

9-17-18

To Marlene Dortch
Office of the Secretary
445 12th St., SW
Washington DC 20554

EX PARTE

Nina Beety

Accelerating Wireless Broadband Deployment
by Removing Barriers to Infrastructure Investment;
Accelerating Wireline Broadband Deployment
by Removing Barriers to Infrastructure Investment

D 17-79, D 17-84

Dear Ms. Dortch:

My ex parte comments include comments by

- Mark Graham
- Cindy Sage, MA, Sage Associates
- Cindy Sage, MA, Lennart Hardell, MD, PhD and David O. Carpenter on behalf of the BioInitiative Working Group.
- Evelyn Savarin
- Carol Kuzdenyi and Tony Keppelman, EMF Consultant

When Tom Wheeler moved from the helm of the CTIA to the helm of the FCC, he transferred over its function. He warned that he intended to gut FCC regulatory oversight, “turning innovators loose.”

“[S]tay out of the way of technological development.”

“Rule number one is that the technology should drive the policy rather than the policy drive the technology”

National Press Club, June 20, 2016

That was in 2016. Now with these proposed new rules and other recent rule changes, the FCC intends to finally preempt state and local government regulation and authority to such as degree as to virtually eliminate it. The industry appears to be completely in charge, with “the overarching objective that telecommunications service and personal wireless services be deployed without material impediments.” (#92)

This flips the FCC regulatory role and mandate. The FCC now regulates the public and state and local governments, instead of regulating the telecommunications industry. The

FCC makes absurd statements about wanting a “fair and balanced legal and regulatory environment” (#79) when it wants nothing of the sort. It seeks only to protect the telecom industry and exclude all other stakeholders.

The breadth and scope of these new rules is breathtaking. In them, the FCC radically redefines key regulatory concepts and applies them broadly, intruding on state and local affairs and blocking any inhibitory regulation. The FCC position is “to encourage the rapid deployment of personal wireless facilities” “free from municipally imposed barriers to entry” (#119).

The rules run roughshod over federal, state, and local rules, Constitutional protections, civil rights, the public, and the environment. Commenters noted that these rules

- create a taxpayer subsidy
- usurp the role of the judiciary
- are at odds with 10th Amendment and Constitutional precedents, and case law
- unconstitutionally interfere with the relationship between states and their political subdivisions,
- “compel the states to administer federal regulatory programs or pass legislation” (#97) and
- are a “federal regulatory program dictating the scope and policies involved in local land use” – League of Minnesota Cities.

In view of the far-reaching effects from this FCC proposal, these proposed new rules and guidance must have a thorough independent analysis to

- evaluate conflicts with existing laws – federal, state, local
- evaluate costs – federal, state, local, public – including costs from preemption of existing law
- evaluate health, environmental, scenic, and resource impacts
- evaluate other impacts, such as societal impacts
- evaluate impacts to those disabled by electromagnetic sensitivities

Currently there is no such evaluation, and there are no plans to obtain one. In its report, the FCC principally quoted itself and its prior decisions, the industry, and industry-connected groups to justify these new rules.

Strangely, to the question in both NPRMs:

“Federal rules that may duplicate, overlap, or conflict with the proposed rules,”

the FCC replied: “None”. That is completely false and speaks to the unwillingness and/or ignorance of the FCC to understand anything outside of its relationship with the industry.

The new rollouts envisioned have little to do with Congress’ original intent in the 1996 TCA, and this is reflected in the FCC’s attempt to eliminate coverage and significant coverage gap as criteria in cell tower decisions. It is well known that Verizon and other companies are attempting to grab business from cable companies with these PROW

cell towers. In many areas of the U.S., the telecommunication coverage is quite good, but these companies want to compete with faster download times for video. Coverage considerations leave them at a disadvantage, so they want them eliminated.

In this proceeding, the token comment period of less than 2 weeks, and “party standing” constraint is a gross affront in view of these far-reaching rules. It is openly hostile to all stakeholders, particularly the EMF-disabled, and blocks the people and their elected representatives from meaningful input and participation. By eliminating democratic and transparent process, this proceeding most closely resembles a coup d’etat.

The Americans with Disabilities Act is one of the most serious violations by the FCC in these new rules. The FCC has ignored ADA for years, despite its being raised in this and previous proceedings. People disabled by electromagnetic sensitivities are protected by ADA from discrimination and barriers to access, and these new rules have catastrophic effects on this vulnerable population. However, the FCC blocked the assertion of my disabled rights and those of others by failing to address us in these rules, refusing to dialogue with EMF-disabled stakeholders, and refusing to deviate from its plans.

When the FCC pushes “wireless service for all Americans” (p. 29/#60), it is compelling hazardous exposure on those who don’t want it and who are disabled by it, like forcing peanuts on allergic people. When the FCC makes statements like “discriminatory effect” and “Americans need”, the FCC ignores discriminatory effect on disabled Americans -- a class protected from discrimination. The “digital divide” also describes a situation similar to racist housing covenants, because wireless technology rollouts exclude access and eliminate civil rights for those disabled by electromagnetic sensitivities.

The FCC brashly and coldly asserts that these technologies are safe for all, refusing its duty to make disabled accommodation for those disabled people who say the emissions are not safe for them. This is likely the reason there is no public comment at monthly FCC hearings. By not hearing the public, it can claim that issues don’t exist.

