



## HILLSMERE ELEMENTARY PTA

December 18, 2018

Anne Arundel County Board of Education  
2644 Riva Road  
Annapolis, MD 21401

Dear President Hummer and members of the Anne Arundel County Board of Education,

I am writing you on behalf of the Hillsmere Elementary School PTA (Hillsmere PTA) in regard to the Anne Arundel County Board of Education's (the Board) December 19, 2018 agenda item 6.02: Shady Side Elementary School - Telecommunications Transmission Facility (cell tower).<sup>1</sup> For the reasons described below, the Hillsmere PTA is requesting that the Board specifically reconsider the proposed placement of a cell tower at Shady Side Elementary school, as well as reexamine Anne Arundel County Public School's (AACPS) current contract with Milestone Communications related to the placement of cell towers at AACPS schools.

The installment of a cell tower on or immediately next to any school – including Shady Side Elementary - poses significant health dangers to both students and staff. While some argue that radiation emitted from any type of cell tower, is not a health danger, data from independently, nonpartisan sponsored studies, indicate the opposite. Scientists and health care professionals are increasingly expressing concerns regarding both the overall roll-out of the 5G network, and the presence of mini-cells and cell towers near schools specifically. On November 1, 2018, the National Toxicology Program (NTP), an inter-agency program within the U.S. Department of Health and Human Services, released the final results of its ten-year study, which is currently the world's largest and most expensive study to date on the link between radio-frequency radiation and cancer. Of significance, the study found evidence of cancerous heart tumors, as well as some evidence of cancerous brain tumors and pheochromocytomas tumors<sup>2</sup> in adrenal glands, in male rats<sup>3</sup> exposed to high levels of radio-frequency radiation like that used in 2G and 3G cell phones.<sup>4</sup>

Similar findings were revealed in a March 2018 study from the Ramazzini Institute in Italy, in which researchers found that a large-scale lifetime study of lab animals exposed to environmental levels of cell tower radiation developed cancer. According to David Carpenter MD, former Dean of the School of Public Health at the University at Albany, the study from Italy raises concerns that simply living close to a cell tower will pose threats to our health. Dr. Carpenter states "Cell towers should not be near schools, hospitals or people's homes. Public health agencies need to educate the public on how to reduce exposure from all sources of wireless radiofrequency radiation—be it from cell towers or cell phones or Wi-Fi in schools. This is particularly urgent

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<sup>1</sup> As reference, the Hillsmere PTA submitted a letter on November 14, 2017, in opposition to the Board's November 1, 2017 vote on then-agenda item 5.13, approving an easement for Verizon Wireless to install and maintain a communications facility (mini-cell) on a BG&E power pole adjacent to Hillsmere Elementary School. While some information from the November 14, 2017 letter is included in this letter for new Board members' awareness, additional scientific information published in the last 13 months has been added.

<sup>2</sup> Pheochromocytomas tumors can cause secondary cancers and/or damage to heart cells.

<sup>3</sup> According to NTP, while the findings of animals cannot be directly applied to humans, the study does question the long-held assumption that radio frequency radiation is of no concern as long as the energy level is low and does not significantly heat the tissues.

<sup>4</sup> Although the study is limited in scope to radiofrequency radiation associated with 2G and 3G cell phones (given those were the current networks in 1999), it is important to note that 2G and 3G networks are still used for phone calls and texting.

because of current plans to place small 5G cell towers about every 300 meters in every street across the country. These 5G 'small cell' antennas will result in continuous exposure to everyone living nearby and everyone walking down the street. The increased exposures will increase risk of cancer and other diseases such as electrohypersensitivity." And as expressed in our November 14, 2017 letter, according to findings by the Environmental Health Trust, radiation from mini-cells is not small. Wireless antennas emit microwaves — non-ionizing radiofrequency radiation — essentially functioning as cell towers —and that radiation is expected to typically travel from 10 meters up to several hundred meters.

