AMERICAN ASSOCIATION for JUSTICE

Formerly the Association of Trial Lawyers of America (ATLA®)

September 3, 2013

Federal Communications Commission
445 12th Street, SW, Room TW-A325
Washington, DC 20554

RE: Reassessment of Exposure to Radiofrequency Electromagnetic Fields Limits and Policies (Docket No. FCC-2013-0204)

To Whom It May Concern:

The American Association for Justice (AAJ), formerly the Association of Trial Lawyers of America (ATLA), hereby submits the organization's response to the Federal Communications Commission's (FCC) Notice of Inquiry on the subject of the biological effects of radiofrequency radiation and the reconsideration of current exposure limits. *See* 77 FR 33654.

AAJ, with members in the United States, Canada and abroad, is the world's largest trial bar. It was established in 1946 to safeguard victims' rights, strengthen the civil justice system, and protect access to the courts. In the nearly twenty years since the 1996 release of the FCC's Report and Order outlining the Commission's radiofrequency radiation exposure limits, the number of mobile phone calls per day, the length of each call, and the amount of time people spend using mobile phones have all increased. [1] Moreover, given the increasingly compact size of most cell phone models and standard mobile usage where personal devices are typically held directly against one's ear, the FCC standard is clearly outdated. AAJ urges the Commission to reevaluate its reliance on decades-old data in setting its radiofrequency radiation (RF) exposure limits. The Commission must also review recent scientific studies which demonstrate a connection between radiation exposure and the incidence of cancer. Finally, the recent FCC reclassification of the ear ("pinna") as an extremity, allowing exposure to higher levels of radiofrequency radiation, must be reversed, either through rescission of the Order or lowering overall exposure limits for extremities.

I. The FCC Must Performed Appropriate Due Diligence in Setting Standards for Exposure to Radiofrequency Radiation

In a 2005 DC Circuit case where the U.S. Chamber of Commerce petitioned for review of Securities and Exchange Commission (SEC) rulemaking, the court conducted a "consideration of costs" analysis in determining whether the agency's actions was consistent with the public

[1] Letter from the American Academy of Pediatrics to the FCC Commissioner, available at http://citizensforsafetechnology.org/uploads/scribd/AAP_07-12-12%20FCC%20cell%20phone%20radiation%20ltr.pdf.

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interest.[2] The court considered two factors: (1) the ability of the SEC to develop new data or to consider existing empirical data in undertaking the rulemaking and (2) whether the SEC considered the costs of the conditions it was imposing.[3] While the Court in *Chamber of Commerce v. Securities and Exchange Commission* ultimately held that the SEC did not exceed its statutory authority, in the current case, the ready availability of scientific studies and the potentially devastating public health risks associated with prolonged human exposure to radiofrequency radiation both point to a different conclusion. Here, a cost-benefit analysis clearly indicates that the overall costs of regulation and potential burdens on industry pale in comparison to the Commission's duty to protect the members of the public, particularly in light of recent scientific studies.

A. Consideration of Empirical Data

In re-evaluating radiofrequency radiation exposure limits, the most urgent area in which current standards should be modified is the standard for extremities, particularly in light of the March 27, 2013 Order by the FCC reclassifying the ear as an extremity, subjecting it to nearly three times the level of radiation previously allowed.[4] The rationale of the FCC in adopting the extremity classification of the pinna is based on the determination of the IEEE which makes the argument that because the tissue composition of the pinna is similar to the other extremities, the ear should be classified accordingly and subject to the higher SAR threshold of 4W/kg.[5] Notably, the IEEE report itself admits calculations showing that the absorption of RF energy has a minimal impact on pinna temperature was subject to "limited experimental measurements" and that the "temperature effect on human pinna would *vary significantly* [emphasis added] from model to model of mobile phones because of differences in the heat generated by various devices."[6]

There are several problems with FCC's reliance on the determinations of the IEEE. First, the IEEE study was released in 2006 and the speed with which cell phone manufacturers innovate means that both mobile phone and wireless technology have undergone substantial changes. Data based on devices used nearly a decade ago should not be relied upon to determine current RF energy standards and in the past few years, a number of American and international health and scientific bodies have contributed to the debate over cell phone radiation and its possible link to cancer. The International Agency for Research on Cancer (IARC), part of the United Nations' World Health Organization, said in June 2011 that a family of frequencies that

