



June 22, 2017

Assembly Member Cecilia M. Aguiar-Curry  
Chair of the Local Government Committee  
1020 N Street, Room 157  
Sacramento, California 95814

RE: SB 649

Dear Assembly Member Aguiar-Curry:

I am writing in opposition to SB 649 which will deny the public's right to participate in local decisions. The public has a constitutional right to protect our homes, our privacy, our health and the health of our children from RF radiation which soon will be in the form of 5G millimeter waves.

5G, the technology for which these small cells are a foundational part of the infrastructure, has not been tested on humans. On June 20, 2016 then-outgoing FCC Chairman Tom Wheeler announced at the Washington Press Club that 5G "redefines network connectivity for years to come." When asked by a Bloomberg reporter about health concerns, Chairman Wheeler replied the FCC did not have time to study health because the infrastructure for 5G will "generate tens of billions of dollars in economic activity." In short, 5G is a moneymaker. That concept is driving this bill and it is simply wrong. Not only is it wrong, but it is dangerous, and we need to listen to the firefighters before approving a bill from which there is no viable return.

SB 649 states: "the impact on local interests from individual small wireless facilities will be sufficiently minor." I disagree. The Bill was written by the industry, for the industry. It fails the consumer. It particularly fails the unborn, children, those with immune suppression, the infirm, the disabled, and the elderly. This technology has the capacity to completely disable sensitive segments of the population. It has the ability to inhibit repair of DNA, an essential component to our survival. An increasing number of studies show it has the ability to break DNA outright.

From a neurological and immunological perspective, RF (wireless) radiation has the power to interfere with how we think, how we behave, how we feel. It affects the Central Nervous System (the brain), and it affects our immune system. Those two systems overlap more than any other bodily systems, and thus if one is adversely affected, the other may be, as well. Many people are rendered EHS or "electro-hypersensitive" after continuous exposure to WiFi, cell towers, or cell phone exposure. This is particularly true if the exposure is 24/7, which small cells would be.

Over 15 years ago California did a survey and determined as many as 7% of its population was EHS or electro-hypersensitive, e.g. they have adverse reactions sometimes hours after exposure to wireless such as headache, cognitive impairment, inability to sleep, inability to stay awake, tinnitus, depression, or inability to focus. Conservative estimates in Europe and the US put the number at 3% with respect to EHS in a given population. Some studies show 11% as a more current reflection of EHS. In 2015 the US Census Bureau put the population of California at 39.14 million. Assuming the more conservative 3%, that translates to over 11.7 million Californians who must seek relief from wireless exposure for medical reasons.

Because 5G (for which SB 649 was requested by industry) is designed to penetrate walls with a focused, amplified beam there will be no safe haven, thus leaving California without a low cost prudent avoidance policy for those who are disabled from EMF exposure. Many of these small cells will be directly outside the homes and work places of individuals who are EHS.

Furthermore, there is virtually no oversight with respect to our existing RF exposure to 2G, 3G and 4G, and none is written into the bill to monitor or in any way assess the health impact of 5G. This bill will instantly make life more difficult for the 11 million-plus people who are EHS to find refuge from wireless. In fact, it will make it virtually impossible because 5G on small cell antenna can penetrate any wall, any barrier. That is what 5G is designed to do. This will be in direct violation of the Americans with Disabilities Act.

Additionally, health care costs for California will rise with this massive build out of infrastructure resulting in an exponential increase in radiation exposure not just at work and at school, but at home.

This bill is being rushed to passage, and there is a failure on the part of the bill's sponsors to take the potential health impact into consideration. It is up to you all as legislators to pause and consider the implications of what you are doing. Somehow people have come to believe wireless is like oxygen. We need it to survive. The truth is the exact opposite is true. When did anyone ever think microwave radiation was safe? Yes, this is microwave radiation. RF radiation is a euphemism. It is window-dressing. This technology is *not* safe.

