

**STATEMENT OF APPEAL - TRPA Approval of Verizon Wireless Revised Project Plans  
1630 Ski Run Blvd. South Lake Tahoe, El Dorado County, CA**

**Preface**

My co-appellant David Benedict is diagnosed with blood cancer and literally fighting for his life against a small-cell tower near his house and the compassionless Verizon employees behind it, as aided and abetted by TRPA and City of South Lake Tahoe (City) employees, who deny any reasonable accommodation. My soul-sister Monica Eisenstecken (not a party in this Appeal) sold her beautiful home in desperate fear from Verizon and its microwave facilities, fleeing for her safety and that of her family. I have my own personal reasons for opposing the dangerous microwave technologies in our communities and Earth environment. Nothing in this Statement of Appeal is intended to be hyperbolic or histrionic.

I have direct experience with some of you. Chair Gustafson worked through many Permits with me when she was on staff at the Tahoe City Public Utility District decades ago, Board member Friedrich worships at the same Unity spiritual center where I belong, I've sat across the table in meetings with Joanne Marchetta and John Marshall at various times in the past. I'm sure you, and the staff alike, all like to think of yourselves as good people, and we've generally had cordial relations. You may think of yourself however you like. Only your actions matter to us.

This Statement of Appeal hereby incorporates in its totality my Affidavit filed in this matter (Exhibit 1) and should be read together with that in its entirety.

**Introduction**

I am grateful, for I now believe this Appeal was a predestined opportunity for a reckoning. Grateful to have this opportunity to again explore, explain, and wonder at the requirements and practices of the Tahoe Regional Planning Agency in the context of this Project and Appeal. Thank you for reaching out to me as you did. These are my thoughts and opinions, presented as protected free speech under the United States Constitution. You may recall me from the Eisenstecken Appeal hearing last March and wonder, "Who is this guy representing the co-Appellants and what is his problem? We know he worked for the California Regional Water Quality Control Board, Lahontan Region, with their office at Lake Tahoe." I'm happy to explain a little with a bio-sketch. I paid my money and so get my say throughout, though I aim to be relevant to this Appeal, in the context of larger concerns with wireless microwave technologies. I'm Alan Miller, professional civil and environmental engineer, registered in California since 1997. You can call me a self-described "good-government advocate" like Mr. Jinkens, former City Manager, and now candidate for City Council, who also spoke before you to no avail at the Eisenstecken Appeal in March 2022.

I was born near the end of the post-war Baby Boom and an inquisitive child. My father sold World Book Encyclopedias and Dictionaries at the time and I'd read most of these by around the age of six. During a short period in my elementary school days, I was repeatedly accosted by a neighbor-bully, a larger kid my age. I not very big, but my father, "Big Don," was an All-State Guard and Tackle for the Iowa State U football team and taught me how to defend myself, after which I found that bully wasn't so tough. Despite the terror I'd felt, I became something of a bully myself for a time, until my smarts kicked in and I realized I didn't like bullies and didn't want to be the bully I'd behaved as. Life lessons, you know. Dad went on to be a great healer.

I became captivated by the music and environmental and anti-war counter-cultural movements of the '70s. I know some Board members may recall the time when all the news was coming out about the CIA control of the media and the drug scene, the many heinous government psychological operations or "psy-ops," the Vietnam war, Watergate, ERA, the draft was on, the corporate-military-industrial complex was burgeoning, etc., etc., and the state of the environment was getting so bad that *something* had to be done. Eventually I found myself studying environmental pollution control engineering at Humboldt State with an emphasis in water quality and solid waste management; physics, chemistry, electronics, environmental systems, biology, water and wastewater treatment, environmental monitoring, water pollution control, etc., and a ton of higher math and computer programming.

Somewhat to my own surprise, I chose a career path as a regulator, working in government for "the man," as we said in my youth (since most of the controllers, visible and invisible, were men at the time). But all these things informed my view as a regulator, including a healthy skepticism of government, and federal government in particular. I worked in government, so I know there are a great many honest, upright "little" people. But the governments of the world have been caught spying on everyone through the tech giants and telecommunications systems and flagrantly lying literally millions of times over the most egregious matters of life and death. TRPA, in this matter, has been a microcosm of that, without the spy capability it is assisting to erect. I'm over believing that the fascists and traitors in our governments are an altruistic benefactor to be trusted at face value. You may think me impertinent or impolitic to call out treasonous government actors for their lies and misdeeds. Be that as it may, no one need take offense that is faithfully upholding their sworn duties. However, this is now my third appearance before the TRPA Governing Board on this Verizon Project and I've seen all I've seen.

Anyone with one eye half open has seen plenty of the above, and my eyes are wide open. I hold that a greater reckoning is coming, in which the guilty at all levels will be held to account for their actions, just like under the record here. To be clear what "fascism" means, I take the definition from the World Book Dictionary (1983): "*n* 1. Any system of government in which property is privately owned, but all industry and labor are regulated by a strong national government, while all opposition is rigorously suppressed: *A basic idea of fascism was[is]: Everyone shall work, but no one shall work against the state . . .*" (emphasis added) thus, a slave system by another name which those of my kind have no interest in. Fascism is another name for

the so-called “public-private partnerships” TRPA is so fond of, deigning to squash any opposition under bureaucratic weight and scientific “groupthink” orthodoxies. Choose up whether to aid in restoring the rule of law to our Constitutional republic or to continue the illegal abuses under color of law, being the worst sort of lawbreaker. I’m all about Restoration at Lake Tahoe, restoring the rule of law and reason, thinking globally, acting locally to help save our lake quality and quality of life.

The State agency I worked 25 years for functions similar to TRPA, with planning, regulatory, permitting and enforcement powers from the enabling statute. However, California’s Porter-Cologne Water Quality Control Act (1969) promulgated broad administrative enforcement powers to the State Water Resources Control Board, and nine Regional Boards (such as I served), that make TRPA enforcement powers puny by comparison. Huge potential liabilities (fines) can be levied administratively, investigation and clean up orders, cease and desist orders, abatement orders for nuisance, Attorney General actions, and more. In the case of the Regional Board actions, appeal goes up to State Board, then to the State Superior court. State Board has a division of attorneys, and many of the enforcement provisions in the California Water Code are backed by referral to the California Attorney General and its armada of attorneys if things get heavy. I’ve been involved in all that sort of thing.

I mention these administrative powers (which TRPA and its Compact has essentially none of, save cease and desist orders) because the agency I worked for could be a real tyrant and “discretion” abuser if those unelected appointees at the Boards in charge weren’t checked. Checked by the law itself, its own scientific, legal, engineering culture and administrative procedures, and oversight by the Governor’s CalEPA, the Attorney General, USEPA, the public, interest groups, watchdog groups, advocacy groups, and the like, against a regulatory system stacked heavily, though arguably, in favor of “waste dischargers” – the industrialists, the technologists, the military, the great cities, developers and others. It could be a bully if that was how it wanted to operate. While the CA Attorney General is empowered to prosecute corrupt public officials, again, restraint is mainly through law, policy and recourse to the courts by aggrieved parties.

In the course of my own work I considered myself a servant of the public, as well as serving justly and fairly the permit patrons, and I’m very familiar with interest balancing as practiced by boards. I never considered it my job to do or promote anything illegal. I can’t recall many actions I represented, other than civil liabilities, where permit matters were appealed or litigated. I was once called on to testify against the Los Angeles Dept. of Water and Power in Inyo County Superior Court concerning our regulation of the Lower Owens River Restoration Project, the nation’s largest; they lost really badly (faced permanent enjoinder of use of the Los Angeles Aqueduct).

I don’t think there really is a TRPA, or a Water Board, a court, or any other institution, there are only the people who comprise it at the time, and how they interpret and apply the law in any

given instance. For millennia, human beings had no real awareness that others had thoughts and feelings just as they did. Only outward actions could be evaluated. That remains true, for we don't really know what thoughts and feelings are motivating people, but with the invention called "writing" people can express and explain for the record the otherwise-hidden motivations, desires, thoughts and perceptions of facts behind their outward actions. The courts, in particular, like to see logical conclusions supported by substantial evidence and well-reasoned arguments from the agency people, as your Compact requires.

The agencies don't like this because it's time consuming and can be difficult. Therefore, unless perhaps there is some significant opposition most actions involve little analysis or fact finding, corners are cut in the rush to "get the permit out," as was often said. I understand all that, the desire to avoid extensive analyses, ignore rules and timelines where uncontested; minimize time spent writing findings and explaining evidentiary support; minimize public involvement and operate as "efficiently" as possible to serve the Permit clientele and itself. Over time, findings become rote and "boilerplate" – simply putting a new name on an old finding. Practice becomes orthodoxy and orthodoxy becomes practice, with it taken on faith that the complex laws are being followed, that impacts are being managed, that science and interdisciplinary analysis is being diligently and correctly applied, as it hasn't been with the ongoing, unmitigated, wireless rollout (at Tahoe and elsewhere). Government is not designed to be efficient, necessarily, but rather to be considerate of all concerned, methodical, balanced, predictable, representative.

Actions and conclusions nonetheless can be distinguished by those supported in writing or testimony and those which are merely based on unsubstantiated notions, faulty "facts," unsupported and illogical conclusions, or which are arbitrary or capricious, changing without reason, even when the courts may give a certain weight or deference when it comes to government agency actions (a practice becoming more and more questionable). Likewise, acts that do not proceed in the manner required by law need to be addressed or matters may end up in court (as in the Eisenstecken case), hardly an efficient use of the agency's time, public money, and energy – defending its arbitrary, illegal actions in court. While much of this should be well-known to all concerned, I wouldn't raise it if I didn't think there was an issue about it at the TRPA that lies at the very heart of the Appeal. Enough preamble; let's get started.

### **Experience with TRPA**

With history as my guide, I don't expect my writings here will hold much sway with the TRPA Board or result in upholding the Appeal, so this might be written for a different audience. In all likelihood not all Board members will read through it. They will simply read the Staff Report and agree with the staff position(s). That is standard operating procedure. The staff will make the assertion that the post-approval soils-hydro examination by TRPA staff justifies the approval, purporting that "ends justify means," cherry-pick a few items herein to respond to and fill out the Staff Report with, using illogical arguments under erroneous or phony legal advice, and let the rest stand unopposed, with a recommendation to deny the Appeal. Triple down, never admit an

error, especially with these detractors, especially on this Project. My view of unopposed comments with no explanation is that they stand as uncontested fact, just like when TRPA puts out a document with opportunity for public comment. If nobody comments, whatever is in the document stands as factual. I predict the comments herein, even those raising substantive legal issues, will mostly be bypassed silently, again with history as my guide.

Therefore I'm not going to waste my time providing copious literature, footnotes, references, weblinks, legal citations and the like to fully bolster all my legal and other assertions herein, especially under the pushed September hearing circumstances. Rather, I will in some instances do a "gloss" of the facts, much in the fashion TRPA prepares its permitting and approval documents. In other cases we'll drill deep down into the regulations. Either way, the difference is that I can back up my assertions here, in ways you may find astonishing, and therefore reserve the backing-up task for another day. It will be enough for now if staff read this and its Exhibits. I hope you get to the end. As I wrote to your counsel, I did what I could to get your staff the information herein in time to provide sufficient time for a reasoned response based on substantial information in the record of this proceeding. You only give the public 7 days to respond to your agenda; I've given 16 days as of September 12.

### **TRPA's Soil-Hydro Report is Barred from the Record of this Appeal**

What I have to say about the post-approval soils-hydro examination by TRPA is that it is barred from the record of the Project approval, and the Appeal, coming after the facts. Any use or mention of its contents during the proceedings for this Appeal is over our strenuous legal objection, for it played no role in the Project approval being appealed. TRPA must rely solely on the information in the record on and prior to August 5, 2022, and respond to the Appeal solely on the basis of the soils-hydro report it accepted, and other information in the pre-August 5, 2022, record of the Project. Had TRPA accepted the suggestions we provided after filing the Appeal, to require or facilitate production of an additional, independent, proper soils-hydro report by Verizon, perhaps we would have allowed inclusion of that in the record as non-prejudicial. As such, we disallow the contents and findings of the TRPA soils-hydro report for the site in its entirety: Its use would be improper and prejudicial to the Appeal and presents, at a minimum, the appearance of a conflict of interest for the participating staff pursuant to TRPA's Rules of Procedure (ROP) 8.4: "Employees shall not accept . . . present compensation or arrange for future compensation for services already performed or to be performed, that give rise to an actual conflict of interest or that create an appearance of a conflict of interest." Nonetheless, I expect your counsel will put forward faulty advice that no such appearance of a conflict exists, and present the TRPA soils-hydro report over our strenuous objection.

This expectation resides in part from a consistent pattern of practice by TRPA: to hold others to all its byzantine rules and requirements when it wishes, while excusing itself from compliance with same when it arbitrarily deems fit. We have just such an example of that with the email exchanges in Exhibit 2, which followed on the Appeal and stay request filing. In my email of

August 28, 2022 I made it very clear that any Appeal Hearing forced on us on September 28, 2022, is illegal and in violation of our civil due process rights as Appellants. Therefore, this Statement of Appeal is filed in vigorous continuing opposition to TRPA's repeated and baseless assertion that it has discretion under the ROP to advance the Appeal hearing from October 19, 2022 to September 28, 2022, illegally depriving us of time to prepare for the Appeal Hearing. TRPA does not have that authority, only bureaucratic weight. As I pointed out in my emails, TRPA and Verizon alone are responsible for the timing of this Appeal, based on illegally postponing the Eisenstecken Appeal hearing by some two months. It seems TRPA is incapable of learning from its mistakes, in so many ways, with your long-standing bureaucratic counselor at the helm acting at the Board's direction, providing false cover to back up the Board's desire for a September Appeal hearing based on groundless legal assertions.

### **My Project Review Background**

I have no need to repeat all the record information in my Affidavit, which I stand by. There will be references to the Affidavit and additional information to augment the preliminary statements. I will go through the Affidavit, mapping the regulatory territory I staked out, making additional findings and salient points in the manner I learned and practiced in my professional career. I was often working directly or indirectly with TRPA on the very same Projects as independent Project co-planner and co-regulator, spanning the full range of large development and restoration projects, and many of the smaller ones as well. As such, I sat in the "cat-bird's seat" with respect to TRPA, seeing most if not all of its planning, regulatory, and environmental documents come across my desk for review or information, as well as many local, state and federal environmental documents from the much larger Lahontan Region.

As a State agency, we were charged to comply with the California Environmental Quality Act (Public Resources Code 21000, et seq.) and, unless a document had to be jointly prepared with TRPA, or was going to cause a foreseeable issue for my work concerning water quality, I often left TRPA environmental documents I deemed sorely deficient to TRPA for TRPA purposes, as directed by my up-line management. It was a different approach that TRPA applied than I in the path to their various regulatory, environmental and permit certifications, what I would term a gloss-over of the facts, reasoning, and findings, with little substantial analysis, no different than I've seen on this Project, and that's the point. I know the system, and see through the deficiencies and lies like thinnest glass. Ancient history, yes. Yet it's still true as we see with the Appeals. Reform is needed and, if desired, a golden opportunity for reform presents itself with your pending appointment of a new Executive Director.

### **Regulatory Malfeasance**

I wrote on page 1 of the Affidavit that this Appeal is concerned with TRPA misinterpreting and misapplying the laws and regulations they are charged to carry out justly and equally for all. Especially as concerns its own compliance with the law. Your counsel replied to the Affidavit's

stay request that our Appeal was unlikely to prevail on the “merits,” which must imply that the law and regulations TRPA is charged to follow have no merit, for that is what our Appeal rests on entirely. We disagree. Following the law is paramount.

The judicial standard for review of TRPA actions is stated the Compact section VI.(j)(5):

(5) In any legal action filed pursuant to this subdivision which challenges an adjudicatory act or decision of the agency to approve or disapprove a project, the scope of judicial inquiry shall extend only to whether there was prejudicial abuse of discretion. Prejudicial abuse of discretion is established if the agency has not proceeded in a manner required by law or if the act or decision of the agency was not supported by substantial evidence in light of the whole record. In making such a determination the court shall not exercise its independent judgment on evidence but shall only determine whether the act or decision was supported by substantial evidence in light of the whole record. In any legal action filed pursuant to this subdivision which challenges a legislative act or decision of the agency (such as the adoption of the regional plan and the enactment of implementing ordinances), the scope of the judicial inquiry shall extend only to the questions of whether the act or decision has been arbitrary, capricious or lacking substantial evidentiary support or whether the agency has failed to proceed in a manner required by law.

This Appeal is solely about the last two lines above, “whether the act or decision has been arbitrary, capricious or lacking substantial evidentiary support or whether the agency has failed to proceed in a manner required by law.” In Compact Article X.(a) we read, “(a) It is intended that the provisions of this compact shall be reasonably and liberally construed to effectuate the purposes thereof.” TRPA can’t construe “reasonably and liberally construed” to mean “to break the law.” Quite the opposite is true. As a creature of law and empowered with quasi-adjudicatory functions, it must be predominantly and only concerned with carrying out its legal functions in a legal manner. The TRPA, as empowered under the Compact primarily, and secondarily enacting its own regulatory laws, ought to be more concerned with the equal application of those laws.

The Board has acted as though it has complete discretion to ignore the various provisions of law in its own misperceived balancing of interests, which discretion is nowhere granted in the Compact or any other place with regard to a very simple permitting matter such as this, as this Appeal will show. I argue there is no discretion to violate the laws, and if you do so, you’d best be prepared for litigation or reprisal. I know the staff thinks this Appeal is all about the Project; I assure you it is not. This is about TRPA’s insistent, repeated and flagrant violations of the Compact and Rules as applied to itself. This dangerous, ill-conceived Project is a concern, for sure, and merely serves as one example, a real shiner. Your vote on the Appeal is a free-will test in your soul’s evolution and I wish you tremendous advancement.

Of course, this Appeal resides in the context of the whole, egregious record of this Verizon Project on Ski Run Blvd., as being litigated by Eisenstecken, et. al, in federal District Court, and that informs the views and provides a record of behavior with regard to the law we’ll see repeated here. When I joined the Water Board I was required to swear an oath to faithfully uphold and defend the laws of the state, and the U.S Constitution also, if memory serves.

Nonetheless I swear it now. I was a civil servant. I expect TRPA Board members must also swear an oath to uphold the laws and the U.S. Constitution, and I would like confirmation by printing any such oath in the Staff Report for this Appeal. The way I see it, if you are upholding your sworn duty, you may consider yourself Honorable; to do otherwise is treasonous.

### **The Major Modification, and Permit Condition 3.F. (hydro-soils report)**

This revised Project Appeal is a whole separate matter than the approved Verizon Project and must rest on its own record predating August 6, 2022. Without ascribing any motives, let's look at what happened following the Board's Final Permit approval and appeal denial on March 23, 2022. Thereafter, in the process of finalizing plan details with TRPA (something I'll have more to say about later), Verizon determined to propose a deeper foundation design. No problem about that. TRPA rightly accepted the proposed change as a "New Project" (see Affidavit pp. 3 and 4) and approved the revised design on August 5, 2022, posting it to the TRPA website with the notice to appeal, apparently considering the approval a trivial matter within the scope of its authority and discretion.

I contend that approval of the "New Project" is where TRPA erred. This is what your website (<https://www.trpa.gov/permitting-process/>) says about plan changes: "Plan Revisions. You may revise your original approval by requesting a plan revision. An approved plan revision, however, will be tied to the original permit expiration date and the **conditions of the original approval**. A minor plan revision generally involves small changes that do not include modifications to land coverage or the exterior dimensions of a structure. A major plan revision generally includes changes to land coverage or height calculations. Check the TRPA Filing Fee Schedule for the appropriate fee amount." (**emphasis added**)

To the extent the above is "guidance" to your interested readers, fine, but it does not indicate why the "major" and "minor" distinctions matter, which is disclosed in the adopted Fee Schedule referenced. Checking that, we see the following the following under "Plan Revisions": "Minor – A non-substantive change to a permitted project. **A project that will not cause changes to any TRPA permit conditions**, does not require new field review by TRPA staff, does not require a public hearing, and **does not involve any modifications to building size, shape, land coverage, location, or scenic rating score**. Major – A substantial change that **does not significantly exceed the original scope of the project. Revisions that significantly exceed the original scope of a project, or which require a public hearing, shall be treated as new or modified projects, as the case may be.**" (**emphasis added**) The proposed Project plan changes definitely did "cause changes to any TRPA permit conditions," specifically, Permit Condition 3.F. The staff approval letter of August 5, 2022, in effect, changed the maximum excavation depth in Condition 3.F. from 7.5 feet to 13.5 feet, no question about it. Further, the "scope" of the project expanded with modifications to the building size (doubled) and location (deeper), as discussed on p. 3 of the Affidavit.

The change to the Project can only rightly and consistently be called a "Major" modification pursuant to the Fee Schedule regulation since the Condition 3.F. was changed and its new "scope" ran contrary to Code of Ordinances (Code) section limitations in section 33.3.6.B.,

concerning excavations 5 feet or more deep (noting that excavation had been approved to 7.5 feet by TRPA under the single borehole geotechnical methodology). Nonetheless, TRPA simply jettisoned the rules for “new or modified projects, as the case may be” despite the change to Permit Condition 3.F. (The 2.5 feet of exceedance was approved in 2019 in precisely the same manner and is just as improper as the 2022 approval, for the reasons set out for this Appeal below, occurring outside the rules TRPA is bound by under law.)

As I explained in my email reply to your counsel in Exhibit 2, the Final Permit contains a specific Condition 3.F. which requires a “new soils-hydro application” for proposed excavations deeper than 7.5 feet. Since the proposed revision didn’t meet the conditions of the original approval such a report was required. But what kind of report? A geotechnical report? With its design change Verizon provided an updated, not “new,” geotechnical report (the revised Geotechnical Report, RGR) to cover the condition of approval. And TRPA accepted it, in error.

