

(Delivered at  
hearing)

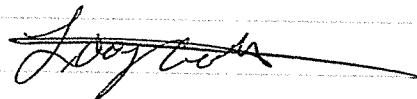
PC 2/8/18  
#3

To whom it may concern, 2-8-18

My name is Lacy Goetz. I live at  
6200 Dickinson Rd. Placerville CA. 95667.  
I am unable to be present at this time  
because I am a full time caregiver to  
the elderly residents of Eldorado County.  
I want to say that I object of the  
cell tower being built in my area because  
of the radiation it ~~releases~~ releases and  
the health hazards it can cause to  
myself and my family.

Thank you,

Lacy Goetz



2/7/18

(Delivered at  
hearing)

PC 2/8/18  
#3

To whom it may concern,  
I am extremely worried about a cell tower being put in so close to my home. I have 2 young children, one of whom has a very high rate of ~~the~~ the possibility of leukemia. My daughter is tested 2 times a year because she has a genetic mutation that makes her very high risk for leukemia. Please do not allow a cell tower. My family's health is at risk. Thank you for hearing my family's concern.

NO CELL TOWER PLEASE!

Thank you!  
Adriana Dionio  
3985 Stope Dr  
Placerville CA 95667  
530-206-6089



## S17-0016 Environmental Questionnaire

1 message

**Bruce Person** <bperson03@sbcglobal.net>

Wed, Feb 7, 2018 at 5:12 PM

Reply-To: Bruce Person <bperson03@sbcglobal.net>

To: Planning Department <planning@edcgov.us>, EDC COB <edc.cob@edcgov.us>, Evan Mattes <evan.mattes@edcgov.us>

Dear Evan Mattes,

As I read through the Environmental Questionnaire (EQ) I was surprised to see how little effort was put into accurately depicting the proposed site, and identifying the potential obstacles.

Page 1 of the Environmental Questionnaire, **Drainage and Hydrology**, question 7. What is the distance to the nearest body of water, *the applicant answered 1500 feet to Weber Creek* which is a seasonal creek not flowing year round... there is a pond on the adjoining parcel approximately 60 feet from the proposed site, and ponds at the Rock Quarry on Snows Road that are full year round within approximately 500 feet. Weber Reservoir is approximately one mile away. Two forks of Weber Creek are within a quarter mile.

Page 2 of the EQ, **Fire Protection**, question 14. What is the nearest emergency source of water for fire protection purposes (hydrant, pond, etc.) *They answered "Creek"...* Weber Creek, both North and Middle Forks are seasonal and usually dry during fire season. The Snows Rock Quarry has year round ponds, and Weber Reservoir is within one mile from the site, along with hydrants available within the Rancho Del Sol Subdivision. The obviously didn't do their investigation completely!

Question 15. What is the distance to the nearest fire station? they answered 7.5 miles... there are three Fire Stations within four miles of the site, Pleasant Valley, Camino, and Ft. Jim, again a misrepresentation and bad information.

**Noise Quality**, question 18. Is the project near an industrial area, freeway, major highway or airport? If so, how far? *They answered NO!* The Snows Rock Quarry is an Industrial site within 500 feet of the proposed site, and the parcel the site is proposed to be constructed on is also zoned Industrial and may some day be developed more than the present condition.

EQ page 3, **Archaeology/History**, question 24, Do you know of any archaeological areas within the boundaries or adjacent to the project? (e.g., Indian burial grounds, gold mines, etc.) *They answered none known!* There are many significant Native American sites in close proximity including the Big Cry site which was used as a burial site, Greystone, also a very significant site, and many mine shafts and tunnels, and the active rock quarry/gold mine at Snows Quarry.

EQ Page 4, **General**, Question 35, Could the project create new, or aggravate existing health problems (including, but not limited to flies, mosquitos, rodents, and other disease vectors)? *They answered No!* In truth, there is much data to support that cell towers will reduce the number of frogs, birds, and bats which serve to control the mosquitos and insect populations, adding to the discomfort of the neighboring residents.

With such a poor effort put into this environmental questionnaire, how could staff adequately make decisions regarding acceptance of this site?

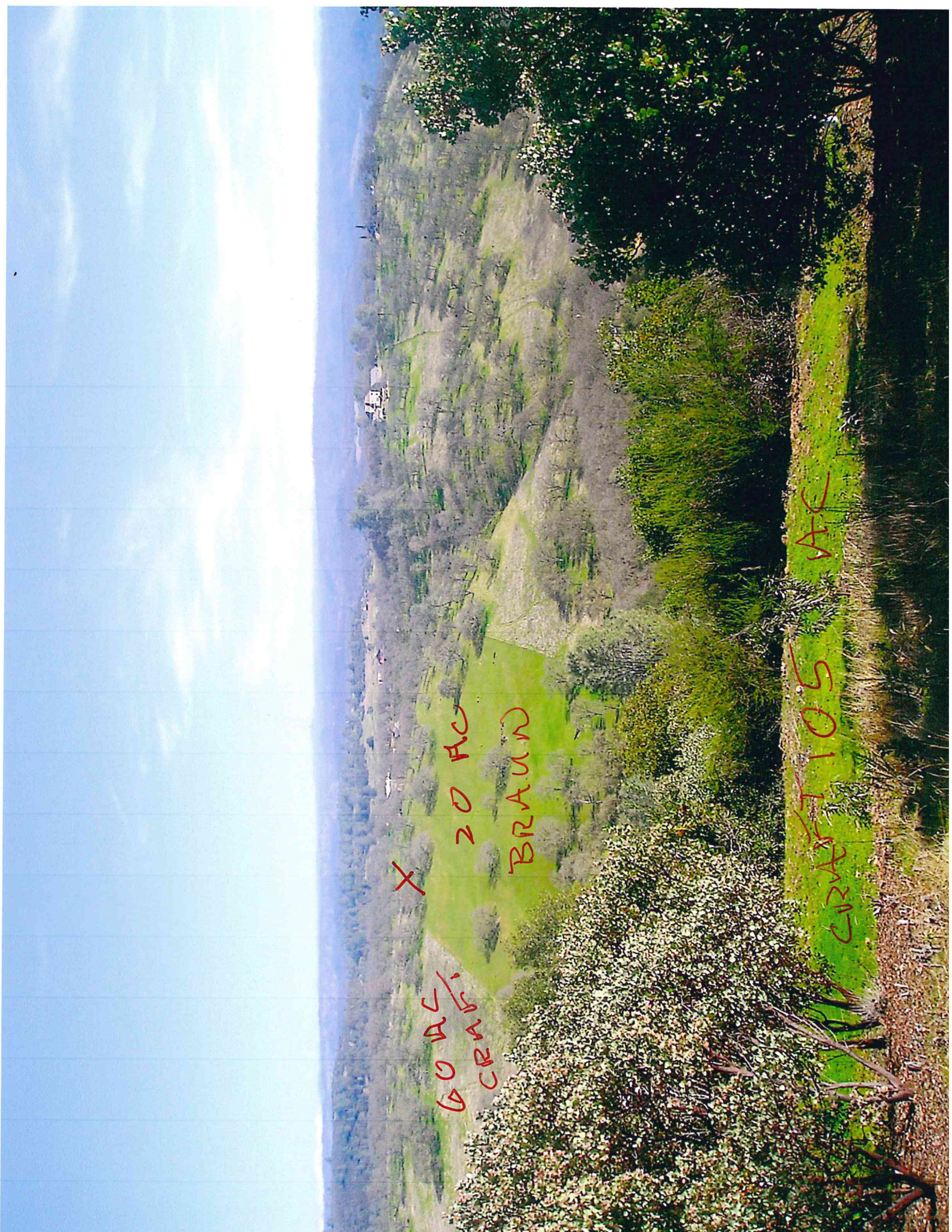
Bruce Person  
4221 Clouds Rest Rd.  
Placerville, Ca 95667