In a letter<sup>5</sup> to the United Nations, 244 scientists<sup>6</sup> from 41 nations have appealed for protection from non-ionizing electromagnetic field exposure, citing numerous peer-reviewed studies showing that exposure to electromagnetic fields (EMF) generated by electric and wireless devices can cause increased “cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans.”<sup>7,8</sup> The letter also specifically requests that “children and pregnant women be protected”, and that 5G should be investigated before it is deployed. In another appeal to the European Union on September 13, 2017, 180 scientists and doctors from 35 countries requested a moratorium on the roll-out of 5G, for telecommunication until potential hazards for human health and the environment have been fully investigated by scientists independent from industry. According to the scientists’ appeal, the current guidelines for EMF are obsolete - based on the outdated hypothesis that the critical effect of RF-EMF exposure relevant to human health and safety is heating of exposed tissue. However, research has proven that many different kinds of illnesses and harms are caused without heating (“non-thermal effect”) at radiation levels well below current international guidelines.<sup>9</sup>

In a September 18, 2017 letter to the Governor of California, Physicians for Safe Technology expressed that “[p]hysicians realize now that the incremental increases in daily radiofrequency (RF) exposure already exceed human health tolerance for many people” and “[w]e need to be reducing rather than increasing new sources of involuntary RF exposure in our communities.” The March 9, 2018 edition of *Environment International* published results from a six-nation study of outdoor exposures to radiofrequency electromagnetic fields, finding that cell towers are the largest contributor to environmental radiofrequency radiation exposure.

Another 2017 study<sup>10</sup> compared people living close and far from cell antennas and found a significant impact on people living closer to cellular antennas. Damage was found in their blood that predicts cancer development. In a German study<sup>11</sup>, researchers discovered that the proportion of newly developed cancer cases was three times higher for those living within a quarter of a mile of a cell tower compared to those living further away. In addition, cancer risks jumped up more than threefold for those living a quarter of a mile or less from a cell tower during a duration of 6-10 years. This last statistic is important given that elementary students can attend

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<sup>5</sup> The letter originally submitted in 2015, has since been updated in 2018. See <https://emfscientist.org/index.php/emf-scientist-appeal>

<sup>6</sup> Since our November 14, 2017 letter, the number of scientists signing onto the appeal increased from 236 to 244. Collectively, the scientists have published over 2,000 research papers on electromagnetic fields on biology or health.

<sup>7</sup> The scientists were specifically studying the biological and health effects of non-ionizing electromagnetic fields.

<sup>8</sup> In reference to the letter, “U.S. regulatory standards and international guidelines only control for short-term heating of tissue. The standards do not protect us from the low-intensity, chronic exposures to [EMF] that are common today. The scientists who signed the Appeal request that the UN and member nations protect the global human population, and animal and plant life from EMF exposures. There has been strong support from the international scientific community for the Appeal, even among those who believe that scientists should not take public policy positions. Some have taken personal risks to sign the Appeal because this is a public health issue that affects everyone now, as well as future generations.” Joel Moskowitz, Ph.D., Director of the Center for Family and Community Health, School of Public Health, University of California, Berkeley.

<sup>9</sup> <https://ehtrust.org/wp-content/uploads/Scientist-5G-appeal-2017.pdf>

<sup>10</sup> “Impact of radiofrequency radiation on DNA damage and antioxidants in peripheral blood lymphocytes of humans residing in the vicinity of mobile phone base stations” (Zothansiyama et al, 2017; published in *Electromagnetic Biology and Medicine*).

<sup>11</sup> “The Influence of Being Physically Near to a Cell Phone Transmission Mast on the Incidence of Cancer” (2004)

the same school for up to 6-7 years (depending on enrollment in Pre-K or Kindergarten). The study also revealed the average age of diagnosis was much younger, while the risk for breast, prostate, pancreas, bowel, melanoma, lung, and blood cancer all increased substantially. A study by researchers at Tel Aviv University in Israel found a similar pattern, with the relative risk of cancer over four times higher for those living about one-fifth of a mile or less from a cell tower. And it is not only cancer to be concerned about. Studies have shown that women with the highest magnetic field exposures during pregnancy had nearly three times more miscarriages, along with prenatal non-ionizing radiation exposures led to higher risk of obesity, and asthma. Other studies have found evidence of effects on autism, genes, memory loss, lack of sleep, stress proteins, the nervous system, and damage to sperm & reproduction.

