

LATE COMMUNITY CORRESPONDENCE

I am unable to attend the public hearing but want to object to the proposed Cell Tower at 244 Colgan Ave. I live at 2008 Bedford St. in close proximity to the proposed location. I received no direct notice of this planned construction and only learned of it second hand and with almost no time to this hearing. This proposed tower is far too powerful to be in close proximity to a high population area. There is lots of research showing cell-tower radiation is harmful to humans and particularly at the high power of this proposed installation. I request this application be rejected in favor of lower-powered and more distributed antenna that would be less harmful.

Sincerely,
John Sullivan

I am writing in opposition to the above referenced project.

Cell towers and related equipment can cause wildfires. Each cell tower is an electrical device. When they fail, electrical fires can be triggered. Cell tower fires cannot be extinguished through conventional means. Anyone putting water on a cell tower fire before the electricity is cut, which can take up to 90 minutes, may be electrocuted. Imagine a cell tower fire in a housing project or next to a densely trafficked facility such as Costco in the midst of a Santa Ana and there is nothing you can do until PG&E cuts the power.

I am the co-author of the Fire Safety Protocol passed unanimously by the Malibu City Council as part of their macro tower telecommunications ordinance. Our team – a telecommunications attorney, an electrical engineer, and myself – a Fire and Utility Consultant and an honorary firefighter with the San Diego Fire Department – did an investigation of Southern California wildfires over a 15 year period. Through fire investigation reports, thus far we have linked four major fires to telecommunications equipment, causing well over \$6 billion in damages: Guejito Fire in San Diego (2007) which merged into the explosive Witch Creek Fire; Malibu Canyon Fire (2007); Woolsey Fire in Malibu & LA County (2018); Silverado Fire in Irvine (2020).

Please see the attached fire bulletin I created to assist in educating planners, municipal governments, state and federal legislators regarding the fire risks of telecommunications equipment.

According to the FCC, safety belongs to the locality to regulate. That includes safety setbacks. I would urge Santa Rosa leaders to keep cell towers away from residential projects to allow residents time to escape in the event of a cell tower fire.

Every single cell tower that comes into your area brings with it added risk of fire.

I will add that I have worked with the firefighters of California for 20 years. I was the organizer of the SPECT brain scan study of firefighters that took place in 2004. [See attached] This was a pilot study of six firefighters only, but we had 25 out of 27 firefighters who were symptomatic at a station where there was a cell tower placed directly in front of the facility. After a five-year exposure to the 2G tower, all six participants in the study were found to have permanent brain damage. These were strong, healthy firefighters prior to installation of the tower. Therefore, I would urge caution whenever placing cell towers near residential/heavily trafficked areas in your community.

Respectfully submitted,
Susan Foster
Fire and Utility Consultant
Honorary Firefighter San Diego Fire Department
858-756-3532

Hello Suzanne,

I'm writing this email to notify you of my opposition of the installation of Verizon Cell Tower.

The tower prospective location, 244 Colgan Ave Santa Rosa, Ca 95492, sits too close to homes, school!!!!!!
And shopping center.

My I also mentioned that the surrounding neighborhood are all low income neighborhood, and I am almost certain that no one in these communities has been notified of such plans.

Thank you,

Paula R Mendoza Anguiano

To: Suzanne Hartman, City Planner, City of Santa Rosa and Planning Commission Members

Re: Verizon Wireless Communications Facility at Colgan Ave

Dear Ms. Hartman and Planning Commission Members,

I have serious reservations about the engineering expert that Verizon has hired to present its case for approval of this cell tower on Colgan. I am concerned about his ability to provide your commission with an objective viewpoint with regard to safety margins on the FCC Maximum Permissible Exposure limits.

The **Maximum Permissible Exposure** limits for radiofrequency radiation established by the FCC are based on thermal effects only. Thus, if the radiation raises the temperature of flesh less than one degree Centigrade in 30 minutes it's considered "safe." That very definition makes that MPE unsafe for general use, since it invites disaster for someone who has to endure that limit 24/7!

There are 1,800 peer reviewed scientific papers, compiled in the most recent BioInitiative Report, that prove biological harm at levels vastly lower than the MPE limits which have nothing to do with tissue heating. The "non-thermal" effects of RF radiation from wireless sources include DNA damage, loss of DNA repair capacity, neurotoxicity, genotoxicity, and cancers such as brain tumors.

I have special expertise in this matter of scientific research. I am the author or coauthor of more than 250 scientific papers on nuclear physics, astrophysics, and astrobiology, as well as ten books, one on the perils and safe uses of electromagnetic devices. I also spent four years directing the astrophysics portfolio at the National Science Foundation.

When I evaluate scientific papers, I pay special attention to who funded the research. If it's the federal funding agencies, National Science Foundation, Department of Energy, and National Institutes of Health, the work can be taken seriously, since grantees from those agencies have no responsibility to kowtow to the wishes of the agency, other than to acknowledge their support.

However, that is not the case for research funded by entities with profit in mind. For example, with regard to industry supported research, if the results are not in keeping with the party line of that entity, they will never be published without modification to suit the funder's objectives.

This is particularly relevant to research funded by the telecommunications industry; it always supports the telecom party line. This criterion also applies to oral presentations

With regard to Mr. Witkowski's "expert" testimony, I posit that he has not done no research on this subject. If he had, he could never say, "Thus, even if an RFR source is imparting energy at 100% of the FCC's safety guidance, that level is still below the effect level." That statement is patently false. Given that, can one believe any of this Verizon supported testimony?

Sincerely,

Richard N Boyd, PhD

By interesting coincidence we have nearly the same name. My name is Susan Hartman. I am a senior living at Vintage Park Apartments, across the street from the proposed Verizon towers. There are over 200 older adults living at this complex. Seniors are more vulnerable to the health problems caused by adverse conditions in their environment. For the protection of my own health and that of my neighbors I am opposed to the construction of these towers. Thank you for considering the opinion of someone older who has your name (almost)!

I am writing to voice my concern regarding the proposed install of the cell tower, I live on Bedford St, very close to the tower in question. I object to this whole heartedly, it would be criminal to install this tower and expose local shoppers and residents to emissions from this tower, shoppers in Costco would literally be feet away without knowledge of the exposure. This is too close to populated areas and should be installed at suitable distance from the city and its residents. Colgan park is also very close by where kids play all day, if this is approved then close the park as again families and children would be unknowingly exposed to the radiation jeopardizing future health.

Appreciate all concerns are reflected upon.

Ranbir

I'm writing to you today in objection of having a Verizon cell tower installed on Colgan Avenue. I've been a resident at La Esplanada Place for over 15 years and have several concerns regarding the proposed tower and very against the installation.

1. My main concern and reason why I'm against the tower installation is due to the RFR emissions these towers produce and how this will impact my health and the health of my community. It's been proven that these towers emit radiation and can cause harm with long-term exposure. The community that lives off of Colgan is not an affluent one, and already has a disadvantage in affording health care and may not be able to afford the care needed with any health complications caused by these towers.

2. I'm against the tower installation because it will impact my property value negatively by reducing the value. This county is already expensive, and this will make it even harder for anyone who owns in our HOA to sell.

3. I'm against the tower installation because Colgan Avenue is such a high traffic area, both in commuter vehicles and pedestrian traffic. The street itself has more pot holes than any road I've been on in the city. The city should focus on repairing the road rather than allowing the build of a cell tower. The tower would not add any value to an already deteriorating and unstable road.

I strongly encourage the City Planning Commission to reconsider approving the tower installation as this will not be a benefit to the community but only a hindrance. The negative impacts of this tower will certainly outweigh any benefit.

Sincerely,
A Resident at La Esplanada Place

Dear Planning Commissioners, Ms. Hartman and Mr. Osburn,

I understand there will be a representative from IEEE, David Witkowski, presenting to the Commission this afternoon. Please find the attached information from EHTrust regarding the FCC's lack of adequate review for Wireless Radiation Exposure limits. See pdf attached and jpg below.

Unfortunately, IEEE has not kept up with the science.

From: FCC Limits for Wireless Radiation Exposure Decades Out of Date

Suzanne Burdick, PhD

Theodora Scarato (Executive Director of Environmental Health Trust) states: "The IEEE points to just three studies to support its belief that, 'Here is how we know the heating level that is harmful from RF.' They included: a 1977 study involving eleven rats, a 1982 study involving five rhesus monkeys, one squirrel monkey and one rat, and a 1984 study involving five rhesus monkeys. These studies," she said, "exposed tiny samples of animals to short durations of RF radiation — as in, 40 to 60 minutes — and did not look at the impact of chronic exposure to RF radiation."

Thank you for your valuable time.

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies)	ET Docket No. 13-84
)	
Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields)	ET Docket No. 03-137
)	
)	

To: Office of the Secretary
Federal Communications Commission
Washington, DC 20554

Comment Filed by: Susan D. Foster, MSW
15957 Avenida Calma
Rancho Santa Fe, CA 92091
susan.foster04@gmail.com
858 756-3532

September 2, 2013

AFFIDAVIT OF Susan D. Foster, MSW

State of California]

San Diego County]

I, Susan D. Foster, MSW, attest that my statements are true to the best of my knowledge.

Comment round for FCC ET Docket No. 13-84 and ET Docket No. 03-137

1. My name is Susan D. Foster, MSW. My address is 15957 Avenida Calma, Rancho Santa Fe, CA 92091.
2. I am a medical writer and the organizer of a brain study of California firefighters exposed to RF radiation from a cell tower adjacent to their fire station of over 5 years.
3. In 2004 I organized a pilot study of California firefighters who worked up to ninety (90) hours per week in fire stations with cell towers in close proximity to the two (2) stations where the firefighters work, eat, and sleep. The men were experiencing profound neurological symptoms following activation of the towers in 1999.
4. The symptoms experienced by the firefighters, all of whom had passed rigorous physical and cognitive exams prior to being hired by the fire department, included but were not limited to the following: headaches, extreme fatigue, sleep disruption, anesthesia-like sleep where the men woke up for 911 calls “as if they were drugged”, inability to sleep, depression, anxiety, unexplained anger, getting lost on 911 calls in the town they grew up in, a twenty (20) year medic forgetting basic CPR in the midst of resuscitating a coronary victim, immune-suppression manifest in frequent colds and flu-like symptoms.
5. The neurological testing and SPECT scans [single-photon emission computed tomography] of the brain were conducted by Gunnar Heuser, MD, PhD and J. Michael Uszler, MD. All six (6) firefighters were found to have brain abnormalities on SPECT scan. The doctors thought they would find areas of limited function in the brain based on the

symptomatology. Instead, they found a pervasive, hyper-excitability of the neurons which suggested the exposure to RF (microwave) radiation was causing the neurons to continually fire, without rest. RF radiation appeared to act as a constant stimulant even when the men were away from the station, and in repose. The SPECT scans were considered abnormal in all 6 firefighters.

6. Cognitive function, reaction time, and impulse control were measured objectively using T.O.V.A. testing [Test of Variables of Attention]. In all six (6) firefighters, impairment was found with cognitive function, reaction time and impulse control. Three (3) of the six (6) firefighters were captains. The captain on each shift is in charge of making life altering decisions for all firefighters and potential victims. They order firefighters into a burning building, and conversely, they order them out before a roof may collapse, for example. Impairment of all three critical functions could cost firefighters and the community they serve either life or limb.

7. The testing was conducted in 2004. The cell towers are in place at the two (2) fire stations where the test subjects work for the duration of a twenty-two (22) year lease. The men we tested have remained at the stations as this is the only work they know in the only community they have ever lived in. One (1) of the six (6) men tested did move to another department after his wife gave birth to to a boy who was diagnosed with Autism at age 2. This was the first live birth experienced by the “firefighter family” at this department since activation of the tower three (3) years earlier.

8. I have followed up with the firefighters who report continued symptoms as described in paragraph 4. Additionally, all firefighters report profound memory loss.

9. Two (2) of the firefighters, men we did not test in the pilot study but men who were exposed to RF radiation from the cell tower since their installation and activation in 1999, have gone out on psychiatric disability. This is almost unheard of among firefighters. The diagnosis was Post Traumatic Stress Disorder for one firefighter; he went out on an emergency run, and simply stopped talking after he returned to the station. The second

firefighter suffered an apparent break with reality. This occurred in the fire station when he returned following a short term disability for an unrelated injury. This break with reality was followed by an abrupt collapse and loss of consciousness. Because two (2) women have suffered strokes while in the fire station with the towers fully activated, Vascular Spasm Stroke (VSS) is suspected as a possible cause by Dr. Heuser and myself of having caused not only the strokes, but it is suspected in the potentially inaccurate diagnoses of the two (2) “psychiatric” cases among the firefighters. If not treated with rest and supplemental oxygen, it is possible for some VSS patients to have difficulty regaining speech and full cognitive abilities. This may be a case of misdiagnosis by the treating physicians who were unfamiliar with the potential of cell towers to create thermal effects well under the FCC limit of 1,000 $\mu\text{W}/\text{cm}^2$, thus heating blood in the brain and inducing VSS. Further study of these men is imperative.

10. What is particularly germane to the critical decisions the FCC is currently facing regarding RF safety guidelines is the fact the FCC currently allows 1,000 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) as an emission standard from cell towers. Yet all the symptoms attributed by the firefighters, as well as measurable brain and central nervous system abnormalities described above, occurred within close proximity to a cell tower measured at between 1 - 2 $\mu\text{W}/\text{cm}^2$ by Peter Sierck, BBEC, CEO of Environmental Testing & Technology in Encinitas, CA. Thus the emissions from towers were measured at approximately 1/1000th to 1/500th of the FCC’s allowable limit. “Hot spots” of reflected radiation were measured at 15 and 30 $\mu\text{W}/\text{cm}^2$, yet these “hot spots” were still a fraction of what the FCC allows. Therefore, **I strongly suggest the FCC is not basing its standards on biological effects by taking into consideration non-thermal effects, but rather physics with respect to the belief only thermal effects can be deleterious.** The FCC must recognize the principles of physics do not protect the brains and central nervous systems of the strongest among us, our firefighters.

11. The failure to protect our populations based on biological effects of exposure to RF (microwave) radiation at non-thermal levels is an inherent shortcoming of the current FCC policy with respect to cell tower emissions and cell phone absorption. The adverse biological

impact of these exposures are grossly underestimated. The FCC does not have independent science that can justify the massive exposure to RF radiation that currently exists from cell towers and cell phones. The story told by our small pilot study of firefighters in California should be a warning with respect to the current failure to recognize **harmful neurological impact of non-thermal levels of RF radiation**.

12. Based on the neurological abnormalities Dr. Heuser and I found in the firefighters, including hyper-excitability of the neurons which can result in cell death and consequent neuro-degenerative diseases such as Alzheimer's, Parkinson's Disease and ALS, I urge the FCC to reflect on the gravity of the decision facing you now, and I implore all Commissioners to reduce the allowable level of RF radiation immediately, and to not only recognize the adverse health effects from non-thermal levels of RF radiation, but to actively and aggressively protect and educate the general public through policy change and PSAs.

13. Finally, the FCC is not a health agency, yet it is entrusted with making decisions that impact the health of every American, including the unborn and those who cannot – through inability or lack of knowledge of the issues and dangers at hand – speak for themselves. Many consumers are encouraged through industry advertising to believe that their children will be disadvantaged if they do not have the latest wireless technology. Given the most recent culling of science in the BioInitiative Report 2012, this reckless promotion without any proof of safety puts them and their progeny at risk for neurological, immunological and reproductive harm. Furthermore, the “revolving door”-culture between the FCC and the telecommunications industry works against the best interest of consumers' health and safety. Both the FCC and the industry reach for a common refrain to hang on to their egregiously high regulatory limits which the FCC tries to pass off as “safety limits”, but clearly they are not. That refrain tells the public time and again that “there is a lack of scientific consensus about the adverse health effects” at exposure levels at or below the existing FCC limits. **No, there is not a true lack of consensus.** There is a flagrant disregard by the FCC for excellent, peer review science showing adverse health effects at less than 1% of what the FCC allows. Even if this were not the case, when have we determined everyone must be on the same side, the same page, before precautionary approaches are implemented? Did we

wait for this 100% accord on the science regarding DDT? No, if we had done that, Dow Chemical would never have agreed their product was dangerous and the world would be a less safe place than it is now. The same argument can be used for tobacco. It is past time for the FCC to lean toward the side of protecting human life rather than telecommunications industry profits. I contend a true Precautionary Approach would be both efficient and practical. It would protect human life, the quality of those lives, prevent disease, enhance the opportunity for human potential by not insidiously eroding our greatest natural resource – the human brain, and it would keep health care costs down. I implore the FCC to recognize that six (6) out of six (6) SPECT brain scans were abnormal for the firefighter subjects, and they are the strongest of the strong among us.

