, where Pai worked as an attorney before joining the FCC a few years later.

gizmodo.com

** See EHT website here:
https://ehtrust.org/environmental-effects-of-wireless-radiation-and-electromagetic-fields/

Environmental Effects of Wireless Radiation and Electromagetic Fields - Environmental Health Trust

Examples of Research Studies on Effects to Wildlife The European Scientific Committee on Health, Environmental and Emerging Risks states " The lack of clear evidence to inform the development of exposure guidelines to 5G technology leaves open the possibility of unintended biological consequences." Several literature reviews warn

ehtrust.org

*** See Court case here:
https://www.cadc.uscourts.gov/internet/opinions.nsf/FB976465BF00F8BD85258730004EFDF7/$file/20-1025-1910111.pdf

United States Court of Appeals

Ashley S. Boizelle, Deputy General Counsel, Federal Communications Commission, argued the cause for respondents. With her on the brief were Jonathan D. Brightbill, Principal Deputy Assistant Attorney Generalat the time the brief was filed, U.S. Department of Justice, c Eri Grant, Deputy Assistant Attorney General at the time the brief was filed, Jeffrey Beelaert Justin Hemingerand , Attorneys,

www.cadc.uscourts.gov

Affiliate Assistant Professor, School of Public Health, University of Washington, USA
Honorary Lecturer, Edinburgh Medical School, University of Edinburgh, UK
Research Associate, School of Global Urban and Social Studies, RMIT, Australia
Associate Editor: Frontiers in Tropical Diseases

Twitter/Publications/Profile

LS

Wed 6/22/2022 7:33 AM

Leslie Shankman <leslie.shankman@comcast.net>

Considerations for June 23rd Planning Commission Meeting

To PDS_Planning_Commission

Dear Stephen Jackson, Kimberley Lund, Robert Bartel, Jim Hansen, Dominic Moceri, Atul Deshmane, Alvin Scott Van Dalen, Kelvin Barton, and Julie Jefferson,

Thank you for being aware of the information contained herein as you convene on June 23rd to consider regulations regarding small cell and macro wireless facilities.
Leslie Shankman
Bellingham, WA

To download, share, or print out this article, copy and paste this link:
https://www.cellphonetaskforce.org/wp-content/uploads/2022/05/Wireless-radiation-and-osteoporosis.pdf

WIRELESS RADIATION AND OSTEOPOROSIS

I was astonished by the number of people who contacted me after I broke my arm telling me they had broken theirs too -- some of them this year, and others within the last few years. It occurred to me to wonder: has there been a significant increase in osteoporosis and bone fractures around the world? and if so, is this yet another health effect caused by the use of cell phones and their infrastructure irradiating our bones as well as the rest of our bodies?

I remembered reading some fascinating facts about bones in the groundbreaking 1985 book, *The Body Electric*, written by orthopedic surgeon Robert O. Becker. Bones, he discovered, are semiconductors, and they owe their electrical properties to being doped with tiny amounts of copper. The atoms of copper, he found, bond electrically to both apatite crystals and collagen fibers -- the two main components of bone -- and hold them together, “much as wooden pegs fastened the pieces of antique furniture to each other.”

“Osteoporosis,” wrote Becker, “comes about when copper is somehow removed from the bones. This might occur not only through chemical/metabolic processes, but by a change in the electromagnetic binding force, allowing the pegs to ‘fall out.’ It’s possible that this could result from a change in the overall electrical fields throughout the body or from a change in those surrounding the body in the environment.”

I also remembered, from the old Soviet Union literature, summarized in my 1997 book, Microwaving Our Planet, that radio frequency radiation redistributes metals throughout the body.

With these facts in mind, I have searched the world’s medical literature for studies on the incidence of both osteoporosis and fractures, and the evidence seems fairly conclusive: (1) There has been an enormous increase in the incidence of both osteoporosis and bone fractures of all

types throughout the world in children and adults since about 1950; (2) the incidences of both continue to rise, worldwide; (3) most studies published in the past couple of decades have found that osteoporosis in children is correlated with the amount of time spent daily looking at screens; (4) rates of osteoporosis do *not* correlate with the amount of time children spend sitting but *not* looking at screens; and (5) these trends are independent of the amount of exercise people get.

The authors of these studies have been at a loss to explain their findings, but they are easily explained when one remembers the electrical properties of bones, and the effects that cell phone and computer screens, all emitting radiation, are likely to have on bones and on the copper atoms within them -- and that exposure to radiation from radio, TV, radar, and (more recently) cell tower antennas has increased tremendously since World War II.

