

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

In the Matter of	)	
	)	
Notice of Proposed Rulemaking	)	
18 FCC Rcd 13187, 13188 ¶1 (2003)	)	ET Docket No. 03-137
	)	
And	)	
	)	
Service Rules for the Advanced Wireless Services	)	WT Docket No. 12-357
H Block---Implementing Section 6401 of the	)	
Middle Class Tax Relief and Job Creation Act of	)	
2012 Related to the 1915-1920 MHz and	)	
1995-2000 MHz Bands ¶53 footnote 95	)	

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

Comment Filed by: Antoinette Stein, 892 Arlington Ave, Berkeley, CA 94707

February 4, 2013

## **AFFIDAVIT OF Antoinette Stein**

I, Antoinette Stein attest that my statements are true to the best of my knowledge.

**Comment** round for ET Docket No. 03-137 and WT Docket No. 12-357.

1. My name is Antoinette Stein.
2. My mailing address and contact info is 892 Arlington Ave, Berkeley, CA 94707, 650-823-7662, [tweil@igc.org](mailto:tweil@igc.org).

**3. FCC must remediate the known "harmful interference"**

Although there is skyrocketing demand for speed, capacity, and ubiquity of the nation's wireless networks, it is critical that the FCC not hastily jump or move forward and permit the Spectrum Act's auctions for the ten megahertz of spectrum for flexible use in the Advanced Wireless Services (AWS) H Block without first remediating the known "harmful interference". It is essential that the FCC must create needed updates to the technical requirements to address the known "harmful interferences" that the docket record indicates are anticipated. FCC should not gloss over this critical issue.

**4. Do NOT use the existing definition of "harmful interference"**

It is critical to note that the Spectrum Act **does not define the term "harmful interference"**. The FCC should properly hold public rulemaking on this definition. FCC should NOT use the existing definition of "harmful interference" in the Commission's rules because it fails to properly address disabled persons and the overlapping issues with the ADA. Under the Commission's rules harmful interference fails to encompass the issues affecting persons with disabilities that should not be discounted. FCC must be respectful and fully recognize the harmful interference issues that involve disabled persons that include persons that are hard of hearing, have heart disease and wear pace makers or other medical devices with electronic devices' as well as persons with Multiple Sclerosis MS such as myself, and children with PANDAS, EHS and CHS individuals all of which EMF radiation exposures impact and affect. FCC should not adopt the limited definition of "harmful interference" to mean "[i]nterference which endangers the functioning of a radio navigation service or of other safety services or seriously degrades, obstructs, or repeatedly interrupts a radio communication service operating in accordance with [the

International Telecommunications Union] Radio Regulations." FCC must study carefully the health impacts of the transmitting exposures on the disabled and the human populations and must carefully redefine the term "harmful interference". For example for EHS individuals that are hyper sensitive to RF the FCC must provide accommodations for them to live. FCC in its technical rules must revisit and update its labeling rules to protect and accommodate properly persons with disabilities.

5. **The FCC needs to include funding allocation for RF Safety from the Public Safety Trust Fund**

The FCC in this rule making should articulate in rule that funding from the band bidding that is deposited into the Public Safety Trust Fund shall be used for education and outreach on RF Safety to PCS and A WS users and businesses for purposes of educating the public on RF Safety for public safety in addition to the FCC's disclosed build out of the Public Safety Broadband Network by the First Responder Network Authority. *The FCC in this rule making should ensure that adequate funding in the Public Safety Trust Fund be allocated for comprehensive outreach and education to on RF Safety to the public PCS and A WS users, workers, and residents in the economic regions.* There currently is no federal funding to educate the Public on RF Safety while there is a clear cut expected rise in wireless broadband to consumers. This imbalance should be remediated in this rulemaking process. Because there is expected economic growth, job creation, and global competitiveness the FCC is obligated to apply a portion of the profits to educate the public on RF Safety including educating on the RF Standards, guidelines and best practices and guidance to reduce possible adverse exposures.

6. **The Commission shall comport with the statutory mandates of section 303(y)**

The FCC shall comply with the Communications Act and section 6401 of the Spectrum Act. In particular the FCC must sustain actions that are in the Public interest and that are consistent with international agreements to which the United States is a party. Because the US is a member of the World Health Organization the FCC is required by law to uphold the constitution of the WHO which the US has formally signed on to [www.who.int/governance/eb/who\\_constitution\\_en.pdf](http://www.who.int/governance/eb/who_constitution_en.pdf). And because the WHO in 2011 classified EMF as a possible carcinogen the FCC is allowed by law only to permit use of the H Blocks with adequate RF Safety measures that sufficiently address the possible carcinogenic emission exposures from the transmitters that will be permitted in this rule.