Respectfully submitted by

Susan D. Foster, MSW
15957 Avenida Calma
Rancho Santa Fe, CA 92091
September 2, 2013

Susan D. Foster, MSW

(Electronically submitted)



January 9, 2024

City of Santa Rosa
Planning Commission
100 Santa Rosa Avenue
Santa Rosa, CA 95407

Submitted via email to: SHartman@srcity.org

RE: Environmental Concerns Over Conditional Use Permit Application “PRJ23-009”

Mrs. Hartman,

On behalf of Russian Riverkeeper (RRK), I welcome the opportunity to submit this letter in response to City of Santa Rosa Conditional Use Permit Application “PRJ23-009” which is proposing placement of a 69ft Monopine Cellular Tower at 244 Colgan Ave., Santa Rosa, CA. Russian Riverkeeper is a local nonprofit that has been successfully protecting the Russian River watershed since 1993. Through public education, scientific research and expert advocacy, RRK has actively pursued conservation and protection for the River’s mainstem, tributaries and watershed. Our mission is to inspire the community to protect their River home, and to provide them with the tools and guiding framework necessary to do so. For that reason, we send the following letter.

I. Proposed Site Location and Environmental Background

The proposed location for the 69ft Monopine Cellular Tower, 244 Colgan Ave., Santa Rosa, CA, abuts Colgan Creek and is located within the larger Russian River Watershed. The proposed location of this tower is within approximately 150 feet of the open waterway.

Located within the Laguna-Mark West sub-watershed, Colgan Creek flows south-west from Santa Rosa to Sebastopol where it meets with the Laguna de Santa Rosa, before flowing to Mark West Creek and the Russian River mainstem. Starting with its headwaters on Taylor Mountain, Colgan Creek is known to drain approximately 5,000 acres of land with a mixture of manmade and natural channels in its upper sections. Cutting through the more industrial parts of Santa Rosa, Colgan Creek is primarily fed by rainfall, storm drains, and has long suffered from poor water quality. Over the last two decades, Colgan Creek has received millions of dollars in restoration efforts to help return it to a natural riparian ecosystem that can provide important salmonid and other species habitat.

Further, Colgan Creek flows directly into the Laguna de Santa Rosa, a renown freshwater wetland area and the largest tributary to the Russian River. The Laguna is home to hundreds of sensitive species of birds from bald eagles to hummingbirds; mammals such as mink, badger, bobcat and river otter; and numerous fish and amphibians, including several rare and endangered species like our steelhead and coho salmon. Unfortunately, the Laguna is also at the bottom of an urbanized watershed and is currently impaired for nitrogen, phosphorous, sediment, temperature, mercury, and dissolved oxygen. These impairments continually place the Laguna’s vast



biodiversity at risk and is a primary reason for millions of dollars in restoration efforts over the last few decades.

Waters then travel to Mark West Creek, another critical habitat area for listed salmonid and other species, before entering the Russian River and eventually the Pacific Ocean. This means that anything entering the water upstream in Colgan Creek has the potential to interact and influence each of the important habitat areas downstream of it, further negatively impacting our diverse ecosystems. It is important that measures are continually taken to protect these critical waterways and restoration efforts from new harms that may result in further loss of critical habitat and protected species.

II. PVC and Microplastics

Plastic has been mass produced for more than 60 years now, and humankind has produced over eight billion metric tons of it since then. Unfortunately, despite the many beneficial uses plastic has provided us, we have become a single-use society that produces more waste than can be sustainably eliminated.

This issue is two-fold. First, only 9% of all produced plastic has been recycled and another 12% incinerated. The rest, almost 80% of the plastic ever created, continues to sit in landfills or will end up in the natural environment, eventually finding its way into our rivers, streams, and oceans. Plastic is accumulating in our oceans at an alarming rate—the largest concentration of ocean plastic waste, the Great Pacific Garbage Patch located between California and Hawaii, is estimated to measure three times the size of France, while images of animals entangled in plastic or having died of starvation, are shockingly common. Plastic pollution has become a very visible issue.

Secondly, and most important to the proposed project, is the largely indestructible nature of plastics. Plastics continually break down into smaller and smaller pieces (aka: microplastics) over time as they become exposed to the natural elements, and leech a never-ending stream of toxic chemicals into the environment. Microplastics are known to be extremely harmful to our freshwater species and habitat, as well as our ocean environment downstream. In addition to their chemical toxicity, many species ingest microplastics thinking they are food and/or inadvertently due to the small size of particles causing further harms. Once ingested, microplastics can block the gastrointestinal tracts of organisms and trick species into thinking they do not need to eat, leading to starvation. Many toxic chemicals can also adhere to the surface of plastic and, when ingested, contaminated microplastics can expose organisms to high concentrations of toxins. These toxic contaminants then ultimately get into the food chain and the human body—with an average intake of 5 grams of microplastics per person per week that adds up quickly.

Thus, it is important that we continue to reduce the use of plastic, especially in our more sensitive habitat areas, so these harms can be prevented to extent possible.



A. Transportation of PVC and Microplastics throughout the Watershed

Monopine cellular towers are given their “pine tree” look via use of the materials noted above and is concerning for a few reasons.

Primarily, there have been an increasing number of concerns made over use of these monopines when in close proximity to sensitive water bodies and critical habitat areas (i.e. Lake Tahoe) such as we have here. These concerns have largely stemmed from the observance of faux PVC branches and pine needles falling from these monopines and littering the ground below them. The closer these fall to a waterbody, the increased likelihood of them entering that waterbody and dispersing throughout the interconnected watershed and harming habitat and species alike. Be it through wind, stormwater runoff, or direct deposit, the light weight of PVC makes transport of these fallen materials across the landscape fairly easy.

In this particular instance, the 6ft tall perimeter fence only extends about 5ft beyond the largest proposed branches and the lowest branches are expected to be about 14ft above the top of that fence. This creates a high probability that any falling “tree needles” will land outside the rocked area directly below the tree. As a result, the rocked area and conditional maintenance efforts within the plan area are unlikely to be effective in preventing any “tree needles” from entering our waterways. Rather, these needles are more likely to land outside the plan area, either by landing directly in Colgan Creek or getting flushed into our storm drains and then Colgan Creek.

Due to the 69-foot height of the monopine, even a gentle breeze is capable of carrying small needles outside the monopine’s perimeter. Roads and other ground obstacles are not going to prevent this from occurring, and gentle breezes can be found year-round in Sonoma County. Sonoma County is also known for its much stronger, annual Diablo Winds which are known to have up to 40mph gusts and making it even more likely that lightweight needles will be carried outside of the monopine’s perimeter, into Colgan Creek, and into our stormdrains.

Then, even if local breezes do not directly transport the PVC branches and pine needles into the local waterways, as soon as the winter rains come, runoff will carry them the rest of the way via storm drains. Further, because the City’s MS4 flows directly into water bodies without any treatment it is critical to keep it pollutant free. As is, any monopine needles that may land outside the plan’s perimeter are likely to be transported via stormdrains to the closest waterbody during the first 1-inch rain event and then throughout the lower portion of the watershed. Therefore, dispersal of these PVC branches and needles can end up thousands of feet, and eventually miles, away from the actual monopine cellular tower itself.

As such, there is still an increased chance of our local weather patterns carrying these fallen materials into our sensitive water bodies and critical habitat areas. Once in our waters, the PVC can cause irreparable harms as noted above—especially when in high quantities such as those that would potentially come off this monopine. Already dealing with historic toxicity issues and a plethora of other plastic and pollutant sources contributing to water quality impairment, it is important that all measures be taken to protect against these harms.



III. Conclusion

We appreciate the opportunity to provide input on this important issue and welcome any questions that you may have.

Sincerely,

A handwritten signature in black ink that reads "Don McEnhill".

Don McEnhill
Executive Director
Russian Riverkeeper

A handwritten signature in black ink that reads "Jaime Neary".

Jaime Neary
Staff Attorney
Russian Riverkeeper

MEMO

To: Santa Rosa Planning Commission
c/o Suzanne Hartman, Planner

Re: Proposed Verizon Cell Tower - PRJ23-009, 244 Colgan Ave

From: Paul-André Schabracq

Date: January 11, 2024

I urge you to deny the application for the proposed cell tower referenced above. Please consider the following facts in support of findings of fact for denial:

1. Failure of the applicant to provide sufficient evidence to establish a ‘Gap in Service’ - a public necessity for the proposed wireless facility at the location and height proposed.

The applicant did not demonstrate with solid evidence that “*there exists a public necessity that is required to render safe and adequate service*” and that there are compelling reasons that their installation is more feasible at their proposed location than at other locations.¹

The Gap in Service data submitted by Verizon is superficial and inconclusive, demonstrating only minor gaps along the 101 Highway which can be readily explained by measurements taken inside a rapidly moving vehicle. Without providing such readily obtainable hard data, the Planning Commission was given manipulated computer simulation or modelling designed to show that a pre-determined need existed for their proposed cell tower². For this reason, this application should disregard the coverage data provided by the applicant as unreliable. It has clearly not met the required public necessity test - otherwise known as a gap in service.

Verizon already has facilities less than 2 miles from the proposed Colgan Creek location:

750 Aston Avenue: 0.5 miles
250 Kawana Springs Road: 0.7 miles
1235 Santa Rosa Avenue: 0.6 miles
1028 Pressley Street: 1.0 miles
1680 Allan Way: 1.2 miles
3101 Old Petaluma Hill Road: 1.4 miles

The attached Verizon’s maps indicate there are large macrotowers by the Fairgrounds (less than 2 miles away), as well as towers near 4th Street, in Roseland, off Stoney Point, and many other locations throughout the city.

¹ Consolidated Edison Co v. Hoffman, 43 N.Y. 2d 598 (1978) and T Mobile Northeast LLC v. Town of Islip, 893 F.Supp.2d 338 (2012)

In addition, the attached maps also indicate that there are over 40 cell towers and small cell antennae in Santa Rosa. In addition, there is another Verizon cell tower on Kawana Springs Road located 1/4 mile from this proposed cell tower. There is clearly no “gap is service.”

Moreover a more accurate, reliable and least expensive provision of hard data to establish the location, size and extent of significant gaps in wireless service are *drive test data* combined with *dropped call records* - which have not been provided.

2. The proposed cell tower is not in compliance with the intent of the Zoning Ordinance.

Santa Rosa Zoning Ordinance 20.44.060 (F) Commercial Telecommunications Facilities states *All major commercial telecommunication facilities, other than government owned facilities, shall be prohibited in R zoning districts or within residential areas of a PD zoning district.* The intent of this zoning regulation is to protect residences from the impacts of cell towers and to protect the public health and safety.

Although the proposed cell tower may be allowed with a CUP by the underlying zoning, it is located adjacent to multifamily housing. The RF emissions from the proposed cell tower is in close, direct line-of-sight of the residents of these apartments.

3. Safety Issues - Fall Zone: The proposed location for the monopole cell tower fails to establish a Fall Zone or Safe Zone and Non-Compliance with the National Electrical Code and other applicable City Electric Codes.

Due to the documented dangers of irresponsible placement of monopole cell towers, local governments across the United States have enacted zoning provisions to ensure that the installation of such towers include a fall zone or safe zone of sufficient size to preserve the health and safety of nearby residents.

The most common causes of failure and complete collapse of a monopole cell tower are base plate failures and fires, failure of flanges, joints and bolts. Baseplate failures cause the entire tower to collapse and fires either cause the tower to warp or to collapse. A partial list of over 30 cell tower structural failures can be found at <https://ehtrust.org/cell-tower-safety-risks-fires-and-collapse/> Cell tower fires are a recognized and well-documented danger. Refer to <https://www.ourwebofinconvenienttruths.com/fires-and-collapses/>

Engineering firms have conducted thorough analyses of the causes of such failures and fires and have proposed safer designs for monopole cell towers. Refer to the engineering analysis at this link

https://www.towernx.com/downloads/Monopole_Structures_Current_Issues.pdf

The fall zone area for the proposed cell tower has not been included in the applicant's submission nor discussed in the staff report. It is unknown whether the construction plans and specifications for the proposed cell tower have been reviewed by an independent structural engineer for the City. Consequently, the risk of cell tower collapse and/or fire represents danger to the public health and safety, providing a key finding supporting denial of this project.

Furthermore, under FHA regulations, no FHA (federally guaranteed) loan can be approved for the purchase of any home which is situated within the fall zone of a cell tower. See HUD FHA HOC Reference Guide Chapter 1 hazards and nuisances. As a result, there are cases across the country within which: (a) the homeowner purchased a home, (b) a cell tower was thereafter built in close proximity to it, and (c) as a result of same, the homeowners could not sell their home, because any buyer who sought to buy it could not obtain a FHA guaranteed loan. This supports the finding that cell towers cause loss of property values in the proximate surrounding area.

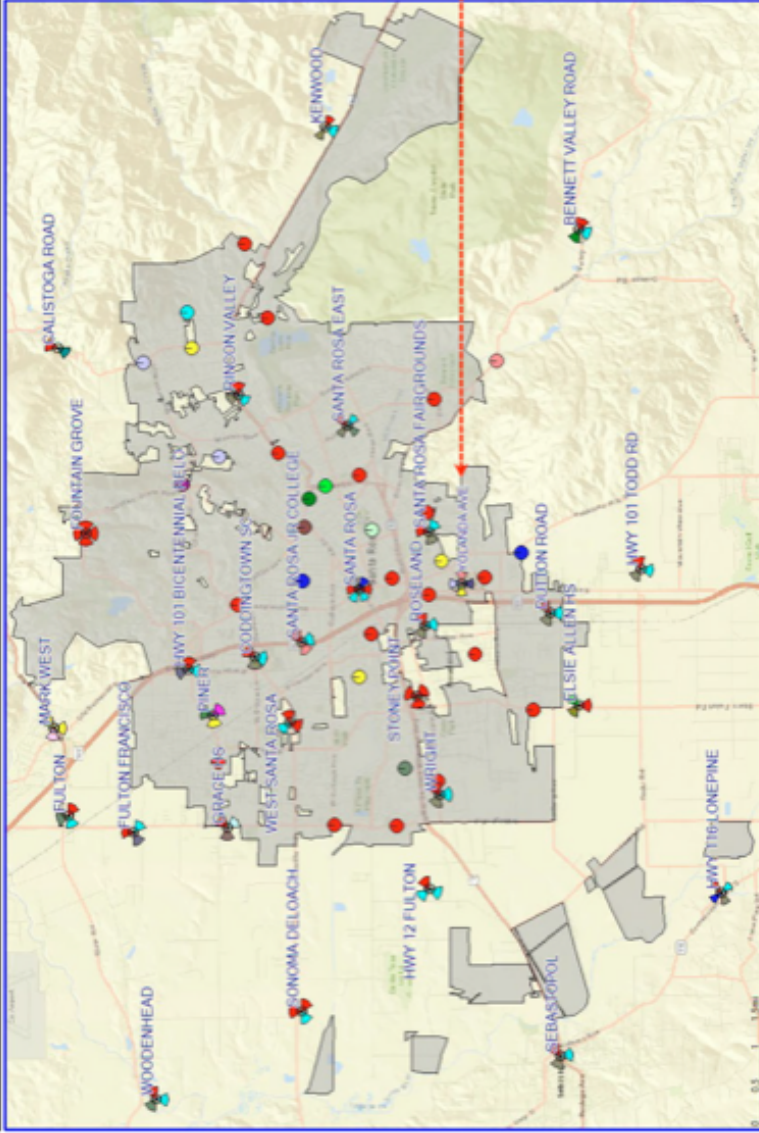
Conclusion


Denying this celltower application is a first step.