But I commented to the FCC in these and other proceedings. I and others in my disabled class have said, “Wireless technology is not safe for us. We cannot tolerate it. Wireless emissions are causing severe disabling, even life-threatening effects to us already. We cannot tolerate more in our environment. This is a continually rising access barrier, blocking our use and enjoyment of our homes. PROW cell towers could constitute an actual taking of our homes and property because we may be unable to live in them. Our access to our communities, ability to use public roads and sidewalks, visit friends and family, shop for groceries, our access to critical services, such as medical care, and to travel freely are increasingly blocked by wireless technology rollouts. We want accommodation and access, and we want this discrimination against us to stop.”

The FCC ignores us, blocking the assertion of our disabled rights, even stigmatizing us. By doing so, it is violating federal rules and state-equivalent rules.

The FCC also ignores its obligations under ADA Title II which would place limitations on new wireless deployments. Since the Industry is authorized (even mandated), regulated, enabled, and promoted by government regulators, it is therefore a quasi-state actor and subject to Title II rules, and the FCC must make sure that the industry complies with Title II. But it refuses to do so, violating this federal rule as well.

There are financial costs for the disabled and for local, state, and the federal governments as a result of this disability. Despite industry-facing Accenture and its report on economic benefits (Footnote #1), serious economic costs have not been evaluated. Lack of access translates to lack of economic benefit to a community. Access and disability negatively affect employment opportunities and income, and may necessitate public assistance, impacting public funds. This also further reduces financial inputs into the local economy. The situation puts people at risk for homelessness, which causes severe personal and societal impacts. These costs are ignored, swept under the carpet by the FCC. Disregarding the EMF-disabled is in direct violation of federal rules and Congressional mandates per ADA.

The FCC attacks state and local regulation, though Congress did not preempt state or local rules “to protect public safety and welfare, ensure the continued quality of telecommunications services, and safeguard the rights of consumers” (#50) The FCC radically redefines prohibition of service to apply to every aspect of local and state regulation. “A state or local legal requirement constitutes an effective prohibition if it ‘materially limits or inhibits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment.’” In doing this, the FCC conflicts with Congress’ intent. The only regulatory environments left for the public are states and local governments, and the FCC wants to eliminate these. That is overreach. Regulating states and localities is not its mandate.

FCC unashamedly states its new rules are to protect the industry and any new rollout. For example, the industry wants to eliminate stealth design requirements, including all aesthetics considerations, specific paint colors or designs, camouflage, size limitations, screening, or any expense. (#81). These aesthetics rules can constitute an “effective prohibition”, says the FCC. The FCC cares not about visual impact and a community's scenic character, or the graffiti targets and industrial blight wireless carriers bring.

This is a “taxpayer subsidy” (#70)

In a radical new step, the FCC says local and state government fees can constitute an effective prohibition of service, including “the effect of prohibiting service when aggregate effects [of fees] are considered” and that they cause delays, slowdowns, and stoppages. If fees are now equated by the FCC with “effective prohibition”, taxpayers, local governments, and states can look forward to completely subsidizing the telecom industry in the very near future. By these new rules, the FCC externalizes industry costs onto cities, counties and states.

The FCC provides fee amounts it considers “fair and reasonable compensation”, which

“do not constitute an effective prohibition” (#75) that states and local governments can collect on public right of way cell towers. It implies these are benchmarks, and says fees that are higher must be shown to be “objectively reasonable”. Who is the judge? Where is the independent analysis of appropriate fees? The FCC’s basis for these fees appears to be from CTIA-written small cell legislation.

What’s worse, these “reasonable” fees only pay for 1-2 hours of staff time total per application and do not cover actual government costs. By not covering costs, they do not allow for orderly or thorough local and state planning, and cities will be overwhelmed and overrun with visual blight, like Santa Rosa and San Francisco.

The FCC statement: “Our approach to compensation ensures that cities are not going into the red to support or subsidize the deployment of wireless infrastructure” is unsupportable and absurd. That there is no independent analysis of the cost impacts to localities or to the public shows the FCC doesn’t even care about accuracy. This is an unfunded mandate, putting exorbitant costs on cities, counties, states, and residents, reducing funding for public services, and reducing staff availability for city work. Taxpayers and the greater public will pay for this roll-out in tangible and non-tangible ways. Financial costs include staff time, extra staff, office space for extra staff, storage of documents, report, analysis, and presentation preparation, site visits, resolutions and other paperwork including notifications on government websites for public access requirements, meetings, postponing other agency priorities, paper and ink, legal and technical consultants, and the public’s time.

And the FCC states the burden is on state and local governments to justify their costs as “reasonable” in the possible face of lawsuits. Local governments and states already have limited and constrained resources, and often substantial debt. This will further strain local and state resources. There is also no consideration of downstream societal costs and economic costs from deploying this infrastructure which was heard by California legislators during Senate Bill 649 hearings. It is unreasonable and irresponsible for a federal regulatory agency to compel states and local governments and taxpayers to assume these costs and bear this burden.

FCC and the industry makes claims of poverty which are not credible -- the industry is poor and strapped (e.g. “stretch finite capital dollars”, “constrained resources”) -- and describes cities and states as predatory (e.g. “to leverage their unique position to extract high fees”, “imposed obstacles”, “excessive government fees”). However, in reality, state and local governments are usually cash-strapped, while the telecommunications industry makes billions in profits, their executives make millions, and companies spend millions in lobbying and lobbying events, golf tournaments, and NGO capture contributions to groups such as the American Cancer Society. Claiming poverty is ridiculous and duplicitous. Their capital expenditure accounts have been under-capitalized – set artificially low by design to build the case for “poverty” and “stretched” budgets, as well as a result of poor management and budget preparation. This is not the fault of local or state governments, which should not bear their costs.