Here is a sampling of the studies I have collected:

- Louis V. Avioli reviewed the world's literature in 1991. During the second half of the twentieth century, he found, both osteoporosis and fracture rates had risen dramatically in the United States, Canada, Norway, Sweden, Spain, Italy, the UK, Belgium, Australia, and elsewhere. The incidence rate of hip fractures in the United States had been increasing by about 40% per decade. (1)

- M.L. Grundill and M.C. Burger, in 2021, found that the incidence rate of hip fractures in a population in South Africa had more than doubled in men and almost sextupled in women compared to what had been reported in 1968. (2)

- Emmanuel K. Dretakis et al. found that the annual number of hip fractures in Crete increased 21% in just four years, from 1982 to 1986, while the population over 50 remained the same. (3)

- Hiroshi Koga et al. examined the records of children aged 6 to 14 in Niigata, Japan. The incidence rate of all fractures more than doubled from the early 1980s to the early 2000s in both girls and boys, and almost tripled in girls in junior high school. (4)

- P. Lüthje et al. found that the incidence rate of hip fractures throughout Finland quadrupled between 1968 and 1988. (5)

- In 2012 Ambrish Mithal and Parjeet Kaur found that hip fracture rates had increased two- to three-fold throughout Asia during the previous 30 years. (6)

- Hiroshi Hagino et al. found that hip fracture rates in Tottori Prefecture, Japan had risen by almost 40% between 1986 and 1992, and by more than 60% in men and about 50% in women between 1986 and 2001. Increases in fracture rates occurred not only in the elderly, but in people in their 30s and 40s. (7)

- In 1989 Karl J. Obrant et al. did an analysis of fracture trends in Malmö, Sweden, where all X-rays have been saved since the beginning of the twentieth century. They found that the

yearly number of fractures in that city had increased seven-fold between 1951 and 1985, and the incidence rate of fractures among children had doubled between 1950 and 1979. ***"There are signs that there is a deterioration of the quality of the skeleton in successive generations,"*** wrote the authors. ***"With the same or even diminished trauma, we sustain more serious and more comminuted fractures today than previously."*** The increase had nothing to do with changing estrogen levels, because fracture rates had increased even more in men than in women. The daily consumption of both calcium and Vitamin D had increased during that time. But the incidence of hip fractures was higher in cities than in rural environments where, we know, there was less radiation. (8)

- Haiyu Shao et al., in 2015, looking at hours per day spent playing video games by Chinese adolescents, found that adolescents with longer video game time were more likely to have lower bone mass density in their legs, trunk, pelvis, spine, and whole body. (9)

- Anne Winther et al., studying 15- to 18-year-olds in Tromsø, Norway in 2010-2011, found that longer screen time was associated with lower bone mass density in both boys and girls, regardless of the amount of daily physical activity, calcium intake, vitamin D, alcohol consumption, smoking habits, height or weight. (10)

- Sebastien Chastin, examining youths aged 8 to 22 in the U.S. in 2005-2006, found that screen-based sitting was associated with lower bone mass density in hips and spine. Non-screen-based sitting was *not* associated with lower bone mass density. (11)

- Natalie Lundin et al. found that annual incidence rates of pelvic and hip socket fractures in Sweden increased 25% from 2001 to 2016, and that increasing incidence rates were seen in all age groups. (12)

- Daniel Jerrhag et al. found that the incidence rate of forearm fractures in Sweden was 23% higher in 2010 compared with 1999, and that the increase was greater in men and women 17 to 64 years of age than in the elderly. (13)

- Michiel Herteleer et al. found that the incidence rate of pelvic and hip socket fractures in Belgium doubled between 1988 and 2006, and rose another 26% by 2018. (14)

- Neeraj M. Patel found that the annual incidence rate of fractures in children aged 6 to 18 in New York State almost quadrupled between 2006 and 2015. (15)

From:	Enoch J Ledet
To:	PDS_Planning_Commission
Subject:	Updated Outline on 5 G Safety and Health Adverse Side Effects with edited resources and conclusion
Date:	Thursday, June 23, 2022 10:29:09 AM
Attachments:	20 Adverse Side Effects from RF Radiation.docx