As the Code says, excavation “where there exists a reasonable possibility of interference or interception of a water table shall be prohibited unless TRPA finds that: 1. A soils/hydrologic report prepared by a qualified professional, which proposed content and methodology has been reviewed and approved in advance by TRPA, demonstrates that no interference or interception of ground water will occur as a result of the excavation;” I discussed some of the limitations of the RGR report in my Affidavit, noting nothing had been changed concerning the subsurface hydrologic evaluation from the same report submitted in 2019, and questioning whether TRPA had reviewed and approved in 2022 the report’s “proposed content and methodology” in advance, as it did in 2019.

The original 2019 GR drill log indicated “slightly moist” soil in the entire 18-foot soil column below the topsoil in late July 2019. As I discussed, a single geotechnical borehole is insufficient to evaluate hydrologic indicators to preclude the “reasonable possibility of interference or interception of a water table” (which my Affidavit demonstrated), and which is further affirmed fully by the attached letter from professional hydrologist/hydrogeologist Lori Carpenter (Exhibit 3). As she wrote, conducting soil pit analyses (and much more) is consistent with professional practice. Soil pit evaluations are also consistent with TRPA’s own general practice, as TRPA staff knows, or should: So the position must be either TRPA doesn’t know what a professional soils-hydrology report is, or it does know and didn’t require one, changing requirements for similarly-situated applicants without a basis, changing requirements arbitrarily for Verizon. It looks like the latter to me. Capricious.

The RGR was a lame duck from the start with regard to ground water hydrology. I pointed out that it failed to note the presence of nearby Bijou Park Creek, which is borderline negligent in my view. I am sympathetic because the drill-rig examiner was a geotechnical “E.I.T.” –an Engineer-In-Training, likely a new graduate, an apprentice under the supervision of a licensed geotechnical engineer. Further, the engineer-signer of the 2022 RGR was different than the original 2019 engineer-signer-EIT overseer, and obviously concerned with changes to the seismic-geotechnical engineering aspects for the enlarged foundation, since no changes were made to the hydrology and drainage findings. They were presumably reviewed and *fine from a geotechnical standpoint*. The drainage recommendations therein were for the use of Verizon for its engineering design, not for TRPA use in evaluating subsurface hydrology. With its many

exclusions, limitations and references to drainage and ground water, there is no way this can reasonably and professionally be considered a suitable report to conclusively demonstrate the *absence* of the reasonable possibility for ground water interference or interception of ground water as a result of the excavation. I'm more sympathetic towards the RGR and the geotechnical engineers than the TRPA senior staff reviewing, who should have rejected it as inadequate to the task. Why the RGR was considered suitable is not articulated, so the decision was arbitrary.

We have further evidence that TRPA knew it had not required a proper soils-hydrologic investigation, coming after this Appeal was filed, on September 1, 2022. Rather than requiring a proper and independent "new" report from Verizon to fulfill Permit Condition 3.F., over our objections TRPA staff conducted its own after-the-approval soil-hydro examination by a soil scientist in the pit excavated for the tower, examining pit soil profiles much as I and Ms. Carpenter suggested. The decision not to require the report from Verizon was arbitrary, and apparently still well within the 30-day limit TRPA had to review the application for completeness (ROP 4.3), when it jumped the requirement and determined to approve the revised Plans without the necessary soil-hydro report. Again, we vigorously object to inclusion of the contents of the TRPA soils-hydro report in the record of this Appeal as improper and prejudicial.

**Summarizing:** Shortly after it received its Final Permit, Verizon violated condition 3.F. by submitting a geotechnical report that was not new, and that was deficient, instead of a proper soils-hydro report for the deeper excavation. TRPA nonetheless accepted the RGR in violation of Code 33.3.6.B and used it improperly for approval as a "soils-hydro" report, bypassing the rules concerning "Major" and "Minor" plan revisions in the process, despite the "shall" wording: Major plan revisions "shall be treated as new or modified projects." I could not determine if the 2022 content and methodology was approved in advance by TRPA, as required by the Code. If so, it seems staff erred by not approving the methodology in advance and, if not, failed to see that was done. As a result, a new report by a properly trained professional such as Ms. Carpenter was neither submitted by Verizon nor required by TRPA. That fact alone should have been enough to uphold the Appeal's stay request, given that no proper investigation was done, but instead TRPA promoted the bogus RGR to allow the impact to proceed based on the thin absence of evidence from the RGR, knowing any environmental damage could not be fully undone. The absence of evidence is not necessarily the evidence of absence, and that really fits here; the TRPA authorized and accepted report must demonstrate an absence of adverse effects on ground water resources (and did not) or TRPA "shall" prohibit excavation, and failed to do so. Because **TRPA has failed to proceed in a manner required by law, the Appeal must be upheld.**

I underlined "absence of evidence" above (my words) because I have noticed TRPA likes to play that idiot card to its advantage, and in various ways. Here, it lacks required evidence, and uses that as a basis to assume that is evidence of absence. No, that is a flaw in logic; the data was insufficient to draw a valid conclusion. Wikipedia informs that this is a sort of "arguing from ignorance" and

"is a fallacy in informal logic. It asserts that a proposition is true because it has not yet been proven false or a proposition is false because it has not yet been proven true. This represents a type of false dichotomy in that it excludes the possibility that there may have been an insufficient investigation to prove that the proposition is either true or false.<sup>[1]</sup> It

also does not allow for the possibility that the answer is unknowable, only knowable in the future, or neither completely true nor completely false.<sup>[21]</sup> In debates, appealing to ignorance is sometimes an attempt to shift the burden of proof.” (underlines are weblinks)

Yes, it’s an illogical attempt to shift the burden of proof, when it is TRPA’s job to fully evaluate impacts based on all available information.

We saw this fallacious logic, arguing from ignorance, used by TRPA in the Eisenstecken Appeal as well, concerning issues with radio-frequency radiation (RFR) and microplastics. You can now see that these findings are unscientific, specious and arbitrary. The Staff Report opines, “TRPA could choose to regulate RF [sic] in the region should cellular facilities be proven to have a particular adverse effect on the unique environment of the Tahoe Region. TRPA has not received any such proof of adverse impacts of RF [sic] particular to Tahoe and therefore will not reexamine the determinations of the FCC.” (p. 327, March 23, 2022 Board Agenda) I critiqued this position as unscientific in my letter of October 2021 (Exhibit 4). TRPA’s statement it “has not received any such proof” is arguing from ignorance, and shifting the burden of proof, like there is something so unique about the environment of the Tahoe region that it is immune from all the adverse effects shown in relevant science studies provided in the record. That is incorrect. Likewise, on p. 307 of the March 2022 Board agenda: “To the extent Eisenstecken is limited in this appeal to raise only issues presented to the Hearings Officer, Eisenstecken is barred here from raising new issues . . . Eisenstecken does not supply any evidence of fallen plastic needles in waters of the basin or evidence they degrade into microplastics or that degradants traced to faux needles have actually ended up in Tahoe Region waters.” In disagreement with the latter statement, for testimony and evidence the needles degrade to microplastics *was* presented, we see here a desire not only to exclude important evidence of water quality impacts completely overlooked by TRPA in its myopic review of the Project application, but another attempt to shift the burden of proving impact to anyone but the myopic TRPA, which won’t bother to analyze the evidence spoon-fed to it, and which never sees an impact it can’t arbitrarily dismiss as insignificant when desired, often using the fallacious “absence of evidence” argument.

However illogical, the Board eats such findings like candy as a basis to allow significant and cumulative impacts, as in the case of RFR emissions, but many other impacts as well. Thus, Lake Tahoe’s visual water conditions and water quality continues to decline rapidly. I will add that the Appellants have no evidence from TRPA that its actions have slowed or stopped the ongoing declines in Lake Tahoe water quality and clarity, or prevented pollution by microplastics. We do have evidence TRPA has permitted uncontrolled discharges of deadly, toxic microplastic wastes on an industrial scale from the monopine towers it approved before 2022. And it continues to approve these willfully in pursuit of its agenda to blanket Lake Tahoe in radiofrequency emissions, and pollute the waters of the Lake Tahoe region with toxic microplastics, not only with this tower, but also a new Verizon monopine tower approved this August at the old Ponderosa Ranch TV filming location right near Lake Tahoe.

TRPA called the Affidavit’s concerns with ground water on the Project site “speculative.” I am a speculator at times, somewhat like an experienced investor who manages funds in a portfolio, sometimes it pays off, sometimes not. Like any good speculator, my speculations are not baseless, however, as my site analysis shows (Affidavit, pp. 13-14). I’m going to speculate the

following: TRPA itself will eventually produce evidence of the plastics it has increasingly approved in its ignorance over the years, plastics which deteriorate under the action of sunlight, mechanical wear and weathering to microplastics: monopine towers, all the recycled and virgin polyvinyl chloride (PVC) docks approved over waters, decks, piers, and boardwalks in all the most sensitive areas such as shorezones and stream environment zones (SEZ), all the decking at marinas and the Tahoe Keys' private docks, etc. We shall see, in due time, what PVC is sited and contained in and around the waters of Lake Tahoe under TRPA's watch and approvals. As these materials deteriorate into microplastics, I speculate that the evidence will show TRPA is in large part responsible for contamination of the waters of Lake Tahoe with toxic microplastics from PVC by approving of the use of plastics in such settings without any analysis of the long-term impacts, where natural wood alternatives would have been far more preferable and appropriate.

### **Project Review Procedures; IEC Requirement**

I assert the approval was improper for the new Project application under the following regulations, which specify what *is* proper. Code section 2.2.1 specifies project review procedures: "Activities that may have a substantial effect on the land, air, water, space, or any other natural resources in the Tahoe region are projects subject to TRPA review and approval. Projects shall be reviewed by TRPA in accordance with TRPA's Rules of Procedure and pursuant to the applicable Code provisions. Projects approved by TRPA shall be issued permits in accordance with the Rules of Procedure." Project review procedures are further described in Chapter 5 of the ROP. For non-exempt projects such as excavation greater than 5 feet, the applicant is to fill out and certify an Environmental Impact Checklist (IEC) form for staff review. By Rule "5.2.6. Appropriate environmental documentation, in accordance with Article 6 of these Rules" is required as a part of a complete application, which begins:

The Executive Director shall devise and maintain an initial environmental checklist (IEC) that shall be used, in conjunction with other available information, to determine whether an environmental impact statement (EIS) shall be prepared for a project or other matter. Based on the IEC, and other information known to TRPA, TRPA shall make one of the findings, as appropriate, set forth in subsection 3.3.2 of the Code.

I reviewed Verizon's Form Application for the Plan change, noting the Checklist of items for a complete application left the IEC requirement unmet. That is, though required for a complete application, the checkbox was left blank, with no explanation. Staff missed or overlooked that. There was no IEC for the new project application, as required generally, in every other case according to the ROP. I opined in the Affidavit, p. 2, that the plan revisions invalidated a number of findings in the 2019 IEC provided with the application for the Project approved following the Eisenstecken Appeal. It is staff's charge to review the application for completeness, and there is no evidence to suggest the IEC requirement was followed by rejecting the application as incomplete. **Therefore, there was no basis for staff to approve the new project, based on the plan revisions, in the absence of a valid IEC, so the Appeal must be upheld.**

The potential impacts can't be assumed to be the same as they were for the prior Project, and that old IEC is of no use. If you say, "Well, the staff reviewed the plan changes/new application info

for consistency with the 2019 IEC,” I would challenge that and ask to produce the written record of analysis and findings to support it. There was nothing about an IEC in the records of approval TRPA provided, other than the empty IEC checkbox in the application. There isn’t any basis *for* consistency with the reasonable possibility for ground water interference I pointed out above and in the analysis in my Affidavit. No, staff just moved to approval without an IEC, with a finding based on nothing but a deficient RGR, stating “ground water is not expected to be encountered in this location” but, if it is, “contact TRPA immediately to discuss options for dewatering.” A contradiction, all improper, no substantial evidence provided or discussed as fact finding. Arbitrary.

Since no IEC was submitted there was no evaluation of the new Project impacts. In testimony heard during the Eisenstecken Appeal denial for the cutting of some 30 trees on the Project parcel for defensible space ahead of the Project approval, your counsel correctly stated in effect that, yes, the tree removal would affect the scenic baseline in the scenic analysis for the tower, because what has to be analyzed for any Project is the environment, including the regulatory environment, as it exists when the new project application is made. In this case, we have a whole new set of City of South Lake Tahoe ordinances that would need to be analyzed concerning wireless services facility siting, among other things. Faced with having to require a new IEC, TRPA turned away from the regulation, for it would essentially set the Project back to the starting point (which Verizon already did), for project review begins with the IEC analysis, or should. No basis for the arbitrary turn, in violation of law, was provided and I assert it was a special (illegal) favor for Verizon’s benefit.

Yes, a new IEC is required to be evaluated. Based on review of a valid IEC TRPA would determine whether to prepare an Environmental Assessment (EA) under ROP section 6.5. Then, section 6.6 provides, “If, based on the IEC or EA, and other available information, TRPA finds that a project or matter will not have a significant effect on the environment, a statement of such finding shall be placed in the project file maintained by TRPA and no further environmental documentation shall be required. See Section 3.5 of the Code.” This is the Finding of No Significant Effect (FONSE), as applied previously to the Project. A FONSE is appealable under rules subsequent to Project approval, as just one part of the Project documentation. **No FONSE applicable to the new/revised Project was prepared or certified, as required, in violation of ROP section 6.6., therefore the Appeal must be upheld.**

TRPA’s applicant Verizon could have used the information from the prior IEC, to the extent it is valid, to craft a new IEC, but staff did not require a new IEC in accordance with ROP 5.2.6. A fee was required under ROP 5.2.1, but a number of other necessities in the Checklist for a complete application were not checked (not provided), stating “NA,” including 9. Floor Plan, 11. Grading Plan (proposed cut and fill), and 12. Projects Requiring Hearing Officer or Board review. Maybe the lack of floor plans explains the discrepancies in coverage allowed versus coverage approved? There certainly was grading proposed, double the prior, so the “NA” is a mystery.

Based on my prior writings on the soils-hydro report, the applicant didn't provide, and staff did not evaluate the application against, ROP 5.2.8. "All reports or studies necessary to show compliance with applicable provisions of the Compact, Regional Plan, Code, other TRPA plans, maps, programs, and rules." This is another backstop to require a proper soils-hydro report, besides the Permit Condition 3.F., that TRPA ignored. The conclusion is that TRPA arbitrarily applied some of the ROP specifications concerning a complete application, and left others out, without reason given, in the time TRPA took to review and approve the new application submitted. There is an email in the record from TRPA staff questioning whether a new soils-hydro report would be required, the question answered only by the evidence: it was not required.

Had TRPA followed the requirement for the applicant to provide a new IEC, new information that was not available in 2019 would have to be considered, such as the new City of South Lake Tahoe ordinances, among all the other things on the IEC. Eschewing that, and all the Rules at issue in the Affidavit, TRPA staff moved instead on the improper approval following no regulation whatsoever, simply approving of the new application under the old Permit approval (now under litigation) for the benefit of Verizon. Again, I have no problem with Verizon amending its Project plans, and I don't have a problem with the Code or ROP, which TRPA is a real stickler for enforcing as it sees fit against others they don't agree with, such as Ms. Eisenstecken, or Mr. Benedict, the latter a co-Appellant here; I take issue with TRPA ignoring its own regulations for any reason, as here, violating public due process rights in the face of known controversy.

### **Exception Rules**

My Affidavit, in large part, showed how confused staff was in applying its own exception rules for the deeper excavation. In the first place, letters A and B of Code section 33.3.6.2. are independent requirements. Each must be met to approve an exception to section 33.3.6.2, irrespective of order. Those Code sections, in relevant part, are:

#### **A. Groundwater Interception**

Groundwater interception or interference is prohibited except as set forth below:

**1.** Excavation is prohibited that interferes with or intercepts the seasonal high water table by:

- a. Altering the direction of groundwater flow;
- b. Altering the rate of flow of ground water;
- c. Intercepting ground water;
- d. Adding or withdrawing ground water; or
- e. Raising or lowering the water table.

**2.** TRPA may approve exceptions to the prohibition of groundwater interception or interference if TRPA finds that:

- a. Excavation is required by the International Building Code (IBC) or local building code for minimum depth below natural ground for above ground structures;

- b. Retaining walls are necessary to stabilize an existing unstable cut or fill slope;
- c. Drainage structures are necessary to protect the structural integrity of an existing structure;
- d. It is necessary for the public safety and health;
- e. It is a necessary measure for the protection or improvement of water quality;
- f. It is for a water well;
- g. There are no feasible alternatives for locating mechanical equipment, and measures are included in the project to prevent groundwater from leaving the project area as surface flow, and any groundwater that is interfered with is rerouted in the ground water flow to avoid adverse impacts to riparian vegetation;
- ....

**B. Excavations**

Excavations in excess of five feet in depth or where there exists a reasonable possibility of interference or interception of a water table shall be prohibited unless TRPA finds that:

1. A soils/hydrologic report prepared by a qualified professional, which proposed content and methodology has been reviewed and approved in advance by TRPA, demonstrates that no interference or interception of groundwater will occur as a result of the excavation;
2. The excavation is designed such that no damage occurs to mature trees, except where tree removal is allowed pursuant to subsection 33.6.5: *Tree Removal*, including root systems and hydrologic conditions of the soil. To ensure the protection of vegetation necessary for screening, a special vegetation protection report shall be prepared by a qualified professional identifying measures necessary to ensure damage will not occur as a result of the excavation; and
3. **Excavated material is disposed of pursuant to subsection 33.3.4: *Disposal of Materials***, and the project area's natural topography is maintained pursuant to subparagraph 36.5.1.A. If groundwater interception or interference will occur as demonstrated by a soils/hydrologic report prepared by a qualified professional, then the excavation can be made as an exception pursuant to subparagraph 33.3.6.A.2, provided measures are included in the project to maintain groundwater flows to avoid adverse impacts to SEZ vegetation and to prevent any groundwater or subsurface water flow from leaving the project area as surface flow.

While 2 and 3, above were omitted entirely from the consideration (I'm not aware of a report pursuant to 2, above), note the last sentence above: If the soils-hydro report prepared by a qualified professional demonstrates ground water interception or interference will occur, the exception can only be allowed “provided measures are included in the project to maintain groundwater flows to avoid adverse impacts to SEZ vegetation and to prevent any groundwater or subsurface water flow from leaving the project area as surface flow.” **No such measures were included in the exception granted, thus violating the condition, even if the RGR is capriciously deemed adequate by TRPA to assess ground water conditions.** It appears no

substantial analysis was done for potential adverse impacts on ground water flows or SEZ vegetation, with the SEZ boundary downhill and some 60-80 feet from the excavation. Rather, staff writes in the approval letter to contact TRPA if dewatering is needed, leaving the reader to wonder whether and how “measures” will be deployed, as none are included. Notification to TRPA of encountering ground water is not a “measure” included in the Project approval to meet the requirements. **Because no such measures were included, there is no legal basis to move to consideration of an exception under Code section 33.3.6.A.; the Appeal must be upheld or the agency will fail to proceed in a manner required by law.** (This is typical of the kind of deficient TRPA analysis I witnessed throughout my career at the Water Board.)

Nonetheless, staff then next improperly moved to consideration of the exceptions allowed under subparagraph 33.3.6.A.2., which consideration now stands as irrelevant. That said, I stand on my critique and analysis of that exception in the Affidavit. Additional comments on the selected tower-industry design standard follow.

### **Safety Issues**

I pointed out that the tower’s TIA-222-H design standard and approved design through the City Building Department did not include any ice loading on the tower, which I believe could create a dangerously unsafe, deadly condition that could cause or contribute to collapse of the tower. I think TRPA owes it to the public to disclose in the Staff Report whether that is correct, and that they are not approving a dangerously *underdesigned* tower because the design engineers and City officials fully considered and dismissed the need to include ice loading, and why that is not negligent with regard to the safety of the tower which you so deem a benefit for public safety—despite the design Class II undermining that presumed need. What it looks like to me is that people with no experience with Tahoe weather designed this tower for some other, non-snowy setting, and it all got overlooked. Please provide evidence I’m wrong!

As in the Affidavit, I lean on the design criteria chosen by the structural engineer to determine what constitutes a telecommunication tower to be “necessary” for public health and safety, and this tower, being designed to Class II standards, doesn’t meet the criteria, as explained at length in the Affidavit. No, the Class II design puts that TRPA safety finding to the test, and it fails. I will go even further concerning the chosen design Class for the tower and state, in my opinion, the Ski Run Tower could easily qualify as, and be built as, a Class IV facility. From the tower industry design article in the Affidavit:

**“Risk Category IV:** Failure results in substantial hazard to the public. Failure of these structures typically means harm to the public extends well beyond the site of the failure. Often remediation cannot be completed due to the nature of the failure (e.g. nuclear facility). Failure of these structures also typically ensures failure of additional multiple systems critical to the public (e.g. loss of power results in loss of water and transportation). These structures can be considered as an essential facility.”

The tower would qualify for Class IV not because necessary for the purposes of emergency communications, but rather to prevent injury and property damage from collapse and/or associated fire. These Classes are designated to provide greater engineering safety factors, in consideration of all the values at stake. In choosing the Class II design, which is the default Class for facilities not needed for emergency services/public safety, Verizon simply cheated out with regard to safety and chose a lesser design: less costly, less sturdy, less reliable, less safe. More prone than Classes III or IV to fall and cause a potentially disastrous fire. I discussed in my October 2021 letter (Exhibit 4) for the Permit Hearing engineering safety factors and related risk considerations, and received no reply nor concession in the record. These important matters simply went unaddressed.

Besides orthodoxy, if memory serves, my recollection is TRPA's Board leaned hard on a letter in the record from an El Dorado County Sheriff's personnel which indicated some gap in coverage in the Bijou area. My understanding is that such safety/police agencies have their own frequencies and emergency communications systems, 911 calls are routed through any necessary carrier, and emergency communications are tied to facilities in Class III or Class IV. This officer's anecdotal testimony seems to override all the other unaddressed testimony and information concerning fire dangers, tower collapses, disruptions in cell service during fire emergencies, engineering safety factors, insurance concerns, evacuation concerns, and other concerns I and others expressed. I honestly think when TRPA is presented with real analysis and facts they disagree with, or outside their areas of expertise, they get flustered and invariably fall back on their seemingly unassailable, infinite discretion to interpret (and break) the laws, and then just apply bureaucratic weight to just push on and hope for the best. See my letters in advance of the Permit Hearing (Exhibit 4) where I testified, and in advance of the Appeal Hearing (Exhibit 5), where I testified. None of these comments are satisfactorily addressed in the records of the approval and denial, respectively. I give the officer his due, but wonder if the Sheriff's representative knows anything of the industry's history of tower fires? There have been many, monopine towers and many others, as the record in this matter shows.