The FCC must therefore before permitting any auction bids the FCC must update its RF Safety standards to address the WHO's toxic classification since the US is a member of the WHO and because Dr N. Daulaire, Director, Office of Global Affairs, Department of Health and Human Services, Washington, DC is Executive Board Member of the WHO. I write today to remind the FCC Commission that they must comply with Section 303(y) and shall not violate the agreement that the US has signed with the WHO. The WHO writes in its constitution, "Governments have a responsibility for the health of their peoples which can be fulfilled *only by the provision of adequate health and social measures.* "

7. **FCC must update its TECHNICAL RULES to stop harmful interference**

Importantly the FCC must enact critically needed updated technical rules to stop harmful interference including to legacy PCS devices from potential Lower H Block fixed and mobile transmissions. Development of these critically needed rules should be initiated in a fast track and should be conducted within the public process for which specific comments may be submitted on these needed technical rules. The current Notice of Proposed Rulemaking bundles way too many technical topics together to properly serve as the public process for the critically needed update to the technical rules. FCC should formally reissue a 2013 Notice of Proposed Rulemaking for the RF Safety Standards since in this FCC NPRM the FCC does not properly notice Rulemaking for these technical standards. They are buried in this rule making notice within a footnote (footnote number 95) on page 19 and they were not properly included in this NPRM Table of Contents.

8. **FCC should update its RF Safety Standards as part of this rule making process.**

In May 31, 2011, the World Health Organization's International Agency for Research on Cancer (IARC) classified radiofrequency fields as a 2B "possible carcinogen." The FCC's standards do not adequately address biological impacts and need to be updated as many. The FCC according to more current biological models. Current standards are obsolete, based solely on thermal effects. Nor do the present standards - or the standards issued by the International Council on Non-Ionizing Radiation Protection (ICNIRP) -- address the current state of the peer-reviewed science that EMF emissions are biologically toxic and carcinogenic.

- 9. The FCC shall to adopt and update new more protective standards and use and enforce them as technical requirements for all transmitters within the FCC's radio frequency jurisdiction.**

The FCC shall protect human and children's health in step with the economic benefits. FCC shall not fail to acknowledge the current scientific findings of health impacts and shall therefore update the FCC RF Safety standard and shall in this rule making begin the needed rule making for the update of the FCC RF Safety standard. I have been a member of the Technical Electronic Product Radiation Safety Standards Committee of the FDA Roster of the Technical Electronic Product Radiation Safety <http://www.fda.gov/AdvisoryCommittees/CommitteesMeetingMaterials/RadiationEmittingProducts/TechnicalElectronicProductRadiationSafetyStandardsCommittee/ucm124738.htm>

There is great need for the FCC and the FDA and the Federal Governments multi agency EMF Working Group to convene to work on updating the RF EMF Standards. The attached report includes the excessive costs of treating brain cancer.

- 10. The Lower H Band power density should not be increased.**

The Lower H band, 1915-1920 MHz band allocated for fixed services should absolutely not be permitted to employ a higher power level than mobiles operating in that band without the inclusion and stipulation of critical technical rules that do not currently exist. FCC should not permit higher power levels without first instituting proper public rule making that includes concrete and specific provisions for RF Safety. FCC should not be permitted to rely on wishful thinking that new fixed station antennas will be located at some distance above ground level without setting technical requirements if there is to be any increased power that could increase human exposures and could possibly adversely impact the population. FCC needs to revise both its RF Safety standards and its height and distance technical requirements if there is to be any increase in power levels permitted.

- 11. FCC should integrate EPP into its bidding process.**

Regarding the competitive bidding that the FCC has asked about in this NPRM. The FCC should evoke and include Environmentally Preferable Purchasing (EPP) competitive bidding rules. **In** particular the FCC should work in collaboration with the US EPA and the GSA to enact bidding for products and services that have a lesser or reduced effect on

human health and the environment when compared to other products and services that serve the same purpose, a.k.a environmentally preferable purchasing. FCC should include in its rulemaking restrictions consistent with FAR 23.703 that requires agencies to implement cost-effective green contracting preference programs, employ sustainable acquisition strategies. Executive Orders: EO 13514 [PDF - 113K] , EO 13423 that requires agencies to acquire and use EPP products and services.