The broader problem is that Santa Rosa needs robust Telecommunications Ordinance protective of the health and safety and property values of the community to the maximum extent allowed by current federal regulations.

Other communities that have passed ordinances to restrict cell antennas near homes and schools include California jurisdiction such as Petaluma, Mill Valley, Malibu, Santa Barbara, Encinitas, Fairfax, Palo Alto, Walnut City and San Diego County.

SANTA ROSA MAP: EXISTING VERIZON SITES



 Existing Macro Sites

 Existing Small Cells

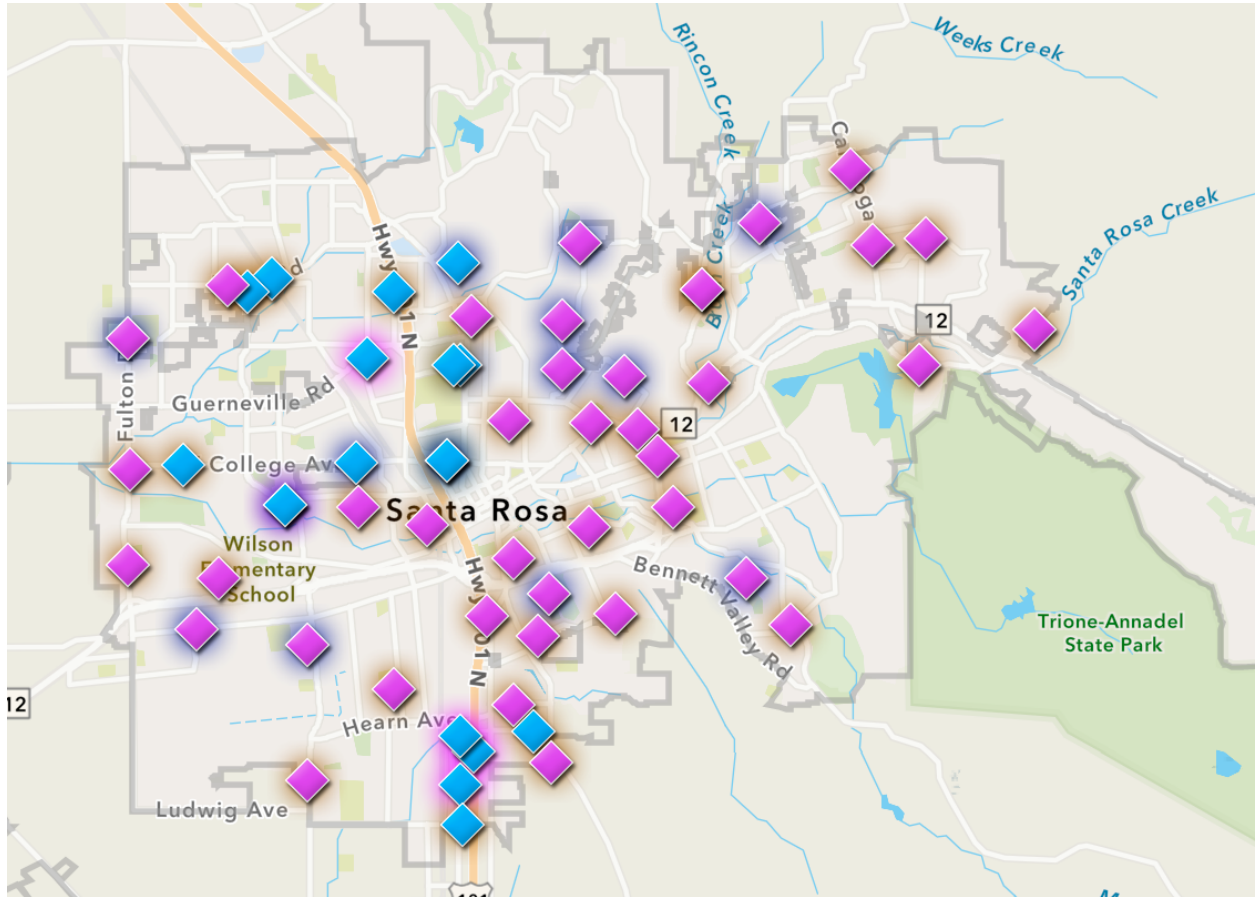
Note: Small Cells are not labelled to simplify a readable map

Proposed VZW Wireless Facility
Site Name: **YOLANDA AVE**

Santa Rosa City Border



VERIZON CELLPHONE TOWERS and SMALL CELL SITES in SANTA ROSA



08/24/23 • Updated 08/28/23

FCC Limits for Wireless Radiation Exposure Decades Out of Date, Experts Say

The Federal Communications Commission bases its safety limits for human exposure to wireless radiation on a handful of studies from the 1970s and 1980s with tiny sample sizes. Meanwhile, the agency continues to ignore a federal court mandate to review recent science and update its limits to protect children, animals and the environment.

By [Suzanne Burdick, Ph.D.](#)

Editor's note: This is the third in a three-part series examining key questions in the public debate on the safety of wireless radiation. [Part 1](#) asked, How did the FDA arrive at its position on cellphones and cancer? [Part 2](#) asked, What's behind the rollout of 5G? Part 3 asks, What's the science supporting the FCC's current limits for human exposure to wireless radiation?

The Federal Communications Commission (FCC) largely bases its radiofrequency (RF) radiation safety standard for humans on a handful of studies done in the 1970s and 1980s — well before most people started using cellphones. And those studies used small sample sizes, according to [Devra Davis, Ph.D., MPH](#), founder and president of [Environmental Health Trust](#) (EHT) and Theodora Scarato, [EHT's executive director](#).

The FCC in 1996 set the [human exposure safety limits](#) for wireless [RF radiation](#) which, in turn, are now used in the U.S. for all phones, wireless products and networks, including [cell towers](#) and [5G](#). EHT is a nonprofit scientific research and education group focused on the effects of wireless radiation. Davis and Scarato spoke with [The Defender](#) about the science the FCC used to set current human RF radiation exposure safety limits — and why these limits need to be changed.

Davis, a toxicologist and epidemiologist and author of more than 200 peer-reviewed publications, is also the founding director of the Board on Environmental Studies and Toxicology of the U.S. National Research Council at the [National Academy of Sciences](#). Davis said the FCC today “does not employ a single health expert,” and that it relied on “outdated studies of small numbers of experimental animals” which only focused on “how hot they needed to become (as measured by rectal probes) to stop seeking food.”

She added: “Ignoring the two-year-old [court ruling in EHT et al. v. FCC](#), the agency continues to set standards for human exposure limits based on outdated tests that only investigated what level of acute exposures for these small numbers of animals would cause them to stop seeking food when they were hungry and did not consider the possibility of long-term chronic impacts.” EHT and other experts have submitted [several thousand pages](#) of more recent studies evaluating chronic effects on young children, on reproduction, the nervous system and the general environment, according to Davis.

Current safety limits ‘just outrageous’

In 1984, the U.S. Environmental Protection Agency (EPA) was [tasked with developing safety limits](#). In the early 1990s, the agency was investigating the [possible carcinogenicity of electromagnetic fields](#) (EMFs). However, in the mid-1990s — just as the agency was poised to release [its recommendations](#) — the EPA's efforts in this area were [defunded](#) and the agency in 2020 [confirmed](#) it did not have a “funded mandate for radiofrequency matters.”

The FCC in 1996 set RF radiation limits by adopting two recommendations, previously made by other organizations, both based on the amount of heat absorbed by the body from RF radiation sources using what's called the [specific absorption rate](#) (SAR). [SAR is a measure](#) in units of watts per kilogram of the rate at which electromagnetic energy from an external source, like a cellphone or cell tower, is converted into heat within biological matter. [The FCC](#) on Aug. 1, 1996, adopted the National Council on Radiation Protection and Measurement's ([NCRP](#)) recommended Maximum Permissible Exposure (MPE) limits “for field strength and power density for the transmitters operating at frequencies of 300 kHz to 100 GHz.”

“[MPE is derived from SAR](#), so it is fundamentally a measure based on tissue heating and not on [other] biological effects, such as biochemical changes related to [oxidative stress or DNA damage](#),” Scarato said. NCRP’s MPE recommendation came from its 1986 report, which the [EPA told the FCC](#) in 1993 it should ask the NCRP to revise to “provide an updated, critical and comprehensive review of the biological effects on RF radiation and recommendations.” However, the FCC didn’t follow the EPA’s advice, so the NCRP limits adopted by the FCC were not based on an up-to-date science review, Scarato said.

The same day the FCC adopted the NCRP’s MPE limits, it also adopted the SAR limits standard set by the Institute of Electrical and Electronics Engineers ([IEEE](#)) and the [American National Standards Institute](#) (ANSI) “for devices operating within close proximity to the body.” The FCC used IEEE’s 1991 exposure limits standard, which was an [updated version](#) of the ANSI’s 1982 limits standard that ANSI later ratified. “These exposure limits were developed solely to avoid heating and became the foundation of the FCC’s standards for testing wireless radiating devices,” Davis said. According to the IEEE guidelines, tissue heating — or “thermal effects” — was the only biological harm humans might suffer from RF radiation and those harms could only happen at a SAR level greater than 4.0 W/kg, as averaged over the whole body.

Scarato said the IEEE points to just three studies to support its belief that, “Here is how we know the heating level that is harmful from RF.” They included: a [1977 study](#) involving eleven rats, a [1982 study](#) involving five rhesus monkeys, one squirrel monkey and one rat, and a [1984 study](#) involving five rhesus monkeys. “These studies,” she said, “exposed tiny samples of animals to short durations of RF radiation — as in, 40 to 60 minutes — and did not look at the impact of chronic exposure to RF radiation.”

“Also, the RF radiation signals used in the experiments were not like current wireless signals, which are quite complex with modulation and pulsations, waveform characteristics understood to make them [more bioactive](#),” Scarato added. The temperature at which the rats and monkeys stopped pressing a food lever was the level identified as the “harmful” level of radiation, with the rationale being that the heat caused “behavioral disruption,” she explained.

“Then, arbitrary so-called ‘safety factors’ were used based on zero data quantifying what level would be needed to protect a child or adult with a medical condition,” Scarato said. Scarato said many more recent studies with large sample sizes show [evidence of harmful effects from RF radiation](#) on adults and [children](#) at levels below a SAR of 4.0 W/kg. But such studies are attacked — or “[war-gamed](#)” — by the [telecommunication industry](#) as unacceptable, she said.

“How is it acceptable for FCC officials to set safety limits based on studies of just a few animals performed decades before the modern-day cellphone even hit the market?” Scarato asked. She continued: “Can you imagine if someone said, ‘We did a study of 11 rats over four decades ago? They’d be like, ‘Come on!’ ... Or a study with just one squirrel, five monkeys and a rat? And we used an exposure for under an hour. ‘They would likely respond, ‘These studies are not valid to ensure safety.’ “If you go to the [current IEEE standard](#), they list these antiquated studies as the basis for to their recommended safety limits.”

“The radiation limits do not protect against health effects from long-term exposure,” Scarato said. “It’s just outrageous.”

FCC limits ignore nonthermal, long-term effects

Davis and Scarato are not alone in criticizing the scientific basis of the FCC’s RF radiation safety limits. [Henry Lai, Ph.D.](#) — a research professor in bioengineering at the University of Washington who has [studied RF radiation](#) for more than three decades — told The Defender:

“The FCC RFR-exposure guideline is based on one type of biological response, i.e., a particular behavioral effect in animals, whereas there are [many reports](#) on other biological effects of the radiation, such as genetic damage, free radical changes, etc. “These effects have been shown to occur at intensities much lower than the FCC guideline recommendation. They are not included in the guideline setting.” [Lai said the FCC standard did not consider the effects of long-term exposure and from different forms of wireless radiation.](#)

Additionally, the International Commission on the Biological Effects of Electromagnetic Fields ([ICBE-EMF](#)), a “consortium of scientists, doctors and related professionals” who study RF radiation, in an October 2022 peer-reviewed article [argued the FCC’s limits](#) were based on scant science and many erroneous assumptions. The ICBE-EMF said “25 years of extensive research” showed the assumptions underlying the FCC’s limits were “invalid and continue to present a public health harm.”

The ICBE-EMF noted that the [International Commission on Non-Ionizing Radiation Protection](#) — the private organization that recommends human exposure limits used by many countries internationally — issued a standard soon after the FCC, using the same kind of antiquated studies and the same logic of using SAR as an appropriate means to measure the impact of RF radiation on the human body. Citing more than 200 scientific studies, ICBE-EMF said: “[Adverse effects](#) observed at exposures below the assumed threshold SAR include non-thermal induction of reactive oxygen species, DNA damage, cardiomyopathy, carcinogenicity, sperm damage, and neurological effects, including [electromagnetic hypersensitivity](#).”

“Also, multiple human studies have found statistically significant associations between RFR exposure and increased brain and thyroid cancer risk. ... “Consequently, these exposure limits, which are based on false suppositions, do not adequately protect workers, children, hypersensitive individuals, and the general population from short-term or long-term RFR exposures.”

No U.S. standard protecting against long-term RF exposure

Norbert Hankin — former head of the EPA’s radiation protection division — in a [2002 letter](#) acknowledged that no federal agency had yet developed RF radiation limits concerning long-term exposure to levels below what causes tissue heating. After Congress’ [Government Accountability Office](#) in 2012 published a [report urging the FCC to reassess its guidelines](#), the FCC in 2013 published an inquiry to decide whether the guidelines [should be reviewed](#).

Despite thousands of pages of scientific evidence of biological effects from RF radiation [submitted to the inquiry docket](#) by the scientific community and comments from hundreds of people who believe RF radiation exposure made them sick, the FCC in Dec. 2019 [closed the inquiry](#), saying: “We resolve a Notice of Inquiry that sought public input on, among other issues, whether the Commission should amend its existing RF emission exposure limits. “After reviewing the extensive record submitted in response to that inquiry, we find no appropriate basis for and thus decline to propose amendments to our existing limits at this time.”

Court orders FCC to address RF impacts on kids and the environment

[Children’s Health Defense](#) (CHD) challenged the agency’s decision in a [lawsuit filed Feb. 2, 2020](#).

Erica Rosenberg, an attorney with over 30 years of experience who formerly worked in the FCC’s Wireless Telecommunications Bureau, also disagreed with the FCC’s decision. She told The Defender: “It is hard to make sense of the agency’s not revising the standard when 20-plus years of ‘new’ data was before it and in that same time period, wireless infrastructure and use had increased considerably.”

[CHD’s suit was consolidated](#) with similar cases brought by EHT and Consumers for Safe Cell Phones. CHD, EHT and the petitioners [won the historic case](#). On Aug. 13, 2021, the U.S. Court of Appeals for the District of Columbia Circuit [ruled the FCC failed](#) to consider the [non-cancer evidence](#) regarding [adverse health effects of wireless technology](#) when it decided that its 1996 radiofrequency emission guidelines protect the public’s health.

The [panel majority said](#) the FCC must also:

“(ii) address the impacts of RF radiation on children, the health implications of long-term exposure to RF radiation, the ubiquity of wireless devices, and other technological developments that have occurred since the Commission last updated its guidelines, and

“(iii) address the impacts of RF radiation on the environment.”

Yet two years later, the FCC still has not complied with the court’s order despite an April 2023 [petition](#) from CHD that [threatened further legal action](#).

‘We have a long over-due obligation to consider potential consequences to other species from our current unchecked technophilia’

The impact of RF radiation on the environment and wildlife is an especially dire situation, according to research published by [B. Blake Levitt](#), a science journalist who researched the biological effects of RF radiation since the late 1970s; [Albert Manville, Ph.D.](#), a John Hopkins University senior lecturer in energy policy and environmental studies who previously served as senior wildlife biologist with the U.S. Fish & Wildlife Service for 17 years; and Lai.