Respectfully,
EJ Ledet

Sent from my iPhone

20 Negative Health Symptoms/ Adverse Side Effects from RadioFrequency (RF)Radiation

1. Sleeping Problems
2. Fatigue
3. Learning Problems and Concentration
4. Headaches
5. Tinnitus (Ringing In Ears)
6. Eye Problems
7. Heart Problems, Heart Palpitations and Heart Arrhythmias
8. Leg Cramps
9. Vertigo (Balance Problems)

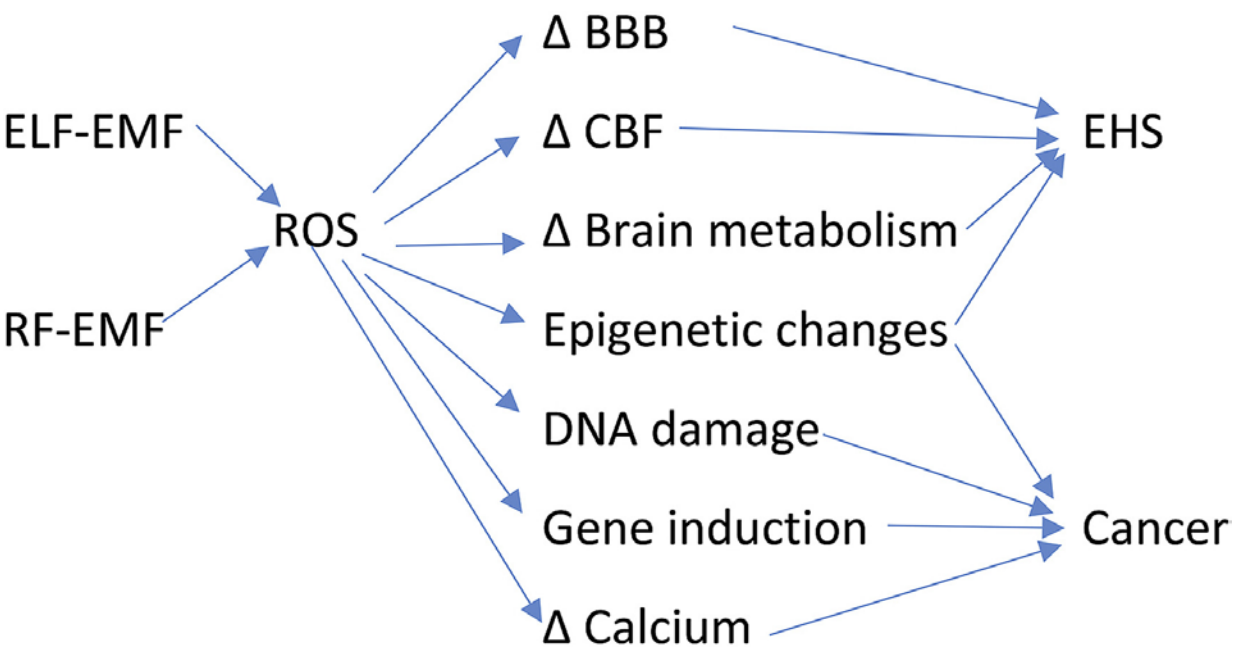
10. Cancer IARC stated that there is limited evidence that RF radiation causes cancer in animals and humans, and classifies RF radiation as "possibly carcinogenic to humans" (Group 2B). This was based on the finding of a possible link in at least one study between cell phone use and a specific type of brain tumor."

11. Stress, Agitation, Anxiety, Irritability
12. Depression
13. Seizures
14. Arthritis, Sharp Stabbing Pains, Body Pain
15. Nausea, flu-like symptoms
16. Sinus Problems and Nosebleeds
17. Respiratory Problems and Cough
18. Skin Rashes and Facial Flushing
19. Endocrine Disorders, Thyroid Disorders and Diabetes
20. Children Behavior Problems & Mental Effects

https://www.radiationhealthrisks.com/health-symptoms-rf-radiation/

Citing this large body of research, more than 240 scientists who have published peer-reviewed research on the biologic and health effects of non ionizing electromagnetic fields (EMF) signed the International EMF Scientist Appeal, which calls for stronger exposure limits. The appeal makes the following assertions:
"Numerous recent scientific publications have shown that EMF affects living organisms at levels well below most international and national guidelines. Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing evidence of harmful effects to both plant and animal life."
The scientists who signed this appeal arguably constitute the majority of experts on the effects of non ionizing radiation. They have published more than 2,000 papers and letters on EMF in professional journals.
https://blogs.scientificamerican.com/observations/we-have-no-reason-to-believe-5g-is-safe/

Radio Frequency - electromagnetic radiation(RF-EMF) , non-ionizing radiation(nIR) emitted by 5G Cell towers and cell phones can cause oxidative stress (OS) and formation of reactive oxygen species (ROS) which can impact human health.