FCC claims small cells have “far less visual and other impacts” than other facilities, have smaller community impact, cause little or no risk of adverse environmental or historic preservation impacts, and have no complex issues. The FCC quotes itself or the industry to support these claims (#103). In reality, small cells are “in your face”, on your street, looking in your window, leading to more visual impacts. The equipment can be as large as a refrigerator (not a “pizza box” (Footnote 272) - a lie that has been debunked nationally), blocking sidewalks and becoming graffiti targets, and the equipment on poles creates visual blight. These industrial nightmares are out of character with most neighborhoods, especially historic districts. Environmental damage is assured but those impacts are “off the table” thanks to TCA Section 704, despite their seriousness.

In these rules, the FCC asserts its peculiar definition of “collocation” – adding wireless equipment to any structure -- should replace the common definition – locating wireless equipment with other wireless infrastructure -- in order to restrict local and state power and serve the industry

Then, the FCC institutes new shotclocks, claiming that cities and states should be able to address small cells in more expedited fashion than the time needed for larger facilities (#101). Again, FCC claims don't fit the facts. Large equipment next to homes, schools, parks, or in historical districts is often considerably more complex than big towers on mountain tops or far from people. The processing time is the same or longer, especially with large numbers of people impacted and the quantity of private property in close proximity.

A 60-day shotclock is unreasonable. “Efficient in processing” (#102) means eliminating public process and input. Shorter shotclocks for smaller facilities impair states’ and localities’ authority to regulate the right of way, says the League of Arizona Cities.

Agencies are allowed to rebut presumptive reasonableness of shotclocks based on actual circumstances (#105) but this appears to be done in court, at taxpayer expense. Citing BDAC or S.3157's industry-written bill as back-up for 60/90 day shotclocks is laughable.

The FCC “sees no reason” that batched applications should get a longer shot clock. The FCC believes it takes the same amount of time to read 30 pages as it does to read 300 pages. To state the obvious, plans for each site are detailed, with photo sims of each location, RF assessments of each, spread of antenna emissions in relation to different buildings and lots, etc. This is not the same as putting more or less bots dots on a freeway, and it is frightening that oversight of microwave infrastructure in American communities has been given carte blanche to an agency this lazy. The incentive for industry to batch projects is that it is likely cheaper, with application fees less for one project of 13 sites, than for 13 separate applications.

The FCC also wields “prohibition of service” interpretation over localities or states which miss a these tight shotclock deadlines for small cells, “State or local inaction” will not only constitute a failure to act, but now, this will be considered “a presumptive

prohibition of the provision of personal wireless services” and the applicant can get expedited relief in a lawsuit (#114, 115), because “such a failure to act can be expected to materially limit or inhibit the introduction of new services or the introduction of existing ones.” It will be much more difficult to rebut a presumptive prohibition claim in court. The FCC claims a lawsuit resulting in permanent injunction would only cause minimal harm to states or localities. The FCC creates this “additional remedy” to “reduce the likelihood that applicants will need to pursue additional and costly relief in court”. There is no relief for states or localities. “We expect siting authorities to issue without any further delay all necessary authorizations” when they have missed a deadline “absent extraordinary circumstances”. Approval appears to be the only option.

BDAC is repeatedly referred to in this FCC report, but it has been exposed as another industry-dominated group. When Mayor Sam Liccardo quit, he said,
“...[T]he industry heavy makeup of BDAC will simply relegate the body to being a vehicle for advancing the interests of the telecommunications industry over those of the public. The apparent goal is to create a set of rules that will provide industry with easy access to publicly funded infrastructure at taxpayer subsidized rates, without any obligation to provide broadband access to underserved residents.” <http://sanjoseca.gov/DocumentCenter/View/74464>

It is also telling that the FCC uses the term ROW – right of way – rather than PROW – public’s right of way -- throughout its report, as it asserts broad preemptive ability over state and local governments, and over the public (p. 23).

As I stated in my Comments on 17-84 in 2017:

The Commission has turned away from its mandate to regulate the telecommunications industry and is now heavily regulating the public, municipal governments, and states, as reflected in this proceeding, WT 17-79 and others. It has not been given this authority by Congress or most importantly, by the people.

This is the reality the public faces.

This pattern and practice of the FCC -- this operational ethic that puts it above all law – is demonstrated by its suppression of science and fact, and its willingness to throw American men, women, and children, and the environment under the wireless bus to be crushed.

Who is doing the policing? Not the FCC. It only forces through these changes, making sure they happen, consequences be damned, cities be damned, people be damned.

Though FCC has quickly acted on proceedings 17-79 and 17-84, and with these new rules dramatically increased the public’s microwave radiation exposure, including for children and babies, the FCC has stalled its proceeding to re-evaluate exposure limits -- 13-84 -- for 5 years.

I have not discussed herein the biological impacts of wireless radiation, including what is known of higher frequencies planned for 5G. The damage microwave RF does to humans and to trees, plants, birds, insects, and wildlife has been well-studied for decades. The National Toxicology Program and Ramazzini Institute results showed carcinogenicity that had even James Lin reacting. The NTP exposure was only for 2 years. American children will be exposed for their lifetime. How long will they live?