Levitt, Lai and Manville in 2021 published a three-part series of peer-reviewed papers — [part 1](#), [part 2](#) and [part 3](#) — on EMF/RF effects to flora and fauna. Levitt and her colleagues later said in a [November 2022 article](#):

“We have a long overdue obligation to consider potential consequences to other species from our current unchecked technophilia — an obligation we have thus far not considered before species go extinct ... the evidence requiring action is clear.”

RF regulators must listen to biologists, not just engineers and physicists

In the third article of their 2021 series, [Levitt, Lai and Manville said](#) that since the 1940s, it’s largely been engineers and physicists who have created the protocols for research on RF radiation and human health upon which RF radiation regulations rely — and this must change.

What is needed is to reintegrate biology — “which [studies whole dynamic living systems](#)” — with physics and engineering, “that focus on how to create and make technology work.”

They said:

“Electromagnetism is fundamental to life — indeed all living things function with biological microcurrent without which life would not exist ... Yet biologists have consistently been left out of full participation in safety and environmental issues in anything other than cursory inclusion.”

Levitt, Lai and Manville also said biologists must speak up to get their voices heard. “The physics/engineering disciplines have had the subject to themselves for decades and are somewhat territorial about it.”

Engineers and physicists tend to focus on linear cause-effect models in both technology design and exposure standards setting.

“They tend to be less interested in the confounding complexities of biology which are mostly nonlinear and unpredictable,” Levitt, Lai and Manville said.

RF radiation a form of ‘energetic air pollution’

In their November 2022 article, Levitt, Lai and Manville call RF radiation “a form of [energetic air pollution](#)” that “should be regulated as such.”

U.S. law [defines air pollution](#) as, “Any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air.”

Levitt, Lai and Manville said:

“Unlike classic chemical toxicology pollutants in which a culprit can typically be identified and quantified, RFR may function as a ‘process’ pollutant in the air not unlike how [endocrine disruptors](#) [sic] function in food and water in which the stressor causes a cascade of unpredictable systemic effects.”

Regulatory agencies should set “long-term chronic low-level” RF/EMF exposure guidelines for not only humans but wildlife, they said, and develop mitigation strategies where feasible.

“Full environmental reviews should be conducted prior to the licensing/buildout of major new technologies like 5G,” they added, “and environmental laws/regulations should be strictly enforced.”

This article was corrected to clarify that Levitt, Lai and Manville published together in 2021 and that Levitt, not Lai, was the first author for their 2021 and 2022 publications referenced in the article.

[Suzanne Burdick, Ph.D.](#)

Suzanne Burdick, Ph.D., is a reporter and researcher for The Defender based in Fairfield, Iowa.

See more info at ehtrust.org

5G, CELL TOWERS AND SMALL CELLS

SCIENTIFIC RESEARCH

CHILDREN'S VULNERABILITY TO WIRELESS RADIOFREQUENCY (RF) RADIATION



The American Academy of Pediatrics states:

"In recent years, concern has increased about exposure to radio frequency (RF) electromagnetic radiation emitted from cell phones and phone station antennas. An Egyptian study confirmed concerns that living nearby mobile phone base stations increased the risk for developing:

- Headaches
- Memory problems
- Dizziness
- Depression
- Sleep problems

Short-term exposure to these fields in experimental studies have not always shown negative effects, but this does not rule out cumulative damage from these fields, so larger studies over longer periods are needed to help understand who is at risk. In large studies, an association has been observed between symptoms and exposure to these fields in the everyday environment."

-American Academy of Pediatrics
[HealthyChildren.org](https://www.healthychildren.org)

Cell towers and cell phones emit wireless radiofrequency (RF) radiation.

Children are more vulnerable to RF radiation, just as they are to other environmental exposures. They have proportionately more exposure to RF compared to adults. More importantly, a child's brain is rapidly developing and more sensitive. Even very low exposures in childhood can have serious impacts later in life.

Children absorb higher levels of RF radiation deeper into their brains and bodies because they have:

- Thinner skulls allow RF radiation to move easier into the brain.
- Higher water content in brain tissue which is more conductive to electricity.
- Smaller heads result in a shorter distance for the RF to travel from the skull to critical brain regions important for learning and memory.

Children are more sensitive to RF impacts because:

- Their brains are still developing.
- Children have more active stem cells- a type of cell scientifically found to be uniquely impacted by RF.
- Children will have a longer lifetime of higher exposures, starting from before they are born.

Bold blue on this PDF are hyperlinked.

ENVIRONMENTAL HEALTH TRUST | [EHTRUST.ORG](https://ehtrust.org)

PUBLISHED RESEARCH STUDIES



RESEARCHERS RECOMMEND CELL TOWERS BE DISTANCED AWAY FROM HOMES AND SCHOOLS

The review paper entitled “[Limiting liability with positioning to minimize negative health effects of cellular phone towers](#)” reviewed the “large and growing body of evidence that human exposure to RFR from cellular phone base stations causes negative health effects.” The authors recommend restricting antennas near homes, and restricting antennas within 500 meters of schools and hospitals to protect companies from future liability ([Pearce 2020](#)).

An [analysis](#) of 100 studies published in *Environmental Reviews* found approximately 80% showed biological effects near towers. “As a general guideline, cell base stations should not be located less than 1500 ft from the population, and at a height of about 150 ft” ([Levitt 2010](#)).

A [review](#) published in the *International Journal of Occupational and Environmental Health* found people living less than 500 meters from base station antennas had increased adverse neuro-behavioral symptoms and cancer in eight of the ten epidemiological studies ([Khurana 2010](#)).

A [paper](#) by human rights experts published in *Environment Science and Policy* documented the accumulating science indicating safety is not assured, and considered the issue within a human rights framework to protect vulnerable populations from environmental pollution. “We conclude that, because scientific knowledge is incomplete, a precautionary approach is better suited to State obligations under international human rights law” ([Roda and Perry 2014, PDF](#)).

CELL TOWERS NEAR SCHOOLS

SCHOOL CELL TOWER SETBACKS

Many communities have policies, ordinances or zoning that ensures cellular antennas are restricted to a specific minimum distance from schools. Hempstead, New York requires a special use permit for cell towers near schools.

Examples of cell tower/4G/5G small cell setbacks/preferred placements for schools:

- Palo Alto, California: 1,500 feet
- Copake, New York: 1,500 feet
- Los Altos, California: 500 feet
- Walnut City, California: 1,500 feet
- Bar Harbor, Maine: 1,500 feet
- Sallisaw, Oklahoma: 1,500 feet
- Shelbourne, Massachusetts: 1,500 feet
- Stockbridge, Massachusetts: 1,500 feet
- San Diego County California: 1,000 feet
- Encinitas California: 500 feet
- Scarsdale New York: 500 feet
- Ithaca, New York: 250 feet

CELL TOWERS REMOVED FROM SCHOOL GROUNDS

- Milpitas California: School Board asked Crown Castle and T-Mobile to relocate the cell tower to remote location.
- Ripon California: Sprint moved the cell tower at elementary after students and staff developed cancer and parents argued children should not be guinea pigs.
- Alameda California cancelled cell tower contracts.
- Dekalb County Georgia dropped school tower plan.

SCHOOL BOARDS

- Palo Alto Unified School District Cell Tower Resolution supports the City 1,500 setback and opposes cell tower "on or in close proximity to schools to ensure individuals, especially children, are protected from the potential negative effects associated with radiation exposure."
- West Linn-Wilsonville Oregon School Board prohibits cell towers on school property.
- Vancouver School Boards Resolution: 1,000 feet
- Greenbelt Maryland Council opposes school towers.

DID YOU KNOW?

- The International Association of Firefighters passed a Resolution opposing cell towers on its stations in 2004 after a study found neurological damage in firefighters with antennas on their fire stations.

LOS ANGELES UNIFIED CA SCHOOL DISTRICT

- 3 resolutions opposing cell towers on school property.
- The District Office of Health and Safety developed a "cautionary level" for radiofrequency radiation 10,000 times lower than FCC regulations because, *"it is believed that a more conservative level is necessary to protect children, who represent a potentially vulnerable and sensitive population."*

SCHOOL BOARDS THAT REVERSED COURSE

- Montgomery County Maryland Schools policy does not allow cell towers on elementary schools.
- Prince George's County Maryland School Board decided not to renew a cell tower construction master leasing agreement that had allowed over 60 schools to be marketed as cell tower sites.
- Portland Oregon Schools ended new leases for cell towers.

EXPERT RECOMMENDATIONS

- The New Hampshire State Commission 5G Health and Environment Report recommends a setback of 1640 feet for schools.
- The Collaborative For High Performance Schools (Green building rating program) has LOW EMF Criteria which includes no cell towers on school property.

THE EPA SCHOOL SITING GUIDELINES

Lists exposure to electromagnetic fields and the fall distance as "potential hazards" from cell towers. The EPA guidelines recommend schools "identify and evaluate cell towers within ~200 feet of prospective school locations."

PUBLISHED RESEARCH

- 500 meter buffer recommended for schools to reduce liability and minimize risk (Pearce 2019)
- A moratorium on 5G pending safety research (Frank 2020)
- A precautionary approach is better suited to State obligations under international human rights law (Roda and Perry 2014)
- Increased cancer deaths near cell antennas (Rodrigues 2021)
- Studies find: DNA Damage (Zothansiana 2017), Diabetes (Meo 2015), Cognitive effects (Meo 2018), sleep problems and headaches (Abdel-Rassoul 2007, Levitt & Lai 2010, Shahbazi-Gahrouei 2013)

CELL TOWERS & WIRELESS

BC CONFEDERATION OF PARENT ADVISORY COUNCILS

- Two resolutions. One calls on each Board of Education to have one public school at each education level that is free of Wi-Fi, cordless phones, and cell phones.
- The second calls on the Boards of Education to “cease to install Wi-Fi and other wireless networks in schools where other networking technology is feasible.”

CALIFORNIA PTA

- Resolution on Electromagnetic Fields
- PTA can educate and inform districts, councils and units about the potential hazards of EMFs to encourage school districts and schools to develop risk reduction policies and to disseminate information on the subject.”

PALO ALTO, (CA) PTA

- Fact sheet on “Safe Use of Technology” which distributed to all the schools in the Palo Alto Unified School District

PACIFIC GROVE (CA) PTAs

- Forest Grove Elementary Pacific Grove Middle School and Pacific Grove High School PTAs sent a letter to City Council opposing a high school cell tower.

FLETCHER HILLS (CA) PTA

- Resolution encouraging schools to use cable lines Internet connections and to avoid wireless networks on campus.

FLETCHER HILLS (CA) PTA

- Resolution encouraging schools to use cable lines Internet connections and to avoid wireless networks on campus.

PHOENICIA ELEMENTARY NY PTA

- Sent a letter to the Onteora School District calling for the Wi-Fi to be turned off.

NEELSVILLE MIDDLE SCHOOL PTA (MD)

- Voted to oppose proposed cell tower.
- Hosted parent information session with both the cell tower company and Environmental Health Trust.

NEW YORK STATE PTA

- Resolution on Cell Towers supporting:
 1. laws that regulate tower placement near schools
 2. research into the long-term effects of RFR
 3. education for parents and school officials regarding cell towers and health.

CASTLE HILL HIGH SCHOOL (AUSTRALIA) P&C COMMITTEE

- Funded ethernet plugs to reduce wireless exposure in classroom.
- Developed "Mobile Phone Safety Tips & Cyberbullying Information," which includes how to reduce cell phone and wireless radiation

MONTGOMERY COUNTY (MD) PTA

- Safe Tech PTA Committee shares online and print resources on reducing RFR exposure and on digital safety issues such as privacy.
- Meets monthly with school IT department.

HILLSMERE ELEMENTARY SCHOOL PTA (MD)

- Sent letters to the school board in opposition to cell towers near the school.

BRIARLAKE ELEMENTARY (GA)

- Voted to oppose cell tower after board approved towers on schools.



NORTH AMERICA TEACHER UNIONS

WI-FI IN SCHOOLS

UNITED EDUCATORS OF SAN FRANCISCO

- Resolution on Safer Technology calls for the California cell phone advisory on how to reduce cell phone exposure be disseminated to students and staff.
- Webinars on reducing RF exposure.

CANADA TEACHER FEDERATION

- Briefing document "Wi-Fi in School" recommends limiting Wi-Fi.

UNITED TEACHERS OF LOS ANGELES

- 2013 Resolution "UTLA will advocate for technological solutions that maintain technology upgrades while not increasing employees exposure to electromagnetic radiation."

UNITED FEDERATION OF TEACHERS

- Website shares Dr. Moskowitz's "Reducing Exposure to Wireless" brochure and The BabySafe Project "What You Need to Know About Wireless Radiation and Your Baby."

ELEMENTARY TEACHERS FEDERATION OF ONTARIO

- Call for Wi-Fi moratorium until health studies done (Limestone).

BC TEACHERS FEDERATION

- Resolution supporting members suffering from electromagnetic hypersensitivity by ensuring that their medical needs are accommodated in the workplace.

NEW JERSEY EDUCATIONAL ASSOCIATION

- Recommendations in "Minimize health risks from electronic devices" detail how to reduce physical health risks from devices including wireless radiation.

ONTARIO ENGLISH CATHOLIC TEACHERS

- Position Statement recommends wired networks as WI-FI "may present a potential health and safety risk or hazard in the workplace."

GREATER VICTORIA TEACHERS ASSOCIATION

- Recommends minimal or non-use of Wi-Fi.

NEW YORK STATE UNITED TEACHER UNION

- Resolution "Hazards of Wireless Radiation Emission" and "Best Practices" recommend wired ethernet connections.
- Webinar "Risks of wireless technologies and protecting children and staff in schools."

AMERICAN FEDERATION OF TEACHERS

- National Conference presentation about wireless radiation posted online.

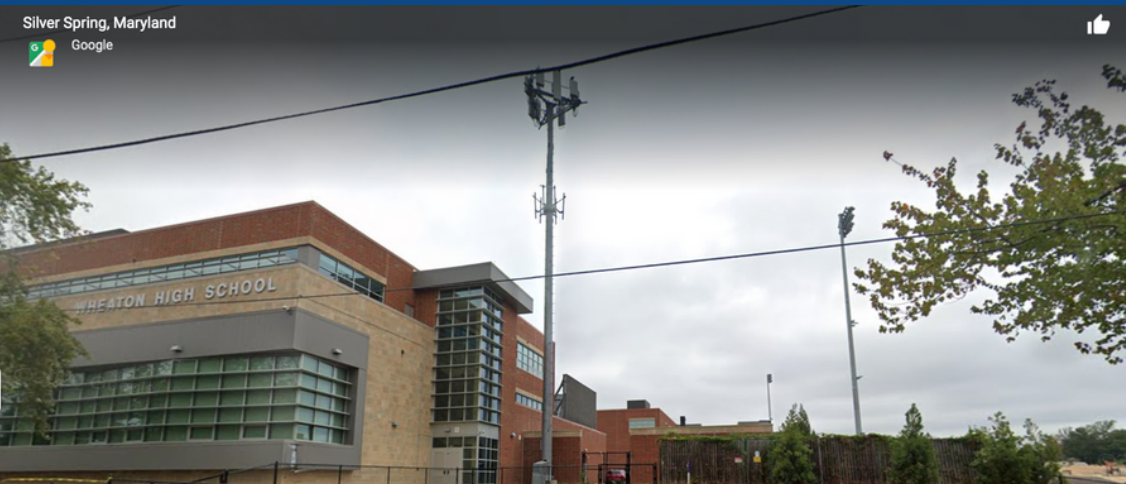
NEW JERSEY EDUCATIONAL ASSOCIATION

- Put devices on desks, not laps.
- Hard wire all devices that connect to the internet.
- Hard wire all fixed devices such as printers, projectors and boards.
- Use hard-wired phones instead of cell or cordless phones.
- Put devices in airplane mode, which suspends EMF transmission in the device, disabling Bluetooth, GPS, phone calls, and WiFi.