The cell tower industry is relatively new, especially the monopines, which have been built for only about 20 years, so they don't necessarily know from long experience how these engineered structures will respond to environmental forces such as here at Lake Tahoe, with our extreme ice, snow and wind loads. This is not an industry that is forthcoming about their many tower fires and collapses, their engineering safety record, or that frankly cares much about fire danger. Being among the world's most profitable industries, if a telecom burns down our City or Basin due to a tower collapse or fire, they will be okay, maybe lose a few towers. If the Basin burns, we lose EVERYTHING, and for the sake of a cell phone – when other safer communications alternatives exist. I assert now as I did last October and March, TRPA is setting the stage for a firestorm by approving, piecemeal, untold numbers of macrotowers and small-cell wireless facilities that could destroy our communities, by promoting these towers everywhere with no environmental impact analysis whatsoever, and no evaluation of fire-safe alternatives or mitigations. (Yawn.)

TRPA's Staff Report for the March 23, 2022 Appeal Hearing, p. 308, responded to the fire safety and collapse issues: "For fire risk from alleged terpene production, TRPA defers to the FCC's environmental documentation and record as the issue is not unique to Tahoe." Deference to the FCC environmental documentation? What documentation would that be, with any relevance? I assure you there isn't any record concerning terpenes. The FCC is arguably the most corrupt federal agency in Washington, and that's saying a lot; they've got more and more competition these days. I will say it again as I said it before, any person or agency willing to hide behind the notoriously corrupt FCC and its regulations has no integrity or credibility as far as I'm concerned. None. I'm entitled to my opinions.

The Staff Report continues: "For forest fire risk, TRPA is unaware of cell towers being any more risk prone than existing structures built to fire code in the Tahoe Basin or any **forest** fires ignited by cell towers." (emphasis added) The illogical approach again, "arguing from ignorance" in purported or real unawareness. The increased fire risk is dismissed with a sentence, despite the record evidence provided of a massive wildfire in Southern California started from a utility pole-mounted cell tower collapse. I guess that wasn't "forest" enough for counsel, weasel words. Nor did TRPA do any analysis or make any findings concerning its own investigations into tower fires. I see it as TRPA expecting to be spoon-fed all the impact evaluations and risks, staff unable or incompetent to do its own research or fact-finding, only able to speciously and illogically dismiss comments and impacts it doesn't want to hear, understand, or address. Begging off evaluating any fire risk associated with towers, designs, alternatives, as not in TRPA's "ambit" or sphere is another bald assertion with no basis, for if TRPA were to follow Compact Article VII and prepare an environmental impact report for the Tahoe Basin's ongoing, piecemeal wireless roll-out, the fire risks could be evaluated and mitigated, right in your "ambit" as the Tahoe Region's planning agency. This sort of legalistic mumbo-jumbo has no merit, and earns TRPA the colloquial monikers it continues to unsuccessfully live down regionally, take your pick of which.

The Staff Report for the Oct 14, 2021 Permit Hearing Appeal provided only this finding concerning the public safety need, a level of analysis that boggles the mind on this hugely important life and death issue of fire safety:

#### Chapter 50 – Additional Public Service Facility Findings:

(a) There is a need for the project.

Cellular coverage maps show service gaps in the area and existing facilities are not meeting service needs associated with increased wireless **data** needs. This project will provide additional facilities to meet service needs in the area. **The additional facilities will provide improved wireless communication service in emergencies to help protect public health, safety, and welfare. (emphasis added)**

"Data" is not cellular phone service, and we know the issues with capacity in South Lake Tahoe center around increasing data for internet usage, which is not needed for public safety, persons downloading movies and the like. The latter statement is nothing more than orthodoxy, things assumed as fact and practice without basis in the face of challenges, such as the recent court ruling citing that expansion of data services, for profit or anything else, is not a protected action

under the Telecommunications Act, which is for phone service. The orthodoxy is, everyone just knows cell phones are needed for public safety, and cell phones depend on the towers, and that's what TRPA is practicing with the finding. Cellular services are often the first thing to fail in emergencies, that is why facilities with Class II designs are not relied upon for public safety telecommunications; those in Classes III and IV are for that purpose. Citing the design standard guidance, p. 3, it is frequently misunderstood for safety purposes, just as TRPA asserts:

“ . . . Essential communications” are defined within ANSI/TIA-222-G Annex A, A.2.2 as structures used primarily in support of civil or national defense, emergency, rescue or disaster operations, military and navigation facilities. On occasion, interpretations have been made based on the terms “emergency” and “rescue” in the above definition as validation of Class III requirements for wireless telecommunication towers, as the expectation is typical personal communication use of a mobile wireless device may be used during an emergency or rescue event, thus mandating the need for the higher classification. This is not the intent of the Standard. . . .”

### **Land Coverage Exceeds Allowable Coverage**

Please refer to the land coverage analysis in Exhibit 6. The Exhibit's analysis shows the various plan sheets with the revised Approved Plans are inconsistent with regard to the foundation dimensions, and moreover, inconsistent with allowed coverage – **in every case I measured it is way over the allowed 736 square feet of approved coverage available to the Project, in one case 29% over allowable. Because the approved Project plans do not meet coverage limits for the Project as designed and approved, the coverage findings in the Permit record of approval are invalidated and the Appeal must be upheld.** By the estimates in Exhibit 6, if built according to “Acknowledged” final revised plans, **the Project will exceed allowed coverage for the Project on this sensitive parcel by either 49 square feet, 165 square feet, or 98 square feet, depending on which Verizon drawing you measure.** I tend to side with the latter two estimates, as the drawings do not involve the roof overhang, which obscures the first. In any case, the excess coverage is not zero, which is what is available for excess coverage.

It appears the Verizon designers were not paying attention to coverage allowances, and TRPA was insufficiently diligent in verifying dimensions for coverage purposes and consistency. Given the emphasis TRPA seemingly places on its strict coverage rules, one would think Verizon would be more Permit compliance concerning coverage. By all appearances, in the rush to “get the Permit out” the plan dimensions were not verified by TRPA. To do other than uphold the Appeal is a miscarriage of justice for all those thousands of Permittees and prospective permittees who have suffered to comply with TRPA coverage rules, and makes a mockery of the coverage/Permitting system. I mentioned in the Affidavit that the parcel was overcovered. I will emphasize it is not just a little overcovered, the SEZ on the site is majorly overcovered, as are the sensitive 1A lands. There is no legal basis to give Verizon a pass for their plan errors, caught on Appeal, or process another remedial post-approval coverage transfer of some sort on this

beleaguered and overcovered Project site – after failing to grant a full and proper stay and rushing us to Hearing. I believe such action would be unprecedented, highly improper and without legal basis. **You must uphold the Appeal because this approval allowing overcoverage is inappropriate and must be set aside in order to proceed in the manner required by law.**

I have noted TRPA's extreme concern over the years with getting the coverage numbers right, applying the Rules to others, and so forth. But of what use is all that effort when the final analysis fails, as here; it is what gets built that affects the environment, not the coverage write-up and all the other lead-up. It seems to me one of staff's primary jobs in "plan checking" should be to verify that final plan dimensions reflect the approved coverage allowances. That is far from my experience. This is more typical of my experience: On the Projects I independently issued requirements for in my work, I would often have to reject inconsistent and incorrect TRPA-approved plans upon my own verification of coverage and project plans, and send the applicant back to TRPA until the plans were consistent, final, and correct for Water Board purposes. Contrary to TRPA, we required a complete "report of waste discharge," before any approval action was taken. No partial plans or incomplete plans were considered for formal action as TRPA has enacted in the ROP. If something needed to be changed, outside the scope of the approval, we began again, as should be done here if Verizon wants this chosen, arbitrary design change. It's really that simple. All else is to obscure the facts.

### **The Global Wireless Expansion, and TRPAs Role**

My father-in-law was a Captain on the Los Angeles Fire Department for many years, a high-rise fire safety regulator, who used to say people fell in one of three groups: those who comply willingly and fully with the law; those who do the minimum necessary to comply; and those who have to be forced to comply at every turn, the scofflaws. For the latter, things could go the easy way, or the hard way, their choice. I suppose people can be divided much the same way on the issues associated with the dangerous and deleterious biological effects of electromagnetic fields and microwaves in the environment: those who understand the science (engineers, researchers, doctors, biologists, etc.) and have sounded the global alarm concerning the planned 5G systems and existing systems; those who don't understand the science, the laws and FCC regulatory schemes, the telecom legal bully, the greater mass of the public who know little and accept the orthodoxy that cell phone and wireless technology is safe and a universal good, to be blindly embraced as a consumer; and, those who may or may not understand the dangers and pitfalls but are promoting the technology anyway because it serves their own purposes and agendas, witness TRPA staff. These are just observations (not judgments) of human nature on a free-will planet, with consequences. I will leave the judging to judges, as in the Eisenstecken case.

I have an associate, a rocket scientist and aerospace-electrical engineer, now retired from a career in the U.S. Air Force and contracting to put satellites in space. He told me he learned through a well-placed contact, a high-level satellite-telecommunication engineer at Buckley Space Force Base near Denver, that the military can control all wireless communications, presumably by

arrangement with the telecoms. The following was reported by the contact from two independent sources working at testing new 5G microwave antennas: when the 5G antennas were tested in Low Power Mode, all the birds and animals within 1000 feet were injured and killed, with birds dropping out of the sky. Whether small-cell or macrotower, the antennas are similar. A recent report from Scandinavia definitively associated bird deaths with 5G systems in use; again birds dropping from the skies, to be considered along with mass bird deaths reported elsewhere, but mainly outside of cities, where 5G testing can't be done. Whether you believe my associate's hearsay or not, what we have coming from the telecoms, the 5G systems, was developed for military weapon systems that can see through walls to target individuals and locations by cell phone with their pulsed microwave beams, which can maim and kill. That is not secret information, perhaps just not widely known.

If fully implemented, every citizen in the nation and world will be, for the first time in history, surrounded and dosed with radiation by this invisible 5G telecom weapons system whether they want it or not, as will all the biologicals. The CIA, FBI and DHS, the militaries (all the mass surveillance agencies) and telecoms and mass media tech giants want it for profit, control and other undemocratic reasons, and are forcing it on the rest of us who don't, enabled by our Congress, using the tactics from Big Tobacco's well-worn playbook and other subterfuges. But there is a difference: people had a choice about whether they wanted to smoke tobacco and incur the health risks. Humanity, all the kingdoms, are not being given a choice about whether to be bathed in the microwaves, despite zero human or other biological testing on the health and environmental effects of 5G by the FCC, the FDA, or any other U.S. public health agency. Madness, or a diabolical plan? They must have their 5G weapon on every street, ostensibly to avoid a "gap" in service coverage. Uh-huh.

There is a current saying since the so-called *Citizen's United* Supreme Court decision took the lid off of lobbying money, campaign contributions and the like: Congress can't be bought; it already has been, and no one's selling. The telecoms are major owners, and also of the FCC appointed by Congress. Since we already know the telecom wireless industry is a purveyor of dangerous products that deliver a dose of poison with every use, as well as a massive global plastic and e-waste generator through their designed-obsolescence sales model, I take no comfort in having such a 5G weapons system in the hands of a fascist government promoting this technology. SMART = Secret Military Applications in Residential Technology.

Some of you are old enough to recall the 1960s-era TV series *The Twilight Zone*, or caught it on replay. One of the most popular episodes in the very-popular series was titled, "*To Serve Man*," a story centered around "contact" with extraterrestrial humanoids from the cosmos, nice beings with highly advanced technology to serve mankind, beings who communicated telepathically (no cell phone). Their gift was a book of knowledge; humans had to decode it from their language. There seemed to be a great resonance with the story among the viewers, and one day a parallel occurred to me with the 5G systems. So I sat down for a couple of hours and wrote a story in rhyme, as I am a musician and songwriter in addition to all else I am. I have a certain knack, at

times, for saying a lot with a few words in my creative writings, versus saying a lot with a lot, as here. It will entertain you with some of the big-picture reasons why I am opposing this heinous 5G-wireless rollout. See my version of *To Serve Man* in Exhibit 7 to enter *The Twilight Zone*.

### **Appeal Number Three**

When I came to TRPA 2020 as a citizen-ally for the environment on these matters, I felt treated as a public enemy and ignored because I opposed this Project on various legitimate grounds. I requested to be notified of upcoming actions concerning wireless facility applications and planning activities, and was repeatedly ignored. No mailing list of interested parties was maintained, despite ROP 2.14: “TRPA shall maintain a list of all persons who have requested notice of TRPA meetings. Requests shall be valid for one year unless renewed. Media organizations and public agencies, on request, shall receive notices free of charge. Reasonable fees for notices shall be set by the Executive Director.” TRPA can’t produce such a list with my name and contact info on it because the only “notifications” I ever received from TRPA were in direct e-mail replies from staff in response to my inquiries. It appears TRPA has abandoned this rule it set for itself in a deliberate attempt to illegally exclude the public and has failed to proceed in a manner required by law, generally in this regard. I am not aware of a superseding regulation that would nullify the ROP requirements. I eventually gave up on the requests as a waste of time. I also thought it was interesting, as I learned after I filed the Appeal, that TRPA’s link to initiate a Freedom of Information Act request was broken. Just one more way to stymie public involvement. Taken alone, I wouldn’t say that, but look at the weight of evidence.

I thought it was deplorable that pdf attachments to emails I and others provided for the Verizon hearings, containing substantive comments, were not included in the record of public comments posted online with the transmittal email. Nonetheless I was assured by staff my e-mailed comments were in the records of the prior Appeal hearings. With written comments and oral comments during hearings I offered the best, honest advice and comment I could muster at the time concerning effects on environmental health, public safety and fire threats, and later on issues with plastic wastes and water quality.

The latter was my attempt to dissuade TRPA (you) from your folly, knowing far better than TRPA the water quality laws of the state of California, and regulations of the Lahontan Water Board. I told you TRPA had no discretion or authority to allow prohibited toxic waste discharges as Verizon proposed, and that your action would not withstand scrutiny by the Water Board. That was my failed attempt to save you from embarrassment by approving yet another giant monopine turd in the space you occupy with the Water Board. Arguably, as I previously glossed, the Water Board is the most powerful water quality ally you could have, if you don’t destroy their trust. My words did not matter to TRPA.

Now, Water Board orders have been sent to the Lake Tahoe Basin telecoms in California to begin to abate and regulate the deadly, toxic microplastics and lead TRPA has both ignorantly

and willfully allowed to pollute our sacred Lake Tahoe and region. I wasn't listened to or understood by TRPA when I said that I spent much of my professional career cleaning up the messes left by ignorant and willful polluters and desecrators, which is exactly what these monophines you have approved are, toxic messes. We don't want any more, and TRPA should be taking action to correct your blunders, not approving new facilities like this planned nuisance on Ski Run Blvd., against all law and reason.

TRPA has buried its head in the sand and dug in its heels on the issues of wireless radiation in service of its agenda with the telecoms, refusing input from interested parties. The remaining public seems large unaware of what is occurring, hypnotized by telecom gadgetry, hype and mass media, otherwise engaged and challenged by life. I urge you to now embrace your planning mandate to prepare an EIR encompassing all wireless facilities in joint participation with the Water Board to develop its required environmental document(s) under the California Environmental Quality Act, as it may, following the Compact and engaging the public to seek balanced, safer connectivity alternatives available for people and the special environment at Lake Tahoe. The other choice is to break the applicable laws to serve your telecom buddies to the detriment of Lake Tahoe, its surroundings, and its people. I believe people are born knowing right from wrong, and it is never too late to atone and correct past errors going forward. Thus we learn. **Please proceed in the manner required by law: Uphold our Appeal.**

**List of Exhibits:**

Exhibit 1. Affidavit and Stay Request, August 22, 2022

Exhibit 2. Marshall/Miller email exchanges, late August 2022

Exhibit 3. Lori Carpenter, MS, Letter Report on RGR and Soils-Hydrology Assessments

Exhibit 4. Miller Comment Letter to TRPA re Permit Adoption, October 2021, w/Attachments

Exhibit 5. Miller Comment Letter to TRPA re Appeal Hearing, March 2022

Exhibit 6. Coverage Analysis from the Approved Plans

Exhibit 7. *To Serve Man*, a rhyme by Alan Miller

## **AFFIDAVIT UNDER PENALTY OF PERJURY**

I, Alan Miller, swear under penalty of perjury the following information to be true and accurate to the best of my current knowledge and recollection.

I am a long-time resident of the City of South Lake Tahoe, and I am a licensed California civil engineer with many years of experience in dealing with water quality issues here at Lake Tahoe. This affidavit is submitted in support of our request for a stay which accompanies our Notice of Appeal.

### **The Staff Letter Waiving Prohibitions**

During a review of TRPA documents online I discovered a staff letter from a TRPA Senior Planner dated August 5, 2022 (Exhibit “A”, attached) waiving prohibitions for excavation potentially affecting ground water for the approved Verizon 112’ monopine tower at 1360 Ski Run Blvd. As the staff letter states, requirements for prohibited excavation activities are waived “pursuant to TRPA Code of Ordinances Sections 33.3.6.A.2.a (accommodation of engineering requirements for above-ground structures) and 33.3.6.A.2.d (public health and safety).” The subject waiver was issued without making any findings of fact, just citing the categories above, with limited information provided in support of these assertions. TRPA has approved this waiver improperly, in violation of the law in a number of ways, as this Appeal will make clear.

### **The Appeal**

This Appeal is concerned with the August 5, 2022 staff letter misinterpreting and misapplying the laws and regulations governing the Tahoe Regional Planning Agency (TRPA) by the TRPA, as formalized in the Acknowledged Permit for the Project posted online on August 19, 2022 in reliance on the August 5, 2022 staff letter. On March 23, 2022 the TRPA Governing Board denied the Appeal by Eisenstecken, et al., of the TRPA Hearing Officer’s October 2021 decision to issue the TRPA Permit to Verizon for the above-cited Project. On May 6, 2022 TRPA issued its Final Permit (per the file name in online documents) to Verizon for the tower planned at 1360 Ski Run Boulevard, City of South Lake Tahoe, CA. During all the time prior to the Governing Board’s denial of the Appeal on March 23, 2022, the Project plan specifications always specified that “Grading will not exceed 5’ [5 feet] below ground” for the tower foundation, located on TRPA’s most-sensitive Class 1 lands. I became concerned with impacts to ground water when I saw the August 5, 2022 staff letter from TRPA approving revised Project plans for excavation to a depth of 13.5 feet, lacking any stated evidentiary support or fact finding for the record of approval other than citing Code sections.

As we know, the tower itself is on Class 1a land (due to steepness), with sensitive 1b Stream Environment Zone (SEZ) lands surrounding, both SEZ lands associated with Bijou Park Creek that are excessively over-covered with impervious surfaces on the Project site, and those that remain more or less natural and/or functional to the east and downslope of the Project site. The quote in the paragraph above is from the approved 2021 plans showing a small spread or mat foundation approx. three feet thick and terminating five feet below ground at the *shallowest* point, a slab on earth, approximately three feet thick, with a riser 3 feet above it. Thus, excavation beyond five feet (to 7.5 feet), which is prohibited if not in accordance with Code of Ordinances section 33.3.6., letters A. and B., was proposed, evaluated, and made a part of the Permit approval record, as documented in the Eisenstecken, et al., Appeal Statement, the denial and subsequent Final Permit.

Through the Appeal, TRPA asserted the Project was not in significant conflict with the cited Code sections, for the Project as described and approved by the Governing Board, and so concerns, comments, and findings concerning ground water impacts from the foundation by the public, including myself, were limited. In fact, an early letter in the Project record from 2019 has Verizon expressly citing that the design was such that excavation would go beyond five feet, to 7.5 feet deep due to slope, though mostly less than five feet, with the clear implication that Verizon was fully aware of the five-foot excavation limitation as a basis for design. In response to the Verizon letter, on August 27, **2019** TRPA issued an approval letter that differs from the August 5, **2022** letter (Exhibit “A”) only by changing the allowed excavation depth from 7 feet 6 inches to 13.5 feet, and the date of issuance. This indicates excavation to 13.5 feet was of no more concern to TRPA than excavation to 7.5 feet, in the absence of findings other than provided in 2019.

The Initial Environmental Checklist (IEC) in the Project record states “No” concerning impacts related to: “Land. 1.d. Changes to the undisturbed soil or native geologic substructures or grading in excess of 5 feet?; Water Quality. 3.e. Discharge into surface waters, or any alteration in surface water quality, including but not limited to temperature, turbidity, or dissolved oxygen? 3.f. Alterations in the direction or flow of groundwater? 3.g. Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer through cuts or excavations? and 3.j. The discharge of contaminants to the groundwater, or any alteration to groundwater quality? 3.k. Is the project located within 600 feet of a drinking water source?” (There are at least two domestic wells within 350 feet, at the residence of co-Appellant David Benedict.) Under the revised plans, all of these Checklist responses (and there may be others) would change to either “Yes” or “Data Insufficient” under the revised foundation proposal, as only improper evaluation has been done out of the public eye, and no mitigation has been proposed, improperly ignoring the certified finding of no significant effect (FONZE). Unless potential impacts are mitigated to insignificant levels an Environmental Impact Report is required.

The implication is that Verizon deliberately chose a relatively benign foundation design with regard to potential ground water impacts for the Environmental Review/Permitting/Appeal process, got to the end of that approval process, and then changed the Project description expecting TRPA would work behind the scenes to approve the significant design change before

anyone noticed and the 21-day statute of limitations for appealing the TRPA decision passed. That had worked before at 7.5 feet, so why not 13.5 feet?