This is our nation's future. What is the financial and social cost to our nation of rising neurological disease and death, rising cancers and tumors, rising infertility, rising DNA damage and birth defects, rising mental illness, rising bird and tree deaths and extinctions?

Will it cost mere billions? Will it cost trillions? Or will it bankrupt our American society?

The clock keeps ticking.

Will the FCC continue to do nothing?

/s/ Nina Beety

September 17, 2018

September 13, 2018

Public comment on proceeding 17-79:

I urge the FCC to:

- Postpone Commission action on these rules until November (at least), preferably postpone until January
- Open 60-90 day (minimum) public comment period on these rules, beginning immediately
- Post the draft order on the FCC home page

The reason is that the proposed rules are very significant changes that would have significant impacts across the U.S. affecting hundreds of millions of Americans, and the public should have lots of time to study the proposed rules (over 100 pages) and understand how all the parts fit together with the other parts and with existing rules, and to comment. FCC has completely failed to provide reasonable, sufficient time for all of this. FCC is apparently rushing through this process at break neck speed, providing the appearance of a public comment period but not the substance of it. Do not do this. Do not rush such hugely important rule changes.

Furthermore the proposed rules:

- Ignore ADA (the Americans with Disabilities Act) and people disabled by electromagnetic sensitivities.
- Radically redefines prohibition of service and applies it to every aspect of local and state regulation. All variables and rules imposed by local governments or states, including aesthetic rules, can fall under FCC's new interpretation of "effective prohibition" and therefore, allow carriers to sue. "A state or local legal requirement constitutes an effective prohibition if it 'materially limits or inhibits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment.'" (#79)

The FCC lacks the authority to make the proposed rules. There is a difference between legislation and rules. FCC has authority to make rules but not to legislate. Only Congress has the authority to legislate. The proposed rules conflict directly with the Telecommunications Act of 1996 as amended and as interpreted by the U.S. Courts of Appeals.

For example the proposed rules:

- Eliminate the "significant gap in coverage" as a consideration in cell tower decisions
- Redefine "collocation" as adding wireless infrastructure to any structure – all small cells are now defined as collocations unless they're on new towers, all new cellular facilities installed on buildings are collocations.
- Reinterpret and extend protection and permission for the telecommunications companies far beyond telecommunications into data and information services.

-- These infrastructure roll-outs become an unfunded mandate, putting costs on cities, counties, states, and local residents, reducing funding for local and state services, and reducing staff availability.

-- By these rules, the FCC regulates the public and state and local governments, instead of regulating the telecom and wireless carriers per its mandate (just like state utility commissions did on smart utility meters). FCC has flipped its mandate; that is, FCC is working as an agent and lobbying firm on behalf of AT&T, Verizon and the other telecommunications giants.

Cities, towns and counties have broad authority granted by state and federal law to regulate what goes on within their borders, including in the public right of way. States also have broad authority to regulate within their borders. Congress has the power to override state legislative authority but the FCC does not.

FCC simply cannot override local authority except as expressly provided by Congress. FCC cannot make these changes. It lacks the authority to make them. FCC cannot make or amend federal laws. Only Congress can make and amend laws. Where a proposed rule conflicts with federal law the proposed rule is unlawful, improper, and has no effect.

FCC is attempting to legislate by disguising its proposed legislation as rule making. This is unlawful and improper. FCC should completely rescind the proposed rules and start over from the starting point of acknowledging and accepting the role of cities, towns, counties and states to regulate within their own borders and the limitations on FCC's authority, which is on rule making but not legislation.

Thank you,

Mark Graham

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September 12, 2018

Marlene Dortch
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Washington DC 20554

EX PARTE

Cindy Sage, MA, Sage Associates

Accelerating Wireless Broadband Deployment }
by Removing Barriers to Infrastructure Investment }

D 17-79, D 17-84

Dear Ms. Dortch:

The FCC has introduced proposed rules under D 17-79 and 17-84 that will significantly impair the ability of local agencies and municipalities to exercise their existing siting authorities for wireless facilities. Under the 1996 Telecommunications Act, local agencies retain certain authorities that allow for responsible community siting with respect to aesthetics and visual impairment, community planning and zoning directives that currently help to maintain public health, welfare, safety and compatibility with local adopted plans and policies. For more than a decade, the existing federal rules have allowed for limited, but very important local controls over wireless facility siting. This proposal would virtually eliminate all local siting considerations.

The FCC has not yet concluded the 2014 proceeding to review RF public safety limits in light of substantial scientific evidence that RF is both carcinogenic and neurotoxic. More than 900 comments were submitted. The FCC has an obligation to conclude its open proceeding on health effects that have been shown to occur at legal levels (significantly below current FCC limits for uncontrolled public access) before opening the floodgates to industry to massively increase the number of wireless facilities across the US. This appears to be another run at pre-empting local controls similar to FCC Docket 16-421 (February 2017) to which the BioInitiative Working Group has already filed substantial comments in opposition (see attached).

