

## **Statement to the Oakland Planning Commission at Public Hearing, November 7, 2018**

The telecom industry wants to deploy 5G antennas (small cell antennas and power supplies) in our neighborhoods, near our homes and schools. We, the people of Oakland, do not want 5G technology in our neighborhoods among our homes and schools at this time because of health, environment, and safety issues. We have 13 issues that we will now describe.

1. The federal government has only provided GUIDELINES for exposure to wireless radiation. There are NO SAFETY STANDARDS of exposure in the USA. Both the FCC (Federal Communications Commission) and the FDA (Food and Drug Administration) have had disclaimer statements on their websites that say that “there is no proof that cell phone radiation is completely safe”.
2. 4G and 5G use microwave radiation, but 5G also contains millimeter waves, which are used by the military for radar and the Active Denial weapon system. Their guidelines for safety are dependent only on thermal effects. However, tens of thousands of studies show that non-thermal effects also occur. Many of the studies on non-thermal effects have been conducted outside of the USA. However, there have been studies on non-thermal effects done by the military. Consider the declassified reports available online by Dr. Glaser, from the 1970s, commissioned by the US Naval Medical Research Institute, which summarized over 3,700 papers on biological effects of these waves. Unfortunately, the FCC guidelines do not take into account any of the non-thermal effects. This is seriously lacking.
3. Other countries—Europe and Russia---have much lower safety limits of exposure of these waves, because they have accepted that 4G and 5G cause non-thermal effects that pose health hazards. Russia has safety standards of exposure 100 times lower than our FCC guidelines, and Switzerland’s safety standard is 1000 times lower. We already see more health issues from our higher chronic exposure to 3G and 4G.
4. There are an increasing number of cell phone towers and antennas to which we are exposed that pose chronic electromagnetic stress to our bodies. Chronic stress is linked to chronic disease, which is epidemic. Take a look at [www.antennasearch.com](http://www.antennasearch.com) to see how many cell phone towers and antennas are already deployed in Oakland. There are 105 towers and 782 antennas (4G) in downtown Oakland alone! These will not be taken down because 4G will continue to operate. 5G will add many, many more antennas, because the industry wants to place them every 200 to 1000 feet, everywhere.

5. Some people are sensitive to wireless radiation and have symptoms. The World Health Organization (WHO) recognizes a syndrome called “electrosensitivity”, and says that 3 to 6% of the population suffer from it. Wireless radiation can cause headaches, concentration problems, fatigue, insomnia, heart palpitations, and pain upon chronic exposure. As with other types of radiation, the dose is cumulative, and 5G would further increase our dose.
6. Wireless radiation from antennas is also linked to increased cancer risk. The World Health Organization has determined that wireless radiation is a weak carcinogen. Brain cancer and acoustic neuroma are just two types of tumors on the rise. WHO says that we can expect more cancers in the future, because cell phones only became widely popular about 10 years ago, and some cancers take 20 years or more to develop.
7. Pregnant mothers and children are most at risk from wireless radiation. Children’s skulls are very thin, and the radiation penetrates deeply into their brains, which are still developing and could be even more affected from chronic radiation exposure. If 5G were widely deployed in our city neighborhoods near homes and schools, what might happen to our children?
8. The FCC website says that ground-level power densities are low when the antennas are attached to poles above us. However, if 5G is deployed in our neighborhoods, ground levels of radiation are irrelevant, because the antennas would be at the level of our bedrooms in second and third floor homes, making our exposure levels very high, with no safe place to go.
9. There is no simple meter or instrument to measure the levels of 5G waves. All equipment to measure 5G is military grade, costing about \$100,000 and is unaffordable to most people. So, the people cannot even monitor their own exposure. Nobody is monitoring our exposure, and there is no oversight. The Oakland city government will be responsible, if you approve 5G deployment for Oakland.
10. The 5G antennas are not omni-directional like 2G, 3G or 4G. They are a completely new type of antenna (phased array) that produces steerable, concentrated beams of waves that can add together from different antennas to make very dangerous high-level beams.
11. There will be expected environmental effects of 5G, especially on pollinating insects such as bees. In recent years the insect pollinators have been greatly reduced. Insects use radiofrequency waves to communicate among one another, and we expect that 5G will further thwart them.

12. One of the frequencies of 5G waves (95 GigaHertz) is very close to the frequency of a non-lethal weapon used for crowd control, called the “Active Denial System”. This weapon creates pain and burning in the skin that causes crowds to disband. 5G is expected to especially impact our skin. The skin is the largest organ of the body, linked to the immune system and the nervous system. 5G effects on the skin will impact the whole body.
13. The bottom line is that there is no proof that 5G is safe. We have gathered evidence and stated the issues that indicate that 5G is not safe, that the US lacks appropriate safety standards, and that oversight of 5G will be extremely difficult, if not impossible, by the City of Oakland. More scientific and clinical studies on 5G need to be conducted by unbiased independent scientists---not the industry---to determine whether 5G is truly safe before it is widely deployed in our neighborhoods. We conclude that it is premature to deploy 5G in Oakland. We implore you to reject the industry’s permit applications at this time.

In conclusion, we offer our support to you in this difficult decision making process. Some of us are experts in biophysics and health effects from radiation and could provide you with peer-reviewed literature from independent research to help you make informed decisions and respond appropriately to the pressures of the industry and FCC. We would also like to create a city ordinance on wireless communication radiation for Oakland that protects the health of the people and environment.