This is not a minor structural change. It is a major change, and the basis for it is not explained. It is so substantial, for instance, in terms of foundation design and earthwork that it is not credible that the design change was not foreseen by the tower designers between 2019 and the March 23, 2022 Appeal Hearing/Denial, and subsequent Final Permit issuance, and the implication is that the change was planned and postponed to be approved after-the-fact by TRPA staff in the exact manner applied before, in 2019 when proposed excavation was to 7.5 five feet, knowing full well from TRPA that such a foundation to 13.5 feet potentially intruding on ground water could be challenged in a public environmental review process as required under the TRPA Compact. Leaving the 13.5 foot excavation out of the Project description thus eased the way to Permit approval.

### **The Proposed Permit Revision**

Having won the March 2022 Appeal, Verizon received its Final Permit from TRPA, based on plans dated September 29, 2021, on or about May 6, 2022. It appears that shortly after TRPA denied the Appeal in favor of Verizon, Verizon set wheels in motion for very significant changes to the tower foundation design, to support an amendment or revision or change (as it may be called) to the TRPA Permit. On or around August 2, 2022, Verizon submitted to TRPA a revised Plan sheet application to redesign the approved shallow footing to extend that same mat foundation footing 13.5 feet below grade, nearly two times deeper than the approved Final Permit. This was accepted as a “New Application” and subsequently approved as a minor modification or plan change under the prior approval with the August 5, 2022 staff letter and Acknowledged Permit posted on August 19, 2022. (See screen capture on page following.) I assert that is improper, voiding the prior project approval. A new or revised IEC was not prepared as required in the Code and TRPA Rules of Procedures, or was not available online if one was prepared, and that is where TRPA erred. Staff should have said, “This is very different with regard to reasonably potential adverse effects on ground water, as disclosed in the revised geotechnical report, and we will have to re-evaluate effects with a new or revised IEC.”

Doubling the excavation depth for the foundation makes it proportionally larger volumetrically by 2 times the original excavation of 80 cubic yards for the foundation, to be backfilled with 50 cubic yards of the disturbed excavated soil, with 30 cubic yards taken offsite for disposal. So we now have excavation estimated on the order of  $80 \times 2 = 160$  cubic yards, and  $50 \times 2 = 100$  cubic yards to be stockpiled onsite prior to backfilling, possibly using larger equipment for the deeper excavation, on the small shed foundation and small parking lot for the sled hill and adjacent area for the tower shed location, for this is where the previous plans cited in the Final Permit indicate all Project staging and construction activity must be done. How this excess decompacted, loose earth will be managed to prevent environmental impact hasn't been disclosed or demonstrated as far as I can tell, and impacts could be significant if mismanaged. The approval letter is silent on these matters involving potentially significant water quality and environmental impacts from the proposed Project changes, or any revised conditions or mitigation measures.

The foundation change was accompanied by a revised geotechnical report (RGR, dated April 19, 2022) and a revised structural engineering report (RSER, dated May 3, 2022, though the original SER from August 20, 2019 is not posted online). I don't know exactly when TRPA received these revised plans and reports but they were not a part of the Final Permit issued May 6, 2022.

**Record Status: Acknowledged**

Record Info ▾      Payments ▾

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**Work Location**

1360 SKI RUN BLVD  
SOUTH LAKE TAHOE CA

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**Record Details**

**Project Description:**  
025-580-07  
FILE ATTACHED  
Increased excavation depth for tower design. Electronic Application 8/16/2022 TLS Original permit (#ERSP2019-0389) acknowledged. Plans stamped as Plan Revision #1.

▼ **More Details**

- ▣ **Related Contacts**
- ▣ **Application Information**

**GENERAL**

General Scope:	New Application
Project Type:	Public Service
Associated Fees:	027 - Linear Public Facilities Section IV.B., Section 18.3 Code
Project Description:	New Monopine telecommunication facility
Code Section 30.4.6:	No
- ▣ **Parcel Information**

## The Ordinances

The applicable ordinances with respect to excavation follow:

Ordinance 33.3.6. Excavation Limitations (emphasis added)

“The following limitations to excavation shall apply:

A. Groundwater Interception

Groundwater interception or interference is prohibited except as set forth below:

1. Excavation is prohibited that interferes with or intercepts the seasonal high water table by:

a. Altering the direction of groundwater flow; b. Altering the rate of flow of ground water;

c. Intercepting ground water; d. Adding or withdrawing ground water; or e. Raising or lowering the water table.

2. TRPA may approve exceptions to the prohibition of groundwater interception or interference if TRPA finds that: a. Excavation is required by the International Building Code (IBC) or local building code for minimum depth below natural ground for above ground structures; b. Retaining walls are necessary to stabilize an existing unstable cut or fill slope; c. Drainage structures are necessary to protect the structural integrity of an existing structure; d. It is necessary for the public safety and health; e. It is a necessary measure for the protection or improvement of water quality; f. It is for a water well;

#### B. Excavations

Excavations in excess of five feet in depth or where there exists a reasonable possibility of interference or interception of a water table shall be prohibited unless TRPA finds that:

1. A soils/hydrologic report prepared by a qualified professional, which proposed content and methodology has been reviewed and approved in advance by TRPA, demonstrates that no interference or interception of groundwater will occur as a result of the excavation;”

The first thing to note is that the staff letter cites Code section 33.3.6.A.2., is waived for “accommodation of engineering requirements for above-ground structures,” a colloquial shorthand, I suppose, for the *actual* requirement, as stated above. The staff did not provide a thoroughly reasoned analysis with a rational conclusion for the waiver, simply assertions without supporting facts or substantial evidence, so a deeper look is required.

### **Excavation is Not a Legal Requirement**

The ICB is incorporated into the California Building Code (CBC), and will be referred to as IBC/CBC herein with regard to California Building Code 2019 (Vol 1 & 2). The claim that, “Excavation is required by the International Building Code (IBC) or local building code for minimum depth below natural ground for above ground structures” is not supported by findings in the staff letter or record, as follows. The IBC/CBC does not prescribe the manner of compliance with its requirements:

#### **“1.2.3 Alternative Materials, Design and Methods of Construction and Equipment”**

“The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code, provided that any such alternative has been approved. An alternative material, design or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety.” (underlines are hyperlinks)

TRPA is not the “building official” and so would have to apply the requirements of the City of South Lake Tahoe, which has approved a Building Permit to build the tower. (At this time it is unknown to me if the City has approved the subject plan revision, or whether this is pending.) Because the code does not prevent or prohibit *any* design that complies with the code requirements to the satisfaction of the building official the proposed design is just one of many that could be applied. The RGR indicates that one or more foundation types (pilings, slab,

combo) are supported by the report findings (unchanged by 2022 revisions). Verizon originally designed a spread slab footing with excavation of generally five feet or less, to 7.5 feet maximum. Verizon then had a spread slab footing redesigned with 13.5 feet of excavation, and submitted the design change, which was accepted by TRPA after misapplying the CBC/IBC requirements and allowances cited above, assuming requirements where none exist. Any conceivable number of foundation designs no more than five feet below ground, or entirely above ground could support the tower, including a concrete monolith (perhaps with façade). Designs are only limited by imagination, materials, money and time, and this is simply Verizon's proposed illegal design, for it intrudes on ground water, or may, as disclosed in the Revised Geotechnical report (RGR) and August 5, 2022 staff letter.

The basis for the arbitrary selected design change is unknown, but it is not a requirement of the IBC/CBC unless TRPA can prove otherwise. Therefore, 33.3.6.2.A. is not a valid criterion based on the CBC/IBC. Nor does it appear that this additional deep excavation is a requirement of the local CSLT building official, per the latter part of the Code. No "local building code for minimum depth below natural ground for above ground structures" is cited in the record, and I doubt one exists that would be applicable in this case, given the frost line limits.

However, let us assume for the sake of argument that, unknown to me, there is a local building department requirement (not just allowance) for excavation to 13.5 feet that is supported because, unrelated to health and safety, TRPA finds that excavation is required by the . . . "local building code for minimum depth below natural ground for above ground structures." I assert that Code section 33.3.6.A.2. is merely permissive, providing only that the activity is not prohibited provided *all other applicable requirements of TRPA are met*. TRPA's action in this amendment approval is in effect asserting that a local building department requirement somehow supersedes all other laws and TRPA regulatory requirements. We are expected to believe that no other TRPA requirements apply. There is nothing in the law to support that interpretation.

The U.S Congress in its infinite wisdom, passed the Act establishing the Compact and the TRPA for the protection and responsible development of the Lake Tahoe region, under which the TRPA Governing Board of elected representatives and others, in their infinite wisdom, established the Code of Ordinances, and Rules of Procedure, including applicable Project application and environmental review procedures. However, the laws and regulations enacted are only as good as their application by the agency, which is flawed in this case. I will discuss the specifics of the Compact more below, but from a general viewpoint, if an activity that may affect the environment is not prohibited under the TRPA Code it may proceed under the applicable review procedures. In this case, unelected, appointed TRPA staff treats the amended Project application as if the exception to allow the Project changes under Code section 33.3.6.A.2. is a mandate of some sort for the unneeded commercial Project, and literally a "free pass" to ignore every other legal requirement imposed by the Congress on down because of a local building department

requirement. Shall the Congress be informed that their will has been thwarted due to a decision by the City of South Lake Tahoe Building Department staff, which appears to have simply approved the proposed design submitted by Verizon without question or mandate? The position that TRPA's mighty hands are tied in this case is legally untenable, for it makes a mockery of the Compact and everything that flows from it. The Project may proceed under the exception only in compliance with all laws and regulations TRPA is charged to implement and enforce, just as for any new Project.

### **The Exception to the Prohibition Against Ground Water Interception or Interference is Not Necessary for Public Safety**

TRPA's citation that the excavation affecting ground water "... is necessary for the public safety and health" is incorrect. Verizon is a private, for profit, corporation, a provider of convenience mobile phone and internet services, not a provider of necessary public health and safety services, or a utility such as sewer, water and electrical services, for which the Ordinances were ostensibly designed. One need do no more than look at the proposed Verizon tower design to see that it was designed as a non-essential facility with regard to public health and safety: it is designed as a Class II facility under the cited design standard. In addition to the IBC/CBC requirements, the RSR cites: "Structural design is based on the California Building Code, 2019 Edition (2018 IBC) and the TIA-222-H standard." (Note the latter is not a code, but an industry-derived design "standard" of practice with no force of law, developed by the tower industry and the American Society of Civil Engineers (of which I am a member)). The standard places towers into Classes according to public safety and reliability considerations.

Of relevance here are structure Classes II and III. Both Classes II and III qualify as a "significant hazard to human life and/or property" if a tower fails. Significant with respect to human life means a structure failure could result in injury or casualties, but very limited in Class II, i.e., due to exposure or remoteness, whereas in Class III a tower failure could also potentially impact other services, such as power, water, transportation, firefighting, ambulance, etc., that are considered essential to human life. Additionally, structure Class III can be justified solely on the basis that a high risk to life or safety or property damage is threatened in the event of a failure of the structure. I have included as Exhibit "B" (attached) the industry white paper "Classification of Tower Structures per ANSI/TIA-222-G, IBC and ASCE 7" (National Association of Tower Engineers, 2017) which explains further (emphasis added):

#### **Structure Class II:**

Structures that due to height, use or location, represent a significant hazard to human life and/or damage to property in the event of failure and/or used for services that may be provided by other means.

ANSI/TIA-222-G, Addendum 2 Annex A Section A.2.2 further defines Class II structures based on reliability criteria: Structures used for services that may be provided by other means such as: commercial wireless communications; television and radio broadcasting; cellular, PCS, CATV, and microwave communications.

*Commentary: Failure of a structure defined as Structure Class II presents significant hazard to human life and/or property if a tower fails. Significant with respect to human life means failure of the structure could result in injury or casualties, but it's very limited in practicality or exposure to more than a few individuals (e.g. Significant with respect to property means property surrounding the tower could be damaged or destroyed. With respect to reliability, the phrase "Used for services that may be provided by other means" signifies redundancy exists within the network to support temporary loss of service due to a specific site. This redundancy is present in almost all public wireless service, including E911 networks.*

**Structure Class III:** Structures that due to height, use or location represent a substantial hazard to human life and/or damage to property in the event of failure and/or used primarily for essential communications.

ANSI/TIA-222-G, Addendum 2 Annex A Section A.2.2 further defines Class III structures based on reliability criteria: Structures used primarily for essential communications such as civil or national defense, emergency, rescue, or disaster operations, military and navigation facilities.

*Commentary: With respect to reliability, Class III structures represent towers for which the owner/provider cannot tolerate any loss of the network/signal, due to either types of services provided or zero redundancy existing in the network. Beyond zero redundancy, failure could also potentially impact other services, such as power, water, transportation, etc. that are considered essential to human life. Finally, Structure Class III can be quantified when a high risk to life/safety exists in the event of a failure of the structure. The risk is exemplified when the public venue is not mobile (e.g. hospital, school, large public emergency gathering facility).*

Based on the Class II standard, the facility is not "necessary for public health and safety." It is redundant for essential safety services and it would be improper and specious for TRPA to assert otherwise and impose its own "necessity" standard with regard to public health and safety, for it is not a health and safety agency and has no particular expertise in that area. It is a planning agency that should rely on the determinations of others in matters of public safety and health, professionals such as the standards developers, professionals who are so charged to protect the public, and with particular engineering and other expertise. To the contrary, this exercise of independent judgment by TRPA concerning public health and safety is arbitrary and capricious, for the purpose of a blatantly illegal permit give-away to this particular private telecom Verizon, ignoring all Compact and TRPA Code requirements. The tower is not necessary for public health and safety.

Rather, the proposed tower is a new danger in the community. For the record, the tower is designed (and approved) as a Class II facility when it also meets criteria for a Class III tower, which carries a higher engineering safety standard. This is a disappointment in my view, for the tower itself represents a substantial danger to the public, relative to no tower. Class II is a lesser (cheaper) engineering design standard that seems more appropriate out in a forest somewhere, with no one around, though even a falling tower in that setting, as here, is an extreme fire danger.

At 1360 Ski Run Blvd., the falling tower may impact other structures, and/or injure or kill people, and/or affect transportation or vital services, as the tower is sited adjacent Needle Peak Road above Hansen's Resort, a commercial sled hill for children and their adults, a resort/residence there, and with the at-times heavily trafficked Ski Run Boulevard adjacent, right at the edge and downhill of the tower fall zone, which provides vital ingress and egress for the Heavenly Valley Ski Area California Base Lodge (used as a critical multi-agency fire incident command center/support center during the 2021 Caldor Fire, as well as a heavy tourist route). The threat of wildfire if the tower were to fall during high winds does not seem to be considered at all with regard to engineering safety factors, like it could never happen. The design Class II was not chosen and applied with the public safety uppermost in mind, only on the basis that it is redundant with regard to telecommunications.

Further, the manner in which the building official critically examined the RSER appears questionable. (And where is the SER original for comparison? Not found online.) I find that RSER to be rather frightening in certain regards. However wise or self-serving the TIA-222-H criteria may be, even that does not appear to be followed for this tower. The default Class II designation appears to me accepted by the building official without due concern for public health and safety.

Notably, in my view, the design does not account for any ice loading, stating on p 2: "*Ice*: None per the TIA-222-H standard." As ridiculous as that sounds to me as a professional civil engineer with understanding of structures and weather forces in our Lake Tahoe environment, where ice loading (combined with wind) can be quite substantial, that is apparently what is proposed by Verizon and approved by our local building official based on the following.

The Standard is not a Code and it's also necessary to check whether the structure is to be built in a county where "special conditions" apply to wind or ice loading, or if the building official requires a higher wind speed or ice thickness than provided for in the Standard. It appears in this case wind loads without ice required for El Dorado County were applied, and ice loading was not applied, though "special ice regions" are specified in the Standard (<https://wirelessestimator.com/content/standards>). Even so, no ice loading/thickness criteria are specified in the Standard, only winds to 30 miles per hour are specified (120 mph was used for the design). So the ice thickness/load is left to the designer, Vector Structural Engineering of Arizona, Limited Liability Partnership, and its registered California Structural Engineer of record, who chose zero (at its discretion), and the building official who approved that, despite standards calling for ground snow loads of 150 pounds per square foot (<https://www.cityofslt.us/123/Building-Design-Criteria>). Clearly, western El Dorado County generally has no ice, whereas eastern El Dorado County (Tahoe) has a lot of ice (and snow), and the basis for the specified design is unclear. I defer to the structural engineers and City of South Lake Tahoe building official if all these things were considered and documented, but it does not appear so. An iced-up monopine tower weighs much more than one without ice, with tremendous overturning forces at the base and unbalanced loads against wind forces. Is it any wonder the telecom industry is replete with tower collapses? Will this tower, if built, be just one icy windstorm away from collapse? At what cost to human life and property?

In summary here, the tower is not necessary for public health and safety. Public safety was not given due regard for this tower, per my above comments, and the approvals evince a lack of concern by public officials for our community at TRPA and the City of South Lake Tahoe, also complicit in this illegal change, nullifying their own California Environmental Quality Act (CEQA) documentation and finding of CEQA exemption, just as TRPA has under the Compact. This tower fits the Class II well so far as being unnecessary and redundant with other available telecommunications structures and area services, including emergency services, and that designation is allowable; the tower is clearly **not needed** for public health and safety. It is my ongoing contention this tower is a danger to the public in all respects, just one of many such towers approved by TRPA. **It will be a clear detriment to the public health and safety if it is built, including its 10,000 lbs of toxic PVC plastics, which degrade to microplastics and become toxic litter and water pollution on and off the leased area/project site due to wind and snowstorms; its electromagnetic microwave radiation poisoning of all biological organisms including people, animals and vegetation (pine trees, aspen trees, frogs); it's grave fire threat to the community and Lake Tahoe region; all impacts unrecognized and ignored by TRPA in service to its client Verizon, blind to the laws and science, and deaf to the public outcry.**

### **The Waiver and the Geotechnical Report**

Having asserted, to its satisfaction alone, that one or more criteria in section 33. 3.6.A.2. were met, and bypassing section A.1 entirely, which describes potential effects on ground water (part 1, letters a. – e), TRPA approved the waiver, stating “ground water is not expected to be encountered.” The basis is unclear, since this contrary to the RGR reportedly reviewed prior to approval, and is improper for the reasons discussed previously. The approval letter concludes by stating: “Please note that it is possible that variations in the soil or ground water conditions could exist that are different than what has been investigated or reported. If conditions are found to be wetter than expected, contact TRPA immediately to discuss options for dewatering.” This caveat should say, “If ground water is encountered during excavation please cease all excavation activity and contact this office, because interference with the ground water is prohibited.” That would be proper under the Code, at a minimum.

While part A. applies to any excavation affecting ground water, part B. applies to excavations deeper than five feet: “where there exists a reasonable possibility of interference or interception of a water table [excavation] shall be prohibited unless TRPA finds that: 1. A soils/hydrologic report prepared by a qualified professional, which proposed content and methodology has been reviewed and approved in advance by TRPA, demonstrates that no interference or interception of ground water will occur as a result of the excavation;” This provision applies to both temporary and permanent interference with the ground water, so even if ground water isn’t encountered during construction, that is no basis to conclude, based on the RGR, that “no interference or interception of ground water will occur as a result of excavation.” TRPA is exercising its independent judgment here in ignoring ground water effects, either misinterpreting the RGR or not giving it due regard.

The RGR is a soils/hydrologic report by a qualified professional as described in the Code. In my over 25 years of work at Lake Tahoe as a water resource control engineer (in various capacities)

and long-time senior supervisor of the North Lahontan Basin Regulatory Unit of the California Regional Water Quality Control Board, Lahontan Region, I reviewed literally hundreds, if not thousands, of such geotechnical reports, drilling reports, ground water investigations, wetland and SEZ delineations, soil reports, etc., so I am well within my area of expertise. It is unlikely the proposed content and methodology were reviewed and approved in advance by TRPA, as required (for the proposal to excavate to 13.5 feet) as there was no proposal for excavation below 7.5 feet before 2022 triggering the above cited requirement, as discussed on page 1, above. To investigate soils for evidence of ground water for excavation to such depths (13.5 feet), usually a test pit is dug with a backhoe to evaluate soil layers in a more-or-less undisturbed state. Soil investigations for evidence of the presence or absence of ground water called for by TRPA in 2019 (when the proposal specified no more than 7.5 feet of excavation) were unchanged in 2022 when the plan change was proposed to excavate to 13.5 feet. However, the 2022 revisions to the 2019 GR, mainly related to seismic provisions, did not affect the RGR sections concerning potential ground water occurrence, the borehole investigation, soil types and related subjects covered in the RGR, so that information must inform the decision of whether to approve the excavation.

The methodology applied was a single borehole, eight inches in diameter, from which samples were extracted using a split-spoon sampler, two inches in diameter, at intervals, and two bulk samples from near the ground surface. It is unsurprising that ground water was not encountered in the boring to drill penetration refusal at 19 feet, due to encountering rocks or bedrock, in mid-summer, July 2019 (when the drilling work was done) in these thin, porous soils above bedrock. You can't really tell a lot from a single borehole about subsurface ground water hydrology and flow regimes, soil mottling by water, other hydric soil indicators, etc., and more information should have been required for the new proposal, but the RGR contains enough information to make an informed conclusion that there is a "reasonable possibility of interference or interception of a water table."

First, the RGR notes the soil layer, 10 feet thick, above refusal (bedrock) is "Bryan Meadow Grandiorite," a granitic meadow soil, and this is consistent with the soil map unit shown in Appendix A extending southward and outward to encompass the Heavenly ski area and more. "Meadow" soils by definition generally develop under, and exhibit characteristics from, contact with water. I have knowledge and experience with the areas surrounding the Heavenly Valley Ski Area California Base, and the Bijou Park Creek that literally "springs" forth below their parking lot and municipal street access (covered SEZs). That area and below the Heavenly CA Base, with these mapped Bryan Meadow Grandiorite soils, is prone to exhibit surfacing springs when underground fissures in the sloped bedrock beneath the shallow soil layer and soil interstices fill and discharge ground water to the land surface during and following wet periods and high water years.