I urge you to postpone any action on D 17-79 and D 17-84:

- The 100-page draft order is not even posted on your webpage, preventing any reasonable expectation that the public can read, review and comment in the extraordinarily limited time allowed (2 weeks after first available).
- The Order should be posted and at least a 90-day review period for comments should be given. A two-week comment limit essentially eliminates public and local governments' ability to read, evaluate, and comment.
- The proposed Order removes virtually all regulatory power from states and local governments over small cells and other wireless infrastructure and in effect, mandates wireless infrastructure of any size and power output to be located in any location, regardless of how inappropriate, unsafe, unsightly and out-of-compliance with local plans.

Submitted by:
Cindy Sage, MA, Sage Associates



FCC 16-421

Before the Federal Communications Commission

Washington, D.C. 20554

In the Matter of

STREAMLINING DEPLOYMENT OF SMALL CELL) FCC Docket 16-421
INFRASTRUCTURE BY IMPROVING)
WIRELESS FACILITIES SITING POLICIES)

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

Date: 6 February 2017

Comment filed by: Cindy Sage, MA, Lennart Hardell, MD, PhD and David O. Carpenter
on behalf of the BioInitiative Working Group.

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The BioInitiative Working Group Comment on
FCC Docket 16-421 - STREAMLINING DEPLOYMENT OF SMALL CELL
INFRASTRUCTURE BY IMPROVING WIRELESS FACILITIES SITING POLICIES

The FCC is proposing to streamline the process for small wireless facility permitting, without completing its investigation of RF health effects of low-intensity radiofrequency radiation (Docket No. 13-39, Docket No 13-84 - In the Matter of Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies and Docket No. 03-137 Regarding Human Exposure to Radiofrequency Electromagnetic Fields). This fact alone argues against the FCC speeding and easing the approval of millions of new 'small cell' wireless antenna sites under **Docket 16-421**. It also argues against permitting thousands of new satellite RF sources (Boeing **Docket No. 16-1244**, SAT-LOA-20160622-00058).

Health consequences have not been identified nor been factored into public safety limits. This is particularly true for the new 5G wireless technologies using millimeter wave frequencies (~28 GHz to ~71 GHz) that will be transmitted by small cells in the future. Adey (1993) warns:

"Biomolecular and cell research in this spectral region has been meager. There may be special significance to biomolecular interactions with millimeter wave EM fields. At frequencies within the range 10-1,000 GHz, resonant vibrational or rotational interactions, not seen at lower frequencies, may occur with molecules or portions of molecules. "

*"Grundler and Kaiser (1992) have shown that growth appears finely "tuned" to applied field frequencies around 42 GHz, with successive peaks and troughs at intervals of about 10 MHz. In recent studies, they noted that the sharpness of the tuning increases as the intensity of the imposed field decreases; but the tuning peak occurs at the same frequency when the field intensity is progressively reduced. Moreover, clear responses occur with **incident fields as weak as 5 picowatts/cm²**. " (emphasis added)*

New public safety limits taking into account non-thermal, low-intensity effects of chronic exposure to 900 MHz to the low GHz frequencies are vitally needed but the FCC has failed to complete this step. There is no basis for the FCC to make a positive assertion of safety of existing RF levels to which the public is perpetually exposed. Certainly unaddressed health concerns should stop the FCC from expediting new wireless technologies facilitating new small cell siting and satellite RF sources. The existing FCC public safety limits are grossly inadequate

to protect public health from the body burden of the existing proliferation of RF-emitting devices and the wireless infrastructure supporting them, let alone from new RF sources that will make the situation worse for public health. There is a broad consensus that new, biologically-based public safety limits for chronic exposure are warranted, given the scientific and public health evidence for health risks from low-intensity radiofrequency radiation exposures from wireless technology applications (BioInitiative 2007 and 2012 Reports, accessed at www.bioinitiative.org).

The 2008 NAS Report on Research Needs for Wireless Device summarizes deficiencies for wireless effects on children, adolescents and pregnant women; wireless personal computers and base station antennas; multiple element base station antennas under highest radiated power conditions; hand-held cell phone compliance testing; and better dosimetric absorbed power calculations using realistic anatomic models for both men, women and children of different height and ages. Realistic assessments of cumulative RF exposures need to be addressed, taking into account the high variability in environmental situations; and safety buffers below ‘effects levels’ need to be built into new FCC public safety limits. The FCC has failed to do so. Instead the agency has sold off new spectrum, fails to complete its open reviews on RF health effects, and now proposes to fast-track application procedures for new RF sources.

The FCC ignores studies establishing human health harm at currently permissible exposure levels. The National Toxicology Program under the National Institutes of Health has completed the largest-ever animal study on cell phone radiation and cancer. The relationship between radiofrequency radiation and cancer is clearly established. Dr. John Bucher, Associate Director of the NTP and the lead researcher on this study confirms that the exposure of 1.5 W/Kg is lower than currently allowed for the public, including children, under FCC public safety limits. Testing on rats is standard in predicting human cancers.

The NTP results confirm that cell phone radiation exposure levels within the currently allowable safety limits are the “likely cause” of brain and heart cancers in these animals. Tumors called schwannomas were induced in the heart. Hyperplastic lesions and glial cell neoplasms of the heart and brain observed in male rats are considered likely the result of whole-body exposures to GSM- or CDMA-modulated RFR. One in twelve (12) male rats developed either malignant cancer (glioma) and rare heart tumors. Pre-cancerous lesions were observed that can lead to cancer. The NTP says it is important to release these completed findings now given the implications to global health. No cancers occurred in the control group. The animal study confirms prior findings in epidemiological studies of an increased risk for glioma and acoustic

neuroma among people that use wireless phones, both cell phones and cordless phones (DECT). Acoustic neuroma is a type of Schwannoma, so interestingly this study confirms findings in humans of increased risk for glioma and acoustic neuroma. This supports upgrading the risk in humans to Group 1, the agent is carcinogenic to humans. The NTP evidence has filled the gap on animal toxicity of RF, and has greatly strengthening the evidence of risk for humans. It is sufficient to reclassify cell phone radiation as a known cancer-causing agent, and confirms the inadequacy of existing public safety limits.