The implication diagram that EMF cause ROS/ oxidative stress – on Ca ion channels in cell membranes.

Conclusions

On the basis of the above findings, an EMF mechanism can involve ROS formation due to membrane and voltage-gated cation channel function deterioration [2,3,7,8] followed by stress activation and heat-shock protein over-expression [56], which may be associated with behavioral and physiological effects such as blood–brain barrier disruption, memory malfunction, changes in gene expression [53], autophagy, apoptosis [53,84] (especially due to modulation [85]), lifespan reduction, DNA damage, and cancer [18].

Most animal and many cell studies showed increased oxidative stress caused by RF-EMF and ELF-MF. In order to estimate the risk for human health by manmade exposure, experimental studies in humans and epidemiological studies need to be considered as well.

https://pubmed.ncbi.nlm.nih.gov/33917298/

https://pubmed.ncbi.nlm.nih.gov/16125687/

https://pubmed.ncbi.nlm.nih.gov/26343967/

https://www.sciencedirect.com/science/article/abs/pii/S0269749118310157

https://www.cell.com/cancer-cell/fulltext/S1535-6108(17)30518-4

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7089381/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8038719/

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8154046/

RF Radiation Independent Studies
In 2012 there is a report published called the Bioinitiative Report at www.bioinitiative.org which is an extensive summary of the health effects associated with low intensity, non-ionizing, electromagnetic radiation.

This report was released and published by 29 health professionals from ten countries, with medical and Ph.D. degrees. It summarizes the peer reviewed non-ionizing radiation research published from 1996 – 2011. It examines the dangerous health problems associated with exposure to RF and microwave radiation sources such as smart meters, cell phones, cell towers, and the like.

https://bioinitiative.org/

2021 Study
Exposure to RFR also statistically significant elevated both intra and extra cellular levels of ROS.

Conclusion: Our observation clearly indicated the induction of BE in cells treated with CCM. To our knowledge, this is the first report that a non-ionizing radiation (900 MHz GSM RFR) can induce bystander effect. As reported for ionizing radiation, our results proposed that ROS can be a potential molecule in indirect effect of RFR. On the other hand, we found the importance of ROS in direct effect of RFR but in different ways.

https://pubmed.ncbi.nlm.nih.gov/31036329/

BIOINITIATIVE 2012 – CONCLUSIONS Table 1-1

Overall, these 1800 or so new studies report abnormal gene transcription (Section 5); genotoxicity and single-and double-strand DNA damage (Section 6); stress proteins because of the fractal RF-antenna like nature of DNA (Section 7); chromatin condensation and loss of DNA repair capacity in human stem cells (Sections 6 and 15); reduction in free-radical scavengers – particularly melatonin (Sections 5, 9, 13, 14, 15, 16 and 17); neurotoxicity in humans and animals (Section 9), carcinogenicity in humans (Sections 11, 12, 13, 14, 15, 16 and 17); serious impacts on human and animal sperm morphology and function (Section 18); effects on offspring behavior (Section 18, 19 and 20); and effects on brain and cranial bone development in the offspring of animals that are exposed to cell phone radiation during pregnancy (Sections 5 and 18). This is only a snapshot of the evidence presented in the BioInitiative 2012 updated report."

So the bottom line here is just in this report alone is over 1800 studies discussed and the report was put together by 29 independent scientists in from all around the world. Again the more you dig into this topic the more you will see this pattern. If the study or article was put out by a government or from some entity within the technology industry things are rosy and perfectly safe. If it was put out by someone independent of those sources, their findings are 180 degrees in the opposite direction.

https://www.biorxiv.org/content/biorxiv/early/2016/05/26/055699.full.pdf

So even though ionizing radiation (Gamma Rays , UV) have been shown to directly cause DNA/RNA mutation, non ionizing radiation from LOw Frequency Electromagnetic Radiation (LF-EMF) and Radio Frequencies (RF) radiation can cause reactive oxygen species (ROS) which cause oxidative stress . If RF is not neutralized by external tower/phone barriers and/or by internal antioxidant barriers (Vitamins, Glutathione, Zinc) ROS can cause inflammatory, immunosuppressive diseases, and some cancers.