"All educational facilities must have healthy indoor air quality, be smoke-free, be safe from environmental and chemical hazards, and be safe from hazardous electromagnetic fields."
— National Education Association

"Students and/or their parents/guardians, education employees, and the public should be notified of actual and potential hazards."
— National Education Association
2013-2014, C-19

PARENT TEACHER ASSOCIATIONS OPPOSE CELL TOWERS



CONEJO PTA WANTS CELL TOWER MOVED **Op-ed in Thousand Oaks Acorn Journal**

The California PTA advocates on behalf of children and families. They advocate against electromagnetic field radiation your schools.

The Conejo PTA urges the use of the precautionary principle in making decisions regarding public health this means if something cannot be proven to be safe it is best to avoid exposure. Most people don't realize that the 1996 FCC state standards for safe levels of omission was actually based on a level set by the American national standards institute in 1982. Well this standard has not been changed in 30 years it has usurped all local authority."

"For this reason, Conejo Council PTA made up of 9000 parents and teachers has decided to take action. We're calling on our local leaders to put in place policies that would ensure parents are notified when cell towers are propose near schools and then encourage a buffer zone around schools."

-Kim Huber, legislative chair of the Conejo Council PTA.

NEW YORK STATE PTA **-Adopted TWO Resolutions 2014**

"CELLULAR PHONE TOWERS – 2014 (R-'07, R-'00); Resolved that the New York State Congress of Parents and Teachers, Inc. support legislation that would encourage local communities, including parents and school officials, to regulate the placement of cell towers and cell tower antennas particularly in schools and areas where children congregate,

and be it further Resolved that the New York State PTA support continued research into the long-term effects of radio frequency and microwave frequencies on humans especially as they apply to children, and be it further Resolved that the New York State PTA seek to educate parents and school officials as to the current debate over the placement of cell towers and antennas."

NEELSVILLE MIDDLE SCHOOL PTA (MD)

- Voted to oppose proposed cell tower.
- Hosted parent information session with both the cell tower company and Environmental Health Trust.

HILLSMERE ELEMENTARY SCHOOL PTA (MD)

- Sent letters to the school board in opposition to cell towers near the school.

BRIARLAKE ELEMENTARY (GA)

- Voted to oppose cell tower after board approved towers on schools.

PACIFIC GROVE (CA) PTAs

- Forest Grove Elementary Pacific Grove Middle School and Pacific Grove High School PTAs sent a letter to City Council opposing a high school cell tower.

PARENT TEACHER ASSOCIATIONS

OPPOSE CELL TOWERS

Agenda No. 11A Attachment B
Exhibit A Page 46 of 186

August 6, 2018

Pacific Grove City Council
City Hall
300 Forest Ave.
Pacific Grove, CA 93950

Dear members of Pacific Grove City Council,

I am writing you on behalf of Pacific Grove High School PTA in regard to the Pacific Grove Planning Commission's vote on July 26, 2018, which approved a request by Verizon Wireless to install and maintain a cell tower adjacent to Pacific Grove High School (PGHS). For the reasons described below, the Pacific Grove High School PTA **is strongly opposed** to the location of the Verizon cell tower and is requesting that the City Council consider and support the appeal that is being filed by a group of concerned parents who live in Pacific Grove and send their children to PG schools.

The installment of a cell tower adjacent to PGHS poses significant potential health dangers to both students and staff at PGHS. While some argue that radiation emitted from a cell tower is not a health danger, data from many studies indicate the opposite. Research shows that children and pregnant women are the most vulnerable – two demographics most likely to be on PGHS school grounds on a regular basis. The actual placement of the cell tower – near the back of PGHS and very close to Forest Grove Elementary School – only increases the concerns of the frequency in exposure.

Cell towers also pose a risk to students due to fire hazard. Many cell towers throughout the United States have caught fire and collapsed, posing a significant safety concern, especially in an area with young students walking to and from school every day.

The mission of all PTAs nationwide is to make every child's potential a reality by engaging and empowering families and communities to advocate for all children. Our local PTA is very active in expressing our support for or opposition to issues dealing with the health, safety, education, or general well-being of children and youth in our community.

The members of the Pacific Grove High School PTA strongly urge you to please reconsider the Pacific Grove Planning Commission's previous vote and rescind approval for the Verizon cell tower at Pacific Grove High School.

Sincerely,

Julie Kavanaugh
President, Pacific Grove High School PTA

CELL TOWER RF RADIATION AND CANCER

International Agency for Research on Cancer



World Health
Organization

PRESS RELEASE
N° 208

31 May 2011

IARC CLASSIFIES RADIOFREQUENCY ELECTROMAGNETIC FIELDS AS POSSIBLY CARCINOGENIC TO HUMANS

Lyon, France, May 31, 2011 -- The WHO/International Agency for Research on Cancer (IARC) has classified radiofrequency electromagnetic fields as [possibly carcinogenic to humans \(Group 2B\)](#), based on an increased risk for [glioma](#), a malignant type of brain cancer¹, associated with wireless phone use.

The World Health Organization International Agency for Research on Cancer Classified Radiofrequency Radiation as a "Possible" Carcinogen in 2011

In 2011, radiofrequency electromagnetic fields (RF-EMF) were [classified](#) as a Group 2B possible carcinogen by the World Health Organization's International Agency for Research on Cancer (WHO/IARC).

The WHO/IARC scientists clarified that this determination was for RF-EMF from any source be it cell phones, wireless devices, cell towers or any other type of wireless equipment.

Since 2011, the published peer-reviewed scientific evidence associating RF-EMF (also known as RF-EMR and RFR) to cancer and other adverse effects has significantly increased.

A large-scale [animal study](#) published in Environmental Research found rats exposed to RF levels comparable to cell tower emissions had elevated cancers, the very same cancers also found in the US National Toxicology Program animal study of cell phone level RF [that found](#) "clear evidence" of cancer in carefully controlled conditions ([Falcioni 2018](#)).

In 2019, the WHO/IARC advisory committee [recommended](#) that radiofrequency radiation be re-evaluated as a "high" priority in light of the new research. The date of the re-evaluation has not been set.

Currently, several scientists conclude that the weight of currently available, peer-reviewed evidence supports the conclusion that radiofrequency radiation is a proven human carcinogen ([Hardell and Carlberg 2017](#), [Peleg et al. 2022](#), [Miller et al. 2018](#)).

SCIENTIFIC RESEARCH STUDIES



European Parliament requested a research report "**Health Impact of 5G**" which was released in July 2021 and concluded that commonly used RFR frequencies (450 to 6000 MHz) are probably carcinogenic for humans and clearly affect male fertility with possible adverse effects on the development of embryos, fetuses and newborns.

A review entitled "**Evidence for a health risk by RF on humans living around mobile phone base stations: From radiofrequency sickness to cancer**" reviewed the existing scientific literature and found radiofrequency sickness, cancer and changes in biochemical parameters (**Balmori 2022**).

A **study** published in Electromagnetic Biology and Medicine found changes in blood considered biomarkers predictive of cancer in people living closer to cell antenna arrays (**Zothansiana 2017**).

A **study** published in the International Journal of Environmental Research and Public Health found higher exposure to cell network arrays linked to higher mortality from all cancer and specifically lung and breast cancer (**Rodrigues 2021**).

A 10-year **study** published in Science of the Total Environment on cell phone network antennas by the local Municipal Health Department and several universities in Brazil found a clearly elevated relative risk of cancer mortality at residential distances of 500 meters or less from cell phone towers (**Dode 2011**).

A **study** commissioned by the Government of Styria, Austria found a significant cancer incidence in the area around the RF transmitter as well as significant exposure-effect relationships between radiofrequency radiation exposure and the incidence of breast cancers and brain tumors (**Oberfeld 2008**).

A **review** published in Experimental Oncology found "alarming epidemiological and experimental data on possible carcinogenic effects of long term exposure to low intensity microwave (MW) radiation." A year of operation of a powerful base transmitting station for mobile communication reportedly resulted in a dramatic increase of cancer incidence among the population living nearby (**Yakymenko 2011**).



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WORLDWIDE POLICY

5G & CELL TOWERS



EUROPE

- Resolutions to halt 5G in numerous European cities including Trafford, UK, Lille, France, Ormidia, Cyprus, Councils in Ireland and more.

ITALY

- 600 municipalities have passed resolution to halt 5G.

UNITED STATES

- Los Angeles CA Public Schools: RFR Limit 10,000x less than FCC.
- Resolutions to halt 5G passed in Hawaii County HI, Farragut TN, Keene NH & Easton CT.
- Numerous cities restrict cell antennas near homes including: Los Altos, Petaluma, Mill Valley, Malibu and San Diego County CA, Bedford NH and more.
- New Hampshire 5G Commission's 15 Recommendations include increasing transparency, reduce public exposure, research health effects and protect wildlife and trees.
- Oregon investigating health effects of wireless.
- Palo Alto, Los Angeles LA Schools Greenbelt MD, Bar Harbor ME; No school cell towers

CHILE

- Cell antennas prohibited in "sensitive areas" - kindergartens, hospitals and nursing homes.

BANGLADESH

- No cell towers on homes, schools, colleges, playing fields, populated areas and heritage areas.

FRANCE

- 60 mayors/officials petition to halt 5G.
- Federal health agency investigating 5G
- 5G antenna RFR is measured.

SWITZERLAND

- Parliament refused to weaken radio frequency radiation (RFR) limits after 5G Report.

NETHERLANDS

- Health Council recommends against 26 GHz for 5G due to lack of safety data.

RUSSIA

- No cell towers near schools.

ISRAEL

- Cell tower setback 100m from schools/ homes.

CANADA

- City of Toronto "Prudent Avoidance Policy" for Cell Towers.

BULGARIA

- Mezdra and Balchik have banned 5G.

GREECE

- The installation of cell towers at the premises of schools, kindergartens, hospitals or eldercare facilities is prohibited.

CYPRUS

- Cyprus National Committee on Environment and Child Health 5G Position Paper calls for 5G free zones.

AUSTRALIA

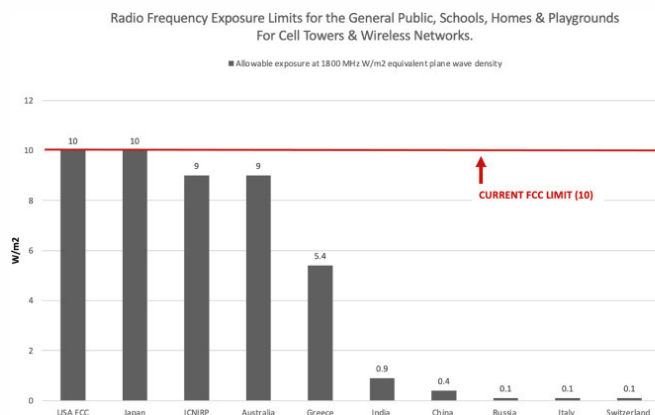
- New South Wales Dept. of Education policy objects to towers on/near schools.

LITHUANIA

- Cell antennas prohibited on kindergartens and hospitals.

INDIA

- RFR limit tightened to 1/10 of CNIRP limits after Inter-Ministerial Report on impacts to wildlife.
- Mumbai, Zilla Parishad & Karnataka: Cell towers prohibited/removed near schools, colleges, orphanages and old age homes.
- Brihanmumbai Municipal: Cell towers banned at parks and playgrounds.
- State of Rajasthan: Supreme Court of India upheld removal of "hazardous to life" cell towers from vicinity of schools, hospitals/playgrounds.

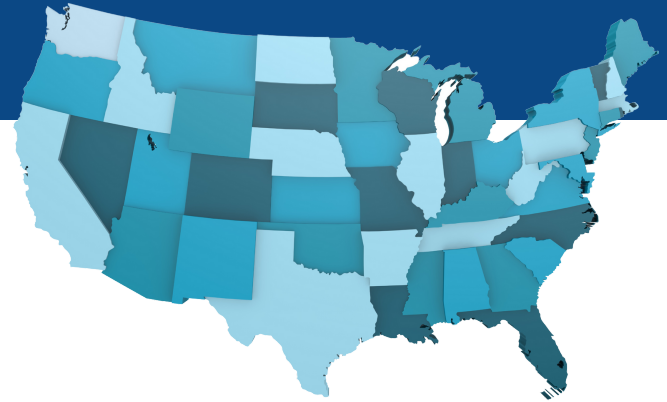


*Switzerland & Italy: at places of sensitive use such as apartment buildings, schools, hospitals, permanent workplaces and children's playgrounds and where people stay for hours.
China: Standard cities precautionary principal, encourages companies to take measures to reduce public exposures.
Greece: Limit for 300 meter radius around kindergartens, schools, hostals, and elderly care homes.

ENVIRONMENTAL HEALTH TRUST

UNITED STATES OF AMERICA

5G & CELL TOWERS



CALIFORNIA

Numerous CA cities restrict cell antennas near homes with setbacks and strict ordinances including: Los Altos, Petaluma, Mill Valley, Malibu, Santa Barbara, Nevada City, Suisin, Calabasas, San Clemente, Westlake, Sonoma, Sebastopol, San Rafael, Ross Valley, Encinitas, Fairfax, Palo Alto, Walnut City and San Diego County.

As an example of CA ordinances, the Los Altos City ordinance:

- prohibits installation of small cells on public utility easements in residential neighborhoods
- 500 foot setbacks for small cells for multi-family residences in commercial districts
- 500 ft separation from schools
- 1500 ft separation between nodes

San Diego County, California

- "SCWs shall not be located within 1,000 feet of schools, child care centers, hospitals, or churches."

CONNECTICUT

- Easton CN City Council passed a 5G cease and desist resolution
- Warren, Connecticut Policy defines "adequate coverage" and "adequate capacity." and was designed "to locate towers and/or antennas in a manner which protects property values, as well as the general safety, health, welfare and quality of life of the citizens." Coverage is considered to be "adequate" within that area surrounding a Base Station where the predicted or measured median field strength of the transmitted signal is such that the majority of the time, transceivers properly installed and operated will be able to communicate with the base station.

FLORIDA

- Coconut Creek FL Commission adopted a Resolution on 5G and radiofrequency radiation.
- Hallandale Beach FL Resolution urges the federal government to initiate independent health studies on 5G.
- Lavallette FL Resolution 2021-58: Applicant shall obtain certification from the Federal Aviation Administration and the United States Dept. of Defense demonstrating that the installation does not emit RF frequencies which may interfere with avionics of any approaching civil or military aircraft." The City also requires the applicant to provide RF meters used by their technicians and train City employees. Verizon cannot install more than a total of 20 "small cell" nodes throughout the Borough to support 5G.

HAWAII

- Hawai'i County Council passed a Resolution to halt 5G

ILLINOIS

- Oak Brook IL Resolution calls for local control re small cells.

INDIANA

Carmel City IN Council resolution asks state lawmakers, FCC and Congress to limit 5G until health effects fully understood.

MASSACHUSETTS

Randolph MA 500 ft setback. Yearly RFR measurements. Lunenburg and Great Barrington MA 500 ft setback Stockbridge MA prohibits a tower from being built 1000 feet from a school, park or athletic field and 600 ft from residence.

NEW JERSEY

- Little Silver, NJ Carriers should provide notice to property owners within 500 feet of proposed facility.

NEW YORK

- Scarsdale NY: 500 foot setbacks to homes preferred.
- Copake NY: Pre/post testing by RF engineer. No repeater closer than 200 ft to dwelling. No tower closer than 1500 ft to residence/church.
- Community Boards issuing Moratoriums on 5G poles

NEW HAMPSHIRE

- Proposed State Bill - 1640 ft setbacks.
- Keene NH Resolution to halt 5G
- Bedford NH 750 ft. setback

OHIO

- Mason OH Zoning Ordinance No small cells in residential areas or within 100 feet of residential prop; 2000 feet apart (unless colocated); equipment should be underground or wholly contained.

OKLAHOMA

- Sallisaw OK 1,500 feet setback

TENNESSEE

- Farragut City Resolution to halt 5G

WISCONSIN

- Greendale WI passed Resolution R2018-20 referring to the FCC's actions stripping local authority as "an unprecedented attack on local control."