X 20 AC  
BRAUN

60 AC  
CRAIG

CRIST 105 AC

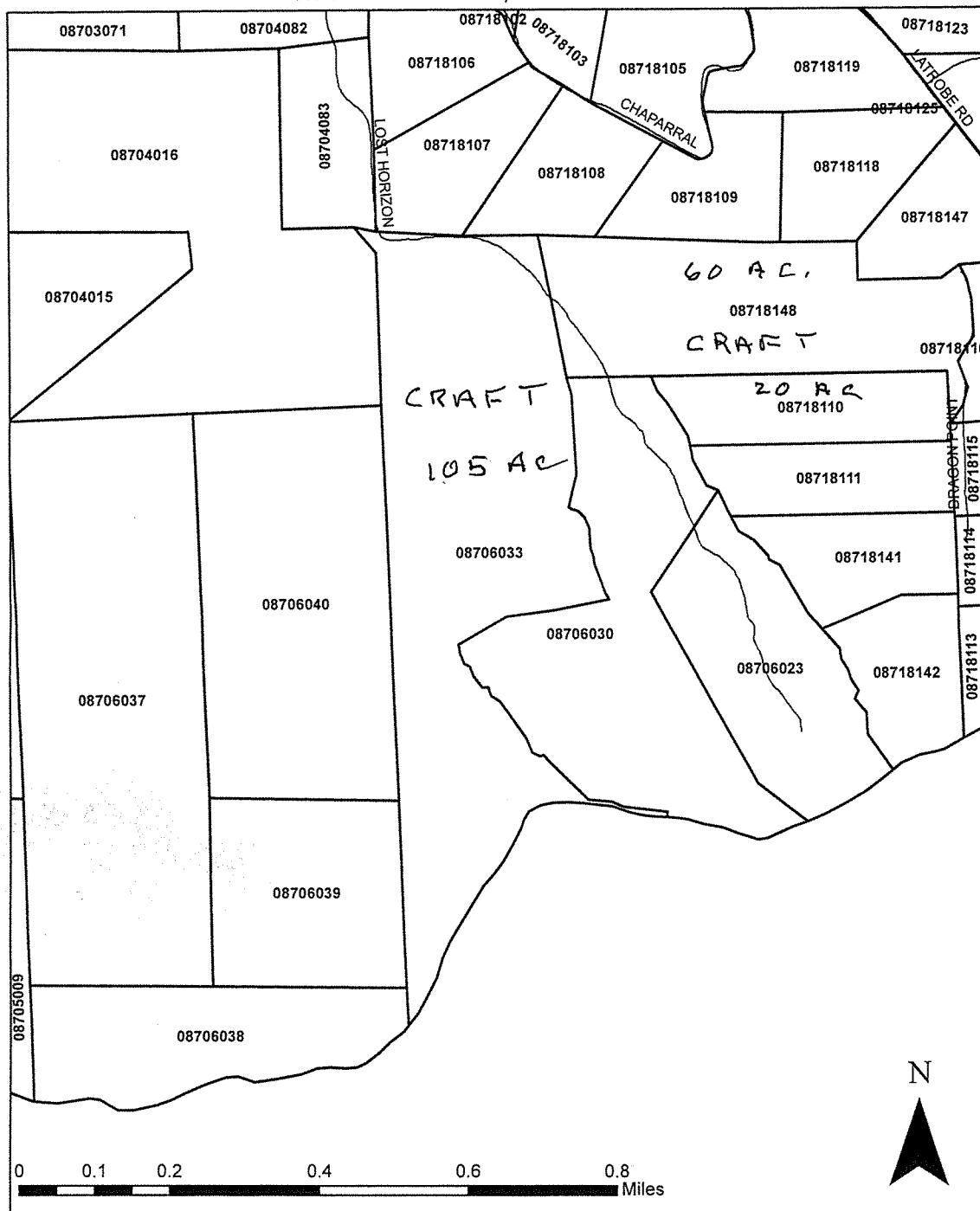




(Distributed at hearing  
by Bob Craft)

PC 2/8/18  
#3

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Project Area/APN

(Provided at hearing)

PC 2/8/18

#3

3 pages

**Ann Gualtieri, property owner Triple Seven Road**

**Site 1 -Cool Assessor's Parcel No# 071-032-15**

**Thank you for this opportunity**

**EL DORADO County is one of California's beautiful rural counties. I chose to live in District 4 El Dorado County like many of my nearby friends and neighbors because of the rural natural environment. Most <sup>of us</sup> endured long commutes to our jobs in Sacramento, just to live in our rural county.**

**Those of us who live in District 4 have consistently voted for a district supervisor who supported controlled growth. They listened to us when we opposed the Pilot Hill Ranch housing development, an unsuccessful attempt by a developer in the 1990s to <sup>Build</sup> 900 homes in Pilot Hill, CA. A supervisor of the past, Penny Humphreys discovered at a public meeting at the Bayley House barn, that resident of District 4 did not want a refuge transfer station anywhere in District 4. We have always wanted to keep our district rural, and if growth must occur, the process must be transparent and the need for growth approved by a majority of District 4 voters.**

**This cell phone tower at Site 1 Cool is an example of uncontrolled growth. District 4 voters have no**

knowledge of this cell phone tower. The Site 1 Cool cell phone tower, is close to my home on Triple Seven Road, but most importantly approximately one mile from another cell phone tower at the intersection of HWY 193 and HWY 49. I question whether the cell phone and internet users near Site 1 Cool would agree to the need for this second cel phone tower, ~~again within one mile of another cell phone tower.~~

This existing tower at the intersection HWY 193 AND HWY 49 serves Verizon and Nextel customers. Most of us in District 4 use Verizon's reliable service for our cell phones. Despite this know<sup>h</sup> fact AT&T Mobility with the agreement of El Dorado County's board of supervisors wants to install the Site 1 Cool cell phone tower. AT&T has ~~had~~ the option of renting space on the ~~cell~~ Verizon/Nextel cell phone tower. AT&T claims that District 4 voters or internet users also need the broadband internet connection that ~~the~~ the Site 1 Cool AT&T cell phone tower will provide. For myself, my internet wireless provider is AT&T and this service is excellent. So, what does AT&T know about the internet needs of District 4 voters?

I have requested proof of current AT&T market research that supports Site 1 Cool's cell phone tower's installation. The individual I have emailed is Alice Perez, the AT&T representative and liaison for the multiple AT&T cell phone tower installations in El Dorado County. I have asked for AT&T market

research conducted according to the guidelines provided by the U.S. government's Federal Communications Commission. I have not received a response from Ms. Perez.

At&T has an agreement for growth with El Dorado County's elected representatives, but not with the many residents living near the AT&T <sup>2008</sup> 15 or 16 new cell phone tower installations. Many of us are concerned about our future good health and well being. In the near future, reliable research may prove beyond a reasonable doubt that living close to cell phone towers is directly related to terminal and chronic illnesses.

I do not approve AT&T Mobility's application for a Conditional Use Permit for the cell phone tower installation at Site 1-Cool. ~~Our local government's representatives are proposing growth that may or may not be desired by the residents of El Dorado County.~~ I question the need for Site 1's cell phone tower when a cell phone tower is just a mile away from this proposed tower site. I also question the motivation <sup>THAT SUPPORTS</sup> for these El Dorado County cell phone towers. There is no known and current market research that would confirm that the voters of El Dorado County want and need these additional cell phone towers.