On pages 1 and 2 of the RGR the advice is to plan on encountering granite bedrock 19 feet below ground surface (bgs) if foundation drilling will be employed, and stipulates: "Ground water was not encountered during the field investigation. However, Ground water levels will fluctuate with seasonal climatic variations and changes in the land use." Since the excavation will come within 5.5 feet of the bedrock, the above means any ground water above that level that may occur seasonally will encounter the foundation or excavation and will be intercepted and interfered

with. With regard to “seasonal climatic variations,” I believe this comment refers to changes in the wetter and dryer cycles and seasons, and changes in land use such as proposed with the tower. The foundation will displace the soil from the ground water table during periods of seasonal ground water flow. Any ground water flowing more than 5.5 above bedrock will have to flow through the excavation (when in progress) or around the foundation (when completed).

In section “4.0 Site Conditions” the report cites, “There are no water features present in the vicinity of the Project site.” That may be true for the *drilling* site, but indicates that the qualified professional(s) responsible for the RGR missed Bijou Park Creek entirely, which is an ephemeral SEZ easily visible on maps. It is also easily visible from the drilling site and Project site, to the east across Ski Run Blvd., where it crosses underground westerly to the Project site, resurfaces and passes directly below the Project site. Missing such an important drainage feature, which TRPA is or should be well-aware of, has major implications for the final “Limitations” section of the report for it indicates the investigators did not fully understand the site surface and subsurface hydrology and how the surrounding topography relates to nearby ground water flows. Therefore, they felt a need for all their disclaimers. For example, the Project site surface drainage is not dissipated by overland sheet flow, at least not very far, but actually by sheet flow directly to Bijou Park Creek, so that was misstated in the RGR, also.

Text on p. 8 discusses drainage for “walls” (e.g., a flat surface perpendicular to the ground such as a foundation face) indicating a variety of subsurface drainage elimination systems may be needed to reroute and and/or eliminate ground water “near the bottom of the wall” to prevent ground water surcharges and earth pressures on the foundation due to water accumulation in the subsurface from flow blockage. The RGR is warning that there will be ground water interception to consider, and that it must be planned for, including (preferably) replacing soil with gravel 12-24 inches thick around the “wall.” Such replacement would increase the amount of excavation and soil replacement from my above estimates, and further alter ground water flow patterns, which is the intent.

On page 9 of the RGR there is a discussion of temporary drainage measures, notably, “If standing water does accumulate, it should be removed by pumping as soon as possible.” This is a clear reference to standing ground water at the bottom of the excavation, which could become contaminated with concrete wastes, for example. On page 10, section 8.6 discusses “Ground Water,” noting again that, “Subsurface drains may be needed to intercept seasonal ground water seepage.” Code section 33.3.6.A.1. says “Excavation is prohibited that interferes with or intercepts the seasonal high water table by: a. Altering the direction of groundwater flow; b. Altering the rate of flow of ground water; c. Intercepting ground water; d. Adding or withdrawing ground water; or e. Raising or lowering the water table.” All of these changes are threatened by the enlarged foundation and the proposed drainage measures. What would become of this drainage, how it would be managed and disposed of, is not disclosed.

The RGR goes on (p. 9), “Ground water seepage may occur several years after construction of the project if the rainfall rate or drainage changes in the vicinity of the project site.” And again it calls out the potential need for French drains (subsurface drains for ground water). P. 10 cites and concludes with a number of “Limitations” based on the very limited scope of the investigation (a single bore hole), uncertainties in site conditions, and other things not

uncommon in such reports. Clearly, the RGR is concerned with seasonal and other subsurface ground water tables and flows, and the recommendations with regard to these remained unchanged from the original report, when excavation no greater than 7.5 feet was proposed..

TRPA did not refute the information provided in the RGR, instead supporting it with its dewatering contact requirement. Despite all of this information and more, all the changes to ground water threatened by intrusions and alterations, and with an RGR that adequately demonstrates that interference or interception of ground water will potentially or very likely occur as a result of the excavation, TRPA nonetheless approved the waiver with the staff letter. Clearly TRPA saw in the RGR the potential for ground water interference in requiring notification if ground water was encountered and/or dewatering was to be proposed or undertaken. The exception was granted even though the legal criterion was not met, presumably thinking, in error, that an exception under Code 33.3.6.A.2 somehow supersedes and nullifies all other requirements. It does not. I earlier opined that those findings do not withstand legal scrutiny; if I am proven wrong, I still insist that Code 33.3.6.B. and its requirements can't simply be ignored on that basis, as I discuss below.

### **Impacts Due to Excavation Are Unmitigated, and Can't Be Fully Mitigated**

I suspect the extra depth for the foundation may have been proposed because the RSER discloses, perhaps for the first time, that well over 10,000 pounds of PVC plastics will be deployed on the structure, 112 feet tall, with its significant weight and wind resistance, bringing the total weight to around 15,000 pounds, unloaded by ice. I noted the doubling of excavation amounts earlier, and add that extending the foundation to 13.5 feet provides a deeper "wall" section profile to interfere with ground water flows occurring through the meadow soils above the bedrock, and displaces soils closer to the bedrock surface that provide filtration for ground water. Thus, some soil filtering capacity for ground water will be sacrificed. It also places the foundation fully in the soil layer above bedrock (starting roughly nine feet below the ground surface at the borehole) cited as "Bryan Meadow Grandiorite", whereas before the foundation was above that soil layer. The deeper foundation will replace this soil volumetrically with impermeable concrete estimated at 48 cubic yards or more. It must be noted that the foundation is a buried impervious surface that appears to escape TRPA "coverage" analysis, though it will impede the downward flow of precipitation through soil pores above the foundation, which I estimate is around 432 square feet or more in plan-view area. Precipitation and snowmelt, including that captured by the tower above, will become interstitial flow through the soil pores above the foundation, but will have to flow over and/or around the foundation edges to enter ground water at or below the foundation, all impacting and interfering with ground water flows on the Project site.

Let me address the Project site conditions from my perspective. The Project site is a parcel containing only Class 1 lands, the most sensitive land class or capability TRPA has, including steep lands (1A) and SEZ (1B), and the parcel is substantially in excess of allowable coverage, mitigated (offsite) by a \$5000 payment to TRPA for excess coverage mitigation. That payment mitigates the historical coverage impacts. It does not mitigate or ameliorate the degraded site drainage conditions or mitigate any potentially significant impacts associated with the de facto Permit amendment granted by the TRPA for prohibited excavation activities. As noted in the

RGR, bedrock is 19 feet below ground near the tower location, which is on a 1A slope above the SEZ lands, and underlain by soils permeable to water flow over bedrock. The area to the south of the tower is Needle Peak Drive, a municipal street covering the steep adjacent lands and carrying drainage to Bijou Park Creek below the Project site. Given the shallow soil layer underlain by bedrock, there is literally nowhere for precipitation on the Project site to go but overland to Bijou Park Creek, or through the soil to Bijou Park Creek. Bijou Park Creek is literally the surface expression of its dominant hydromorphologic feature, the inflow of ground water from the upslope surroundings, its hydrology near the land surface, which is what sustains it.

Subsurface drainage generally follows the slope of the land. The land surface at the tower site is located about 75 feet directly upslope of the SEZ boundary shown on the plans with the Final Permit, at an elevation of 6374 feet relative to the SEZ boundary at 6362 feet, the difference in these elevations being 12 feet. Therefore, excavation to 13.5 feet will actually be to 1.5 feet *below* the elevation of the SEZ boundary, at 6360.5 feet. The occurrence of ground water at the SEZ boundary was not investigated or required to be investigated by TRPA, though ground water may flow just below the land surface at or below the SEZ boundary, that is to say above 6260.5 feet, especially during and following periods of heavy precipitation or snowmelt, when ground water levels can easily rise on the order of feet in such areas. Also, the slope of the underlying bedrock can't be known from a single borehole investigation. The elevation to Bijou Park Creek below the Project site is not disclosed in the Project Permit documentation, but is below 6262 feet. Therefore, the fate of all the precipitation that occurs on the Project site, averaging around 54 inches of water annually or thereabouts, is to flow overland to Bijou Park Creek (through the over-covered parcel) or by ground water flow through the soils on the Project site to Bijou Park Creek.

Because the onsite SEZ and steep lands have been degraded, interfered with, and altered by existing foundations, structures and other impervious surfaces for parking, land grading for sledding, etc., which impacts surface and subsurface drainage and has not been fully mitigated onsite, any additional impacts that would alter or interfere with ground water flows must be considered potentially very significant in light of the ongoing water quality challenges in Lake Tahoe. Remember, also, that the Bijou Park Creek SEZ receives excess runoff from the impervious surfaces on the Project site because of difficulties with infiltrating runoff in areas with high water tables (SEZ), and that saturated SEZ soils also provide limited or impaired runoff filtering using typical infiltration "Best Management Practices," again making any adverse changes to the Project site and ground water flow regime potentially significant.

### **Administrative Procedures Have Been Violated; Stay Request**

This Appeal includes a request for an immediate stay calling a halt to any ground disturbance in excess of five feet below the existing natural grade in light of the information and concerns in the prior sections, until this decision is formally reviewed. Nothing is more fundamental to TRPA's mission than water quality in my view, it is the reason for its formation: to protect and restore the heavily impacted and degraded environment drastically affecting Lake Tahoe water clarity and quality. Among the most heavily impacted resources are the SEZs, as recognized widely, due to historic impacts such as those at the Hansen's Resort tower site. That is why the TRPA put in place strong ordinances to protect these critical resources and the ground water that sustains them

and allows them to perform their functions, however impacted or degraded they may be. I have knowledge of TRPA rigorously applying the subject prohibition requirements against public and private persons in many settings, denying permits by the hundreds, if not thousands, for the least intrusion by excavation into ground water in furtherance of its mission. However, it seems to have abandoned doing so in this case for its telecom partner, Verizon, to which only the loosest legal interpretation applies, flawed as it is. TRPA is totally inconsistent here and giving Verizon favored treatment under the law, by essentially ignoring the law as it applies to them. This not just a little deck pier, or a minor intrusion into ground water by excavation, which TRPA has often denied exceptions for. This is a major intrusion into ground water with a foundation of 48 cubic yards or more, and it is outrageous that it has been approved such as it is.

I am asked, “if possible, to provide written evidence of the hardship caused by a stay.” With the foregoing considerations in mind, I would like to speak of the hardships to water quality imposed on the Bijou Pack Creek and on-site SEZ already, the difficulties in meeting environmental thresholds for SEZs basinwide, the irreversible impacts to water quality that will occur if construction is allowed to proceed as proposed. The additional harm to water quality from disturbing the soils and ground water flows and patterns above the SEZ from the revised deep foundation is significant and can’t be fully mitigated if allowed to proceed as authorized by the staff letter. The harm to water quality will be done, and the impacts will last. If allowed to proceed without a stay, it will not be possible to fully undo the damage, even if tower removal and site restoration is later required. The staff approval completely nullifies the TRPA environmental documentation and finding of no significant effect for the Project as approved by the Governing Board.

I am also personally distressed by the potential effects from this Project on Lake Tahoe, where I swim, it’s surrounding environment, where I live, and aggrieved by the lack of opportunity for public comment on this proposed activity and staff-level approval significantly affecting water quality on this Project of substantial known public controversy, whose approval by TRPA is currently being litigated in Federal District Court in Sacramento. I did not work for 25 years holding the line on water quality at Lake Tahoe as best I could to willingly or idly endure this malfeasance. No opportunity for public comment was announced, and the only opportunity to formally comment is by filing this Appeal. It was difficult to locate information online (which would sometimes disappear under various disclaimers) to evaluate, however scanty, or TRPA findings (as above), comment or raise objections concerning substantially increased excavation that may affect the ground water adversely, evaluate impacts from excavation dewatering and/or waste discharges, or assess potential adverse affects on the surrounding SEZ, prior to the action taken by TRPA. No public notice of availability of the Project plans or Permit changes was provided; I found the August 5, 2022 staff letter waiver approval by chance online among other historic Project documents.

In balancing public interest, equities and environmental protection, one of the things I’ve noticed to be guarded against by regulatory and planning agencies such as TRPA has been the tendency to treat “orthodoxy” as evidence. It seems to be popular mythology that cellular and digital services are presumed to be in the public interest, and therefore worth sacrificing ground water quality to some extent on this over-covered parcel with its overdeveloped SEZs, without regard to cumulative impacts or the laws. But in a courtroom, before the TRPA Board, or now with the

Chairman of the Board, I assert the need to actually “balance the equities” using real evidence, and not simply default to orthodox beliefs based upon faulty assumptions. The Compact demands that a process be followed. There is zero evidence that we have seen on “public health and safety,” only a presumption. Verizon’s hardship rests on profits, which are not my concerns, and should hardly be TRPA’s. Can one really think Verizon would be motivated to place this tower at great expense for health and safety, when the chosen design standard doesn’t support that claim? TRPA regularly puts applicants through regulatory hell for simple commercial projects but telecoms such as Verizon, in this case, get a pass.

We have the TRPA staff not only approving the excavation, allegedly in violation of law, but requiring notification to staff from the Project proponent if ground water is encountered or dewatering is needed. And all this was done outside the public forum, as will be discussed below. As a result I have been impelled to act under short timelines to interrupt the proposed illegal activity, in the absence of certain Project information, and pay exorbitant fees to appeal the illegal action carried out from the recesses of the agency, when I should have been provided full opportunity to comment at no cost in the public forum on a new or revised IEC, as required under the TRPA Rules of Procedure for a new application. That is unjust and improper under the law, an abuse of authority and discretion, and unequal treatment of applicants under the law. My due process rights under law were violated and I was charged for the privilege. I should be given a refund.

### **Review Standards: What the TRPA Compact and Code of Ordinances Require**

The changes to the approved Project threaten very significant water quality impacts due to excavation intruding on ground water, against Code Limitations, and without going through formal review procedures. Here are some relevant review standards from the compact:

#### **ARTICLE VII. – ENVIRONMENTAL IMPACT STATEMENTS**

(a) The Tahoe Regional Planning Agency when acting upon matters that have a significant effect on the environment shall:

- (1) Utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man’s environment;
- (2) Prepare and consider a detailed environmental impact statement before deciding to approve or carry out any project. The detailed environmental impact statement shall include the following:
  - (A) The significant environmental impacts of the proposed project;
  - (B) Any significant adverse environmental effects which cannot be avoided should the project be implemented;
  - (C) Alternatives to the proposed project;
  - (D) Mitigation measures which must be implemented to assure meeting standards of the region;
  - (E) The relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity;
  - (F) Any significant irreversible and irretrievable commitments of resources which would be involved in the proposed project should it be implemented; and
  - (G) The growth-inducing impact of the proposed project;
- (3) Study, develop and describe appropriate alternatives to recommended courses of

action for any project which involves unresolved conflicts concerning alternative uses of available resources;

(4) Make available to States, counties, municipalities, institutions and individuals, advice and information useful in restoring, maintaining and enhancing the quality of the region's environment; and

(5) Initiate and utilize ecological information in the planning and development of resource-oriented projects.

In the case of the tower at 1360 Ski Run Boulevard, the Project Permit was approved under a Finding of No Significant Effect (FONSE), an exemption from preparation of an environmental impact statement (EIS). However, the revised foundation plan, with excavation intruding against prohibitions and limitations into ground water, was not included in the Project description. Changing the Project description, in this case, nullifies certain findings in the FONSE such that the FONSE no longer applies to the Project due to potentially significant impacts. I have no issue not already before the Court if Verizon wishes to construct the foundation as proposed in 2021 plans approved before August 2022. If, however, the Final Permit is to be amended it must be pursuant to applicable review procedures, not with a wink and a nod from staff in a letter after the ink is barely dry on the Final Permit.

ARTICLE VI(b) "No project other than those to be reviewed and approved under the special provisions (d), (e), (f), and (g) may be developed in the region without obtaining the review and approval of the agency and no project may be approved unless it is found to comply with the regional plan and with the ordinances, rules and regulations enacted pursuant to a subdivision (a) to effectuate that plan. The agency may approve a project in the region only after making the written findings required by this subdivision or subdivision (g) of Article V. Such findings shall be based on substantial evidence in the record."

The Project as revised does not comply with the TRPA ordinances, rules, and regulations, incorporating my comments above. It can't be considered a mere add-on to the approved Project, but constitutes a revision requiring an entirely new IEC or Environmental Assessment (EA), conducted in the public forum.

ARTICLE VI(j)(5) "In any legal action filed pursuant to this subdivision which challenges an adjudicatory act or decision of the agency to approve or disapprove a project, the scope of judicial inquiry shall extend only to whether there was prejudicial abuse of discretion. Prejudicial abuse of discretion is established if the agency has not proceeded in a manner required by law or if the act or decision of the agency was not supported by substantial evidence in light of the whole record. In making such a determination the court shall not exercise its independent judgment on evidence but shall only determine whether the act or decision was supported by substantial evidence in light of the whole record. In any legal action filed pursuant to the subdivision which challenges a legislative act or decision of the agency (such as the adoption of the regional plan and the enactment of implementing ordinances), the scope of the judicial inquiry shall extend only to the questions of whether the act or decision has been **arbitrary, capricious or lacking substantial evidentiary support** or whether the agency has failed to proceed in a manner required by law."

The waiver in the staff letter is not supported by substantial evidence in the record. The opposite is true; the RGR supports my contentions that ground water will be interfered with against the prohibition, and the staff letter provides no credible contrary evidence, in fact, anticipating interference with ground water. The TRPA has failed to proceed in the manner required by law,

arbitrarily and capriciously approving the amendment without following the Compact and Code of Ordinances requirements for environmental and public review.

ARTICLE VII(d)

In addition to the written findings specified by agency ordinance to implement the regional plan, the agency shall make either of the following written findings before approving a project for which an environmental impact statement was prepared:

- (1) Changes or alterations have been required in or incorporated into such project which avoid or reduce the significant adverse environmental effects to a less significant level; or
- (2) Specific considerations, such as economic, social or technical, make infeasible the mitigation measures or project alternatives discussed in the environmental impact statement on the project.

A separate written finding shall be made for each significant effect identified in the environmental impact statement on the project. All written findings must be supported by **substantial evidence** in the record."

Since the TRPA can't make the written findings cited above before approving the Project change, either the application by Verizon must be withdrawn (the Project may proceed as approved on or about May 6, 2022), or approval of the amendment for the foundation change must be revoked and an EIS must be prepared. An EIS is required for the proposed Project change, as it stands.

The Proposed Activity is Not Exempt from Environmental Review

ARTICLE VII(f) "The agency shall adopt by ordinance a list of classes of projects which the agency has determined will not have a significant effect on the environment and therefore will be exempt from the requirement for the preparation of an environmental impact statement under this article. Prior to adopting the list, the agency shall make a written finding supported by **substantial evidence** in the record that each class of projects will not have a significant effect on the environment."

The exemptions pursuant to Article VII(f) are specified in Code section 2.3, and upon review do not include excavation such as proposed with the revised foundation plan. Therefore the Project Permit amendment is fully subject to the review procedures specified in Code section 2.2. for: "Activities that may have a substantial effect on the land, air, water, space, or any other natural resources in the Tahoe region." These requirements were completely overlooked by TRPA in issuing the approval in the staff letter, and must be followed. Since the Project is substantially modified by the proposed Plan change, an entirely new environmental review is required to be carried out, examining all the potentially significant effects from the proposed Project, and can't rest on the prior FONZE, though it may help inform a new IEC or EA document.

Subscribed to and sworn this 21<sup>st</sup> day of August, 2022, at South Lake Tahoe, California.

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Alan Miller

Exhibit "A": August 5, 2022 TRPA Staff Letter, "Revised: Soil Hydrologic Approval Waiver"  
Exhibit "B": "Classification of Tower Structures per ANSI/TIA-222-G, IBC and ASCE 7"  
(National Association of Tower Engineers, 2017)

I've reproduced the e-mails below using screen shots so they are in chronological order.

Request for Stay, TRPA. No. ERSP2019-0389-01/Appeal No. ADMIN2022-0036 



**John Marshall**

to me, Paul, Cindy, Gustafson, Katherine, Julie

Thu, Aug 25, 3:01 PM



Dear Mr. Miller/Mr. Albritton:

On August 22, 2022, Mr. Miller filed with TRPA an appeal and request for stay of TRPA staff's decision to approve up to an additional six feet of excavation for the foundational mat for the Verizon cell tower at 1360 Ski Run Blvd, South Lake Tahoe, Calif., TRPA File Number ERSP2019-0389-01. The existing plans for the cell tower authorized excavation of up to 7.5 feet below ground surface and provided that further excavation could be sought if final technical plans required additional depth. The plan revision sought approval of excavation up to 13.5 feet in order to maintain a minimum of 5 feet of soil depth above the mat.

Pursuant to TRPA Rule of Procedure 11.3, the Chair of the Governing Board has reviewed the material submitted by Mr. Miller, a response from Verizon, consulted with TRPA staff, and decided as follows. Verizon has agreed to stay the pouring of concrete for the tower foundation until the TRPA Governing Board can hear the appeal at its September 28, 2022 hearing. TRPA will monitor the excavation of up to 13.5 feet below ground surface with a qualified soils consultant. Although not anticipated, should groundwater be intercepted during the excavation, Verizon will cease excavation immediately and consult with TRPA.

To the extent Mr. Miller seeks a stay beyond that set forth above, his request is denied. Mr. Miller has not demonstrated a substantial likelihood of success on the merits of his arguments that TRPA staff erred in its approval of up to 6 additional feet of excavation. Staff appropriately relied upon a professional soils/hydrology report indicating no presence of ground water down to 19 feet where boring stopped. Staff also appropriately relied on two exceptions to interception of groundwater should it occur. Finally, Mr. Miller has not demonstrated actual (as opposed to speculative) harm resulting from that 6-foot increase in excavation depth in this location.

Because of the request for stay and Verizon's agreement, TRPA staff will agendaize this appeal to be heard at the Governing Board's September 28, 2022 meeting. Mr. Miller, if you desire to submit additional material relevant to the merits of your appeal, please do so by September 2, 2022. Mr. Albritton, if Verizon desires to supply additional material, please submit them by September 9, 2022.