The FCC needs to consider mounting evidence that even Wi-Fi level exposures are reported to cause DNA damage, brain damage and heat-shock protein (Dushmukh et al, 2017). The authors report statistically significant effects of subchronic low level microwave radiation (MWR) on cognitive function, heat shock protein 70 (HSP70) level and DNA damage in brain of Fischer rats. Experiments performed on male Fischer rats exposed to microwave radiation for 90 days at three different frequencies: 900, 1800, and 2450 MHz. Animals were exposed to microwave radiation at 900 MHz and specific absorption rate (SAR) 0.0005953 W/kg; animals exposed to 1800 MHz at SAR 0.0005835 W/kg and animals exposed to 2450 MHz at SAR 0.0006672 W/kg. These exposures are roughly equivalent to 1.5 to 2 uW/cm². All the animals were tested for cognitive function using elevated plus maze and Morris water maze at the end of the exposure period and subsequently sacrificed to collect brain tissues. HSP70 levels were estimated by ELISA and DNA damage was assessed using alkaline comet assay. Results showed microwave exposure at 900-2450 MHz with SAR values as mentioned above lead to decline in cognitive function, increase in HSP70 level and DNA damage in brain. They conclude that low level microwave exposure at frequencies 900, 1800, and 2450 MHz may lead to hazardous effects on brain.

Evidence from microRNA studies at Wi-Fi intensities report damage, i.e., modulation of microRNA is presented by Dasdag et al. (2015a, 2015b) in new studies on 900 MHz cell phone radiation and 2450 MHz Wi-Fi levels of exposure. Dasdag et al. (2015b) report that very low intensity Wi-Fi exposures over a year-long period (24 hrs per day) at 141.4 uW/Kg (whole body SAR) and a maximum SAR of 7127 uW/Kg lowered activity of microRNAs in the brain of adult rats. Van den Hove et al. (2014) previously reported miR-107 as epigenetically-regulated miRNA linked to Alzheimer's disease and correlated with changes in neuronal development and neuronal activity.

The scientific evidence is more than sufficient in 2007, and certainly in 2012 (www.bioinitiative.org) that the Commission has not struck the right balance between uncontrolled wireless rollout and health impacts resulting for Americans, particularly for children. The increased risk for cancers, neurological diseases, memory and learning impairment in children, and other serious medical problems associated with wireless technologies and chronic exposure to low-intensity RF are now clearly available to the Commission.

The FCC should not approve streamlining the process for small wireless cell rollout, nor expedite any other approval process for siting of wireless facilities, nor grant exemptions for any RF source or low-power device or enabling network. The incremental increase in daily RF exposure already exceeds human health tolerance. Cumulative effects of RF exposures from multiple wireless devices and environmental exposures are not addressed at all; nor measured or tested under current or proposed FCC rules.

Respectfully submitted:

Cindy Sage, MA, Lennart Hardell, MD, PhD and David O. Carpenter, MD

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RE: OPPOSITION TO: Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment Declaratory Ruling and Third Report and Order WT Docket No. 17-79; WC Docket No. 17- 84

I strongly object to removing local control, acceleration of 5G Wireless Infrastructure and would like to see an extension of these hearings so proper commenting period can exist.

I plead this opposition on the following grounds:

BACKGROUND**WHAT is 5G and What will it DO**

- The desirability 5G technology is PREDICATED on the phenomenal Frequency Capacity & Bandwidth Speeds to power the Internet of Things of the future.
 - To Accomplish the Above speeds will require reaching into Spectrum Millimeter frequencies of 20 to 70 Ghz.
 - Installing SMALL, [BACKPACK SIZED, ENCLOSED WIRELESS ANTENNA BOXES](#) ON LIGHT/UTILITY POLES in front or Back of EVERY 5 TO 12 HOMES/BUSINESS, APPROXIMATELY EVERY 500 TO 1000 FEET.
 - Locating REFRIGERATOR SIZE 5G POWER SUPPLY BOXES distributed either on Poles or sidewalks along the 5G pole path.
 - Each ANTENNA BOX COULD CONTAIN CLOSE TO 100 ANTENNAS BEAMING HIGH Frequency SIGNAL PULSES radiating in close proximity to our homes and backyards, 24/7
 - The Applications envisioned for 5G:
 - REMOTE and ROBOTIC CONTROL of our Homes and Appliances by CELL PHONES anywhere in the country.
 - Phenomenal Download speeds for our Videos on our Mobile Devices.
 - Autonomous, Driveless Cars.
 - Digital Sensors on endless stream of objects could read or controlled REMOTELY
 - Endless VIRTUAL REALITY Applications
 - To Accomplish This we MUST ACCEPT LIVING under an UMBRELLA CLOUD of POWERFUL Manmade RADIATION TECHNOLOGIES, *regardless* if we wish to CHOOSE More Natural Energy Futures for the Health and Well Being of our Families.
 - So far, NO FEDERAL AGENCY, LEGISLATURE or GOVERNMENT has questioned whether 5G Industry Proposed solution is the BIOLOGICALLY SAFEST, LOWEST ENERGY CONSUMPTION, HIGHEST BANDWIDTH OPTION for the Future. EXCEPT:
 - Senator Colbeck running for Governor of Michigan – objects to 5G in his State and WHY ([SEE Video](#))
 - 5G is a Fronthaul system requiring massive support and connection to on street [Fiber](#). [Fiber & Copper](#) are already effectively high bandwidth capacity connections to the home which can easily be tapped into Internet of Things.
 - The Federal [Government has laid out billions](#) to [Help Wireless carriers](#) with Fiber Broadband Network. The funds have been diverted.
 - Websites: Explaining [5Gs energy use](#), ADVANTAGES of [FIBER/Copper](#) to the HOME. Problems plaguing 5G [energy efficiency](#) and [capacity](#)
-