Russia, Cuba microwave incidents and crowd control weapons use 40-60 GHz frequencies . Guess what 5G uses (40-300GHz). 60 GHZ is absorbed by Oxygen in the air and this RF radiated O2 maybe inhibited from binding to hemoglobin and cause hypoxia/oxidative stress and form more ROS.

Respectfully,
EJ Ledet
Enoch.ledet@gmail.com
Sudden Valley Community Association

From:	Enoch J Ledet
To:	Satpal Sidhu; PDS_Planning_Commission; Seth Fleetwood
Cc:	Enoch J Ledet
Subject:	Re: What are the Health Risks of 5G? All Your Questions Answered.
Date:	Sunday, July 24, 2022 8:10:31 AM

Another comprehensive brochure from Europe on Cell Phones RF impacts- How Susceptible are Genes to Mobile Phone Radiation?

https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:a6001083-de76-3e3f-88d7-bbf7cdf0ec21#pageNum=6

Respectfully,
EJ Ledet

Sent from my iPhone

> On Jul 23, 2022, at 8:40 PM, Enoch J Ledet <enoch.ledet@gmail.com> wrote:
>
> Hi Satpal,
> In my continuing investigation of 5G Health impacts, I found a comprehensive article published by an Emeritus Biochemistry Professor at WSU. I also found several European Professors who are also asking for a moratorium on 5G installations because of potential longterm health risks to humans.
>
> A Washington State University Emeritus Professor on 5G RF radiation impact to US and Europe (90 pages with over 137 references)
>
> 5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them
> Written and Compiled by Martin L. Pall, PhD
> Professor Emeritus of Biochemistry and Basic Medical Sciences Washington State University
> Address: 638 NE 41st Ave., Portland OR 97232 USA martin_pall@wsu.edu 503-232-3883 May 17, 2018
>
> https://www.jrseco.com/wp-content/uploads/Martin_Pall_PhD_5G_Great_risk_for_EU_US_and_International_Health-Compelling_Evidence.pdf
>
> “more than 180 scientists and doctors from 36 countries warn about the danger of 5G, which will lead to a massive increase in involuntary exposure to electromagnetic radiation. The scientists urge the EU to follow Resolution 1815 of the Council of Europe, asking for an independent task force to reassess the health effects. “
>
> As of March 18, 2022 -422 scientists and medical doctors have signed the appeal.

http://www.5gappeal.eu/about/

https://www.jrseco.com/european-union-5g-appeal-scientists-warn-of-potential-serious-health-effects-of-5g/

https://www.jrseco.com/wp-content/uploads/2017-09-13-Scientist-Appeal-5G-Moratorium.pdf

Respectfully
EJ Ledet

Sent from my iPhone

> On Jun 26, 2022, at 7:38 AM, Enoch J Ledet <enoch.ledet@gmail.com> wrote:
>
> Satpal,
>
> Please read attached article which states that 5G short term and long term health studies need to be conducted.
>
> The old cliche " Ignorance is no excuse" appropriately applies to 5G
>
> Mankind needs to learn from his mistakes.
>
> Greed, fame, fortune is corrupting Gov 3 letter Agencies. Big Pharma , National Rifle Association , Telecommunication Agencies are examples where $$$ contributions are controlling these organizations and politicians
>
> https://www.shieldyourbody.com/5g-health-risks/
>
> Respectfully,
>
> EJ Ledet
>
> Sent from my iPhone

Tammy Axlund

From: Enoch J Ledet <enoch.ledet@gmail.com>
Sent: Saturday, July 23, 2022 8:41 PM
To: Satpal Sidhu
Cc: PDS_Planning_Commission; Seth Fleetwood
Subject: Re: What are the Health Risks of 5G? All Your Questions Answered.

Hi Satpal,
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A Washington State University Emeritus Professor on 5G RF radiation impact to US and Europe (90 pages with over 137 references)

5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them Written and Compiled by Martin L. Pall, PhD Professor Emeritus of Biochemistry and Basic Medical Sciences Washington State University
Address: 638 NE 41st Ave., Portland OR 97232 USA martin_pall@wsu.edu 503-232-3883 May 17, 2018

https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.jrseco.com%2Fwp-content%2Fuploads%2FMartin_Pall_PhD_5G_Great_risk_for_EU_US_and_International_Health-Compelling_Evidence.pdf&data=05%7C01%7CPDS_Planning_Commission%40co.whatcom.wa.us%7C647c8dc1c3a646f8ae7308da6d264a36%7C2122bbce9a1d4565931b0c534ef12e43%7C0%7C1%7C637942308495613863%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=B%2FlR4zUygy6OxNhetQnKEshRTNgva94XR%2BUuJMSXjOI%3D&reserved=0