(Delivered at hearing  
by Steve Ramey)

PC 2/8/18  
#3  
5 pages

## A SMALL SAMPLE OF RELATED INFORMATION AND STUDIES ON MICROWAVE TOWERS

Cell phones communicate with nearby **cell towers** mainly through radiofrequency (RF) waves, a form of energy in the electromagnetic spectrum between FM radio waves and microwaves. ... (This is the basis for how **microwave** ovens work.) But the levels of energy used by **cell phones** and **towers** are much lower. May 31, 2016

Cellular Phone Towers - American Cancer Society

<https://www.cancer.org/cancer/cancer-causes/radiation.../cellular-phone-towers.html>

Are microwave towers dangerous?

Human population centers are flooded with massive amounts of powerful wireless **microwave** radiation. Cell phone **towers** emit high-frequency radio waves, or **microwaves**, that can travel as far as 45 miles over level terrain. The closer you are, the greater the **danger**.

Cell Towers - Electromagnetic Field (EMF) Safety from Safe Space ...

<https://www.safespaceprotection.com/emf-health-risks/emf-health-effects/cell-towers/>

Can cell phone towers cause health problems?

Other studies have found that levels of radiation emitted from **cell phone towers** **can** damage **cell** tissues and DNA, **causing** miscarriage, suppressing immune function, and **causing** other **health problems**.

DANGERS OF LIVING NEAR CELL PHONE TOWERS RAISED | East ...

[https://www.eastcountymagazine.org/cell\\_phone\\_towers\\_238](https://www.eastcountymagazine.org/cell_phone_towers_238)

Can radiation from mobile towers cause cancer? The scientific and ...

<https://www.thenewsminute.com › News>

Apr 12, 2017 - This is the category into which mobile **tower radiation** falls. Over the years, there have been many studies refuting the connection between non-ionizing **radiation** given out by **cell phone towers**, and cancer. Oncologists have also said that these radiations are not carcinogenic, but not everyone from the ..

**Supreme Court recently ordered deactivation of mobile tower after a cancer stricken man said the radiation was responsible for his ill**

**health. TNM Staff**

**Wednesday, April 12, 2017 - 19:29**

**In a landmark ruling, the Supreme Court recently ordered in favor of a man who said that the radiation from a mobile tower had affected his health. According to Dhananjay Mahapatra's report in TOI, Harish Chandra Tiwari has Hodgkin's Lymphoma, a type of**

**cancer, and he claimed that the harmful radiations from a mobile tower near his workplace affected him.**

**Not only did the court rule in Tiwari's favor, the Supreme Court also asked for the tower to be deactivated in a week.**

**At a time when there is plenty of research about radiation and how it affects the human body - and plenty that counters it - the SC's decision has thrown open the gate yet again for the debate on the health hazards posed by electromagnetic radiation of mobile towers.**

**While activists and some organizations have registered strong concerns about it, the government has continued to maintain that low Electro Magnetic Frequency (EMF) from mobile towers does not have adverse health consequences.**

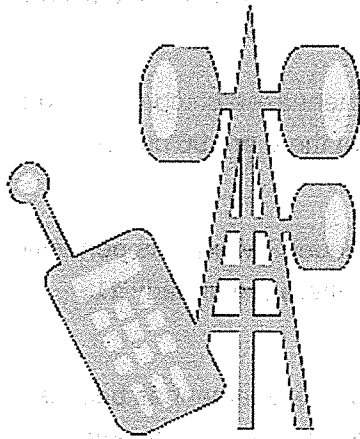
## DANGERS OF LIVING NEAR CELL PHONE TOWERS RAISED

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November 2008 Articles

### La Mesa Council holds hearing Nov. 5 on proposal to erect cell phone tower in Lake Murray area

By Miriam Raftery



When Mom asked me to look into possible health hazards posed by cell phone panel antennas that a church in her neighborhood wants to put up, I expected to find reassuring facts to allay Mom's concerns. Instead, I found deeply disturbing data that makes me wonder why the public is not being informed about health risks—and why our government seems intent on covering up troubling truths.

Cell phone companies and the U.S. Food and Drug Administration assert that cell phone towers don't pose health risks to the public. Some studies support this assertion, but other studies suggest just the opposite.

Harvard-trained Dr. Andrew Weil at the University of Arizona's medical center recently observed, "In January 2008, the National Research Council (NRC), an arm of the National Academy of Sciences and the National Academy of Engineering, issued a report saying that we simply don't know enough about the potential health risks of long-term exposure to RF energy from cell phones themselves, cell towers, television towers, and other components of our communications system. The scientists who prepared the report emphasized, in particular, the unknown risks to the health of children, pregnant women, and fetuses as well as of workers whose jobs entail high exposure to RF (radiofrequency) energy....Because so much of cell phone technology is new and evolving, we don't have data on the consequences of 10, 20 or 30 years worth of exposure to the RF energy they emit," Weil concluded. The report called for long-term safety studies on all wireless devices including cell phones, computers, and cell phone towers.

A 2006 report issued by the World Health Organization (WHO) offered some reassurance and found no scientific evidence that radiofrequency signals from cell towers cause adverse health effects. The report noted that up to five times more of the RF signals from FM radio and television (than from cell towers) are absorbed by the body with no known adverse effects on health in the more than 50 years that radio and TV broadcast stations have been operating.

But an Australian study found that children living near TV and FM broadcast towers, which emit similar radiation to cell towers, developed leukemia at three times the rate of children living over seven miles away.

If you live within a quarter mile of a cell phone antenna or tower, you may be at risk of serious harm to your health, according to a German study cited at [www.EMF-Health.com](http://www.EMF-Health.com), a site devoted to exposing hazards associated with electromagnetic frequencies from cell phone towers and other sources.



Cancer rates more than tripled among people living within 400 meters of cell phone towers or antennas, a German study found. Those within 100 meters were exposed to radiation at 100 times normal levels. An Israeli study found risk of cancer quadrupled among people living within 350 meters (1,148 feet) of a cell phone transmitter—and seven out of eight cancer victims were women. Both studies focused only on people who had lived at the same address for many years.

Other studies have found that levels of radiation emitted from cell phone towers can damage cell tissues and DNA, causing miscarriage, suppressing immune function, and causing other health problems.

Astoundingly, the federal government does not allow rejection of a cell phone tower based on health risks, according to a 2005 article. A Google search found no evidence that this situation has changed.

Yet over 1.9 million cell phone towers and antennae have been approved nationwide without federal studies to assure safety of those living nearby.

How many cell phone towers and antennas are in your neighborhood? Find out at [www.antennasearch.com](http://www.antennasearch.com). I plugged in my address on Mt. Helix, hardly an urban stronghold, and was astounded to discover that there are 96 cell phone towers, 286 antennas and 2 proposals for new towers within four miles of my home!

So how about Mom's neighborhood, where an Evangelical church insists a new tower is needed? Mom gets perfectly fine cell phone reception, and so do the neighbors she's spoken with—not surprising since there are already 113 towers and 335 antennas within a four-mile radius.