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[2] *Chamber of Commerce v. Securities and Exchange Commission*, 412 F.3d 133 (D.C. Cir. 2005).
[3] *Id.*
[4] "Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields," Changing the Specific Absorption Rate (SAR) of 1.6 W/kg averaged over 1 gram of tissue to a SAR limit of 4 W/kg averaged over any 10 grams of tissue for extremities such as hands, wrists, feet, ankles, and pinnae. Federal Communications Commission ET Docket No.03-137, available at http://www.fcc.gov/document/fcc-review-rf-exposure-policies.
[5] IEEE Stud C95.1-2005, *IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 Ghz*, Rationale for applying the peak special-average SAR values for the extremities to the pinna: "The pinna consist of skin, cartilage, fat, nerves, blood vessels and muscle tissue, a composition similar to that of the extremities...Temperature increased in the pinna from heat generated in the device and from RF absorption are not harmful even if imposed on an initial pinna temperature that is close to body core temperature."
[6] *Id.*

includes mobile phone emissions is "possibly carcinogenic to humans."[7] The National Cancer Institute has stated that although studies have not demonstrated that RF energy from cell phone definitely causes cancer, more research is needed because cell phone technology and cell phone use are changing rapidly. These studies and others clearly demonstrate the need for further research into this area and highlight the importance of reassessing the FCC's order to determine if it is protective of human health.

In addition, despite sharing tissue composition similar to that of extremities, the IEEE study fails to address a significant difference between the pinna and the extremities of the human body such as the hand, feet, wrists, and ankles: the former's proximity to the brain. While the pinna may function as a barrier between RF radiation and the brain, it is composed of permeable cartilage and RF radiation, like sound waves, are guided from the projecting part of the ear which lies outside the head, to the inner ear canal before ultimately reaching the brain. To compare the pinna and the body's extremities is an over simplification and an inaccurate analogy in regards to the effect of exposure to RF radiation. In considering changes to its current RF exposure limit rules, the FCC should move towards a safer standard, one that takes into account the mounting evidence of adverse health effects caused by cell phone radiation exposure. AAJ proposes that one immediate change the Commission must make is to reverse the recent pinna reclassification which has the potential to create long-term public health consequences.

B. The Costs of Rule Implementation

The second prong of the *U.S. Chamber v. SEC* ruling considers the potential costs of the agency rulemaking.[8] There, the court considered efficiency, competition, and capital formation as negative outcomes from the proposed rule's redefinition of a company's board composition.[9] Here, a much greater urgency is warranted as potential costs must take into account the latency period between cell phone usage and the presentation of symptoms attributable to radiation as well as the disparate impact of radiation on children.

1. Latency

Diseases like brain cancer are known to exhibit a long latency period.[10] For example, the survivors of the atomic bombs that fell at the end of World War II did not demonstrate any increased rate of malignant cancers of the brain until four decades later.[11] Moreover, carcinogens such as tobacco were not firmly identified as increasing the risk of cancer until more than ten years after first usage.[12] The effects of long-term cell phone radiation exposure will likely follow this pattern as a Swiss personal monitoring study found that mobile phone use

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[7] D.L. Davis, et al., Swedish Review Strengthens Grounds for Concluding that Radiation From Cellular and Cordless Phones is a Probable Human Carcinogen, Pathophysiology (2013), available at http://dx/doi/org/10/1016/j.pathophys.2013.001

[8] See *Chamber of Commerce* at 143.

[9] *Id.*

[10] *See* The Cell Phone Problem, Environmental and Human Health, Inc, Concerning the latency period of brain tumors: "Data from ionizing radiation studies indicate a brain tumor latency time of between 20 and 55 years." available at http://www.ehhi.org/reports/cellphones/cell_phone_report_EHHI_Feb2012.pdf.

[11] *See* Davis at 2.

