

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

In the Matter of:

Reassessment of Federal Communications
Commission Radiofrequency Exposure Limits and
Policies

ET Docket No. 13-84

Proposed Changes in the Commission's Rules
Regarding Human Exposure to Radiofrequency
Electromagnetic Fields

ET Docket No. 03-137

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

<p>As officially presented in the Federal Register/ Vol. 78, No. 107 / Tuesday, June 4, 2013 / Proposed Rules. Federal Communications Commission, 47 CFR Parts 1, 2, 15, 24, 25, 27, 73, 90, 95, 97, and 101 [ET Docket Nos. 03-137 and 13-84; FCC 13-39], Reassessment of Exposure to Radiofrequency Electromagnetic Fields Limits and Policies, Federal Communications Commission</p>

Reply Comment Filed by: Richard H. Conrad, Ph.D. Biochemist
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November 18, 2013

Reply Comment, to comment to FCC filed by Richard Tell in September 2013:

Richard Tell has freely admitted (to the author over the phone) that he knows nothing about biology or medical science, and yet in his September 2013 comments to the FCC on safe levels for human exposure (what is this if not biology), he sets himself up as qualified to judge the research on non-thermal effects, summarily discounting all research showing non-thermal effects. He commented (text in italics below):

227. In a practical sense, the only real hazard of RF exposure is the production of RF burns. This is particularly true when considering RF fields with magnitudes in the range of the present FCC MPE values.

228:RF burns are the only known and demonstrated hazard related to RF exposure that are associated with field strengths equivalent to the present FCC MPEs

In his paragraphs 227 and 228 above, Tell has cherry-picked what is “known and demonstrated”. Paragraphs 227 and 228 are simply not true, as shown by many hundreds of peer-reviewed research papers demonstrating non-thermal effects. The vast majority of the research showing effects was publicly funded, whereas the vast majority of research showing absence of effects was funded by the telecom industry (see the attached document: “Business Bias as Usual”, particularly Fig 1. on page 21).

240: *The suggestion by some of applying extremely stringent, precautionary limits would have the severe consequence of impacting broadcasting and telecommunications as they are currently known and appreciated in the U.S. For example, a recent proposal to apply an RF power density limit of 0.3 nW/cm² is, simply, not practical.*

Tell's comment in his paragraph 240 above about precautionary limits impacting telecommunications reveals that he feels communications are the only priority of concern, and human health and well-being (aside from outright burns) do not even enter into the equation.

243: *There is no need to recommend minimizing exposure below present SAR based limits. The safety factor of 50 associated with the present SAR based lower tier exposure values, for the general public, are already so far below the threshold of established adverse biological effects as to represent a practical zero probability of harmful effect.*

In Tell's paragraph 243 above, his: *threshold of established adverse biological effects is the current FCC position*, which is based on not cooking (bulk heating) flesh. This is completely out of line with reality, and **is analogous to a hypothetical FDA approving all drugs that aren't acid enough to burn, regardless of side effects (and automatically discounting all side effects, because after all, the acidity is not high enough to cause burning)**. In the light of the many demonstrated non-thermal effects of EMF, Tell's statement: *a practical zero probability of harmful effect* is totally erroneous, rash and irresponsible.

Richard Tell is a highly competent (in electronics) engineer who mindlessly defends the FCC's current standards without giving any credence to the huge amount of biological evidence of possible and actual harm. He does not want it to exist, and it does not make sense to him - he can't imagine a mechanism. Well, in addition to his not knowing enough molecular biology to do this, it is a myth that in good science one must be able to imagine a mechanism before accepting a demonstrated phenomenon. Often mechanism only comes later, after much research. We don't yet know how smoking causes lung cancer.

If the FCC and telecom industry would cease denial and face the truth, they could sponsor extensive honest research into non-thermal effects on humans and come up with biologically safer ways to accomplish their goals. For example, by finding the least harmful frequencies and modulation schemes. That would be a lot more sensible and

humane than hands on ears, eyes squeezed shut and screaming in denial like the response of a child being told something he doesn't like.