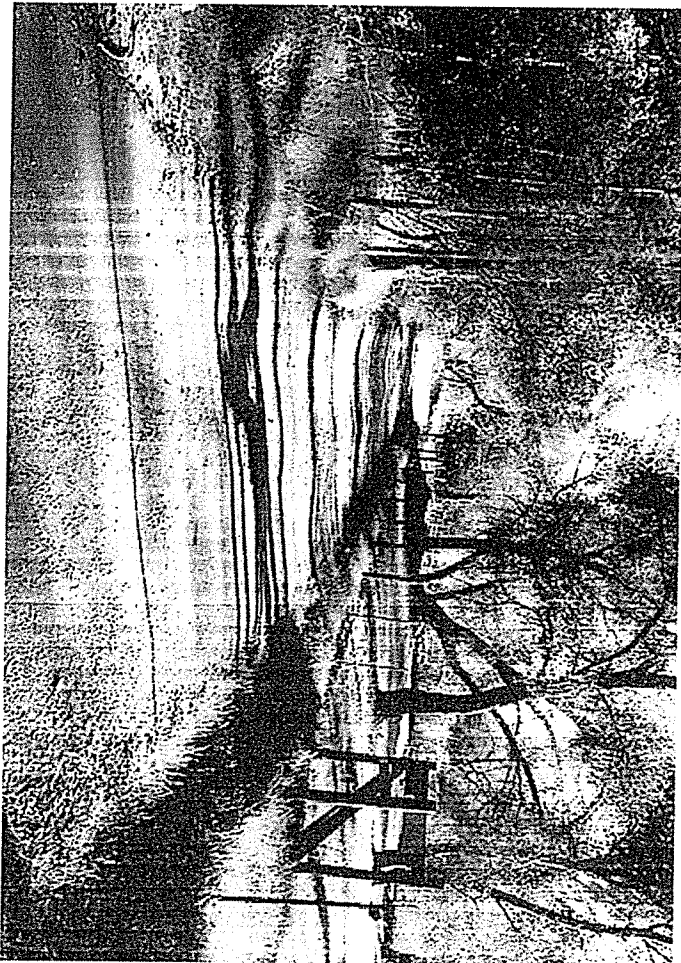
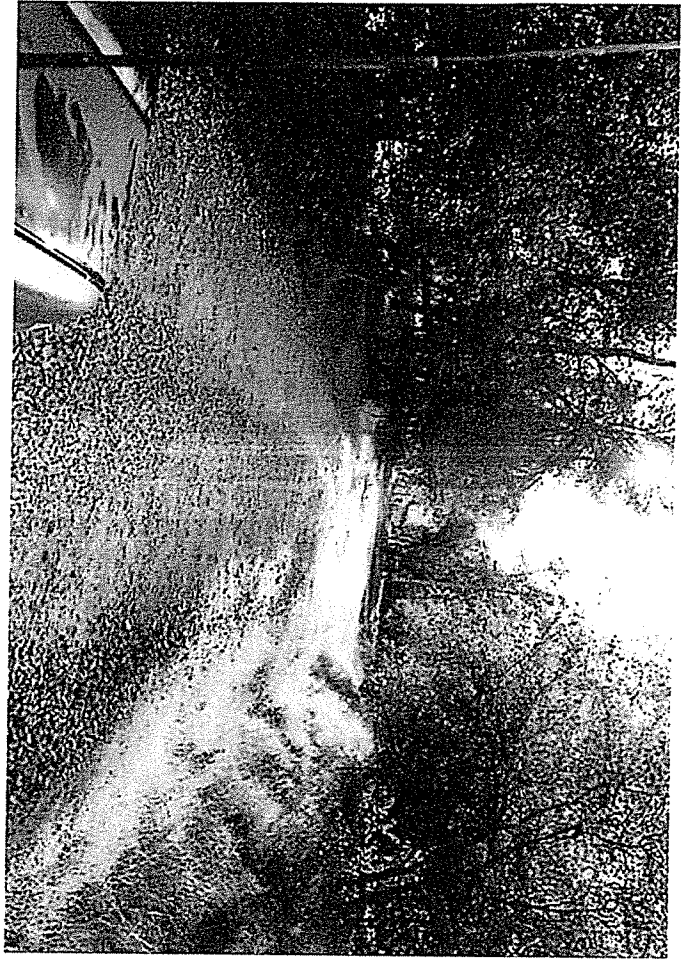
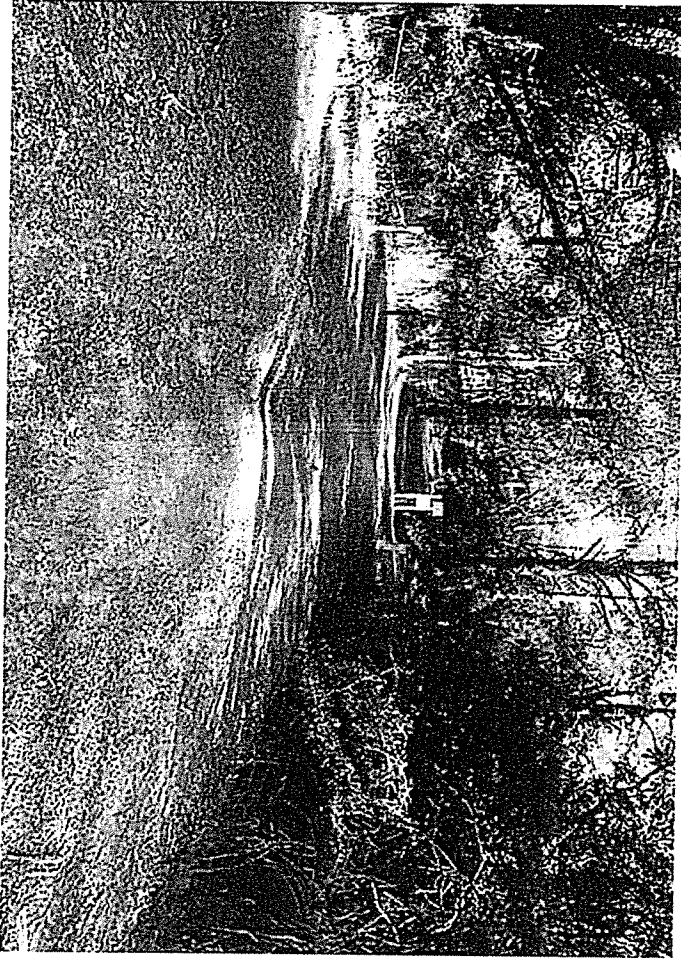
Churches, schools, fire stations, and other buildings are increasingly erecting cell phone towers or antennas because cell phone companies are willing to pay rental fees of hundreds or even thousands of dollars a month—welcome infusions for cash-strapped budgets. But at what cost to the public's health? There are young children in Mom's neighborhood, less than one block from the proposed cell phone antenna site.

In Sweden, the government requires interventions to protect the public from electromagnetic frequencies. Why isn't the U.S. government paying attention to this potential risk to public safety?

If you wish to share your views on the T-Mobile proposed cell phone tower at 5777 Lake Murray Blvd. (near Marengo Avenue), the La Mesa City Council will hold a public meeting on Wednesday, November 5th at 7 p.m. in Council Chambers at the La Mesa City Hall, 8130 Allison Ave., La Mesa.

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Source URL (modified on 06/17/2014 - 04:43): [https://www.eastcountymagazine.org/cell\\_phone\\_towers\\_238#comment-0](https://www.eastcountymagazine.org/cell_phone_towers_238#comment-0)







(Provided at hearing)

PC 2/8/18

#3

14 pages

February 8, 2018

Good morning El Dorado Planning Commissioners,

Donald Campbell of the Federal Communications Commission Safety Team has informed me that the FCC has not allocated any funds for compliance enforcement, which would include the items on this agenda. (18-0161)

Mr. Campbell stated that the FCC used to routinely drive to check compliance of permitted emissions equipment, but they no longer do this due to lack of funds.

As Lead Agency, by approving this agenda item in part or in full, are you saying that the emissions will never exceed FCC requirements? 18-0161

How will you ensure that the regulated thresholds will not be violated for the protection of the ~~health and~~ safety of your constituents and visitors to your county?

Martin Pall, Ph.D., has identified the effects on biology of wireless technology. It is a nuisance to every cell, neuron and DNA strand of living organisms. The resistance of biology eventually becomes so compromised that disability follows. This disability is identified under the Americans with Disabilities Act (ADA) as "electrosensitivity". [United States Code Title 42 Chapter 126 § 12102 et seq.]