[12] *Id.*

currently accounts for one-third of total exposures to wireless and microwave radiation.[13] With more than 5.9 billion reported mobile phone users worldwide, the impact of cell phone radiation taken in the aggregate, constitutes an environmental carcinogen whose risk still remains in the discovery process. At a time when cell phone use has become an ubiquitous part of everyday life yet manufacturers have little impetus to reduce RF emissions due to stagnant FCC exposure limits, AAJ urges the Commission to undertake a thorough and impartial review of its standards.

2. Disparate Effects of Radiation on Children and Long-Term Users

A second cause for concern is the impact of cell phone radiation on children and long-term mobile phone users. Today, cell phone usage begins at a much younger age than in past decades as mobile devices are relied upon for communication, entertainment, and even use as navigational tools. However, studies indicate that radiation may have a disparate impact on the youngest cell phone users as "[h]igh resolution computerized models based on real human imaging data suggest that the higher conductivity and higher permittivity in children's brain tissues, together with their thinner skulls and small heads, will lead to higher SARs in their brains from microwave frequencies when compared to adults."[14] Indeed, a recent study conducted by researchers from Tel Aviv University has established a clear connection between long-term cell phone users and molecular changes that can lead to cancer.[15] Comparing the salivary glands of 20 long-term cell phone users who averaged 30 hours of use per week over a span of 12 years with 20 deaf subjects who did not use cell phones, scientists found that the cell phone users' saliva indicated higher levels of oxidative stress, a process that is a "major risk factor for cancer."[16]

In a December 2012 letter to then Representative Dennis Kucinich supporting H.R. 6358, the *Cell Phone Right to Know Act*, the American Academy of Pediatrics argued that "[t]he differences in bone density and the amount of fluid in a child's brain compared to an adult's brain could allow children to absorb greater quantities of RF energy deeper into their brains than adults. It is essential that any new standards for cell phone or other wireless devices be based on protecting the youngest and most vulnerable populations to ensure they are safeguarded through their lifetimes."[17] Yet, not only does the FCC make no distinction between the levels of cell phone radiation advisable for children and for adults, the agency takes the opposite approach in its Order, reclassifying the pinna and effectively making cell phones less safe for the segment of the population most at risk for future harm. Before developing new limits on RF exposure, the FCC must conduct a thorough analysis into the long-term effects of radiofrequency emissions, particularly on children whose physiological make-up and overall lifetime exposure may warrant a separate and more conservative standard.

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[13] *Id.* at 3.
[14] *Id.* at 4.
[15] "Put Away That Cell Phone: Israeli Study Highlights Cancer Risk," Times of Israel, July 20, 2013, available at http://www.timesofisrael.com/put-away-that-cellphone-israeli-study-highlights-cancer-risk/.
[16] *Id.*
[17] Letter from the American Academy of Pediatrics to Dennis Kucinich, available at http://ehtrust.org/wp-content/uploads/2012/12/aap_support_letter_cell_phone_right_to_know_act.pdf.

II. Conclusion

Nearly half of the world's mobile phone users are under the age of 30 and live in developing countries.[18] Moreover, even as the Davis study cautions that brain cancer is the "tip of the iceberg," the rest of the body is also showing effects other than cancers.[19] In the United States alone, the Central Brain Tumor Registry of the United States estimates that about 10,000 people will develop glioma, or tumor of the brain this year. Given the growing evidence of harm arising from human exposure to radiofrequency emissions, the FCC must lower its current exposure limits beginning with rescinding its Order reclassifying the pinna as an extremity, a rash decision which will put future generations at risk of an invisible but menacing carcinogen. AAJ urges the FCC to ensure public safety by committing to more robust exploration in this area.

AAJ appreciates this opportunity to submit comments in response to the Federal Communications Commission's Notice of Inquiry seeking input on whether its exposure limits should be more restrictive, less restrictive, or remain the same. If you have any questions or comments, please contact Ivanna Yang, AAJ's Assistant Regulatory Counsel at (202) 944-2806.

Sincerely,

J. Burton LeBlanc
President
American Association for Justice

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[18] *See* Davis at 4.
[19] *Id.* at 1.