PUBLISHED RESEARCH STUDIES

OUTDOOR LEVELS OF RF ARE INCREASING DUE TO THE DENSIFICATION OF WIRELESS NETWORKS

An [article](#) published in *The Lancet Planetary Health* documents how RF exposures are increasing and so is the scientific research linking exposure to adverse biological effects. ["It is plausibly the most rapidly increasing anthropogenic environmental exposure since the mid-20th century..."](#)

A [2021 report](#) by the French government on 5G analyzed more than 3,000 measurements and found that while RF levels had *not yet* significantly increased, this was due to the lack of 5G traffic. Additional study specific to 5G in the 3500 MHz band with artificially generated traffic concluded that, "initial results suggest an eventual increase of about 20% in overall exposure."

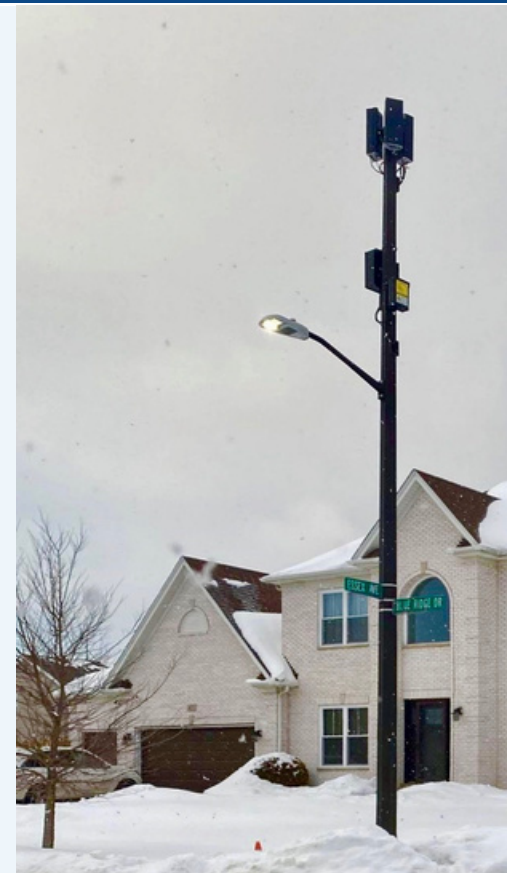
A [2018 multi-country study](#) published in *Environment International* measured RF in several countries and found cell tower/base station radiation to be the dominant contributor to RF exposure in most outdoor areas. Urban areas had higher RF.

A [study](#) measuring RF exposure in the European cities of Basel, Ghent and Brussels found the total RF exposure levels in outdoor locations had increased up to 57.1% in one year (April 2011 to March 2012) and most notably due to mobile phone base stations.

A [2018 study](#) published in *Oncology Letters* documented "unnecessarily high" RF levels in several locations in Sweden and concludes that "using high-power levels causes an excess health risk to many people."

A [2017 Swedish](#) study of Royal Castle, Supreme Court, three major squares and the Swedish Parliament found that despite the architecturally camouflaged RF-emitting antennas, the passive exposure was higher than RF levels associated with non-thermal biological effects. The researchers noted that the heaviest RF load falls on people working or living near hotspots.

A [2016 study](#) at Stockholm Central Railway Station in Sweden documented higher RF levels in areas where base station antennas were located closest to people. Importantly, the RF from the downlink of UMTS, LTE, GSM base station antennas contributed to most of the radiation levels.



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APARTMENTS & CONDO BUILDINGS

INCREASED RF RADIATION FROM CELL ANTENNAS



The study "[Radiofrequency radiation from nearby mobile phone base stations-a case comparison of one low and one high exposure apartment](#)" published in *Oncology Letters* by [Koppel et al. \(2019\)](#)

measured 2 apartments and found that the apartment with high RF levels had outdoor areas as close as 6 meters (about 19.6 feet) from transmitting base station cell antennas. In contrast, the apartment with low RF exposure had cell antennas at 40 meters (about 131 feet) away from the balcony.

Furthermore, the researchers also found that both high- and low-RF apartments had good mobile phone reception, and they concluded, "therefore, installation of base stations to risky places cannot be justified using the good reception requirement argument."

A measurement study by [Baltrėnas et al. \(2012\)](#) published in *Journal of Environmental Engineering and Landscape Management* investigated RF power density levels from cell phone antennas located 35 meters away from a 10-story apartment building. The transmitting antennas were approximately at the same height as the 6th floor of the building. The researchers found the highest RF levels at floors 5, 6 and 7. The RF at the 6th floor balcony was three times higher than the 3rd floor balcony. The RF power density at the 6th floor was about 15 times the RF measured at the first floor.

A [case report by Hardell et al. \(2017\)](#) of RF levels in an apartment in close proximity to rooftop cellular network antennas used an exposimeter to measure levels of different types of RF in the apartment and balconies including TV, FM, TETRA emergency services, 2G GSM, 3G UMTS, 4G LTE, DECT cordless, Wi-Fi 2.4 GHz and 5 GHz and WiMAX. The closest transmitting antennas were 6 meters away from the balcony. The researchers found 97.9% of the mean RF radiation was caused by downlink from the 2G, 3G and 4G base stations. (Downlink means frequencies emitted "down" from the base station cellular antennas.) The researchers found that if the base station RF emissions were excluded, the RF radiation in the children's bedrooms was reduced approximately 99%.

The researchers conclude, "due to the current high RF radiation, the apartment is not suitable for long-term living, particularly for children who may be more sensitive than adults."

INCREASED EXPOSURE FROM 5G/4G "SMALL" CELL ANTENNAS LOCATED CLOSE TO PEOPLE

A study entitled "[Very high radiofrequency radiation at Skeppsbron in Stockholm, Sweden from mobile phone base station antennas positioned close to pedestrians' heads](#)" published in *Environmental Research* by Koppel et al. (2022) created an RF heat map of RF measurements, finding that the highest RF measurements were in areas of close proximity to the base station antennas. The researchers concluded with recommendations to reduce close proximity placements such as positioning antennas "as far as possible from the general public" like in high-elevation locations or more remote areas.

A study entitled "[Measurements of radiofrequency electromagnetic fields, including 5G, in the city of Columbia, South Carolina, USA](#)" published in the *World Academy of Sciences Journal* found the highest RF levels in areas where the cell phone base station antennas were placed on top of utility poles, street lamps, traffic lights or other posts near to the street. The scientists compared their [2022 findings](#) to an earlier [2019 published review](#) on the mean outdoor exposure level of European cities and they found the South Carolina measurements to be higher.

The researchers concluded that the highest exposure areas were due to two reasons: cell phone base antennas on top of high-rise buildings provide "good cell coverage reaching far away, but creating elevated exposure to the radiofrequency electromagnetic fields at the immediate vicinity; and cell phone base station antennas installed on top of utility poles have placed the radiation source closer to humans walking on street level."



Figure 7. Gervais Street: Cell phone base station antenna placed close to street level and causing high exposure to pedestrians and nearby café visitors (exposure scenario illustration). The antenna appears camouflaged and seemingly part of a utility pole. The measurer only discovered the antenna due to the high radiofrequency levels in the vicinity.

HEALTH SYMPTOMS REPORTED BY PEOPLE LIVING CLOSE TO CELL ANTENNAS

Image: Figure 1: Top floor apartment adjacent to base stations. Nilsson M, Hardell L. (2023) Development of the Microwave Syndrome in Two Men Shortly after Installation of 5G on the Roof above their Office. Ann Clin Case Rep



RESEARCH ON ANTENNAS CLOSE TO HOMES, SCHOOL AND WORK

Surveys of people living near cell tower antennas in [France](#), [Spain](#), [Iraq](#), [India](#), [Germany](#), [Egypt](#), [Poland](#) have found significantly higher reports of health issues including sleep issues, fatigue and headaches (See [Santini et al. 2003](#), [López 2021](#), [Alazawi 2011](#), [Pachua and Pachua 2016](#), [Eger et al. 2004](#), [Abdel-Rassoul et al. 2007](#), [Bortkiewicz et al., 2004](#)).

A [study](#) published in *American Journal of Men's Health* linked higher cell tower RFR exposures to delayed fine and gross motor skills and to deficits in spatial working memory and attention in school adolescents ([Meo 2018](#)).

A [study](#) published in *Environmental Research and Public Health* found higher exposures linked to higher risk of type 2 diabetes ([Meo 2015](#)).

A study following people for 6 years linked increased cell phone and cell phone tower antenna exposure to altered levels of hormones including cortisol, thyroid, prolactin and testosterone ([Eskander et al. 2021](#)).

A [study](#) that followed people in a German town after a cell tower was erected found stress hormones adrenaline and noradrenaline significantly increased over the first 6 months after the antenna activation and decreased dopamine and PEA levels after 18 months ([Buchner 2011](#)).

Two published case report document illness that developed after 5G antennas were installed. In [Hardell and Nilsson 2023](#), a couple developed microwave syndrome symptoms (e.g., neurological symptoms, tinnitus, fatigue, insomnia, emotional distress, skin disorders, and blood pressure variability) after a 5G base station was installed on the roof above their apartment.

Similarly, in "[Development of the Microwave Syndrome in Two Men Shortly after Installation of 5G on the Roof above their Office](#)" two men developed symptoms after 5G antennas were activated on the roof of their workplace. The symptoms disappeared in both men within a couple of weeks (case 1) or immediately (case 2) after leaving the office.

PUBLISHED RESEARCH ON 5G



New York City Jumbo 5G poles with 5 tiers to house transmitting antennas from numerous carriers.



New York City "small cell" antennas in front of living room window.

Scientists state that 5G's higher frequencies cannot be assumed safe.

5G systems are using low band frequencies well associated with harmful effects ([ICBE-EMF 2022](#), [European Parliament 2021](#), [Panagopoulos et al. 2021](#)). However 5G networks are also using higher frequencies such as 3.5 GHz and into the mmWave range with 24 GHz and higher.

Contrary to claims that the 5G's higher frequencies simply "bounce" off the skin, researchers have documented that the coiled portion of the skin's sweat duct can be regarded as a helical antenna in the sub-THz band and the skin, our largest organ, can intensely absorb the higher 5G frequencies ([Feldman and Ben Ishai 2017](#)).

Reviews of 5G health effects caution that the expected real-world impact would be far more serious due to the complex waveforms and other combinations with other toxic stimuli in the environment ([Kostoff et al 2020](#), [Russell, 2018](#), [Belyaev 2019](#), [McCredde et al 2023](#)).

Researchers will often experiment with zebrafish, rodents and fruit flies to gain data on potential health effects to humans. An Oregon State University study on zebrafish exposed to 3.5 GHz ([Dasgupta et al. 2022](#)) found "significant abnormal responses in RFR-exposed fish" which "suggest potential long-term behavioral effects. Yang et al 2022 found 3.5 GHz induced oxidative stress in guinea pigs.

A study on 3.5 GHz exposure to both diabetic and healthy rats ([Bektas et al 2022](#)) found an increase in degenerated neurons in the hippocampus of the brains, changes in oxidative stress parameters and changes in the energy metabolism and appetite of both healthy and diabetic rats. The researchers conclude that, "5G may not be innocent in terms of its biological effects, especially in the presence of diabetes."

PUBLISHED RESEARCH ON 5G



5G's higher frequencies will be combined with the lower frequencies from current networks already present in the environment.

Studies on rats have found exposure to both 1.5 and 4.3 GHz microwaves induced: cognitive impairment and hippocampal tissue damage ([Zhu et al 2021](#)); impairments in spatial learning and memory, *with the combined simultaneous exposures* resulting in the most most severe effects ([Wang et al 2022](#)); and immune suppressive responses ([Zhao 2022](#)).

Long-term exposure to 2.856 and 9.375 GHz microwaves impaired learning and memory abilities as well as EEG disturbance, structural damage to the hippocampus, and differential expression of hippocampal tissue and serum exosomes ([Wang et al. 2023](#)).

Studies on fruit flies exposed to 3.5 GHz have found the exposure led to increases in oxidative stress, changes in the microbial community ([Wang et al 2022](#)) and alterations of the expression of several types of genes (Wang et al 2021).

A review by [Russell 2018](#) found evidence for millimeter wave effects to the skin, eyes, immune system, gene expression, and bacterial antibiotic resistance.

Recent experimental research on high-band 5G impacts to animal fertility found that 27 GHz damages sperm quality in mussels ([Pecoraro et al 2023](#)).

Yet the US government is not funding any research on biological effects of frequencies at 3.5 GHz or above 6 GHz to humans.

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5G, CELL TOWERS AND WIRELESS LEGAL & LIABILITY ISSUES



When a new cell tower is proposed, the first question to ask is: "Do you have insurance for damages from long-term exposure to the radiofrequency radiation (RFR)?"

Usually the answer is "No." Why? Insurance companies rank the risk as "HIGH."

5G and Cell Towers Are an Uninsurable Risk

- Insurers rank wireless, cell tower, and 5G RFR non-ionizing electromagnetic field (EMF) radiation as a "high" risk, comparing the issue to lead and asbestos.
- Most insurance plans have "electromagnetic field exclusions" and do not insure for long-term RFR damages.
- Additionally, some insurance plans will not provide a defense for any supervision instruction or recommendation given "or which should have been given" in connection to EMFs.
- Wireless RFR and non-ionizing electromagnetic radiation are defined as a type of "pollution" by wireless companies themselves.
- U.S. mobile operators have been unable to get insurance to cover liabilities related to damages from long-term RFR exposure.
- Wireless companies warn their shareholders of RFR risk but do not warn users of their products, nor do the companies warn the people exposed to emissions from their infrastructure.

Cell Tower Companies Warn Shareholders of Risk From Cell Tower Radiation

Why Don't They Warn Families Living Near Cell Towers?



Verizon 10-K Report

"Our wireless business also faces personal injury and wrongful death lawsuits relating to alleged health effects of wireless phones or radio frequency transmitters. We may incur significant expenses in defending these lawsuits. In addition, we may be required to pay significant awards or settlements."

Crown Castle 10-K Report

"We cannot guarantee that claims relating to radio frequency emissions will not arise in the future or that the results of such studies will not be adverse to us...If a connection between radio frequency emissions and possible negative health effects were established, our operations, costs, or revenues may be materially and adversely affected. We currently do not maintain any significant insurance with respect to these matters."



AT&T 10-K Report

"In the wireless area, we also face current and potential litigation relating to alleged adverse health effects on customers or employees who use such technologies including, for example, wireless devices. We may incur significant expenses defending such suits or government charges and may be required to pay amounts or otherwise change our operations in ways that could materially adversely affect our operations or financial results."



T- MOBILE 10-K Report

"Our business could be adversely affected by findings of product liability for health or safety risks from wireless devices and transmission equipment, as well as by changes to regulations or radio frequency emission standards."



Cell Tower Companies Warn Shareholders of Risk From Cell Tower Radiation

Why Don't They Warn Families Living Near Cell Towers?



AMERICAN TOWER®

NOKIA
CONNECTING PEOPLE



Qualcomm



ERICSSON

American Tower 10-K

"If a scientific study or court decision resulted in a finding that radio frequency emissions pose health risks to consumers, it could negatively impact our tenants and the market for wireless services, which could materially and adversely affect our business, results of operations or financial condition. We do not maintain any significant insurance with respect to these matters."

Nokia 10-K

"Although our products are designed to meet all relevant safety standards and other recommendations and regulatory requirements globally, we cannot guarantee we will not become subject to product liability claims or be held liable for such claims, which could have a material adverse effect on us."

Qualcomm 10-K

"If wireless handsets pose health and safety risks, we may be subject to new regulations, and demand for our products and those of our licensees and customers may decrease."

Ericsson Annual Report

"Any perceived risk or new scientific findings of adverse health effects from mobile communication devices and equipment could adversely affect us through a reduction in sales or through liability claims."

T-Mobile Warns of the Risk of 5G and Lawsuits

The Data on Risk Could Change, Impacting Cash Flow



T-Mobile advertises to the public about going "live" but omits the warnings they give to shareholders regarding 5G, regulatory changes and risk perception.