Can you insure the protection of such disabled citizens if you approve this agenda item?

To sum up: As Lead Agency if you approve this agenda item, are you saying that there is not now, nor will ever be, an environmental affect from this project?

Laura Allred.

# NEXUS Newsfeed.com



## The harmful effects of electromagnetic fields explained

I've often noted that electromagnetic fields (<https://articles.mercola.com/sites/articles/archive/2017/05/28/dirty-electricity.aspx>) (EMFs) are a pernicious, hidden health risk. But exactly how does this kind of microwave radiation damage your health? Martin Pall, Ph.D., has identified and published research describing the likely molecular mechanisms of how EMFs from cellphones (<https://articles.mercola.com/sites/articles/archive/2017/05/23/cellphones-cause-brain-tumors-trigger-chronic-disease.aspx>) and wireless technologies damage plants, animals and humans.<sup>1,2,3,4</sup>

Pall has a bachelor's in physics from Johns Hopkins and a Ph.D. in biochemistry and genetics from Caltech, and is uniquely qualified for this type of research. For the past 18 years, he's been scouring the medical literature, integrating and drawing parallels between work done by others to answer this pressing question. Pall explains:

"There is a huge amount of information out here that nobody has the time to integrate, digest and make connections [between]. That's what I've been doing ... I was interested in EMFs before I could understand how they worked. Then I stumbled onto two papers that told me, 'Well, this looks like the way they work,' and then I dug out more and more papers ...

What the [initial two] studies showed was that you could block or greatly lower the effects [of EMF] by using calcium channel blockers ... That was the key observation ...

Now [I have found] 26 [papers] ... They all show that EMFs work by activating what are called voltage-gated calcium channels (VGCCs). These are channels in the outer membrane of the cell, the plasma membrane that surrounds all our cells. When they're activated, they open up and allow calcium to flow into the cell. It's the excess calcium in the cell which is responsible for most if not all of the [biological effects]."

### EMFs and Intracellular Calcium

When you expose cells to EMFs, there's increased intercellular calcium. You also get increases in calcium signaling, which is important as well, in terms of explaining the damage EMFs cause. For the past 25 years, the industry has claimed that non-ionizing radiation is harmless and that the only

radiation worth worrying about is ionizing radiation. Pall's research unequivocally proves that this assumption is false.

"It's been very clear, going back all the way to 1971 and even before that, that this wasn't true. But we didn't know what the mechanism was. Now, we do. I think it's very important, because the industry's been trying to hoodwink everybody for decades. Now we know how it works. One of the other things that's very important about this is that there is a wide variety of different health impacts that have been reported. Now we can explain how [these problems arise]."

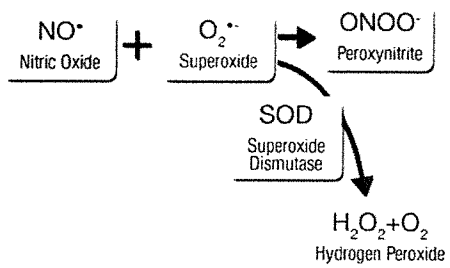
### How EMFs Damage Your Health

When your VGCCs are exposed to EMFs

(<https://articles.mercola.com/sites/articles/archive/2011/07/09/vickie-warren-on-effects-of-electromagnetic-fields.aspx>), they open up, allowing abnormally large volumes of calcium ions into the cells — about 1 million ions per second per channel. Each VGCC has a voltage sensor, a structure that detects electrical changes across the plasma membrane and opens the channel. EMFs work through the voltage sensor to activate the channel and radically increase intracellular levels into dangerous ranges.

"Because of the structure of the voltage sensor and its location in the plasma membrane, one can predict from basic physics that it's extraordinarily sensitive to the electrical forces from EMFs," Pall notes. On average, these forces are approximately 7.2 million times stronger on the voltage sensor than they are on singly charged electrical groups in the aqueous (watery) part of the cell. What this means is that current safety standards are off by a factor of about 7 million.

That's how these very weak EMFs, which industry claims can't possibly cause you any harm, are actually taking you out prematurely. They work by activating VGCCs. This turns out to be absolutely critical, because when there's excess calcium in the cell, a number of things happen. Not only do you get excess calcium signaling, you also get increased nitric oxide (NO). While NO has many beneficial health effects, massively excessive NO reacts with superoxide.



Superoxide levels also rise in response to increased intercellular calcium. Together, they form peroxynitrite, which is an extremely potent oxidant stressor. While not a free radical, peroxynitrites break down to form reactive free radicals, both reactive nitrogen species and reactive oxygen species (ROS) including hydroxyl free radicals.

"You get both, because you get hydroxyl radicals and carbonate radicals and NO2 radicals," Pall explains. All three do damage. According to Pall, most of the damage is likely done by excessive free radicals, but some damage is caused directly by the peroxynitrites. The end result is rather



massive harm, as excessive oxidative stress (<https://articles.mercola.com/antioxidants.aspx>) and nitrosative stress are involved in nearly all chronic disease. Much of the pathophysiology also has to do with the excessive calcium signaling, independently of peroxynitrite.

### NO Signaling Pathway Versus Peroxynitrite Pathway

It's important to realize that not all oxidative stress is harmful. There's a certain baseline of free radicals that's biologically useful and necessary. NO, for example, is a free radical, yet it has many very beneficial effects. The problem is excessive oxidative stress. Interestingly, Pall notes that the NO signaling pathway and the peroxynitrite pathways inhibit each other, which I never previously knew. This provides support for the new nitric oxide dump exercise (<https://fitness.mercola.com/sites/fitness/archive/2017/05/05/exercise-for-aging-muscles.aspx>) to decrease damage from EMFs.

### Why You Cannot Depend on Industry Claims

Many are unaware that the telecommunications industry is perhaps more well-funded than the pharmaceutical industry (<https://wakeup-world.com/category/politic/big-pharma/>), and just as powerful politically. Their lobbyists are very effective in disseminating and protecting the industry's version of the truth. Needless to say, the industry will also actively discredit research that demonstrates harm and/or defund research projects that start to reveal problems.

In fact, the current head of the Federal Communications Commission was formerly the chief lobbyist for the telecommunications industry — one of the worst cases of the disgusting revolving door between industry and government and the fox guarding the hen house that I have seen in sometime.

"I know how they've attacked various people," Pall says. "In the U.S. ... the funding for the EMF research [by the Environmental Protection Agency] was cut off starting in 1986 ... The U.S. Office of Naval Research had been funding a fair amount of research in this area [in the '70s]. They [also] ... stopped funding new grants in 1986 ... And then the National Institutes of Health (NIH) a few years later followed the same path ...

[I]t's actually shocking to say there are only two countries in the world that are doing a lot of research in this, well beyond their normal scope ... Turkey and Iran ... they're doing quite a bit of good research in both of those countries on EMFs ... What I've been doing is I've been doing it on my own. I've been contributing my time to it and my efforts and, at least to a small extent, some money to it. But it doesn't cost that much, so I can do it.

So, we have the fact that the money was cut off. One strongly suspects the industry had a role on that. The industry, with the 1996 Telecommunications Act, gave the regulation to the Federal Communications Commission (FCC), which has done nothing in terms of protecting the public.

In addition, they prevented the public from protecting their health with regard to their exposures from the cellphone towers. We cannot sue to prevent cellphone towers from being put near our workplace or homes. Basically, what the Congress did was to say our health makes no difference ... So, we're in extremely deep trouble," Pall says.

### Neuropsychiatric Effects of EMF Exposure

And this brings us to the crux of the problem, namely the physical locations where VGCCs are the densest, and the subsequent diseases you can expect from chronic excessive exposure to EMFs. The highest density of VGCCs are found in your nervous system and, indeed, studies dating back to the 1950s and '60s show the nervous system is the organ that is most sensitive to EMFs.