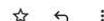
If you have any questions, please contact me.

John L. Marshall  
TRPA General Counsel  
775.303.4882  
[jmarshall@trpa.org](mailto:jmarshall@trpa.org)

**Al Miller** <[syngineer1@gmail.com](mailto:syngineer1@gmail.com)>

to John, Paul, Cindy, Gustafson, Katherine, Julie

Aug 26, 2022, 4:00 PM



Hi Mr. Marshall, I wish to point out a scheduling conflict in that Rule 11.4 clearly provides Appellants with 30 days to file our statement in support of the appeal which means September 21, 2022, not September 2, 2022, as stated in your email. I need the time provided to me by the TRPA rules to finalize our statement and we intend to do so. I ask you to explain how it's then possible for the appeal to be on the agenda for the September 28, 2022 meeting under Rule 11.2. Thank you for your consideration, Alan Miller, PE

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**John Marshall**

to me, Paul

Aug 26, 2022, 4:23 PM



Mr. Miller;

Under normal circumstances you are correct regarding the timelines set forth in the Rules of Procedure. However, as you have applied for a stay and Verizon has conceded to a stay of cement work on the tower mat, Rule 11.3 controls and sets the hearing on the appeal at the next scheduled Governing Board meeting, which is September 28, 2022. TRPA staff is then obligated to produce an appeal summary and recommendation, which is due by September 20 in order to be posted by September 21. To provide staff with sufficient time to prepare the hearing materials, I set Verizon's response to be due September 9 and your submission by September 2 given that you have already provided extensive materials in support of your appeal and request for stay. In order to accommodate your desire to present more information, please suggest an alternative and fair schedule. Please call if you would like to discuss.

John

John L. Marshall  
TRPA General Counsel

Al Miller <syngineer1@gmail.com>  
to John. Paul. Cindy.Gustafson, Katherine. Julie ▾

Aug 28, 2022, 11:44 PM ☆ ↶ ⋮

Dear Mr. Marshall, All:

I am responding on behalf of the several Appellants to your emails of August 25 and 26, 2022, in consideration of Mr. Albritton's email of August 24, 2022, proposing a limited stay for the Ski Run tower project, which precludes only pouring concrete prior to a proposed September 28, 2022 hearing on the Appeal before the Governing Board. First let me say that we concede nothing at this time as asserted in the cited emails, in particular that the limited stay controls the date of the Board hearing. We filed the Appeal in good faith based on the Rules, an understanding of the timelines, the need to prepare a Statement of Appeal, and paid an exorbitant fee for the right to Appeal. Based on when the Appeal was filed, we believe we have a legal right, under applicable Rules, to a hearing in October 2022, and a right to be accorded the full 30 days to file a statement of Appeal should we choose to assert it. The stay has no legal effect on these timelines so far as I am aware.

The plan with the Appeal filing was to move ahead with a hearing in late October 2022 in awareness of Verizon's activities, plans and entitlements, letting the Appeal process unfold as it may under the Rules. If TRPA and Verizon wished to proceed with the Project with the Appeal pending, in light of the evidence of potential impacts presented, there was opportunity for that, and still is. If TRPA had issued its excavation approval letter by July 26, 2022, perhaps the Appeal would have been filed in time for the September meeting calendar.

When we heard nothing from TRPA on the stay by the statutory deadline, we assumed the stay was denied, despite the letter-proposal received from Verizon. Truly, it is denied, other than staying the pouring of concrete. Nonetheless, in the interest of preventing potential unmitigated damage to the soil and ground water on the Project site and wrapping this matter up before October 15, and under protest that our due process rights are being violated if an October hearing is not calendared, we are willing to consider going to hearing in September in exchange for certain considerations.

In the first place, we do not consider the limited stay, as communicated, to be protective of the soil beneath the proposed tower. Disturbing the soil will cause changes and irreversible impacts to the soil qualities and in-situ functions over the entire area of the excavation should ground water occur, seasonally or otherwise. It is my long experience that most people treat precious soil resources like dirt, useful only for supporting foundations, misunderstanding soils. In light of these comments, we suggest that the TRPA should require an independent investigation specific to soils and hydrology, beyond the Geotechnical Report, which was really not suitable for the purposes for which it is being used by TRPA.

Permit Condition 3.F, which Mr. Albritton pointed out, requires a "new soils-hydro application" for proposed excavations deeper than 7.5 feet. The revised Geotechnical Report offered nothing "new" in 2022 concerning soils and hydrology. TRPA should have required a new soils-hydro application and investigation report and did not even follow its own Permit condition, so it is reasonable for TRPA to now require (or Verizon propose) a proper soil and ground water investigation as discussed in the attached letter from my professional hydrologist associate Lori Carpenter, MS (Exhibit 1). Contrary to Verizon's report writers, her background includes extensive, impeccable work in the Lake Tahoe region (Exhibit 2) since the early 1990s or before, including for TRPA, in developing the hydrology criteria and soils information that informed the TRPA regulatory and evaluation programs for SEZs, among other things. She is among the most qualified, experienced and respected persons in her scientific field I've encountered in my long career. Consistent with her suggestions, we suggest at a minimum, a preliminary soil pit excavation to 13.5 feet with a small back hoe (e.g., 3-foot wide blade) to conduct the investigation, according to professional specifications which are usual and customary for ground water investigations. This is more reasonable than having TRPA staff monitoring the excavation for Verizon, which soils will then be covered with forms or concrete block for the later pour. That is unkind to staff, putting them under duress to support the Project approval, and financial ties to the Agency provide a potential conflict of interest, or appearance of same.

Simply having a TRPA staff monitor the excavation to see if ground water is intercepted during the excavation as proposed is both improper and unacceptable to us, as contrary to usual and proper requirements, and requiring a degree of trust not earned by TRPA. It is reasonable to require a proper independent, fully documented soil and hydrology investigation as discussed by Ms. Carpenter, and commit to share the report and/or preliminary information from the report within 24 hours of completion. We won't even argue who should do the study, with a focus on protocols, provided they have a suitable background and expertise in soil and ground water investigations (not geotechnical engineering alone). Once the results are published, which should take no more than a day or two, all can evaluate the independent report. If a report from proper investigation demonstrates ground water, including seasonal occurrence, is absent, then perhaps excavation could proceed ahead of the September hearing.

I say "perhaps" proceed because there is some question I've yet to investigate fully as to whether the revised plans are inconsistent with regard to allowed (verified) coverage for the foundation and the foundation dimensions depicted in final Permit plans, which appears to exceed the 304 square feet allocated and available for the Project. This is simply a placeholder here to say that even excavation, as authorized (to 7.5 feet), may exceed allowed coverage based on final plans, thus caution is advised, and no enlargement for drains (per the Geotechnical Report), concrete forms or molds should be allowed. I am open to clarification on this coverage matter.

The September 2, 2022 date to provide a Statement of Appeal is unreasonable and unacceptable. In the first place, we received TRPA's response a day late, and required further clarification of the proposed schedule under Appeal (not Stay) Rules, which in my view are not being followed, so rather the schedule must be negotiated under the circumstances to see if agreement can be reached, fairly and balanced. In seeking a path forward, I suggest that the Statement of Appeal be filed by 3 pm, Thursday, September 8, 2022, or within two business days of providing us a new, proper soils/hydrologic report, whichever comes later, as I will need this time to prepare additional information for the Statement of Appeal in light of other commitments and for Ms. Carpenter to examine the reports. As you wrote, you already have the gist of my arguments to consider; we have the right to supplement our initial filing with the Statement of Appeal, generally within 30 days rather than the 7 days offered. The work of responding to this limited stay and schedule proposal has consumed valuable time, taking time away from other review. I won't hear back from you now until Monday, August 29, at the earliest. I don't mind the extra work in seeking a suitable outcome that protects the interest of all, but it must be considered in the mix. I would also like to know whether we can comment on the Staff Report or Verizon materials, once issued, ahead of the Board meeting. Please advise concerning that.

In order to move ahead on the September Board meeting proposal I will need to have access to review and/or copy/photograph certain TRPA public records and file materials, which I expect will require at least one office visit for several hours early in the week of August 28, as I have been unable to locate or relocate certain public information online, which is potentially incomplete by disclaimers anyway. Your cumbersome, incomplete website info contributes to the need for time to September 8 to review and finalize a Statement of Appeal. I will schedule a review appointment if agreeable.

In summary, we think these requests are reasonable in light of the law and circumstances. I reiterate that we'll agree to the September hearing under protest since the TRPA's approval letter on August 5 set the timeline for the Appeal and that was under TRPA's control. Now we are being rushed and prejudiced in both our analysis and response time due to reasons caused by TRPA staff and/or Verizon. We will await your response to determine if we have an agreeable way forward to September in good faith. Lacking that, we will plan to file a Statement of Appeal by September 21, 2022, in expectation that an October hearing will be calendared. If these reasonable requests are agreeable, we consent to a September 28 hearing. I can be reached by phone if you wish for a discussion. Thank you for your consideration of our requests.

Alan Miller, PE

Exhibit 1: Letter to Al Miller, PE, from Lori Carpenter, dated August 27, 2022

Exhibit 2: List of Lori Carpenter's Tahoe-Region Projects

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2 Attachments • Scanned by Gmail



**John Marshall**  
to Paul, Katherine, me ▾

Aug 31, 2022, 11:14 AM (12 days ago) ☆ ↶ ⋮

Dear Mr. Miller,  
Thank you for the input provided below. Pursuant to TRP Rule of Procedure 11.3, TRPA Governing Board will hear your appeal at its September 28, 2022 meeting. As I stated, TRPA will monitor the excavation, which, as you know, is already underway. TRPA staff and qualified consultant will conduct appropriate site visit(s) and we will provide you with any documentation created by or provided to us from those visit(s). I appreciate your effort to get any further Statement of Appeal to TRPA by September 8, 2022. As to your question regarding commenting on the TRPA staff report/appeal summary; you may submit comments (either to staff (then distributed to the Governing Board) or directly to the Governing Board. Regarding your request to review documents, please refer to Katherine Huston's recent email addressing your public records request. If you have any questions, please do hesitate to call or reach out. Thank you.  
John

**John L. Marshall**  
General Counsel  
(775) 303-4882 · [jmarshall@trpa.gov](mailto:jmarshall@trpa.gov)

**Al Miller** <[syngineer1@gmail.com](mailto:syngineer1@gmail.com)>  
to John, Paul, Katherine ▾

Fri, Sep 2, 12:41 AM (10 days ago) ☆ ↶ ⋮

M: Marshall, Please see my reply on behalf of the Appellants in the matter of the Verizon Tower at Ski Run Blvd, attached by pdf. Regards, Alan Miller, PE

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To: TRPA via email, various staff ([jmarshall@trpa.org](mailto:jmarshall@trpa.org))

September 2, 2022

Dear Mr. Marshall,

Thank you for your email the morning of August 31, 2022, discussing the Board Hearing for our Appeal of the Ski Run tower plan revisions. I can appreciate that the Governing Board wants to proceed to hear the Appeal at its September 28, 2022 meeting, however misguided that may be. You continue to cite Rule of Procedure (ROP) section 11.3 as the basis for the Governing Board to do whatever it wants in an arbitrary and capricious abuse of discretion it does not possess, so let's go over it briefly. Applicable sections from the TRPA Rules of Procedure are below:

**11.1. PURPOSE**

This article sets forth procedures for appeals of Executive Director actions on projects or other matters.

**11.2. FILING OF APPEAL**

Final action by the Executive Director may be appealed to the Board by filing a notice of appeal with TRPA, including the required appeal fee as set by resolution of the Board, no later than 21 days after final action. A written statement of appeal shall be filed by the appellant with the Agency. In order to have the appeal put on the next Governing Board agenda, the written statement of appeal must be filed on or before the fifteenth day of the previous month. If no written statement of appeal is received by the Agency within 30 days after the filing of the notice of appeal, the appeal shall be dismissed. Ordinary administrative matters, such as purchasing, and contracts, may not be appealed to the Board.

### **11.3. STAY OF PERMIT**

An appeal shall not automatically stay the project or matter appealed. The appellant may request, as part of the written statement of appeal, a stay of the project or matter, and any such request shall be by affidavit or under penalty of perjury and shall include credible evidence of the need for a stay pending a hearing on the appeal before the Board at its next regular meeting. The appellee shall be given an opportunity, if possible, to provide written evidence of the hardship caused by a stay. The Chairman of the Board shall review any request for a stay of a project or matter and the evidence submitted therewith, and any evidence of the hardship on the appellee, shall balance the equities and shall determine, within two working days of the request, whether or not a stay shall be issued.

### **11.4. STATEMENT OF APPEAL**

The written statement of appeal shall include the name and address of the appellant and a detailed and specific explanation of the ground for the appeal. (See Sections 11.5 and 11.6 of these Rules.) The statement of appeal may be on a form devised by the Executive Director. Arguments and bases for appeals that are not included in the statement of appeal or staff's position paper shall neither be raised nor considered by the Board. Statements of appeal must be submitted in writing, in final, no later than 30 calendar days after filing of the notice of appeal. Statements of appeal must be submitted in writing, in final, on or before the 15th day of the previous month in order for the appeal to be calendared for the next month's Board meeting.

The first thing I'll point out is that the hearing schedule is spelled out twice, in both sections 1.2 and 1.4, based on when the appeal is filed. We filed on August 22, 2022, within 21 days of the August 5, 2022 action we are appealing. As this was after August 15, 2022, we realized this was too late to be heard on September 28, per the ROP. The second thing I'll point out is that section 1.4 does not marry any stay given to a Board hearing schedule, other than as cited in sections 1.2 and 1.4, and makes no reference to a hearing schedule. The only stay schedule noted is for TRPA to respond to a stay request within two business days, a schedule TRPA violated by responding a day late. If the Board wished it otherwise when adopting the ROP, the hearing schedule would have been included in the section concerning stays; that would be superfluous given sections 1.2 and 1.4, however. Such as it is, the Board has no authority or discretion to do whatever it wants in violation of the ROP based on a common-sense reading of the regulation. The hearing is required in October, and we have a right to that and an expectation under the law. We have no scheduling issue if the hearing is held during the regular meeting in late October 2022.

I will point out that the responsibility for this scheduling issue of TRPA is TRPA's alone. Let me remind you the Eisenstecken Appeal for this Project was filed such that the hearing on the Appeal should have been held during the regular Board meeting in January 2022. However, surprised by the unexamined issues associated with toxic litter and microplastics tower wastes disclosed in the Appeal, TRPA pulled the shutters and worked behind the scenes with its client, Verizon, to produce a lame consultant's report on plastics, and an even more lame-brained Condition 11 to add to the Permit prior to a hearing, your "trump" card. This joint TRPA-Verizon effort to deprive the Appellants of their civil due process rights extended some 60 days or so, when the hearing was arbitrarily and with caprice held in March 2022, and the appeal was denied, in large part, on the basis of the foregoing.

Had TRPA not illegally delayed the Eisenstecken Appeal hearing to stack the cards in Verizon's favor, in callous and brazen collusion, perhaps the tower would already be built. I say this delay by TRPA was fully with caprice, because we now have TRPA asserting a bogus claim that it can rush us to a hearing ahead of the ROP schedule – and on the very same Project. Clearly, TRPA acts as if it can do whatever it wants concerning Appeal hearing scheduling simply by throwing bureaucratic weight around, twice now in the case of this Project, in abject violation of the ROP. It seems TRPA's attitude is embodied as "we do what we want; if you don't like it, sue us," with you leading the legal charge. Such is TRPA's lawless representation of serving the public interest with you at the helm. Our legal recourse is to file for an injunction on the September hearing in federal court, something we frankly have no instance in pursuing here.

You stated TRPA will monitor the excavation. Yes, I have seen how TRPA is monitoring the excavation, which is why I filed a citizen complaint for soil disturbance on and off the Project site I observed last Monday, clearly in violation the Permit; I have yet to receive a response to my questions in the complaint, beyond a thank you from staff for my information, or any follow-up to inform me of any actions taken. I have opined in earlier email and in my appeal Affidavit what is proper in terms of a soils-hydrologic study, as bolstered by Ms. Carpenter's comments and recommendations, and I stand by those comments. TRPA should require a

proper and independent soils-hydro investigation appropriate for the Permit revision, as previously discussed, and in accordance with the ROP, rather than just doing what it wants in yet another abuse of discretion for its telecom client. When the deepest part of the excavation is completed, it would be an almost trivial matter to excavate one or more trenches in the sidewalls of the pit to carefully expose undisturbed soil layers and complete a proper independent investigation.

If history were to be our guide here, we might expect TRPA to pull back and give Verizon additional time to produce such an independent consultant's report, as required under the ROP, and stack the cards for the hearing in favor of Verizon, in the same manner as when TRPA delayed the Eisenstecken hearing. Except in this case it would not be illegal to delay the Appeal Hearing to October in order to resolve the uncertainties and controversies surrounding ground water. But, no, it's different this time; the cards may not stack that way for Verizon if an independent report were to verify impacts to ground water. Risky, so Verizon gets a skate on the report. TRPA will lean on staff investigation to speed things along towards a hearing in September. Capricious. I've seen TRPA staff work up close for 25 years. I was especially unimpressed with the work on this controversial Project.

In summary then, we continue to assert our right to a hearing on our appeal in October, in strong protest of the assertions otherwise by TRPA. Nevertheless, TRPA has a final choice to make: to continue to a September hearing illegally in light of these comments, or to follow the law. I urge the latter, with seemingly only the October 15 grading deadline mucking up the works for Verizon, again due to delaying the Eisenstecken Appeal. By law, our Statement of Appeal is due September 21, 2022. My earlier proposed date (September 8) to file a Statement of Appeal was contingent on resolving this scheduling issue by negotiated mutual agreements in lieu of following the ROP. Your counter-proposal fails, so we fall back to the ROP.

In summary then, we continue to assert our right to a hearing on our appeal in October, in strong protest of the assertions otherwise by TRPA. Nevertheless, TRPA has a final choice to make: to continue to a September hearing illegally in light of these comments, or to follow the law. I urge the latter, with seemingly only the October 15 grading deadline mucking up the works for Verizon, again due to delaying the Eisenstecken Appeal. By law, our Statement of Appeal is due September 21, 2022. My earlier proposed date (September 8) to file a Statement of Appeal was contingent on resolving this scheduling issue by negotiated mutual agreements in lieu of following the ROP. Your counter-proposal fails, so we fall back to the ROP.

The fact that TRPA will conduct the soil-hydro study is a partial deal-breaker, and I will comment no further here on that. With regard to your public records, I have been able to find certain needed information online at your websites/links and copy needed sections using screenshots, though I have no idea if the website information is complete. Based on your website disclaimers I must conclude it is not. While you expressed, and I agree, time is of the essence in the matter of my requests to review public TRPA file records in this matter, that timeline was frustrated and delayed by a broken weblink to your online Freedom Of Information Act request form, such that additional time was lost. (One must wonder how long it has been broken and why, how many other seekers of public information may have been frustrated and denied access to the form?) Ms. Huston wrote she is working on compiling correspondence for the records I requested, with no estimated completion date reported. Other file review matters are pending and this week is shot for me to visit the TRPA office, as hoped would be agreeable.

While reserving our right to file our Statement of Appeal up to September 21, and understanding TRPA may well do whatever it wants in violation of, or accord with, the law concerning calendaring the hearing, we expect we can't prevent TRPA from holding a

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September 28 hearing short of filing an injunction if that is what it decides. In vigorous protest then, under continuing objection, we will work toward filing our Statement of Appeal by September 12, 2022, a generous 16 days prior to the hearing date. It is my desire to give TRPA adequate time to respond to our Appeal, and not delay our filing needlessly. However, things often take longer than expected due to missing info, broken weblinks, violation complaints, and who knows what will come next. So September 12 is what you may anticipate if all goes well, and I can keep you apprised.

Please confirm at your earliest opportunity which date TRPA will calendar the hearing on. If TRPA decides on an October hearing we request to be informed before September 10, as we may utilize our time to September 21 to file the Statement of Appeal. If you have any questions, please write or call me. Thank you.

Sincerely, Alan Miller, PE

**John Marshall**

to me, Paul, Katherine ▾

Sep 7, 2022, 11:42 AM (5 days ago) ☆ ↶ ⋮

Mr. Miller:

Given the stay in place and per Rule of Procedure 11.3, your appeal will be heard at the September 28, 2022 Governing Board meeting (first at the Legal Committee for a recommendation, then later that day by the full board for final decision). Staff will prepare an Appeal Summary/Staff Report for the item. If you have any questions, please let me know.

John

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**geosUAS, Inc.**

***Unmanned Autonomous System Solutions for Natural Resource Assessments and Management***

10188 Cascade Falls Court, Reno, Nevada, 89521 \* (775) 287-9038

[loric@nevada.unr.edu](mailto:loric@nevada.unr.edu)

Mr. Al Miller, PE.

[syngineer1@gmail.com](mailto:syngineer1@gmail.com)

**SUBJECT: REVIEW OF TECHNICAL DOCUMENTS RELATED TO VERIZON WIRELESS PROPOSED FACILITY ON SKI RUN BLVD., SOUTH LAKE TAHOE, CA.**

Dear Mr. Miller,

Pursuant to your request, I reviewed the following documents:

1. Terradyne Engineering Incorporated, July 26, 2019, *Geotechnical Investigation Proposed 112.0-foot High Monopine Verizon SKI RUN BLVD. (PSL #444780)1360 Ski Run Blvd., South Lake Tahoe, CA 96150*, 47 pages with 4 appendices.

2. Terradyne Engineering Incorporated, April 19, 2022, *Updated Geotechnical Investigation Report Proposed 112.0-foot High Monopine Verizon SKI RUN BLVD. (PSL #444780)1360 Ski Run Blvd. South Lake Tahoe, CA 96150*, 6 pages.