T-Mobile™

T-Mobile 10-K Report 2/2023

"Negative public perception of, and regulations regarding, the perceived health risks relating to 5G networks could undermine market acceptance of our 5G services" (page 13)

"We, along with equipment manufacturers and other carriers, are subject to current and potential future lawsuits **alleging adverse health effects arising from the use of wireless handsets or from wireless transmission equipment such as cell towers.**"

"In addition, **the FCC has from time to time gathered data regarding wireless device emissions, and its assessment of the risks associated with using wireless devices may evolve based on its findings.** Any of these allegations or changes in risk assessments could result in customers purchasing fewer devices and wireless services, could result in significant legal and regulatory liability, and could have a material adverse effect on our business, reputation, financial condition, cash flows and operating results." (T-Mobile 10-K Report page 21)



A 2000 Ecolog Institute Report commissioned by T-Mobile and DeTeMobil Deutsche Telekom MobilNet recommended an RF exposure limit 1000x lower than the FCC's current power density limit after reviewing the research on biological effects, including impacts to the immune system, central nervous system, hormones, cancer, neurotransmitters and fertility.

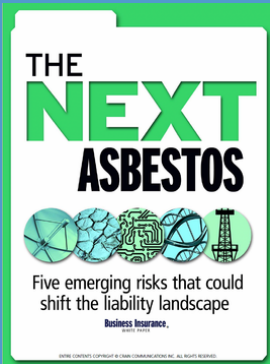
This PDF is hyperlinked. For more on legal liability issues go to ehtrust.org

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5G, CELL TOWERS AND WIRELESS

LEGAL & LIABILITY ISSUES SHAREHOLDER WARNINGS



"Some research has shown biological effects from lower-level "non thermal" exposure and people exposed at lower levels have reported headaches, dizziness, nausea, mood disorders, mental slowing and memory loss."

***Business Insurance White Paper,
The Next Asbestos: Five Emerging Risks
That Could Shift the Liability Landscape***

Insurance Authorities Rate 5G as "High Risk."

5G mobile networks are classified as a "high," "off-the-leash" risk. "Existing concerns regarding potential negative health effects from electromagnetic fields (EMF) are only likely to increase. An uptick in liability claims could be a potential long-term consequence" and "as the biological effects of EMF in general and 5G in particular are still being debated, potential claims for health impairments may come with a long latency."
— Swiss Re Institute (2019)

Insurance Companies Have Electromagnetic Field Exclusions As the Industry Standard

Electromagnetic field exclusions" are clear and common in most insurance companies. It is applied as a market standard. This exclusion serves to exclude cover for illnesses caused by long-term EMF (non-ionizing radiation) exposure." — Complete Markets

"Exclusions: This insurance does not apply to: Bodily injury, personal injury, advertising injury, or property damage arising directly or indirectly out of, resulting from, caused or contributed to by electromagnetic radiation, provided that such loss, cost or expense results from or is contributed to by the hazardous properties of electromagnetic radiation.
— Portland Oregon Public School Insurance (page 30)

Insurance Plans Not Only Exclude EMF Damages, But Some Even Exclude Defending Decision Makers From Actions

"This policy does not apply to and we will not provide a defense for: a. bodily injury... arising out of ... exposure to or contact with electromagnetic radiation... b. costs of abatement .. of EMF" or c. any supervision, instruction, recommendation, warning or advice given or which should have been given in connection with a or b. above."- City of Ann Arbor Michigan Insurance Policy page 14.

Wireless Companies Rank EMF as a Risk with High Impact

"Electro-magnetic signals emitted by mobile devices and base stations may be found to pose health risks, with potential impacts including: changes to national legislation, a reduction in mobile phone usage or litigation."
— Vodaphone 2017 Report ranks EMF as a "Principal Risk with "High" impact.

Wireless Companies Warn Shareholder About Risk But Not People Living Near Their Wireless Infrastructure

Crown Castle says:

"We cannot guarantee that claims relating to radio frequency emissions will not arise in the future or that the results of such studies will not be adverse to us...If a connection between radio frequency emissions and possible negative health effects were established, our operations, costs, or revenues may be materially and adversely affected. We currently do not maintain any significant insurance with respect to these matters."

Wireless Companies Define Pollution in Their Own Policies as Including EMFs, Microwaves and Non-ionizing Radiation.

Verizons Total Mobile Protection Plan says: "Pollution" is defined as "any solid, liquid, gaseous, or thermal irritant or contaminant including smoke, vapor, soot, fumes, acid, alkalis, chemicals, artificially produced electric fields, magnetic field, electromagnetic field, sound waves, microwaves, and all artificially produced ionizing or non-ionizing radiation and/or waste."

You work best when your tech works too.

Total Mobile Protection for Business



Applicable for Business customers outside of New York. New York customers, please see the Total Mobile Protection for Business brochure for New York.

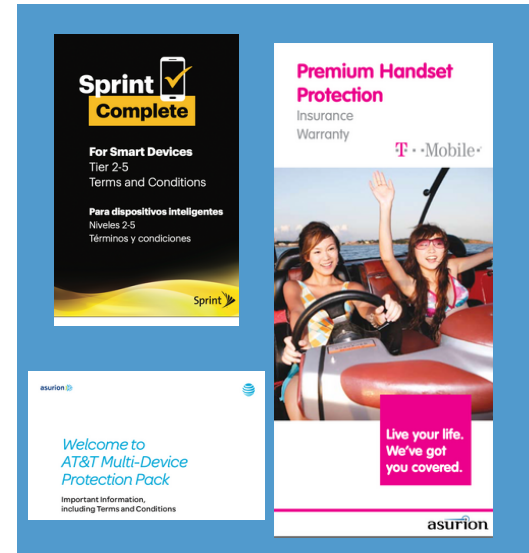
Verizon Total Mobile Protection Plan Defines Non-ionizing Radiation as "Pollution"

16. Pollution

The discharge, dispersal, seepage, migration or escape of pollutants. Pollutants means any solid, liquid, gaseous, or thermal irritant or contaminant including smoke, vapor, soot, fumes, acid, alkalis, chemicals, artificially produced electric fields, magnetic field, electromagnetic field, sound waves, microwaves, and all artificially produced ionizing or non-ionizing radiation and/or waste. Waste includes materials to be recycled, reconditioned or reclaimed.

AT&T, Sprint and T-Mobile also have similar "pollution" definitions and they refuse to cover damages.

Click on image to view the policy.



Insurance Companies Exclude EMF As Industry Standard

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ELECTROMAGNETIC RADIATION EXCLUSION

This endorsement modifies insurance provided under the following:

GENERAL LIABILITY COVERAGE PART
PUBLIC RISK GENERAL LIABILITY RETAINED LIMIT COVERAGE FORM
LAW ENFORCEMENT COVERAGE PART
LAW ENFORCEMENT LIABILITY RETAINED LIMIT COVERAGE FORM
PUBLIC OFFICIALS COVERAGE PART
PUBLIC OFFICIALS LIABILITY RETAINED LIMIT COVERAGE FORM
EMPLOYMENT PRACTICES LIABILITY COVERAGE PART
EMPLOYMENT PRACTICES LIABILITY RETAINED LIMIT COVERAGE FORM

The following **Exclusion** is added:

This policy does not apply to and we will not provide a defense for:

- a. "Bodily injury," "property damage", "personal and advertising injury", "employee benefits wrongful acts", "personal injury", "law enforcement wrongful acts", "public officials wrongful acts", "educator's legal wrongful acts", or "employment practices wrongful acts" arising out of, or which result in, the actual, alleged, threatened, perceived, latent, sudden and accidental or incidental exposure to or contact with electromagnetic radiation in any form, from any source.
- b. The costs of abatement or mitigation of:
 - (1) Electromagnetic radiation; or
 - (2) Exposure to electromagnetic radiation.
- c. Any supervision, instruction, recommendation, warning or advice given or which should have been given in connection with a. or b. above.

Electromagnetic radiation includes but is not limited to, magnetic energy, waves, fields or forces generated, produced, transmitted or maintained by the charges, currents, frequencies, energy or forces of electricity that is generated, flowing or otherwise transmitted through or via the medium, methods and equipment designed to generate, produce, distribute, transport or transmit the electrical charges, currents, frequencies, energy or forces.



January 10, 2024

Suzanne Harman
Planning & Economic Development Department
100 Santa Rosa Avenue Rm 300
Santa Rosa CA 95404

You are about to make a decision about the placement of a cell tower near senior housing and I hope you base this decision on **facts** and not industry spin.

First you need to ask yourself a couple of questions. Why would the corporate telecom industry ever tell you their product is harmful? How would you know facts vs spin?

The fact is; this infrastructure is dangerous!

We have a long history in the United States of industry doing harm and hiding behind captured public agencies, the captured corporate media and industry manipulated science. Most of the information that public officials and the public at large think is true, is actually PR induced industry spin manipulated by an industry with very deep pockets.

Telecom representatives will give you every reason in the world why they need this tower. But they'll never give you all the facts!

They will state that they need it for First Responders, or because of a gap in service, or they may say they want to solve the digital divide, or they will come to you stating they need this for "capacity" issues, which by the way is not covered under the 1996 Telecom Act, the black letter laws passed by congress or the 2012 Spectrum Act. On top of this, information submitted is often overtly technical and not well understood by lay people.

They will never provide you with real meaningful information or documentation, or the necessary supported data and information that is required to support any legal need. And legal experts who represent communities like Santa Rosa with telecommunications law have noted that the applicants seeking to build wireless facilities are known to: *(a) submit patently false or materially misleading information and documentation to local zoning boards in support of applications seeking approvals for desired wireless facilities, (b) install wireless facilities without obtaining, or even seeking to obtain, any local zoning approvals before installing them, (c) complete stealth installations under cover of darkness, or at times when the owners of nearby properties would not be home or asleep,*

and (d) lie to local property owners as to their intent and/or the placement and/or size of the facilities they intend to construct.¹

Are you a Sucker for Manufactured Doubt?

Industry is betting that you are and that their psychological PR spin, or Manufactured Doubt, will make you feel well informed, and that you will use their manipulated science as a badge of scholarly status and that you will minimize and diminish everything else that is said as a stamp of ignorance or intellectual inferiority.

And the industry knows they only have to make you doubtful because in the human mind, that means the science isn't settled. And that's a win for the industry.

In a letter to the Santa Rosa Planning Department Professional engineer, David Witkowski, makes this statement:

"One of the ways the FCC's guidelines create protection is by mandating a 98% safety margin between the highest levels of RF exposure and the levels at which medical science can accurately measure an effect on the human body. Thus, even if an RF source is imparting energy at 100% of the FCC safety guidance, that level is still below the effect level."

A look at the FCC safety levels for Radio Frequency Radiation (RFR) per Country will show you how laughable this statement is. When you look at the chart attached (Exhibit A) you will see that the US has the highest allowable outdoor pulsed Radio Frequency Radiation levels in the world! The US's levels are 100x higher than China's! Please see exhibit "A."

In 2019 these FCC safety levels were challenged by Environmental Health Trust with the court ruling in EHT et al. v. the FCC

In the December 2019 decision by the Federal Communications Commission (FCC) to retain its 1996 safety limits for human exposure to wireless radiation the United States Court of Appeals

¹ In the Matter of DeMarco, the Author's clients, a New York family, arrived home to find workers installing something in the ground on their front lawn. When approached by the family, the workers allegedly explained to them that: (a) there was a public right-of-way across their front lawn, and (b) that the ground-wire they were installing was for a new streetlight that was going to be installed at the street in front of their home. Less than 48 hours later, the family came home to find a forty (40) foot cell tower on their front lawn. See http://abclocal.go.com/wabc/story?section=news/local/long_island&id=7937987
<http://newyork.cbslocal.com/2011/02/03/cell-tower-on-front-lawn-surprises-long-island-couple/>
<http://northshoresun.timesreview.com/2011/02/5977/town-asking-wireless-company-to-take-down-tower-built-on-1-ount-sinai-family-property/>.

for the District of Columbia Circuit ruled that it was “arbitrary and capricious.”^{2 3} But in typical FCC form, they have yet to respond to the court ruling which required that the FCC (i) provide a reasoned explanation for its decision to retain its testing procedures for determining whether cell phones and other portable electronic devices comply with its guidelines, (ii) address the impacts of RF radiation on children, the health implications of long-term exposure to RF radiation, the ubiquity of wireless devices, and other technological developments that have occurred since the Commission last updated its guidelines, and (iii) address the impacts of RF radiation on the environment.”

This Cell Tower Placement Goes Against Santa Rosa’s own Statements

As a matter of fact, this infrastructure near this senior housing contradicts your mission statement, “*To provide high-quality public services and cultivate a vibrant, resilient and livable city*” and your 2023 goal to “*ensure a healthy and safe community for all*”, as well your sustainability goals.

Frankly, contrary to popular belief, this infrastructure is NOT green! An article written in EnviroTech Magazine, exposes the greenwashing facts about wireless technology. “*With the plan for connected devices everywhere, internet traffic is set to triple over the next five years.⁴ Multiple masts and densely-placed small cells will proliferate. A single 5G base station is estimated to guzzle about as much power as 73 typical homes, a threefold increase over 4G.*”^{5 6}

“*Once base stations, data centres and devices are added up, telecommunications could consume over 20% of the world’s electricity by 2025, says Huawei analyst Dr Anders Andrae (compared to approximately 11% currently).*”^{7 8} Compare that with global aviation’s 2.5% share of GHGs: *In a worst-case scenario 5G could create almost ten times that by 2030.*”^{9 10}

One point that might go unnoticed by the public is that 5G is building on 4G, not replacing it; in fact 4G usage is increasing. So energy use can surely only grow even if 5G becomes more efficient.”^{11 12}

²[https://www.cadc.uscourts.gov/internet/opinions.nsf/FB976465BF00F8BD85258730004EFDF7/\\$file/20-1025-1910111.pdf](https://www.cadc.uscourts.gov/internet/opinions.nsf/FB976465BF00F8BD85258730004EFDF7/$file/20-1025-1910111.pdf)

³<https://ehtrust.org/in-historic-decision-federal-court-finds-fcc-failed-to-explain-why-it-ignored-scientific-evidence-showing-harm-from-wireless-radiation/>

⁴<https://www.cisco.com/c/en/us/solutions/executive-perspectives/annual-internet-report/index.html>

⁵ <https://spectrum.ieee.org/5gs-waveform-is-a-battery-vampire>

⁶<https://www.gsma.com/futurenetworks/wiki/5g-era-mobile-network-cost-evolution/>

⁷https://www.researchgate.net/publication/320225452_Total_Consumer_Power_Consumption_Forecast

⁸ <https://www.mdpi.com/2078-1547/6/1/117/htm>.

⁹ <https://ourworldindata.org/co2-emissions-from-aviation>

¹⁰ <https://www.mdpi.com/2078-1547/6/1/117/htm>

¹¹<https://www.cnet.com/tech/mobile/5g-myths-debunked-5g-wont-replace-4g-doesnt-cause-covid-19-and-is-still-rolling-out-during-the-pandemic/>

¹²<https://data.gsmaintelligence.com/api-web/v2/research-file-download?id=39256194&file=2712-250219-ME-Global.pdf>

These points are echoed in a report created for government agencies entitled [Reinventing Wires - The Future of Landlines and Networks](#), which addresses many of the issues public officials are faced with when making decisions about wireless infrastructure. This is written under the National Institute for Science, Law and Public Policy (NISLAPP) whose mission is to reconcile legal and scientific concerns in the formulation of intelligent, safe, and sensible public policy. I would suggest you read this before you make any further broadband or cellular infrastructure decisions.

Here is your warning and you are now on notice!

Thousands of independent studies show a multitude of biological symptoms that manifest when humans, as well as plants and animals, are exposed to pulsed microwave radiation. Placing this infrastructure near senior housing is reckless! I also have to wonder if you would want your own grandparent to live in this housing?

Our Government has Documented Harm

There are thousands of studies proving harm, some of which have been initiated by our own government. [There's the Navy study¹³ and the Army study¹⁴](#), both showing biological harm and both revealing symptoms that were determined as Microwave Sickness, known today as Electromagnetic Sensitivity. These studies were completed in the 1970's after Navy personnel experienced debilitating symptoms after being exposed to Microwave Radio Frequency Radiation emissions when exposed to radar equipment.