Some of these studies show massive changes in the structure of neurons, including cell death and synaptic dysfunction. When the VGCCs are activated in the brain they release neurotransmitters and neuroendocrine hormones. Hence, consequences of chronic EMF exposure to the brain include the following, which Pall details in a 2016 paper:5

- Anxiety (<https://articles.mercola.com/anxiety.aspx>)
- Depression (<https://articles.mercola.com/depression.aspx>)
- Autism (<https://articles.mercola.com/sites/articles/archive/2013/04/02/autism-rates.aspx>)
- Alzheimer's Disease (<https://articles.mercola.com/sites/articles/archive/2017/02/11/alzheimers-every-minute-counts-documentary.aspx>)

In animals exposed to EMFs, there are massive, cumulative effects in the brain. Genetic polymorphism studies also show that elevated VGCC activity in certain parts of the brain produces a variety of neuropsychiatric effects.

"I reviewed a [large number] of studies on various kinds of EMF exposures, each of them showing neuropsychiatric effects. What you find is that these effects have been repeated many times in these epidemiological studies. It's the same thing that everybody's complaining about, 'I'm tired all the time,' 'I can't sleep,' 'I can't concentrate,' 'I'm depressed,' 'I'm anxious all the time,' 'My memory doesn't work well anymore.' All the things everybody's complaining about.

We know all those things are caused by EMF exposures. There's no doubt about that. Because we know their effects on the brain, we know that the VGCCs' excessive activity can produce various neuropsychiatric problems.

Here we've got all of these epidemiological data that confirms this is happening in humans who live near cellphone towers, who were exposed to Wi-Fi, who were exposed to broadcasting radiation, who use cellphones, tablets and so on. That's very important. I think we should care about this."

### Cardiac Effects

Your heart is also very sensitive to EMFs, particularly the pacemaker cells of your heart, as they have the highest density of VGCCs. As a consequence of this, we find that EMFs tend to trigger the following conditions. If you have any of these conditions (or any of the ones discussed above and below), you need to know that EMF exposure is a major contributing factor and take immediate and aggressive steps to remediate your exposure.

- Cardiac arrhythmias (associated with sudden cardiac death)
- Atrial fibrillation / atrial flutter
- Premature atrial contractions (PACs) and premature ventricular contractions (PVCs), also known as heart palpitations
- Tachycardia (fast heartbeat) and bradycardia (slow heartbeat)

### Reproductive Effects

A third area with densely populated VGCCs is the reproductive system, particularly the male testes. A consequence here is impaired or reduced fertility. There is evidence showing EMFs can cause both male and female infertility, but male infertility has been more studied. Pall describes a classic reproduction experiment published 19 years ago by Ioannis Magras and Thomas Xenos in Greece:

“They took young pairs of mice, one male and female. They put them in a little cage on the ground outside in an antenna park ... The [radiation] levels at the ground were well within our current safety guidelines ... They put them in two different locations, one with a higher level of exposure and one with a lower level of exposure.

What they found was that at the higher-level exposure, each pair produced one litter that was approximately normal sized, then a second litter that was clearly down in numbers and then complete infertility — not a single mouse born ...

At lower level exposure, it was basically the same story, except it took twice as long. They produced four litters with decreasing numbers, and then complete infertility. We have now, in humans in many countries around the world, decreased male sperm count — down by over 50 percent in Western countries, and about half of that amount in other countries around the world.<sup>6,7</sup>

The senior author in that paper is saying, ‘If this keeps going, we’re going to become extinct,’ just from the drop in male sperm count. We know that that occurs in humans — in people who carry their cellphones in their front pockets, men who use their laptops with the Wi-Fi on sitting on their lap. We know that occurs. But of course, industry denies everything.”

Indeed, studies have linked low-level electromagnetic radiation (EMR) exposure from cellphones to an 8 percent reduction in sperm motility and a 9 percent reduction in sperm viability.<sup>8,9</sup> Wi-Fi equipped laptop computers have also been linked to decreased sperm motility and an increase in sperm DNA fragmentation after just four hours of use.<sup>10</sup>

## EMFs and Cancer

Studies on cancer have also been blocked by the industry in a number of ways, including preventing researchers from obtaining real-world data on cellphone usage. Obviously, people who use their cellphones the most are at greatest risk. While not at the top of the list of concerns associated with EMF exposure, cancer is yet another potential consequence of mitochondrial damage.

Women who carry their cellphones in their bra

(<https://articles.mercola.com/sites/articles/archive/2012/06/16/emf-safety-tips.aspx>), for example, risk cancer in the upper inner quadrant of the breast, which is very atypical and not the usual upper outer quadrant.

Brain cancer (<https://articles.mercola.com/sites/articles/archive/2017/08/01/cellphones-cause-brain-tumors.aspx>) is another possibility from extended cellphone use if you keep the phone to your ear. That said, emphasizing the cancer risk is likely counterproductive, as most people use cellphones and those who develop brain cancer are few and far in between. The problem is brain cancer has a latency period of a decade or more. Arrhythmias, autism, anxiety and Alzheimer’s, on the other hand, are extremely prevalent these days, and we now have a mechanism that explains how EMF contributes to all of them.



So, even though two U.S. senators likely got brain cancer from cell phones (Ted Kennedy and John McCain), it's important to understand that cellphone dangers are not just about brain cancer. It's all these other problems as well, including infertility. "In my judgment, cancer is down around No. 4 or No. 5 on the list of my concerns. It's not that cancer is not important. It's very important. We're just looking right now at the early stages because of long latencies," Pall says.

### What Is More Dangerous, Cellphones or X-Rays?

If you are like most, the answer is obvious: X-rays. That is because you have been convinced by the deceptive lies of the telecommunications industry that have lobbied the government to reinforce this delusional myth. The reality is that there is compelling evidence showing cellphones are more dangerous than X-rays — by several orders of magnitude.

Some of the best evidence comes from a German study (headed by professor Franz Adlkofer), in which the effects of ionizing radiation equivalent to 1,600 chest X-rays were compared to 24 hours on a cellphone. Surprisingly, they found both produced roughly equivalent amounts of DNA breaks in in-vitro assays. According to Pall, this actually vastly underestimates the effects of cellphones, because they used a continuous wave EMF, not pulsed.

There's extensive evidence showing pulsed EMFs are far more damaging than continuous wave EMFs. That's important for a number of reasons, including the fact that all wireless communication devices communicate by pulsations. In another paper, the group showed that when you use pulsations designed to be similar to the pulsation from a real cellphone, damage occurred at far lower intensities.

"This raises the question, 'How can this possibly happen?' I think the answer comes from the kind of diagram I've published, which is how EMFs produce free radicals," Pall says. "Both ionizing radiation and the microwave frequency EMFs produce DNA damage through free radicals. They're similar in that way. Where you get the free radicals is through the peroxynitrate pathway.

It turns out that when you go from EMFs to the free radicals on that pathway, there are three steps that involve high levels of amplification. One of them is when you open up the channels, you get about a million calcium ions flowing in per second. The second is that you get increases in NO and superoxide.

Those, in effect, will be the calcium acting catalytically, because once it's in the cell, as long as it's elevated, you keep getting more and more [NO and superoxide]. And then those two react with each other to form peroxynitrite. The reaction rates are the product of the two concentrations. So you have three levels of amplification. If you have three levels of amplification, you get a hell of a response to a very small stressor."