I also conducted research with respect to existing NRCS soils mapping at the proposed drill hole site<sup>1</sup> and conducted precipitation models. The models were run for the dates of August July 26, 2019 and April 19, 2022 to determine climate conditions for above normal, normal or below normal climate conditions<sup>2</sup>. The purpose of this review is to assess groundwater conditions at the site, as described within reports 1 and 2 above. My background in soils is extensive and I have worked with the TRPA within the Lake Tahoe Basin. My resume is attached and my degrees are in hydrology/hydrogeology. I have over 27-years of direct experience with shallow groundwater systems.

I am giving you the conclusions - not an professional opinion - the difference being many pages of references, definitions, soil science explanations and numerous attachments. Where appropriate, I've included a link or reference. The brief discussion below will allow you to work with TRPA and their soil scientists to resolve outstanding issues.

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<sup>1</sup> <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx> at latitude 38.93744830537104, longitude -119.95011076567611.

<sup>2</sup> <https://www.epa.gov/wotus/antecedent-precipitation-tool-apt>

The main geotechnical report states that:

*The Scope of Services does not include an environmental assessment of the presence or absence of wetlands and/or hazardous or toxic materials in the soil, surface water, **groundwater**, or air, in the proximity of this site. Any statements in this report or on the boring log regarding odors, colors or unusual or suspicious items or conditions are strictly for the information of the client.*

The report also states that the purpose of our geotechnical investigation was to evaluate the subsurface and groundwater conditions of the site and *provide geotechnical engineering recommendations for the design and construction of the proposed project* by the observation of the groundwater conditions during drilling operations. No shallow piezometers were installed, which would be more indicative of a hydrologic study. Finally, it is not the industry standard for a groundwater assessment to drill one geotechnical borehole, nor are their conclusions or data representative of groundwater conditions at the site. A hydrologic study would typically drill several holes to determine depth to groundwater across the site.

With respect to observing shallow seasonal groundwater within the soil profile, direct observation is generally the best and the most direct method. An excavated soil trench would allow for direct observation of water movement through the profile. Care should be taken to observe water movement down through the soil profile and water movement upwards through the soil profile. The key is to look for indicators of hydric soil conditions or the presence or absence of anaerobic conditions. At Lake Tahoe, these indicators can be masked due to drought, extreme cold, or soils that were formed under wetter conditions. A qualified individual would know the difference.

The July 2019 Terradyne report provides a geotechnical driller's log which indicates that the soils within the top 0.5 feet to 7.5 feet were slightly moist. This suggests that redox features may be present. The absence of water within the borehole on July 17, 2019, is not an indication that groundwater is not present during other seasons. The fact that the scope of services does not include an environmental assessment of the presence or absence of surface water or groundwater would reasonably conclude that this geotechnical report is not a groundwater report of the site but conducted for engineering purposes. These are typically confused and the purposes of an geotechnical study is not the same as a groundwater study. While it may be fine to assess groundwater conditions on that one particular day, it would of been better to have excavated a soil trench and conducted a soils report including the information listed herein.

Soils record "wetness" whether relict or recent. Soils with fluctuating groundwater will typically exhibit indicators for redox features. A qualified individual could collect a detailed soil profile description which would describe the presence of, or absence of redox features. A detailed soils profile would record the depth (needed to document the indicator or confirm the absence of indicators). Record the matrix color and record redox features, the type (concentration, depletion,

reduced matrix, covered or coated sand grains), location (pore lining or matrix) and soil texture and any restrictive layer (if present). Look for redoximorphic indicators such as oxidized rhizospheres on living roots and plant rooting depth. Record the vegetation dominance and plant community and record the presence or absence of phreatophytes. Often simple salts will indicate groundwater fluctuation. The qualified individual would assess whether water is infiltrating downward or conversely, rising with the seasonal groundwater table. These are just a few indicators whereby the presence of, or absence of would better assess whether there is seasonal groundwater at that site under most years/climatic conditions.

This type of soil study is typical of soil assessments conducted by TRPA for SEZs, wetlands and mitigation/restoration areas. These techniques can and should be applied to resolve the outstanding issues because this would remove the uncertainty surrounding the speculation and interpretation of the data that was collected by Terradyne Engineering Incorporated.

The NRCS soils report indicates that site soil is a Cassenai gravelly loamy coarse sand with a hydrologic unit of "A"<sup>3</sup>. The sieve analysis, reported as Figure G in the Terradyne Engineering Inc. 2019, report indicates that at a depth of 10-feet below ground surface the soil texture would be a sandy loam. What this means is that the Cassenai soils should drain quickly and you may not expect to find the presence of indicators for hydric soils or indicators for anaerobic conditions. I want to stress that this is just as valid as saying that the one bore hole represents the site. You just don't know. You need to excavate a trench and look. In this case, the absence of evidence is not evidence of groundwater absence.

In summary, it is my recommendation that you excavate a back hoe trench, three feet wide, eight feet long and to a depth of five feet and record data (as described above) by a qualified individual who understands soils under drought conditions. That would allow for a better understanding of the shallow groundwater conditions at the site and whether more detailed studies are necessary (such as the installation of shallow groundwater piezometers). It may not change the current conclusion found within the Terradyne Engineering Incorporated reports and would be more scientifically and legally defensible and may remove some of the controversy surrounding the lack of data and the interpretation of the existing data. Finally, in 2022, the area is under a moderate drought and

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<sup>3</sup>Group A—Soils in this group have low runoff potential when thoroughly wet. Water is transmitted freely through the soil. Group A soils typically have less than 10 percent clay and more than 90 percent sand or gravel and have gravel or sand textures. Some soils having loamy sand, sandy loam, loam or silt loam textures may be placed in this group if they are well aggregated, of low bulk density, or contain greater than 35 percent rock fragments. The limits on the diagnostic physical characteristics of group A are as follows. The saturated hydraulic conductivity of all soil layers exceeds 40.0 micrometers per second (5.67 inches per hour). The depth to any water impermeable layer is greater than 50 centimeters [20 inches]. The depth to the water table is greater than 60 centimeters [24 inches]. Soils that are deeper than 100 centimeters [40 inches] to a water impermeable layer are in group A if the saturated hydraulic conductivity of all soil layers within 100 centimeters [40 inches] of the surface exceeds 10 micrometers per second (1.42 inches per hour).

*Mr. Al Miller*  
*August 27, 2022*

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therefore, an experience soil scientist/restoration specialist with experience should be consulted. I have included the precipitation model outputs (attached herein).

Please call me with any questions or if you want to have a Zoom meeting to discuss the contents of this letter.

Best Regards,

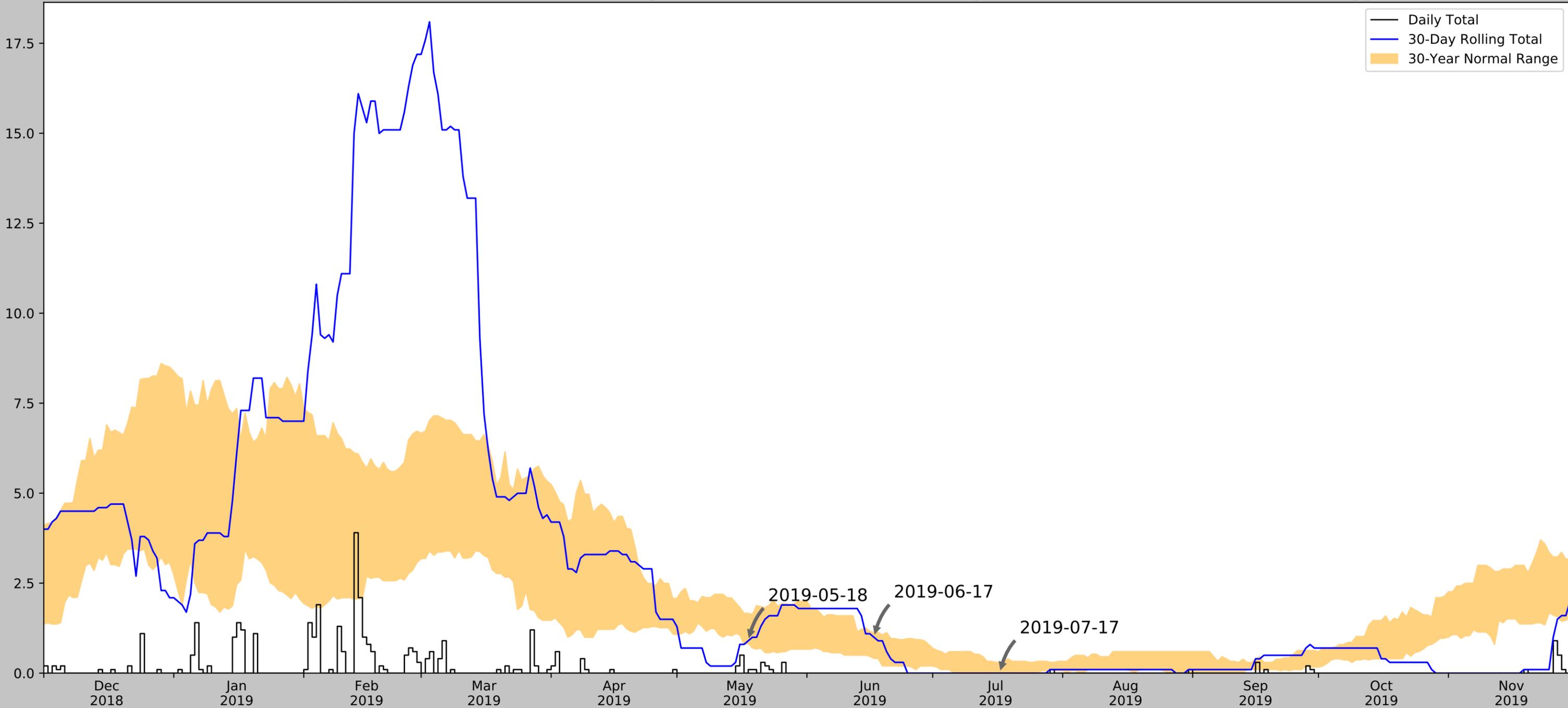
/s  
Lori Carpenter, SPWS, CPESC  
Hydrologist/Hydrogeologist

Attachments:

Precipitation Model Run Output for 2019 and 2022  
Resume

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network

Rainfall (Inches)



Coordinates	43.0537104, -119.95011076567611
Observation Date	2019-07-17
Elevation (ft)	6369.94
Drought Index (PDSI)	Mild wetness
WebWIMP H <sub>2</sub> O Balance	Dry Season

30 Days Ending	30 <sup>th</sup> %ile (in)	70 <sup>th</sup> %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2019-07-17	0.0	0.296457	0.0	Normal	2	3	6
2019-06-17	0.40748	1.130709	0.996063	Normal	2	2	4
2019-05-18	0.83189	1.660236	0.897638	Normal	2	1	2
Result							Normal Conditions - 12

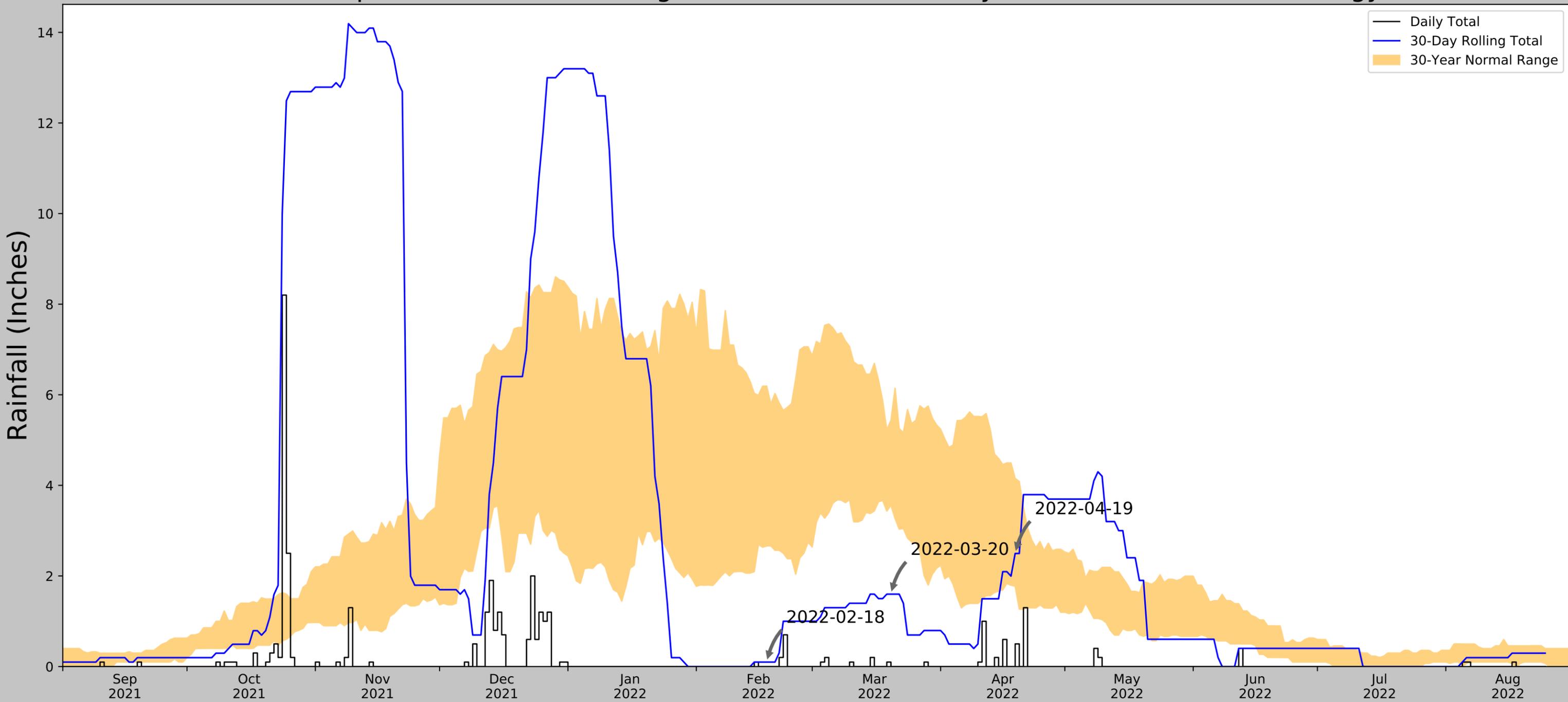


Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

Written by Jason Deters  
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
Fallen Leaf	38.93, -120.05	6235.893	5.393	134.047	3.15	11353	90

# Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	38.930537104, -119.95011076567611
Observation Date	2022-04-19
Elevation (ft)	6369.94
Drought Index (PDSI)	Moderate drought
WebWIMP H <sub>2</sub> O Balance	Dry Season

30 Days Ending	30 <sup>th</sup> %ile (in)	70 <sup>th</sup> %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2022-04-19	1.77441	4.154725	2.496063	Normal	2	3	6
2022-03-20	3.559843	5.433858	1.598425	Dry	1	2	2
2022-02-18	2.663386	6.192126	0.098425	Dry	1	1	1
Result							Drier than Normal - 9



Figure and tables made by the  
**Antecedent Precipitation Tool**  
Version 1.0

Written by Jason Deters  
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
Fallen Leaf	38.93, -120.05	6235.893	5.393	134.047	3.15	11353	90



***geosUAS, Inc.***

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[loric@nevada.unr.edu](mailto:loric@nevada.unr.edu)

## **SUMMARY**

Ms. Carpenter started her career as a professional wetland and regulatory scientist in 1991 and her education is in Hydrology/Hydrogeology. At 7Q10, Inc., she supervised 23 scientists and numerous sub-consultants. She oversaw scientific studies and field work with respect to hydrologic resources, environmental permitting/compliance, mitigation and management on over 300 projects for CEQA and NEPA compliance. She also oversaw all stages of a project from initial due-diligence, procuring necessary permits, plans for project development, field implementation, analytical and numerical models, project quality assurance and construction monitoring and closure requirements with respect to local, state and federal requirements. Ms. Carpenter is a proficient field scientist and a recognized authority in state, tribal and federal regulations which allows her to bring solutions to complex projects while maintaining development schedules and overall profitability. Since 2015, Ms. Carpenter has been utilizing unmanned autonomous systems (UAS/UAV) or drone technology to conduct remote sensing for environmental monitoring, inspections and assessments as an independent consulting scientist at geosUAS, Inc.

It's unusual to find a senior scientist with expertise in regulatory policies; this background provides Ms. Carpenter with a fundamental understanding in the design and implementation of field studies to collect and analyze data necessary to obtain complex regulatory permits, including cost effective mitigation and negotiate monitoring requirements. She has worked with numerous states, tribal and federal agencies to provide solutions that are both scientifically and legally defensible.

## **CERTIFICATIONS**

SWS-Senior Professional Wetlands Scientist #1147

IECA- Certified Professional in Erosion and Sediment Control #2562

California QSP/QSD 21959 [Construction General Permit Qualified SWPPP Practitioner (QSP) and Qualified SWPPP Developer (QSD)]

State of Nevada Certified Sage Grouse Credit System Verifier for GIS Modeling and Vegetation

UAS Remote (Drone) Pilot

Climate Reality Leadership Corps

## **EXPERIENCE**

### **geosUAS, Inc. - 2015 present**

Ms. Carpenter started geosUAS, Inc., in April of 2015. Ms. Carpenter's focus is on natural resource assessments and management, utilizing science, engineering, GIS, remote sensing, and small unmanned aerial systems to evaluate, identify and develop mitigation strategies within the land development, energy, mining and conservation industries. Ms. Carpenter provides solutions to complex environmental problems through a thorough understanding of the scientific, legal, regulatory and public issues and concerns by developing permitting strategies that result in legally and scientifically defensible solutions that engage the public through compliance monitoring and reporting for local, state and federal projects.



***geosUAS, Inc.***

***Unmanned Autonomous System Solutions for Natural Resource Assessments and Management***

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Ms. Carpenter completed courses in unmanned systems engineering, remote sensing and UAS law (drone) and policy to complete training in new cutting edge technology for applications in the geosciences. She utilizes unmanned aircraft in the geosciences to produce cost effective solutions that are both scientifically and legally defensible. Ms. Carpenter is utilizing unmanned aircraft to obtain current aerial photography that is a higher resolution in various formats to aid in the solution of real world problems. Ms. Carpenter is combining the new technology of unmanned aircraft with her expertise in water rights, sediment and erosion control, water quality, wetland delineations, vegetation and habitat mapping, environmental restoration and monitoring, and exploration of geologic features and mineral surveys.

Current projects include(d) City of Aurora, Colorado watershed/wetlands studies utilizing drone technology and remote sensing for wetland delineations/jurisdictional determinations, fen and other wetland mitigation in high mountain valleys for reservoir projects including permitting strategies. The Truckee Donner Land Trust for decommissioning of the Van Norden Lake Reservoir Dam including all CEQA filings and scientific studies. The New Port Pacific Land LLC, for a reassessment of jurisdictional areas subject to 404 permitting, including the design, planning, and implementation of compensatory wetland and upland refugia program with over 355 acres of open space with 54 acres of restored, enhanced and created habitats. The Walker River Paiute Tribe, to oversee the Tribal surface water quality program and submit compliance documentation to EPA. DMBGH Highlands, 3<sup>rd</sup> party review of the near continuous in-situ water quality monitoring program for the Martis Camp Golf Course. Various senior review for projects under changing sets of rules/policies for Clean Water Act 404/401 regulations/policies under both NEPA and CEQA. Current work also includes the May 2020 regulations within the State of California, State Water Resources Control Board, Statewide Procedures for Discharges of Dredged or Fill Material into waters of the state.

### **7Q10, Inc. - 1991 - 2014**

#### **Senior Hydrologist/Hydrogeologist - Regulatory Scientist - 2000 - 2014**

Ms. Carpenter was owner and CEO of 7Q10, Inc. 7Q10 closed in 2014 and she pursued academic training in the emerging technology of robotics and unmanned aerial systems for environmental purposes. As a senior wetland and regulatory scientist, her many duties throughout her career are documented below. She is an expert witness with the State of Nevada Engineers Office related to evapotranspiration. She is a Federal expert witness with respect to fens wetlands and wetland mitigation. Ms. Carpenter is an authority with respect to the hydrologic processes that drive wetlands and has extensive wetland mapping experience within the arid and intermountain west, to include water rights. Ms. Carpenter's graduate work focused on the developed of a climate model utilized to assess wetland hydrology in delineations which evaluates sites under normal, below normal and above normal rainfall conditions.



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Ms. Carpenter has extensive experience in utilizing remote sensing for environmental assessments to understand wetland boundaries, vegetation species, forestry health, erosion and sediment control impacts on water quality. She also utilizes in-situ water quality monitoring, environmental and construction monitoring, surface and groundwater quality programs to track habitat changes over time. With respect to surface water she has designed and implemented near-continuous water quality monitoring stations, water quality programs including the field collection, data analysis and reporting to achieve compliance objectives. She has expertise in NPDES permits, Storm Water Pollution Prevention Plans and water quality analysis including the design of best management practices for metals, and nutrient removal. She installs stream gauges to gather site specific data to assess efficacy of erosion control practices.

Ms. Carpenter has worked with various native Tribes in Nevada that wish to qualify as States for the water quality standards program under Section 518 of the Clean Water Act. Ms. Carpenter has assisted with and conducted the design, field implementation and regulatory permitting to establish water quality standards, Tribal participation in the program, and EPA approval of the Treatment as a State Program.

For projects with federal undertakings, federal permitting requirements, or when a federal agency is the lead agency Ms. Carpenter conducts agency coordination on Environmental Assessments or Environmental Impacts Statements under the Federal Land Policy and Management Act (FLPMA).in compliance with the National Environmental Policy Act (NEPA) procedures and various agency Memorandum of Understandings.

Ms. Carpenter is considered an expert with respect to both temporary and permanent best management practices (BMPs), to include monitoring for efficacy of BMPs. She designs streamlined systems for BMP Inspection, Maintenance, and Rain Event Action Plans, Construction Site Monitoring and Reporting Plan (CSMRP), Visual Storm Related Inspection & Monitoring Requirements for Qualifying Rain Events, Water Quality Sampling and Analysis, Storm Water Discharge Water Quality Sampling, Quality Assurance and Quality Control, Field Logs, Sampling Techniques, Chain of Custody, Data Verification, Non-Storm Water Discharge Monitoring Requirements, Non-Visible Pollutant Monitoring Requirements, Records, NAL Exceedance Reports, Spill Contingency Plan, Annual Reporting, and Final Reporting.