Impacts of Wireless Radiation on Many Lives

- **Many who have found it painful and difficult to live and work in the vicinity of current Wireless radiating facilities and devices will find ourselves in an unbearable and painful position as 5G small Cell Network engulfs every home and neighborhood with much stronger and persistent radiation beams.**

Under Current Wireless exposure many of us have had to accept very altered lifestyles. Often this has led to marginalizing ourselves from family, friends and work options

<https://wearetheevidence.org/harmed-by-wireless/>

- One of ultimate AIMS of 5G supporters and producers is to replace Current WIRED BROADBAND Technology to the home and businesses. **Those of us who find it physically intolerable to use or choose NOT to employ Wireless devices and facilities will find the growing smaller number of WIRED communication choices all but removed from our realm of communicating and internet options.**
- In our relentless march to a Wireless future, advocacy and accommodation for our Sensitivity to Wireless and other **EMF radiation has not had any support in the power circles of our federal government** who have the Ability to make a difference. **We have had to beg to be heard only to fall on deaf ears and be dubbed as psychosomatic.** Based on the Scientific evidence, we find that label highly offensive, ill-informed and very depressing.
<https://www.electricsense.com/9479/electrical-hypersensitivity-real-exist/>
- **Many of us who've experienced relief from our wireless and EMF exposure symptoms and illnesses have used EMF metering Devices of different Frequencies as guide to reducing our overall Wireless radiation exposure.**
- **The symptoms and illnesses we experience appear to also be very prevalent in the population today. Decades research has abundantly documented these physical effects in relation to Wireless and EMF OVEREXPOSURE.** Because wireless is so invisible and ubiquitous much of the population suffering from similar symptoms do not have knowledge to make such associations with the possibility of achieving some relief from their symptoms. **The power of the Telecom Industry to control our legislative and federal Agency agendas, to mute the press, propagandize the public and medical profession on the wondrous applications of wireless technology, leaves the public blind, uninformed many times unwilling to accept the potential harm from OVEREXPOSURE**

Scientific Evidence: Bio-Environmental Risks of Wireless Technology

The Scientific Evidence on Health effects on Wireless and other EMFs has been fraught with insidious Conflicts of Interests and attacks on the quality of the Evidence from both sides. **However when Policy Makers, Institutions and Governments have taken a keen interest in the Scientific Body of Evidence it becomes clear the evidence is compelling enough to implement more regulated measures in the distribution and use of wireless technology, especially as it pertains to our children**

- **That is why we have seen the such Countries as France and Cyprus, Italy require reduced exposure in Children and schools in the use of Wireless devices. Complete list See** [Ehtrust.org/policy](http://ehtrust.org/policy)
- **That is why Department of Interior and GAO in 2012 chastised the FCC for not keeping up with the latest Science in decades old Standards and jeopardizing wildlife and Environment. See List**
GAO - <https://www.gao.gov/assets/600/592901.pdf>
Interior - https://ehtrust.org/wp-content/uploads/manville_dc.compressed.pdf
- **That is why American Pediatric Association felt compelled to issue Recommendations to parents to limit a child's use of wireless devices**
<https://ehtrust.org/american-academy-pediatrics-issues-new-recommendations-reduce-exposure-cell-phones/>

Historic Evidence

In early 1970s our Government through the military began in earnest review Research Literature of Microwave radiation effects. Most of that research was of Russian and Eastern European origin involving Microwave Workers. The literature contains 1000s of studies which showed a host of symptoms possible from exposure ranging from various neurological disorders: *sleep problems, anxiety, attention deficits, fatigue, depression. Additionally, results showed cardiovascular effects, fertility, cellular changes, glandular and visual effects* to name a few. Most of these Bio-effects were more prevalent in either high intensity or overexposure conditions.

http://www.justproveit.net/sites/default/files/prove-it/files/military_radiowave.pdf

http://waves.lima-city.de/dok/BIOLOGICAL_EFFECTS_OF_ELECTROMAGNETIC_RADIATION-RADIOWAVES_AND_MICROWAVES-EURASIAN_COMMUNIST_COUNTRIES.pdf

<http://www.tandfonline.com/doi/pdf/10.1080/00022470.1974.10469899>

Specifically, some hi-profiled American Scientists of the 70s, 80s and 90s produced seminal pieces of research that laid the foundation for some important research and replications in the late 1990s and 2000s