### Ionizing Radiation and DNA Breaks

The industry says there's not enough energy in microwave radiation to cause direct damage to covalent bonds in DNA. This is true. There isn't. It's the biological amplification resulting in excessive oxidative stress that causes the damage. Interestingly, even most of the damage caused by ionizing radiation is actually due to secondary free radical formation that breaks DNA. It's not directly from the energy within the radiation. Pall explains:

“That was published by Arthur Compton. He got the Nobel Prize for it in 1927. The way in which ionizing radiation works, it basically gets molecules and atoms and knocks electrons out, and then you get pairs of free radicals generated. That’s called Compton scattering.

There is amplification from ionizing radiation, but it’s only at one level. One energetic photon can produce a chain of free radicals. You’ve got three levels of amplification with the microwave frequency EMFs. The amount of damage you get based on those studies is truly extraordinary. Of course, Adlkofer and [Pilger] Rudinger were severely attacked by the industry.”

### Practical Strategies to Limit Your Exposure

Naturally, to reduce your risk of harm, you need to reduce your exposure to EMFs (<https://articles.mercola.com/sites/articles/archive/2011/02/09/powerful-and-simple-tips-to-help-lower-your-emf-risks.aspx>). Cellphone towers should be a major concern if you work or go to school within 300 meters (about 1,000 feet) of one. Even just driving around can expose you to substantial cellphone tower radiation.

Your cellphone is a major source of exposure, as are cordless phones (<https://articles.mercola.com/sites/articles/archive/2011/01/12/cordless-phone-emfs-trigger-heart-rhythm-abnormalities.aspx>), Wi-Fi routers, Bluetooth headsets and other Bluetooth-equipped items, wireless mice, keyboards, smart thermostats, baby monitors, smart meters (<https://articles.mercola.com/sites/articles/archive/2017/08/05/smart-meter-dangers.aspx>) and the microwave in your kitchen. Ideally, address each source and determine how you can best limit their use.

A simple remedy is to turn off your Wi-Fi each night. That’s just unnecessary exposure. Not carrying your cellphone on your body, and not using your laptop directly on your lap are other simple measures.

You can get cellphone pouches that are shielded on one side, so putting that side toward your body gives you some protection. Use your cellphone with a headset or on speaker phone. Work toward hardwiring your devices so you don’t have to be in a Wi-Fi field and don’t get unnecessary radiation from cordless mice, keyboards and printers. It is also possible to put up shielding in your house or apartment to lower exposures.

Once you know the mechanism of harm, you have a better idea of how to remediate the problem. In this case, since we now know the effects of EMFs are reduced by calcium-channel blockers, a natural solution would be to make sure you’re getting enough magnesium. Most people are deficient in magnesium, which will worsen the impact of EMFs. As noted by Pall:

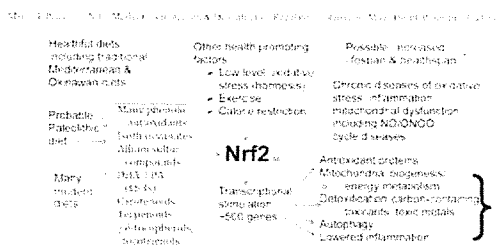
“It is clear that when you’re deficient in magnesium, you get excessive activity of the VGCCs. You also get excessive calcium influx through the N-methyl-D-aspartate receptor, caused by magnesium deficiency, which is also problematic, so it’s important to allay that deficiency.

Now, I always tell people I’m a Ph.D. and not an M.D. None of these [suggestions] should be viewed as medical advice. But I think one approach to dealing with these things is to raise the level of nuclear factor erythroid-2-related factor 2 (Nrf2), which I published [a paper 11] on.”

### How to Activate Nrf2 to Reduce EMF Impact

I am in the process of writing a very comprehensive paper on Nrf2, which is a vitally important biological hormetic that upregulates superoxide dismutase, catalase and all the other beneficial intercellular antioxidants. It also:

- Lowers inflammation
- Improves mitochondrial function
- Stimulates mitochondrial biogenesis
- Helps detoxify the body from xenobiotics, carbon-containing toxicants and toxic metals
- Activates the transcription of over 500 genes in the human genome, most of which have cytoprotective functions. This includes the three genes that encode enzymes required for synthesis of reduced glutathione, which is one of the most important antioxidants produced in your body



One simple way to activate Nrf2 is to consume Nrf2-boosting food compounds, such as sulforaphane from cruciferous vegetables, foods high in phenolic antioxidants, the long-chained omega-3 fats (<https://articles.mercola.com/omega-3.aspx>) DHA and EPA, carotenoids (especially lycopene), sulfur compounds from allium vegetables, isothiocyanates from the cabbage group and terpenoid-rich foods.

Exercise, calorie restriction (such as intermittent fasting) and activating the NO signaling pathway (one way of doing that is the NO dump exercise) will also raise Nrf2. In his paper, Pall notes:

“The important detoxification roles of Nrf2 mean that raising Nrf2 activity is likely to be of particular importance to the hundreds of millions of people around the globe who are regularly exposed to toxic chemicals that cause diseases characterized by oxidative stress, inflammation and mitochondrial dysfunction, diseases which include most of the chronic diseases of 21st century life.”

“One of the things I argued in that paper is that the two most helpful diets known — the traditional Mediterranean diet (<https://articles.mercola.com/sites/articles/archive/2017/01/16/why-the-mediterranean-diet-is-so-successful.aspx>) and the traditional Okinawan diet — are both high in nutrients that raise Nrf2,” Pall adds.

### Take-Home Message

I personally believe EMF exposure may be one of the most significant factors for the observed decrease in male sperm count, and the increased prevalence of anxiety, depression, autism and Alzheimer's. It is also highly likely a contributing factor to cancer.

While not widely publicized, in May 2011, the cancer research arm of the World Health Organization, the International Agency for Research on Cancer, classified radiofrequency EMF — such as the radiation from cellphones — a class 2B carcinogen, meaning it is possibly carcinogenic to humans.<sup>12</sup>

Pall has made a significant contribution to public welfare with his discovery of how EMFs cause biological harm, and it would be wise to take notice. I personally believe he deserves a Nobel Prize for his contribution to the science.

Again, the damage is not done through heat or ionizing radiation; it's done by activating your VGCCs, thereby triggering a chain-reaction that produces excessive amounts of ROS, peroxynitrites and hydroxyl free radicals — the most destructive free radicals known to man, as well as through excessive calcium signaling.

Hydroxyl free radicals decimate mitochondrial and nuclear DNA, their membranes and proteins. Too much calcium in the mitochondria can also impact their function. The end result is mitochondrial dysfunction, which we now know is at the heart of most chronic disease. Since your brain, the pacemaker in your heart and male testes have the highest densities of VGCCs, these areas are the most prone to damage when exposed to EMFs.

What this research tells us is that excessive microwave exposure can be a direct contributor to conditions such as Alzheimer's, anxiety, depression, autism, cardiac arrhythmias and infertility.<sup>13</sup> So, if you care about your heart, brain and reproductive health, avoid carrying your cellphone in your pocket or on your hip, avoid using portable computers and tablets on your lap and take measures to limit or eliminate as many unnecessary EMF sources as you can, in your home and at work.

Dr. Mercola and Martin Pall Discuss the Damaging Effects of EMFs

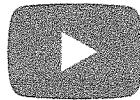
Preview: Dr. Mercola and Martin Pall Discuss the Damaging Effects of EMFs





## Prof. Martin Pall — How WiFi & Other EMFs Cause Biological Harm

### Prof. Martin Pall - How WiFi & other EMFs Cause Biological Harm



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- *In The Dark* (<https://www.nexusmagazine.com/products/books/alternative-health/in-the-dark-detail>), by Jason Bawden-Smith (available from NEXUS)
- DVD: "Scalar Energy and EM Protection" (<https://www.nexusmagazine.com/products/dvds/nexus-conference-2016-dvds/mr-2015-2503-2504-2505-2506-2507-2508-2509-2510-2015-08-17-2512-2513-2605-2607-detail>) by Mark Langdon at the 2016 NEXUS Conference (available from NEXUS)

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### **By Dr Joseph Mercola / Physician and author**

Dr. Joseph Mercola (<http://www.mercola.com/forms/background.htm>) has been passionate about health and technology for most of his life. As a doctor of osteopathic medicine (DO), he treated thousands of patients for over 20 years.