I am far from alone in voicing this opinion. Just look at the firefighters. They are very well aware of the dangers as firestations were among the first commercial spaces targeted for cell tower placement, and the firefighters have lived with this exposure 24/7 for years. **The firefighters oppose SB 649 due to health concerns and have been granted an exemption for their stations.** I concur with the exemption for the firefighters.

As an Honorary Firefighters for the San Diego Fire Department, as the organizer of the only SPECT brain scan study of firefighters in California or anywhere in the US and Canada, as the original author of Res. 15 to call for a moratorium on the placement of cell towers throughout the US and Canada (2003), as a US Adviser to the Radiation Research Trust, and as a medical writer I can assure you that the language of your bill suggesting a "minor" impact is dangerously wrong. I am far from alone. 122 cities throughout California officially oppose SB 649. In addition, to date, 12 counties and myriad organizations oppose this bill.

I have worked with firefighters for over 15 years. My focus has been testing and educating firefighters about the neurological effects of RF radiation, yet the carcinogenic effects are deeply disturbing, as well. Brain cancer is now one of the leading cancers among firefighters and is considered a presumptive cancer in many states. Bottom line: Cell towers have made firefighters ill, impaired their ability to work and protect the public, and may have contributed to deaths.

On February 23, 2013 under WT Docket No. 12-357 I filed my comments with the FCC detailing the findings of a 2004 brain study I organized in which Dr. Gunnar Heuser and Dr. J. Michael Uszler of Santa Monica, CA conducted a pilot study of six (6) California firefighters who had been exposed to a cell tower 9' from their station for five years. These men had become ill – some within minutes, some within hours – after activation of the cell tower next to their station *in spite of months of reassurances from the industry that there were no ill effects from the towers*. The men were experiencing profound neurological symptoms.

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, and immune-suppression manifest in frequent colds and flu-like symptoms.

All six (6) firefighters were found to have brain abnormalities on SPECT scan [single-photon emission computed tomography]. 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 benefit of 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 six firefighters.

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.

The testing was conducted in 2004. The cell towers were 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 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.

What is particularly germane to the critical decisions you are currently facing with SB 649 has to do with the industry line that the radiation from these small cells will be well under the safety guidelines set by the FCC. The FCC currently allows 1,000 microwatts per centimeter squared (uW/cm<sup>2</sup>) 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 uW/cm<sup>2</sup> by Peter Sierck, BBEC, CEO of Environmental Testing & Technology in Encinitas, CA. **Thus the emissions from towers were measured at approximately 1/1000th to 1/500<sup>th</sup> of the FCC's allowable limit.** "Hot spots" of reflected radiation were measured at 15 and 30 uW/cm<sup>2</sup>, 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, but rather physics, and principles of physics do not protect the brains and central nervous systems of even the strongest among us -- our firefighters.** Please see my FCC filing at <https://ecfsapi.fcc.gov/file/7022117660.pdf>

You know the gist of this, or you would not have granted an exemption for firefighters from SB 649. In fact, Section 65964.2 specifically states small cells will not be located on a fire department facility. I know the firefighters asked for and received this exemption based on their concerns about adverse health effects from cell towers on or near their stations.

I know this exemption would not have been granted had you not believed that firefighters were at risk. And if firefighters, the strongest of the strong among us, are experiencing symptoms that impair their work performance due to severe headache, disorientation, sleep disturbance, cognitive impairment, delayed reaction time, lack of impulse control and mood swings, that begs the obvious question: What about the rest of us?

I implore you to see this bill for what it is. It is industry's gift to industry carried out by well-intentioned senators and assembly members who think they are doing what is best for their constituents. The "best" is to deny this carte blanche blanketing of small cells without local control.

Listen to the firefighters, and understand these brave men and women speak for all of us. If they are concerned about harm to their health, then we should be as well.

Respectfully Submitted,

*Susan Foster*

/s/ Susan Foster

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