The International Association of Fire Fighters, the leading advocate for fire fighter health and safety in North America, voted on a resolution *13 years ago* against having cell towers near fire stations in order to protect our first responders. Even professionals from the telecommunications industry have expressed reservations regarding the continuing placement of communications facilities before the full impact of such impact can be understood. The former president of Microsoft Canada, has stated that “our current use of wireless technology, specifically use of devices such as cell phones, could be much safer” and that while he supports the potential benefits with the next iteration of wireless technology, “neither my industry, nor any Federal agency in Canada or the United States can say unequivocally that this technology is safe. There are too many unknowns regarding this technology[.]” He also cited that “There is strong scientific evidence that the radiation we are now being exposed to from 2G, 3G and 4G has serious adverse effects on human health. The new spectrum proposed to be licensed has undergone very little research on human health effects. No Federal Agency, including ...the FCC can point to any peer-reviewed evidence-based science that shows 5G technology is safe.”<sup>12</sup>

Additionally, in a response to the impact of wireless radiation, Maryland became the first state in the United States to recommend eliminating Wi-Fi within schools. In its report, the Maryland State Children’s Environmental Health and Protection Advisory Council cited the NTP’s earlier findings of increased rates of rare malignant cancers in animals, as well as children’s unique vulnerability to the radiation.<sup>13</sup>

We could go on and on citing studies and appeals from scientists and health care professionals to put a halt to placement of cell towers and mini-cells near schools – but the bottom line is this: 1) there is evidence that exposure to current wireless radiation causes harm; and 2) there are too many unknowns about the full impact of future wireless technology. Research also shows that children and pregnant women are the most vulnerable<sup>14</sup> – two demographics most likely to be on school grounds on a regular basis.

At the same time, has the Board addressed other critical questions *with community notification* with each cell tower or mini-cell placement? Are balloon tests conducted, with community notification, so that the public can see how high the cell tower will be above the school? If such tests were conducted in the past, was the public properly informed? Is the Board – and the community – fully educated about the “fall zone”? Cell towers can fall over – so the fall zone is critical in planning purposes – especially if a parking lot, playground, or athletic field is within that fall zone. Once any cell tower or mini-cell is installed, it also opens the door for Verizon and

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<sup>12</sup> <https://ehtrust.org/wp-content/uploads/C4ST-submission-to-Governor-Jerry-Brown-re-SB-649-1.pdf>