Dr. Mercola finished his family practice residency in 1985. Because he was trained under the conventional medical model, he treated patients using prescription drugs during his first years of private practice and was actually a paid speaker for drug companies.

But as he began to experience the failures of the conventional model in his practice, he embraced natural medicine and found great success with time-tested holistic approaches. He founded The Natural Health Center (<http://www.natural-health-center.com/our-practitioners/dr-joseph-mercola.aspx>) (formerly The Optimal Wellness Center), which became well-known for its whole-body approach to medicine.

In 1997, Dr. Mercola integrated his passion for natural health with modern technology via the Internet. He founded the website Mercola.com (<http://www.mercola.com/>) to share his own health experiences and spread the word about natural ways to achieve optimal health. Mercola.com is now the world's most visited natural health website, averaging 14 million visitors monthly and with over one million subscribers.

Dr. Mercola aims to ignite a transformation of the fatally flawed health care system in the United States, and to inspire people to take control of their health. He has made significant milestones in his mission to bring safe and practical solutions to people's health problems.

Dr. Mercola authored two New York Times Bestsellers, *The Great Bird Flu Hoax* and *The No-Grain Diet*. He was also voted the 2009 Ultimate Wellness Game Changer by the Huffington Post, and has been featured in TIME magazine, LA Times, CNN, Fox News, ABC News with Peter Jennings, Today Show, CBS's Washington Unplugged with Sharyl Attkisson, and other major media resources.

Stay connected with Dr. Mercola by following him on Twitter (<https://twitter.com/mercola>). You can also check out his Facebook (<https://www.facebook.com/doctor.health>) page for more timely natural health updates.

(Source: [wakeup-world.com](http://wakeup-world.com); December 22, 2017; <http://tinyurl.com/ydgxqwfy>  
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(Provided at hearing  
by Randy Helsvig)

PC 2/8/18

#3

3 pages

HOW ABOUT THAT! #26A

As Native Americans Knew It.  
THE LAND AND ITS CREATURES



... How can you buy the Sky? "

(Note: In 1854 the great white chief of Washington, President Franklin Pierce, made an offer for a large area of Indian land and promised a "reservation" for the people of the Dwamish tribe in the Pacific northwest. Chief Seattle's reply, published here in full, has been described as among the most beautiful and profound statements on the environment ever made.)

How can you buy or sell the sky, the warmth of the land? The idea is strange to us.

If we do not own the freshness of the air and the sparkle of the water, how can you buy them?

Every part of this earth is sacred to my people. Every shining pine needle, every sandy shore, every mist in the dark woods, every clearing and humming insect is holy in the memory and experience of my people. The sap which courses through the trees carries the memories of the red man.

The white man's dead forget the country of their birth when they go to walk among the stars. Our dead never forget this beautiful earth, for it is the mother of the red man. We are part

of the earth and it is part of us. The perfumed flowers are our sisters, the deer, the horse, the great eagle, these are our brothers. The rocky crests, the juice of the meadows, the body heat of the pony, and man - all belong to the same family.

So, when the great chief in Washington sends word that he wishes to buy our land, he asks much of us. The great chief sends word he will reserve us a place so that we can live comfortably to ourselves. He will be our father and we will be his children. So we will consider your offer to buy our land. But it will not be easy. For this land is sacred to us.

This shining water that moves in the streams and rivers is not just water but the blood of our ancestors. If we sell you land, you must remember that it is sacred, and you must teach your children that it is sacred and that each ghostly reflection in the clear water of the lakes tells of events and memories in the life of my people. The water's murmur is the voice of my father's father.

The rivers are our brothers, they quench our thirst. The rivers carry our canoes, and feed our children. If we sell you our land, you must remember and teach your children, that the rivers are our brothers, and yours, and you must henceforth give the rivers the kindness you would give any brother.

We know that the white man does not understand our ways. One portion of the land is the same to him as the next, for he is a stranger who comes in the night and takes from the land whatever he needs. The earth is not his brother, but his enemy, and when he has conquered it he moves on. He leaves his father's graves and his children's birthright are forgotten. He treats his mother, the earth, and his brother, the sky, as things to be bought, plundered, sold like sheep or bright beads. His appetite will devour the earth and leave behind only a desert.

I do not know. Our ways are different from your ways. The sight of your cities pains the eyes of the red man. But perhaps it is because the red man is a savage and does not understand.

There is no quiet place in the white man's cities. No place to hear the unfurling of leaves in the spring, or the rustle of an insect's wings. But perhaps it is because I am a savage and do not understand. The clatter only seems to insult the ears. And what is there to life if a man cannot hear the lonely cry of the whippoorwill or the arguments of the frogs around a pond at night. I am a red man and do not understand. The Indian prefers the soft sound of the wind darting over the face of a pond, and the smell of the wind itself, cleansed by a mid-day rain, or scented with the pinion pine.

The air is precious to the red man, for all things share the same breath - the beast, the tree, the man, they all share the same breath. The white man does not seem to notice the air he breathes. Like a man dying for many days, he is numb to the stench. But if we sell you our land, you must remember that the air is precious to us, that the air shares its spirit with all the life it supports. The wind that gave our grandfather his first breath also receives his last sigh. And if we sell you our land, you must keep it apart and sacred, as a place where even the white man can go to taste the wind that is sweetened by the meadow's flowers.

So we will consider your offer to buy our land. If we decide to accept, I will make one condition: The white man must treat the beasts of this land as his brothers.

I am a savage and do not understand any other way. I have seen a thousand rotting buffalos on the prairie, left by the white man who shot them from a passing train. I am a savage and do not understand how the smoking iron horse can be more important than the buffalo we kill only to stay alive.

What is man without the beasts? If all the beasts were gone, man would die from a great loneliness of spirit. For whatever happens to the beasts soon happens to man. All things are connected.

You must teach your children that the ground beneath their feet is the ashes of our grandfathers. So they will respect the land, tell your children that the earth is rich with the lives of our kin. Tell your children what we have taught our children, that the earth is our mother. What ever befalls the earth befalls the sons of the earth. If men spit upon the ground, they spit upon themselves.

This we know: The earth does not belong to man; man belongs to the earth. This we know. All things are connected like the blood which unites one family. All things are connected.

Whatever befalls the earth befalls the sons of the earth. Man did not weave the web of life - he is merely a strand in it. Whatever he does to the web, he does to himself.

Even the white man, whose god walks and talks with him as friend to friend, cannot be exempt from the common destiny. We may be brothers after all. We shall see. One thing we know, which the white man may one day discover - Our God is the same God. You may think now that you own Him as you wish to own our land; but, you cannot. He is the God of man, and His compassion is equal for the red man and the white. The earth is precious to Him and to harm the earth is to heap contempt on its creator. The whites too shall pass; perhaps sooner than all the other tribes. Contaminate your bed and you will one night suffocate in your own waste.

But in your perishing you will shine brightly, fired by the strength of the God who brought you to this land and for some special purpose gave you domination over this land and over the red man. That destiny is a mystery to us, for we do not understand when the buffalo are all slaughtered, the wild horses tamed, the secret corners of the forest heavy with the scent of many men, and the view of the ripe hills blotted out by talking wires. Where is the thicket? Gone. Where is the eagle? Gone. The end of living and the beginning of survival.