**12. Background information on Commenter Antoinette Stein**

I am Antoinette Stein and I am qualified to make comments on FCC 12-357 and 03-137 because of all of the following reasons:

**A. My Educational training:**

- a. I have a PhD in an Environmental Engineer specializing in Air Quality Control from the University of Cincinnati, 2001. My PhD research was funded by the Electric Power Research Institute. My research focused on environmental emissions including the chemical reaction pathways and mechanisms in Electric Power Generation.
- b. I possess a Master's in Science in Engineering from Milwaukee School of Engineering (MSOE) specializing in Manufacturing Processes and Systems, 1988.
- c. I also possess a Bachelors of Science in Engineering Mechanics from the University of Wisconsin-Madison 1983.
- d. I have also completed a Post Doctoral Research term at the University of California, Davis and Irvine, in the Materials and Chemical Engineering Department, and the Department of Environmental Analysis and Design, School of Social Ecology. My research focused on study of the complete life cycle of electronic equipment including the environmental, public health, and economic impacts of various alternative policy options for electronic solder materials. I co-author the paper "Extending Producer Responsibility: An Evaluation Framework for Product Take-Back Policies", <http://www.hbs.edu/research/pdf/09-026.pdf> .

**B. My Work Experience:**

- a. I currently work for the State of California since 2005. I currently work for the Department of General Services, Procurement Division in Environmentally Preferable Purchasing Unit as an Associate Procurement Engineer. I am the Principle author of the State of California's Indoor Environmental Quality (IEQ) criteria Specification within California's [open office panel furniture](#) (Section 4.7) contract reducing the products toxic emissions. I've authored other environmental procurement specifications protective of the environment and public health including specifications for IT electronic devices including printers/Multi Functional Devices, servers, office supplies, paper products, and auto parts, bio-diesel, and disposable food containers.
- b. I also participated in the IEEE development of the [EPEAT standard update](#) for two electronic devices; multi-functional imaging devices and televisions. I helped develop the technical criteria for Corporate Performance including Disclosures for GHGs, waste, water and toxic emissions as well as the development of Indoor Air Quality criteria.
- c. At the State of California I worked in the Department of Public Health in the Indoor Air Quality Program from 2005-2008 with a focus on toxics and the protection of children in schools. I initiated and participated in the update of California's IAQ Standard for VOCs, called, [Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers Version 1.1 \(2010\)](#)—"01350 Standard Practice".

- d. I worked at General Electric Corporation for 7 plus years from 1985-1993 including at GE AIRCRAFT ENGINES, Engineering Materials Technology Laboratory and in GE MEDICAL SYSTEMS in their Research and Development Laboratory in Coatings Technology where I authored several US Patents for high emissivity radiation coatings.

**C. I am also an Environmental Advocate and Volunteer**

- a. I am the Co-moderator of the Collaborative for Health and the Environment's EMF Workgroup with Michael Lerner <http://www.healthandenvironment.org/initiatives/emf> 2012-present. The CHE-EMF has hosted several relevant EMF science teleconferences with expert scientists including:
- b. Joint call [CHE Fertility and Reproductive Health and CHE EMF](#)-- May 21, 2012 with speakers:
  - i. **Ashok Agarwal, PhD, HCLD**
    - 1. Slides: [EMF and Reproductive Health Risks](#)
    - 2. Articles: [Cell Phones and Male Infertility: A Review of Recent Innovations in Technology and Consequences](#)
    - 3. [Pathophysiology of cell phone radiation: oxidative stress and carcinogenesis with focus on male reproductive system](#)
    - 4. [Effect of cell phone usage on semen analysis in men attending infertility clinic: an observational study](#)
    - 5. [Effects of radiofrequency electromagnetic waves \(RF-EMW\) from cellular phones on human ejaculated semen: an in vitro pilot study](#)
    - 6. [Epigenetics and its role in male infertility](#)
  - ii. **De-Kun Li, MD, PhD, MPH**
    - 1. Slides: [Effect of Exposure to Magnetic Fields on Pregnancy Outcomes, Health of Offspring, and Male Fertility](#)