The Navy Study, completed in 1971 by Dr. Zorach ("Zory") R. Glaser, Ph.D., LT, MSC, USNR has 2,300 references to documents that detail the biological effects of radio frequency and microwave radiation from various technologies including radar and mobile communications, navigational devices, and physical therapy devices such as microwave and shortwave diathermy.

The Army study entitled *MORTALITY IN RATS EXPOSED TO CW MICROWAVE RADIATION AT 0.95, 2.45, 4.54, AND 7.44 GHz* and completed in 1974 showed that 0.95 & 2.45 GHz are the most lethal microwave frequencies. **2.45 is used in most home wireless equipment.** The symptoms outlined in these studies are some of the most prevalent and common symptoms of Microwave Sickness, now called Electromagnetic Sensitivity.

As you can see, these low level frequencies are indeed harmful causing biological impacts and the Army Study points out that these low level frequencies can be lethal. And these effects have occurred at wireless radiation exposure levels hundreds of times lower than presently legal international limits. These effects have occurred after exposure to devices that are government approved and legally sold to the public.

¹³ https://www.magdahavas.com/wp-content/uploads/2010/06/Navy_Radiowave_Brief.pdf

¹⁴ https://www.magdahavas.com/wp-content/uploads/2010/09/Mortality_in_Rats_Exposed_to_CW_Microwave_Radiation.pdf

But It Doesn't Stop There!!!!

Peer reviewed research has demonstrated a myriad of adverse biological effects from wireless radiation including reproductive dysfunction, single- and double-stranded DNA breaks, creation of reactive oxygen species, immune dysfunction, stress protein synthesis in the brain, altered brain development, sleep and memory disturbances, and increased brain tumors.¹⁵

The Telecommunications Industry is using propaganda to get our buy-in on cheaper, inferior, unregulated, addictive cellular and broadband infrastructure while making us feel that we are well informed AND that we have no choice. We do have a choice. But we also have an obligation to our community! Please don't be a sucker. Be a public servant not a politician!

Telecommunications Companies Warn Their Shareholders

In fact, a number of corporations already advise their shareholders that they could face serious financial risks from the health damages due to RF. For instance, [Crown Castle's 2019 10-K ANNUAL REPORT](#) states that,

If radio frequency emissions from wireless handsets or equipment on our communications infrastructure are demonstrated to cause negative health effects, potential future claims could adversely affect our operations, costs or revenues.

Most wireless companies, from [AT&T](#) to [Nokia](#) to [T Mobile](#) to [Verizon](#) Wireless, have issued similar warnings to their shareholders. **Why are shareholders being warned but not the people living near the equipment? These disclosures show that even corporations cannot assure safety.**

Due to these evaluations and the published scientific evidence, cell phone manufacturers cannot insure against health damages from the radiofrequency radiation emitted by their products and networks. In fact, most insurance plans do not cover electromagnetic fields (EMF) and have very clear "electromagnetic field exclusions." In order for insurance companies to cover EMF, one often must purchase additional "[Pollution Liability](#)" or "[Policy Enhancement coverage](#)." According to CFC Underwriting LTD in London, the UK agent for Lloyd's:

The Electromagnetic Fields Exclusion (Exclusion 32) is a General Insurance Exclusion and is applied across the market as standard. The purpose of the exclusion is to exclude cover for illnesses caused by continuous long-term non-ionising radiation exposure i.e. through mobile phone usage.

Even [AT&T Mobile Insurance](#) excludes loss from "pollutants" and its policy defines "Pollutants" as "Any solid, liquid, gaseous, or thermal irritant or contaminant including smoke, vapor, soot, fumes, acid, alkalis, chemicals, **artificially produced electric fields, magnetic field,**

¹⁵ <https://ehtrust.org/science/wireless-radiation-health-effects/>

electromagnetic field, sound waves, microwaves, and all artificially produced ionizing or non- ionizing radiation and waste,” ([pg. 4\) AT &T Mobile Insurance Policy, February 2014.](#)

If insurance companies will not insure EMF and if even telecommunications companies consider EMF is a “pollutant,” how can governments allow such an environmental pollutant without also warning their citizens as companies do?

Small Print Warnings with Possible Huge Repercussions

The small print inside every wireless device relays that wireless devices were never tested touching the body and suggests keeping the device a certain distance (each device is different) away from the body. ¹⁶

In Conclusion

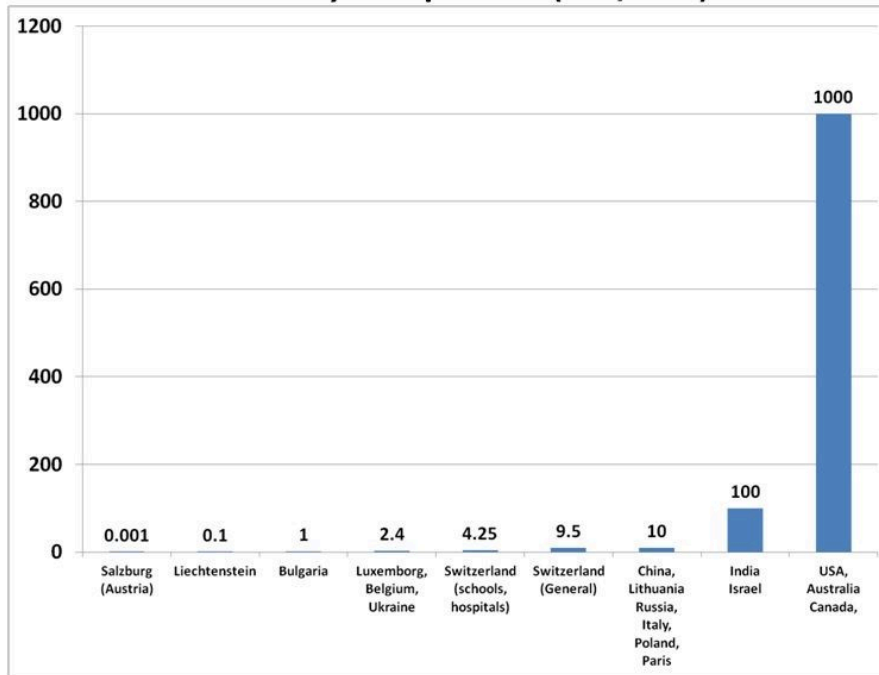
This letter outlines only a fraction of the many issues that surround wireless infrastructure. I implore you to place this tower in a more appropriate spot and make sure your wireless municipal codes are written so you can mitigate the impact of this harmful infrastructure on your community. Don't allow the wireless industry to dictate policy and push inferior wireless infrastructure on the public using their well funded playbook that makes us feel well informed, when actually we are being disinformed!

Jodi Nelson
Director of Californians for Safe Technology

¹⁶ <https://ehtrust.org/think-wireless-technology-is-safe-read-the-fine-print-warnings/>

Exhibit "A"

Outdoor Pulsed RF Radiation Exposure Limits Country Comparison (uW/cm²)



FACTSHEET: ENVIRONMENTAL HEALTH TRUST ET AL. V. FCC

FCC's Lack of Adequate Review for Wireless Radiation Exposure Limits

LANDMARK FEDERAL COURT RULING AGAINST THE FCC

On August 13, 2021 the U.S. Court of Appeals for the D.C. Circuit ruled the Federal Communications Commission (FCC) ignored scientific evidence and failed to provide a reasoned explanation for its determination that its 1996 regulations adequately protect the public against all the harmful effects of wireless radiation.

FCC'S REFUSAL TO UPDATE 1996 LIMITS

The legal case challenged the FCC's 2019 decision not to update its 1996 regulations regarding allowable radiofrequency radiation (RF) exposures from wireless technologies - including 5G, cell phones, cell towers, Wi-Fi, and wireless networks.

EVIDENCE OF HARMFUL EFFECTS BELOW FCC LIMITS

FCC limits are based on the outdated belief that heating is the only proven harm from RF. Over 11,000 pages of evidence - 447 exhibits in 27 Volumes - was submitted to the Court documenting biological effects and illness from wireless radiation exposure below heating levels. Research has found brain damage, headaches, memory problems, reproduction damage, synergistic effects, nervous system impacts, brain cancer, genetic damage, as well as harm to trees, birds, bees, and wildlife.

THE COURT FINDINGS

The ruling stated that the FCC's "arbitrary and capricious" decision to maintain their 25 year old exposure limits did not address evidence indicating "non-cancer" harm such as:

- impacts to children
- testimony of persons injured by wireless radiation
- impacts to the developing brain
- impacts to the reproductive system
- impacts to wildlife and the environment

THE COURT ORDER

The Court ordered the FCC to provide a reasoned determination as to whether the evidence warrants a change to 1996 RF limits especially in regards to:

- children's vulnerability
- long-term exposure
- environmental impacts
- new technological developments and the ubiquity of wireless
- how FCC's cell phone tests only measure heat and allow a space between the phone and body.

"The factual premise—the non-existence of non-thermal biological effects—underlying the current radiofrequency (RF) guidelines may no longer be accurate."

-2021 EHT et al. v. FCC RULING

TIMELINE

1980s: EPA tasked to develop RF safety limits for heating and biological effects.

1996: EPA is fully defunded and halts all research on RF. The FCC adopts RF limits developed by industry-tied groups- based on heating.

1999: FDA requests the National Toxicology Program (NTP) study RF because of the lack of safety data on long-term exposure.

2008/2009 Congressional Hearings

2011: Wireless RF classified as a "possible" Class 2B Carcinogen by International Agency for Research on Cancer.

2012: GAO Report recommends rules be reassessed to reflect current use patterns and recent science.

2013-2019: FCC opens record on RF limits - gets over 1000 submissions.

2018: NTP/NIH releases \$30M animal study concluding "clear evidence" of cancer. FDA rejects the findings.

2019: FCC closes record, decides not to update its 1996 wireless RF limits.

2020: Cases filed against FCC.

2021: Ruling against FCC.

Link to timeline hyperlinked to sources.

FCC's Lack of Adequate Review for Wireless Radiation Exposure Limits

THE BOTTOM LINE

FCC Compliance Does Not Ensure Safety

Most of the public assumes that current FCC safety limits for cell phones, cell towers, Wi-Fi, 5G, and wireless networks are based upon an up to date robust review of all relevant research. This assumption of safety is now clearly documented to be erroneous.

Lack of Oversight by Health and Environmental Agencies

The ruling reveals a lack of accountability with our federal health agencies regarding wireless radiation. The EPA, CDC, NIOSH, and NCI did not submit any reports to the Court, revealing that none of these agencies has reviewed the science on health effects to ensure safety for the public. The U.S. has no pre-market safety testing for health effects, no post-market surveillance, no environmental monitoring, and no meaningful interagency coordination.

FDA's Dismissal of Harm Deemed Insufficient

The Court states the FCC improperly relied on the FDA's conclusions that RF limits did not need an update. The FDA's submissions were described by the Court as " cursory" and "insufficient." Although the FDA later released a literature review, it was only focused on cancer, further confirming the fact that the FDA and U.S. safety agencies have failed to evaluate the numerous health effects documented in scientific studies, such as brain and reproductive system impacts. A U.S. government review of the full body of recent science has simply never been done.

The Court Did Not Agree That "Cell Phones Do Not Cause Cancer"

Contrary to the wireless industry's recent claims, the Court did not make a scientific determination regarding wireless and cancer. The ruling simply stated that in regards to cancer- the FCC passed the minimum legal requirement for adequate review by at least referencing the reasons why the FCC dismissed cancer evidence. The FCC cited rejections of NIH studies by the FDA and ICNIRP - a small group with no oversight and members have a long history of industry ties.

Children's Vulnerability Ignored by the FCC

The Court states the FCC "dismissed" the American Academy of Pediatrics recommendations for strengthened regulations that ensure children and pregnant women would be protected. The Court found the FCC failed to explain why it ignored research indicating children were more vulnerable to wireless: their developing brains are more sensitive, they absorb higher levels of RF deeper into their brains, and they will have a lifetime of exposure.

Wildlife Remains Unprotected

FCC's limits were designed in 1996 to protect only humans, not flora or fauna. The Court found that the FCC had "completely failed" to address the "substantive evidence of potential environmental harms" on the record, which included science showing serious impacts to birds, bees, trees, and plants.

"In the Department of the Interior's expert view, the Commission's RF radiation limits "continue to be based on thermal heating, a criterion now nearly 30 years out of date and inapplicable today."

-2021 EHT et al. v. FCC

PETITIONERS

Environmental Health Trust (EHT), Consumers for Safe Cell Phones, Elizabeth Barris, and Theodora Scarato.

Children's Health Defense (CHD), Michelle Hertz, Petra Brokken, Dr. David Carpenter, Dr. Toril Jelter, Dr. Paul Dart, Dr. Ann Lee, Virginia Farver, Jennifer Baran, and Paul Stanley M.Ed. CHD's case was consolidated with EHT's case by the Court.

Briefs and evidence were jointly filed.

KEY RESOURCES

- Court Ruling 8/13/2021
- Evidence (11,000 pages)
- EHT Press Conference

Go to [EHTrust.org](https://ehtrust.org) for more.

Michèle Misino de Luca

135 Colgan Avenue, Apt. 2035

Santa Rosa, CA

Telephone: 707.729-0079

January 11, 2024

Six minutes. Six. Three minutes at the first public meeting and three minutes today. That is the amount of time allowed to protest a potential and serious health risk for the elders of Vintage Park Senior Housing who live less than 500 feet from this proposed tower, as do families with babies and children in apartments and homes.

Neither did we receive sufficient notice to be able to research and compose our responses.

HOW MUCH TIME DID VERIZON HAVE TO MAKE AND DEFEND ITS PROPOSAL? More than six minutes, I would imagine. Their motivation: Greed. Profit. It behooves them to ignore the risk to people.

Our motivation: Our health, safety and for some of us, perhaps our very survival.

Cell tower radiation has been studied for decades. Unsafe effects have been documented when built near residences:

**Headaches
Memory problems
Concentration difficulties
Fatigue
Tremors
Dizziness
Tinnitus
Skin disorders
Blood pressure variability
Depression
Sleep problems
and Cancer mortality**

Industry-funded scientific groups casually dismiss these, just as similar studies on tobacco exposure were long dismissed.

In the best scenario the true scientific facts have yet to be determined and settled.

I don't want to risk it. WE don't want to risk it. WE DO NOT WANT TO BE THE GUINEA PIGS OF VERIZON!

Cities all over the country forbid cell tower construction within 500 feet of homes and schools.

In California, some of those cities include Calabasas, Davis, Westlake Village, Suisun City, Temecula, Petaluma, and all of Contra Costa County. Santa Rosa should join that list. Sonoma safe. Sonoma strong.

Would you sleep soundly knowing this cell tower was so close to your home? Would you accept this risk for your family, for your children?

We can turn off our cellphones. We cannot turn off a cell tower.

Your vote could turn us into sitting ducks.

Reject Verizon's proposal. We are begging you! Our lives could be in your hands. Please care and protect the people you represent.

Michael Russo de Luca

Jan. 11, 24

Suzanne Hartman
Project Planner
Sa. Rosa City Planning Comm.

Re: Verizon

- ① Has Environmental Impact Report been approved? Does it include noise pollution?
- ② How long will PG&E's noise occur ~~approximately~~ (removing tall poles, sidewalks and underground digging)?
- ③ Noise from 69-foot telecomm. tower & fence construction. How long-lasting?
- ④ Can City Planning Commission guarantee "safe radiation" levels in writing to Vintage Park Senior Apartments?
- ⑤ Vintage Park, 147 Colgan Ave., has Fire engines and ambulances ~~entering~~ entering a few times a week. They need quick life-saving access to 120 apartments. Can you guarantee that ~~we~~ with all the construction / upheaval from 244 Colgan Ave. (if Verizon is approved) Thank you for listening deeply!!

Annie Adler
135 Colgan, # 2039
Sa Rosa 95404
(707) 843-7550

P.S. Can not retrieve my phone messages.