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https://nam11.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.5gappeal.eu%2Fabout%2F&data=05%7C01%7CPDS_Planning_Commission%40co.whatcom.wa.us%7C647c8dc1c3a646f8ae7308da6d264a36%7C2122bbce9a1d4565931b0c534ef12e43%7C0%7C1%7C637942308495613863%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=wro%2FGxLAGagZ9CcllzgPOH%2FyN4swMf0dPI6fsuHEjs4%3D&reserved=0

https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.jrseco.com%2Feuropean-union-5g-appeal-scientists-warn-of-potential-serious-health-effects-of-5g%2F&data=05%7C01%7CPDS_Planning_Commission%40co.whatcom.wa.us%7C647c8dc1c3a646f8ae7308da6d264a36%7C2122bbce9a1d4565931b0c534ef12e43%7C0%7C1%7C637942308495613863%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=BNtHvYaLWhlL4Z95V4NnMAyVaDZHq%2BnDwOeHPrGzi5E%3D&reserved=0

https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.jrseco.com%2Fwp-content%2Fuploads%2F2017-09-13-Scientist-Appeal-5G-Moratorium.pdf&data=05%7C01%7CPDS_Planning_Commission%40co.whatcom.wa.us%7C647c8dc1c3a646f8ae73

08da6d264a36%7C2122bbce9a1d4565931b0c534ef12e43%7C0%7C1%7C637942308495613863%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=v2OwKqxI6niOLE2NPYNjAKymeU7CwshH%2FnTfr1m2Ulo%3D&reserved=0

Respectfully
EJ Ledet

Sent from my iPhone

> On Jun 26, 2022, at 7:38 AM, Enoch J Ledet <enoch.ledet@gmail.com> wrote:
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> shieldyourbody.com%2F5g-health-risks%2F&data=05%7C01%7CPDS_Plannin
> g_Commission%40co.whatcom.wa.us%7C647c8dc1c3a646f8ae7308da6d264a36%7C2
> 122bbce9a1d4565931b0c534ef12e43%7C0%7C1%7C637942308495613863%7CUnknown
> %7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJ
> XVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=s2DdW0RR8NBHdMfL3VDkewEtx%2BqdYU
> Qebfp0omRChpQ%3D&reserved=0
>
> Respectfully,
> EJ Ledet
>
> Sent from my iPhone

From: Kevin Bardosh
To: PDS_Planning_Commission; Danica Thiessen
Subject: Urgent email for the planning commission.
Date: Tuesday, July 26, 2022 3:09:15 PM

Dear Tammy,

Please disperse this email to everyone on the Planning Commission for the upcoming meeting on Thursday, July 28th. We would really appreciate it...

To: Stephen Jackson, Kimberley Lund, Robert Bartel, Jim Hansen, Dominic Moceri, Atul Deshmane, Alvin Scott Van Dalen, Kelvin Barton, and Julie Jefferson,

We have thoroughly reviewed the proposed Whatcom Codes concerning macro and micro wireless facilities. We are requesting these amendments (below) be incorporated into the updated code for Whatcom County wireless infrastructure.

1. The placement of a micro or macro wireless facility must not increase the RF Radiation on the property of an individual diagnosed with Microwave Illness/Electro-Sensitivity if that would result in their displacement.
2. The placement of a micro or macro wireless facility must consider the potential reproductive, migratory, or behavioural impacts on native species.
3. After being notified about a micro or macro wireless infrastructure, a community has 60 days to organize a response to the proposal and, if 70% of the households within 3000 ft. of the potential wireless infrastructure location decide, and sign documentation, that they do not want the proposed project to proceed in their locality, the proposal is thereby withdrawn in the interest of the majority of the local residents. This amendment is necessary to protect Whatcom County citizens from the significant depreciation of their property values by the imposition of controversial infrastructure without their input.

There is widespread support for the integration of these amendments into Whatcom County Code.

Please feel free to call anytime, 360-933-1683.

We look forward to the Planning Commission meeting at 6:30, Thursday, July 28th.

Kindly,

Danica Thiessen, MSc.
&
Dr Kevin Bardosh, Phd.

Kevin Bardosh, PhD

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