2. Articles: [A Population-Based Prospective Cohort Study of Personal Exposure to Magnetic Fields During Pregnancy and the Risk of Miscarriage](#)
3. [Exposure to magnetic fields and the risk of poor sperm quality](#)
4. [Maternal Exposure to Magnetic Fields During Pregnancy in Relation to the Risk of Asthma in Offspring](#)

iii. **Carlo V. Bellieni, MD & Iole Pinto, PhD**

1. Slides: [Physical Hazards in Fetuses and Newborns: Electromagnetic Fields](#)
2. Articles: [Exposure to Electromagnetic Fields From Laptop Use of “Laptop” Computers](#)
3. [Reduction of exposure of newborns and caregivers to very high electromagnetic fields produced by incubators](#)
4. [Electromagnetic fields produced by incubators influence heart rate variability in newborns](#)

c. [Cell Antennas and Health: The State of the Science](#), Oct 18, 2012  
**Speaker presentation slides:**

i. [Henry Lai, PhD](#)- [download slides](#) (PDF)

ii. [B. Blake Levitt](#),

1. Biological effect from exposure to electromagnetic radiation emitted by cell tower base stations and other antenna arrays  
 B. Blake Levitt and Henry Lai  
[Download the PDF](#)
2. Cell Towers: Wireless Convenience? or Environmental Hazard? Proceedings of the “Cell Towers Forum” State of the Science/State of the Law  
 B. Blake Levitt  
[Read more](#)
3. Cell Towers: Wireless Convenience? or Environmental Hazard? (excerpt from the book: Biological Effects of Radiofrequency Radiations from Wireless Transmission Towers)  
[Download the excerpt](#) (PDF)

4. Additional publications on cell towers (plus abstracts)  
[Download the list](#) (PDF)
5. Public health implications of wireless technologies  
Cindy Sage and David Carpenter  
[Download the PDF](#)
6. BioInitiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF)  
[Read more](#)

D. I am a volunteer for the Environmental Health Trust (EHT), West Coast Project Leader, working on policy development and reviewing the state of the science. I co-host for the EHT and CHE-EMF National Press Club [Experts Speak on Cell Phone Radiation, Pregnancy and Sperm](#) speakers:

a. **Süleyman Kaplan, MD**

- i. Slides: [Effects of prenatal and adult EMF exposure on brain development](#)
- ii. [Effects of prenatal exposure to a 900 MHz electromagnetic field on the dentate gyrus of rats: a stereological and histopathological study](#). Odaci, et al

b. **Nesrin Seyhan, PhD**

- i. Slides: [Gazi non-ionizing radiation protection center and Gazi biophysics department](#)
- ii. [The effect of radiofrequency radiation on DNA and lipid damage in female and male infant rabbits](#). Guler, et al

c. **Devra Davis, PhD, MPH**

- i. Slides: [Cellphone toxicology, exposure assessment and epidemiology--an update](#)
- ii. Slides: [Expert forum: Cellphone radiation risk to pregnancy and sperm](#)
- iii. [Cell phone safety: The right to know about gray matters](#), Devra Davis

- iv. [Doctors' advice to patients and their families: Cell phones and Health: Simple precautions make sense](#), Environmental Health Trust

**d. Igor Belyaev, PhD**

- i. Slides: [Exposure to microwaves from mobile communication, DNA repair and cancer risk](#)
- ii. [Role of physical and biological variables in bioeffects of non-thermal microwaves](#), Igor Belyaev
- iii. [Microwaves from mobile phones inhibit 53BP1 focus formation in human stem cells more strongly than in differentiated cells: Possible mechanistic link to cancer risk](#). Markova, et al

**e. Hugh Taylor, MD, PhD**

- i. Slides: [Fetal cellphone exposure affects behavior](#)
- ii. [Fetal radiofrequency radiation exposure from 800-1900 Mhz-rated cellular telephones affects neurodevelopment and behavior in mice](#). Aldad, et al
- iii. EHHI report: [The cell phone problem](#), February 2012  
EHHI cell phone report [summary](#)

**f. Ronald Herberman**

- i. Slides: [Cellphone radiation risks--the case for precaution](#)
- ii. [Exposure limits: The underestimation of absorbed cell phone radiation, especially in children](#). Gandhi, et al

**g. Additional resources Dr. De-Kun Li, MD, PhD** Senior Research Scientist, Division of Research, Kaiser Foundation Research Institute

- i. [A prospective study of in-utero exposure to magnetic fields and the risk of childhood obesity](#). Li, et al

E. Volunteer for the [California Brain Tumor Association](#) working on children's health protection.

- F. Volunteer Technical Advisor for [Informed Green Solutions](#)
- G. Volunteer Chair of the Indoor Environmental Quality sub-committee for the [Collaborative for High Performance Schools\(CHPS\)](#) 2006-present.

Respectfully submitted by



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