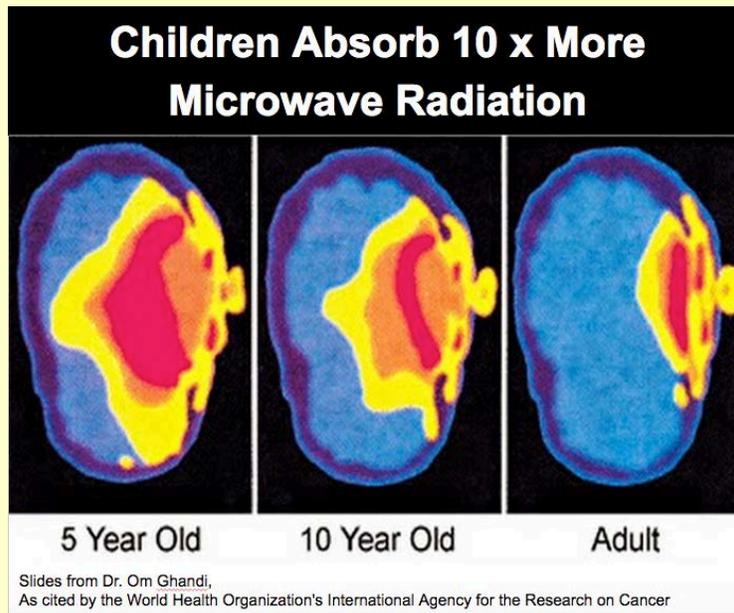
<sup>13</sup> Cell tower placement is also a human rights issue for children. In a law article published in *Environmental Science & Policy*, human rights experts argue that, given the fact that “the Convention on the Rights of the Child [(CRC)] obliges [countries] to provide a higher standard of protection for children than adults, any widespread or systematic form of environmental pollution that poses a long-term threat to a child’s rights to life, development, or health may constitute an international human rights violation. [The] dearth of legislation to regulate the installation of [cell towers] in close proximity to children’s ... schools clearly constitutes a human rights concern according to the language of the [CRC].” Claudia Roda, Susan Perry. “Mobile phone infrastructure regulation in Europe: Scientific challenges and human rights protection.” *Environmental Science & Policy*, Volume 37, March 2014, Pages 204-214.

<sup>14</sup> One of many quotes by scientists: “The harmful effects of electromagnetic fields, regardless of their frequencies, are now scientifically settled. Pregnant women (the fetus) and children and adolescents are particularly vulnerable.” - Dominique Belpomme, MD, MPH, Paris V Descartes University, European Cancer & Environment Research Institute.

other telecommunications companies – and the FCC – to have open use of the tower/pole in question, which could potentially lead to multiple cell phone antennas or mini-cells being installed in different directions. Given the current evidence of the potential harm of exposure to wireless radiation – plus the very fact that the studies cited by those in support of cell towers/mini-cells near schools all say “more studies are needed” – the Board should not be supporting the placement of a cell tower or mini-cell on or adjacent to any school.<sup>15</sup> We should not be placing our students and teachers in environments with cell towers, mini-cells, or other wireless technology that have not yet been supported by peer-reviewed, evidenced-based, studies.

There are also potential racial and socio-economic impacts with cell tower/mini cell placements. Statistics show that cell towers are disproportionately placed in neighborhoods with higher numbers of minorities and students needing free and reduced meals. We do not want AACPS to mirror a location such as Montgomery County, which on its surface passed what seemed like strong regulations banning cell towers from all elementary schools and allowing placements of cell towers at middle or high schools only after parental approval. While banning cell towers from elementary schools was a critical step in protecting the youngest students, studies show most cell towers were placed at Montgomery County high schools with higher numbers of minorities, and high ESOL and FARMS rates, while schools in more affluent neighborhoods were able to stop such placements. We do NOT want AACPS students to face similar situations.

Finally, we believe this statement from Ronald Melnick, Ph.D., Senior Toxicologist (retired) and former head of the NTP's health effects studies of cell phone radio frequency radiation, captures the essence of why protecting children from cellphone radiation is so critical: “[I] find it appalling that mobile phone emission standards do not adjust for children when it is well established that the absorption of radiofrequency radiation by the brain is greater in children than in adults, the developing brain is highly susceptible to tissue damaging agents, and the use of wireless devices is being actively marketed to children.”



Please reconsider the Board’s previous vote(s) and rescind approval for the cell tower at Shady Side Elementary School, as well as stop any future placement of cell towers or mini-cells at all other AACPS schools.

<sup>15</sup> The presence of unidentified utility workers in the vicinity of the school is a secondary concern for student safety as well.

Best regards,

*India L Ochs*

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Hillsmere Elementary School PTA, Advocacy Chair

Cc: Dr. George Arlotto, AACPS Superintendent  
Erin Snell, Hillsmere Elementary School PTA President  
Lisa D. B. Rodvien, Anne Arundel County Council, District 6  
Jessica Haire, Anne Arundel County Council, District 7  
Jenese Jones, Constituent Services, Anne Arundel County