- **1975, Dr. Allan Frey's seminal work on opening of the Blood Brain Barrier (BBB) by Radio Frequency radiation**
<https://nyaspubs.onlinelibrary.wiley.com/doi/abs/10.1111/j.1749-6632.1975.tb36019.x>
Background: <http://slowdigital.com/2017/12/07/allan-frey-a-pioneer-of-radiation-research/>
Studies now indicate that altered function of BBB may play a role in Alzheimer, MS and other Brain disorders
- **1984, Dr Arthur Guy working for US Government was the first to find Significant cancer in Rats, especially of the Endocrine system from exposure to RF frequencies in use today**
<https://microwavenews.com/sites/default/files/sites/default/files/backissues/j-a84issue.pdf>
Confirmation by: 2018 Seminal Study by NIH on Cancer in Mice/Rats from 2G, 3G Cell Phones
<https://ehtrust.org/clear-evidence-of-cancer-concludes-the-expert-panel-to-the-us-national-toxicology-program-on-cell-phone-radiation-study-findings/>
- **1995 - Dr. Henry Lai's discovery of DNA damage by cell phone type radiation**
<https://onlinelibrary.wiley.com/doi/abs/10.1002/bem.2250160309>
Highly criticized by Industry scientists of the day, the 21st century saw plethora of research showing DNA Damage by Wireless radiation devices including the 2018 Seminal study by NIH ([see above link](#))

Current Evidence

Compendium of Science Research Evidence can be found in the following websites, many categorized by Parts of the Body and Effects on Environment and Wildlife

<https://ehtrust.org/science/research-on-wireless-health-effects/>

<https://mdsafetech.org/> - Scientific Literature

http://www.emfwise.com/science_details.php#arrhythmia

<http://www.wirelesseducationaction.org/science/>

5G, Millimeter Frequency Evidence

1998 Millimeter Wave Frequency Studies by the Military show that skin is greatly impacted and sensitized by these very high frequencies waves. <http://www.rife.org/otherresearch/millimeterwaves.html>

<http://www.cellphonetaskforce.org/5g-from-blankets-to-bullets/> (Read last 3 sections)

Millimeter Waves will form the backbones to many of the 5G frequencies. **These Same frequencies are now used by our TSA Airport Scanners. In one form or another we are committing the public to live under an envelope of TSA scanning frequencies 24/7**

<https://www.nap.edu/read/24936/chapter/4#17>

<http://www.cablefree.net/wirelesstechnology/4glte/5g-frequency-bands-lte/>

Potential Climate Change Evidence

Although a topic that would be hotly contested and denounced, there is some scattered evidence the deployment and use of Wireless and other EMF Radiation Technologies may be contributing to the drastic changes in our climate witnessed the last 10 years. The Electromagnetic blanket of the Earth, the Spectrum, is a life giving element, as are the molecules of Water and Air. Best described in the Movie "Frequencies of Being" <https://vimeo.com/54189727>, The way we have tampered and manipulated the Spectrum with Rocket Launches and High Powered transmitters in the last 30 years according to some scientist may be greatly altering protective EMF Blanket of the Earth, contributing or acting in Synergy with CO2 to heat our Climate. The following research and predictions by high level scientists and designers of powerful Radio broadcast equipment in use today should question our reverence for Wireless technology to all our problems and begin to ponder how much these manmade radiation forces are contributing to overall warming climate.

<https://tinyurl.com/y8rucpar>

To Marlene Dortch
Office of the Secretary
445 12th St., SW
Washington DC 20554

EX PARTE

Carol Kuzdenyi

Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment;
Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment

D 17-79, D 17-84

Dear Ms. Dortch:

The FCC is forcing a telecommunications system upon us that they KNOW is harmful to humans, plants, and animals. The telecom industry's own, hand-picked scientist, George Carlo, told the technology companies in writing in 1999 that this technology is harmful, especially for children. From The Nation magazine, March 29, 2018:

"Carlo sent letters to each of the industry's chieftains on October 7, 1999, reiterating that the WTR's [Wireless Technology Research's] research had found the following:

"The risk of rare neuro-epithelial tumors on the outside of the brain was more than doubled...in cell phone users"; there was an apparent "correlation between brain tumors occurring on the right side of the head and the use of the phone on the right side of the head"; and "the ability of radiation from a phone's antenna to cause functional genetic damage [was] definitely positive...."

Please read the whole article here:
<https://www.thenation.com/article/how-big-wireless-made-us-think-that-cell-phones-are-safe-a-special-investigation/>

Thousands of studies, including the recently peer-reviewed U.S. National Toxicology Program study confirms Carlo's finding. <https://microwavenews.com/news-center/ntp-peer-review-sees-tumor-risk>

PhD Martin Pall, Professor Emeritus of Biochemistry and Basic Medical Sciences, has given a talk to the FCC about the ways microwave radiation harms us, and the mechanism by which it does this. Still, the FCC ignores the science.

You can read Dr. Pall's May, 2018 paper here: <https://www.emfconsultant.com/upload/Martin%20Pall%202018.pdf>

The FCC's new ruling, which brooks no opposition, is a denial of our constitutional right to Life (which includes good health), Liberty, and the Pursuit of Happiness. The USA is feeling like a police state. I hope each member of the FCC will go inside their Heart before going ahead with this decision.

Very sincerely,
Carol Kuzdenyi, Associate
and
Tony Keppelman, Consultant
Tony Keppelman EMF Services
www.emfconsultant.com

sent from my hard-wired computer