#### CorpsJD Project Leader 2008 - 2009

Ms. Carpenter translated section 404 of CWA wetland regulations and developed flow diagrams which were then developed by others into computer code for a cloud computing software-as-a-service. The SAAS includes the 1987 Wetland Delineation Manual and all ten regional supplements (covering the United States and the Caribbean) under the US Army Corps of Engineers' jurisdiction and is a GIS GPS-capable wetland and natural resources mapping reporting platform.



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#### Senior Hydrologist/Hydrogeologist - 1998 - 2000

In addition to her other duties, Ms. Carpenter finalized her MS degree at the University of Nevada-Reno in hydrology and hydrogeology. Ms. Carpenter utilized remote sensing, groundwater models and vegetation surveys for evapotranspiration studies to assess the perennial yield for groundwater withdrawal and exportation in Nevada versus actual water rights. Ms. Carpenter was also involved in clean water projects in Mexico, Haiti and Iraq to promote clean water, water supply development and human health risk assessments. Ms. Carpenter provided on-site construction management for erosion control and best management practices, installation, monitoring, inspections, and permit compliance reporting as the Environmental Construction Manager for the Martis Camp Project, Truckee, CA. Her work in Haiti continued until 2010, work in Mexico continued until 2008 and work in Iraq was completed in 2004.

#### Hydrologist - 1994 - 1998

In addition to her other duties as described below Ms. Carpenter has prepared and advised clients with respect to federal land exchanges related to surface and groundwater importation projects. Ms. Carpenter provided on-site construction management for erosion control and best management practices, installation, monitoring, inspections, and permit compliance reporting as the Environmental Construction Manager for the Martis Camp project, Truckee, CA. Additionally, she has designed cost effective monitoring plans to ensure federal, tribal and state compliance requirements.

Applicable statutes, regulations, and guidelines, include: Federal Land Policy and Management Act (FLPMA), Title 43, Chapter 35: Exchanges of lands of public interest within the National Forest System; General Exchange Act - 16 USC 485; Weeks Law - 16 USC 480 et seq.; USFS Land Exchange regulations - 36 CFR 254; and Forest Service Handbook, land exchange guidelines - FSH 5409.13 Chapter 30 et seq. Ms. Carpenter routinely works under CEQA and NEPA compliance objectives for all projects.

#### Wetland Hydrologist - 1991 - 1994

Ms. Carpenter's responsibilities include all aspects of the design and implementation of wetland regulatory permitting, Water rights both surface and groundwater, water quality control plans, wetlands delineations, plant evapotranspiration studies, revegetation plans, constructed wetlands for water quality improvement and wildlife habitats, wetland mitigation and monitoring plans, best management plans and erosion control, including Storm Water Pollution Prevention Plans, river/stream restoration plans, watershed water quality programs, and natural resource evaluations. She has worked extensively with ecosystem and wetland mitigation banking, land trust agreements, including land exchanges with respect to ecosystem protection. Ms. Carpenter has worked extensively with the classification of wetland ecosystems, vegetation and wildlife environmental studies and habitat plans including biological assessments (BA), and plant evapotranspiration. Ms. Carpenter worked extensively with aerial mapping and color infrared photography for environmental



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assessments and monitoring. Ms. Carpenter provided on-site construction management for erosion control and best management practices, installation, monitoring, inspections, and permit compliance reporting as the Environmental Construction Manager for the Lahontan project, Truckee, CA.

Ms. Carpenter's work in revegetation involves sustainable agriculture techniques that involve creating healthy soils by managing microbial populations in that soil. In place of "feeding" the plant with fertilizers, amendments are added to the soil that balances the soils to encourage growth of a healthy root structure. In essence, soils that are properly balanced (in terms of nutrients) will support root growth and deter growth of pest species. She has worked from high altitude areas with short growing seasons to the arid west.

Ms. Carpenter has also been responsible for the design of various wetland mitigation projects, including both seasonal and perennial wetland habitats that includes hydrologic design of both surface water- and groundwater-driven wetland systems. For surface water-driven systems, she utilized various surface water models and snow fences to capture snow fall that would have otherwise evaporated to sustain wetland complexes. For groundwater driven systems, she has employed a series of groundwater flow models to predict groundwater elevations and water balances to determine purchases of water rights due to losses from evapotranspiration.

Additionally, she has conducted several stream restoration projects and bank stabilization projects utilizing a combined Stumm, Rosgen, HECRAS approach where she models the stream sections or reaches with HECRAS and measured Mannings "n" along with other fluvial geomorphological restoration principles. Ms. Carpenter also has experience with many surface water rainfall, water quality and stochastic models, such as Hydrus 2-D, SWMS-2D, HECRAS, and HEC-1 and groundwater models - USGS MODFLOW.

### **CH2M HILL 1989 - 1991 - Surface-Water Hydrologist**

Ms. Carpenter's experience prior to joining 7Q10, Inc. includes design work on the Reno/Sparks Wastewater Treatment Expansion Project (Constructed Wetland Treatment Option). In addition, Ms. Carpenter conducted an algal growth potential study to assess effects of wastewater effluent to augment water supplies for natural Nevada wetlands. She was responsible for work plans, field data collection, data interpretation and statistical analysis, and the final study results technical memoranda.

### **EDUCATION**

MS, Hydrology & Hydrogeology, University of Nevada, Reno.

BS, Surface Water Hydrology Major with Chemistry Minor, University of Nevada

### **EXPERT WITNESS**

Expert Witness Nevada State Engineers Office



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Federal Expert Witness with Respect to Colorado Fen Wetlands, Erosion and Sediment Control, Wetland Mitigation and Restoration

## **HONORS**

US Senator Harry Reid, Certificate of Commendation as Northern Nevada International Center World Citizen Award, April 2, 2010

USACE Lake Tahoe Program Award to Exceptional Small Business 2010 US Senator John Ensign, World Citizen Award, April 2, 2010

## **CONTINUING PROFESSIONAL EDUCATION**

Lori Carpenter has an MS degree in Hydrology and Hydrogeology with over thirty hours of additional advanced university level (600 level or higher) or private class instruction (see bold below).

Beginning and Intermediate Bee Keeping for Mitigation Sites (2020)

Various 2 to 4-hour short courses for DroneDeploy, Pix4D Drone software (2020)

Al Gore Climate Reality Leadership Conference & Training (2019)

Advanced CEQA Permitting for 2019 changes and CEQA Workshops (two in 2018)

FACWET (2-day Field Course) for Instruction on the Functional Assessment of Colorado Wetlands (FACWet) Method

Advanced Hydric Soils Training for Arid West and Mtns Valley Coast USACE Supplement

State of Nevada Sage Grouse Credit System Qualified Verifier for GIS Modeling and Vegetation

**George Mason University 0.7 Continuing Education Units for ASPRS, sUAS Data Processing and Practical overview, September, 2015.**

**George Mason University 0.7 Continuing Education Units for ASPRS, sUAS Data Processing and Practical overview, 2014.**

**UAV 605 UAV Laws, Regulations & Intellectual Property**

**UAV 601 Unmanned Aircraft System Fundamentals Technologies**

**Small UAV Pilot Training, Certification & Ground School**

**Geog 411/611 - Remote Sensing**

**GE 604 - Aerospace Remote Sensing**

**GE 787 - Remote Sensing for Environmental Problems**

Resolving Conflict Across Cultures

Property Analysis Record - PAR Modeling Course

Applied Fluvial Geomorphology (Rosgen Stream Classification System)

Introduction to Federal Projects and Historic Preservation Law Advanced Seminar on Preparing Agreement Documents under Section 106 of the National Historic Preservation Act

## **CONTINUING EDUCATION AND PROFESSIONAL COURSES TAUGHT**

University of California - Berkeley Extension 1998



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Assistant Instructor. Wetlands delineation techniques using the Corps 1987 Wetland Delineation Manual. The 1987 Manual focus on wetland delineation utilizes the multiple parameter approach for technical delineations of aquatic and wetland boundaries under Federal regulatory jurisdiction. 40-hours

University of Nevada, Reno 1991-1995

Guest Instructor for the Hydrologic Science Graduate Program, whereby Ms. Carpenter teaches on Surface Water Hydrologic Modeling and Wetlands Delineation Techniques. 12-hours each semester.

Sierra Nevada College Truckee California 1995

Instructor: Ms. Carpenter instructs a pro-bono one- to two-day wetland regulatory and delineation short course for small California County professional Planning staff This allows County Planning staff with limited training budgets to understand the various California state (CEQA) and federal policies and programs (NEPA) governing waters of the United States/wetlands. County staff are often the first to see a proposed planning project. Early sound planning efforts serve to protect wetlands and water quality.

**Agencies and regulations that Ms. Carpenter has prepared compliance and permit documentation for include:**

Environmental Protection Agency: (Office of Water - Wetlands Division)

Environmental Protection Agency: (40 CFR)

NDPES Permits and Stormwater Pollution Prevention Plans

US Army Corps Of Engineers: (33CFR Part 320 to 338, Section 10 of the Rivers and Harbors Act of 1899 and Sections 401, 402 and 404 of the Clean Water Act)

Federal Emergency Management Agency

US Department of Agriculture: National Resource Conservation Service

Department Of Interior:

Bureau of Land Management

General Land Office

Bureau of Reclamation

NOAA – National Marine Fisheries Service

US Fish and Wildlife Service

(Sections 7 and 10 of the Endangered Species Act)

National Park Service for National Landmarks

National Park Service for Wild and Scenic Rivers

State Historic Preservation Office, including cultural resources (Section 106 of the National Historic Preservation Act)

Bureau of Indian Affairs

Office of Surface Mining

US Geological Survey

California:

CEQA and State Water Quality Control Boards in California, including the Department of Fish and Wildlife and their state counterparts, for example in Nevada:

EPA Region IX

US Fish and Wildlife Service, Region 1



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Nevada State Historic Preservation Office  
Nevada Division of Wildlife  
Nevada Division of Environmental Protection  
NDEP, Bureau of Water Quality Planning  
Tahoe Regional Planning Agency  
Each State is different, including statutes and local county governance.

## **CONFERENCE PRESENTATIONS - PUBLICATIONS**

Carpenter, LA, Leveraging Drones for Environmental Science, IECA, Environmental Connection, July/August 2019, Volume 14, Issue 3, 2019.

Carpenter, LA, Proposed Draft Sage Brush Habitat Mitigation Banking Strategy: One Potential Solution to Increase Sage Brush Ecosystems for Lands within Nevada, Presented to the State of Nevada Greater Sage-Grouse Advisory Committee, July 2012.

Carpenter, L.A., Scientific Rigor within Wetland Delineation Protocols under Regional Supplements, presented at the Society of Wetland Scientists Conference, June 2010.

Carpenter, L.A., An Approach for Delineating Hydrologic Boundaries of Wetlands by Simulating Long-Term Climate Conditions, presented at the Society of Wetland Scientists Conference, June 2007.

Carpenter, L.A., Coston, L.C., Dodd, Ph.D., A.D., Lemke, D.L., Whitaker, P., Comparison of Avian Monitoring Surveys at a Compensatory Wetland Mitigation Site Against Avian Monitoring Surveys in the Great Basin, presented at the Society of Wetland Scientists Conference, June 2007.

Carpenter, L.A., Coston, L.C., Dodd, A.D., Lemke, D.L., A Case Study: Gauging Various Construction Techniques and Methods Against Overall Success Criteria and Habitat Functions in Mitigation Wetlands, presented at the Society of Wetland Scientists Conference, June 2007.

Carpenter, L.A., Coston, L.C., Dodd, Ph.D., AD., Lemke, D.L., Whitaker, P., A Case Study: Evaluating Results from Avian Monitoring as a Long-Term Measurement of Success Criteria in Mitigated Wetlands, presented at the Society of Wetland Scientists Conference, June 2007.

Carpenter, L.A., Design of a Water Quality Treatment System and Meadow Restoration for a Redevelopment Project at Stateline, Lake Tahoe, Nevada, presented at the Nevada Water Resources Association, 2nd Biennial Conference on Tahoe Environmental Concerns, May, 2004.

Carpenter, L.A., An Approach for Delineating Hydrologic Boundaries of Wetlands by Simulating Long-Term Climate Conditions, August 2000, Master's Thesis, University of Nevada, Reno, Master of Science Hydrology/Hydrogeology.



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Carpenter, L.A., *Performance Standards/Final Success Criteria - Wetland Mitigation Experiences from the Great Basin and East Slope of the Sierra Nevada*, presented at the Society of Wetland Scientist, Reno Riparian Conference - October of 1998.

Carpenter, L.A., *Erosion Control Techniques and Best Management Practices for Construction Activities in Environmentally Sensitive Areas in the Lake Tahoe and Truckee River Watersheds*, presented for the California Regional Water Quality Control Board, San Francisco District, at the Storm Water Pollution Prevention Plan Training Workshop - August 1997.

Carpenter, L.A., McKay, Alan, Fordham, John W., Myers, Thomas, *Non-Profit Instream Flow Bank to achieve water quality criteria, Truckee River Watershed, Nevada*, presented at the Nevada Water Resources Association Nevada Water Conference - February 15, 1996.

Carpenter, L.A., Rhea, R.A., Huffman PhD., R.T., *Use of the Disc Permeameter in Wetland Delineations*, presented at the Nevada Water Resources Association - Nevada Water Conference - March 14, 1995.

Carpenter, L.A., Rhea, R.A., Broadway, J.R., Huffman PhD., R.T., *Comparison of the Wetland Delineation Methodology and the Technical Criteria that Would Induce Wetland Conditions*, presented at the Fall 1994 American Geophysical Union conference, December 1994 and the Nevada Water Conference - March 14, 1995.

Carpenter, L.A., Warwick PhD., John, Spinogatti, Daniel, *Efficacy of Low Cost Wetland Treatment in improving lower Truckee River Water Quality for Pyramid Lake Paiute Tribe*, presented at the Fall 1994 American Society of Civil Engineers conference in Atlanta, Georgia.

Carpenter, L.A. *A Case Study of Wetland Mitigation and Functional Assessment Methodology on Steamboat Creek, Reno, Nevada, Truckee River Watershed*, presented at the Nevada Water Conference in Las Vegas, Nevada in March of 1994.

Carpenter, L.A., Dunaway, D., Development, *Wetlands, and Watersheds: A case study to integrate multiple objectives utilizing wetland and watershed analysis*. Case Study presented at the Nevada Water Conference February 1993.

Carpenter, L.A., *Wetlands Regulated on Irrigated Agricultural Lands*. Paper presented at the Nevada Water Conference February 1993.

Carpenter, L.A., *Preserving Nevada's Wetlands*. A Poster Session. February 1991., Huffman and Associates, Inc., Reno, Nevada.

Carpenter, L.A., *Isotopic Composition of High Altitude Recharge Waters in Southern and Eastern Nevada, August 1988*.



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U.S. Geological Survey-WRI, Carson City, Nevada., Carpenter, L.A., Thomas, J.M., and Lyles, B.F., *Chemical and Isotopic Data from Wells, Springs, and Streams in Carbonate-Rock Terrain of Southern and Eastern Nevada and Southeastern California, 1985-88.* U.S. Geological Survey, Open-file Report 89-0422, Carson City, Nevada.

Carpenter, L.A., Briscoe, K., *Abstract for the Orr Ditch Final Decree for the USA, Plaintiff. vs. Orr Water Ditch Company, et al., Defendants.*

Tahoe Regional Planning Agency

128 Market Street

Stateline, Nevada 89449

**By email to:** [meetings@trpa.org](mailto:meetings@trpa.org)

to Executive Director Marchetta at: [jmarchetta@trpa.org](mailto:jmarchetta@trpa.org)

to TRPA Council at: [jmarshall@trpa.org](mailto:jmarshall@trpa.org)

to TRPA Council at: [bcornell@trpa.org](mailto:bcornell@trpa.org)

**TO:** TRPA BOARD MEMBERS ( [mbrucetrpa@gmail.com](mailto:mbrucetrpa@gmail.com);  
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[bosfive@edcgov.us](mailto:bosfive@edcgov.us); [cindygustafson@placer.ca.gov](mailto:cindygustafson@placer.ca.gov); [ahill@washoeconty.us](mailto:ahill@washoeconty.us);  
[jfriedrich@cityofslt.us](mailto:jfriedrich@cityofslt.us); [lawrence@dcnr.nv.gov](mailto:lawrence@dcnr.nv.gov); [ajhicks@mcdonaldcarano.com](mailto:ajhicks@mcdonaldcarano.com);  
[shellyaldean@gmail.com](mailto:shellyaldean@gmail.com); )

**FROM:** ALAN MILLER, PE

**DATE:** October 12, 2021

**SUBJECT:** Comments Opposing Project Approval; Verizon/Guilliam New Cellular Monopine Cellular Tower; 1360 Ski Run Boulevard, City of South Lake Tahoe, El Dorado County, CA; Assessor's Parcel Number 025-580-07, TRPA File Number ERSP2019-0389

Honorable Chairman Bruce and Board Members,

These are just my opinions as a scientist, with over 18 years as a former senior engineer with the Lahontan Water Board as a regulator and permit preparer, based on readily available information. I wrote a letter concerning this matter to you and TRPA in April 2020 (see Exhibit 1) I submit to include in the record here. That letter failed to elicit a response which I consider unacceptable for a public agency. I guess that is standard protocol these days, because I understand from my associates in the community that TRPA has essentially stone-walled on any issues related to community concerns with the proliferation of wireless technology in the Lake Tahoe Region. Meanwhile, TRPA has taken a head-in-the sand approach to the issue of regulating impacts on the environment from wireless facilities and installations. I know that everyone is in love with their wireless devices, which are damaging their health, their immune systems, and their environment, whether they are aware of it or not. However, the

scientific record on the significant adverse environmental and health effects of radio frequency (RF) radiation is clear, beyond dispute, and becoming clearer as the large body of scientific evidence grows ever larger. Substantial scientific and social evidence of harms was attached to my letter, and additional information in the form of Exhibits will be attached to this letter for the Hearing record.

**A. TRPA IS UNSCIENTIFIC WITH REGARD TO WIRELESS RADIATION**

The TRPA Bi-State Compact (citation omitted) Article VII concerns Environmental Impact Statements, in relevant part:

**ARTICLE VII. – ENVIRONMENTAL IMPACT STATEMENTS**

(a) The Tahoe Regional Planning Agency when acting upon matters that have a significant effect on the environment shall:

- (1) Utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making which may have an impact on man’s environment;
- (2) Prepare and consider a detailed environmental impact statement before deciding to approve or carry out any project. The detailed environmental impact statement shall include the following:
  - (A) The significant environmental impacts of the proposed project;
  - (B) Any significant adverse environmental effects which cannot be avoided should the project be implemented;
  - (C) Alternatives to the proposed project;
  - (D) Mitigation measures which must be implemented to assure meeting standards of the region;
  - (E) The relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity;
  - (F) Any significant irreversible and irretrievable commitments or resources which would be involved in the proposed project should it be implemented; and
  - (G) The growth-inducing impact of the proposed project;
- (3) Study, develop and describe appropriate alternatives to recommended courses of action for any project which involves unresolved conflicts concerning alternative uses of available resources;
- (4) Make available to States, counties, municipalities, institutions and individuals, advice and information useful in restoring, maintaining and enhancing the quality of the region’s environment; and
- (5) Initiate and utilize ecological information in the planning and development of resource-oriented projects.

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. .  
. . .

(f) The agency shall adopt by ordinance a list of classes of projects which the agency has determined will not have a significant effect on the environment and therefore will be exempt from the requirement for

the preparation of an environmental impact statement under this article. Prior to adopting the list, the agency shall make a written finding supported by substantial evidence in the record that each class of projects will not have a significant effect on the environment.

1. I understand this project is classified as part of a Class that has been considered exempt, citing section (f), above, because FIVE DECADES ago, when the Compact and subsequent ordinance was adopted, TRPA was unconcerned with the harmful biological effects of RF radiation, not much was known about the harmful biological effects with the notable exception of within the various U.S. military services (Navy, Air Force, etc.), wireless had not proliferated regionally as in the past decade, and TRPA had other concerns. I don't know when the current exemption for wireless facilities was first adopted (the Staff Analysis doesn't provide that information), but I'd be willing to bet it was a long time ago.
2. The time is now to put a halt to the unfettered proliferation of wireless facilities in the Lake Tahoe Basin and I again call for a moratorium on new and expanded wireless communications facilities until TRPA has developed and approved an appropriate Environmental Impact Statement (EIS). I write TRPA IS UNSCIENTIFIC here because science is about forming and testing hypotheses, refining understandings, setting in order the facts of experience, and exploring ever-greater levels of truth—not once-and-done, ignoring any subsequent new credible information. It is also not about cherry-picking scientific studies and data to prop up a pseudo-scientific policy, in this case claiming no significant effects to support a pre-defined *agenda to avoid the significant issues*. I understand the difficulties of EIS preparation, but to turn a blind eye to substantial credible scientific information concerning the impacts of RF radiation on the environment TRPA is uniquely charged by Congress to protect just lays out nakedly that TRPA IS UNSCIENTIFIC.
3. Quoting the Staff Analysis at letter G, in relevant part:

G. Radio Frequency Emissions: Congress gave the Federal Communications Commission (“FCC”) “comprehensive powers” over radio communications, and the FCC has exercised “federal primacy” over the technical aspects of such communications. *See Cohen v. Apple, Inc.*, 2020 WL 6342922, at \*3, \*10 (N.D. Cal. 2020). Congress determined that “it is in the national interest that uniform, consistent requirements, with adequate safeguards of the public health and safety” be established, and it tasked the FCC with adopting regulations for radio frequency (“RF”) emissions. *Id.* at \*10; 47 C.F.R. §§ 1.1307(b), 1.1310, 2.1091, 2.1093. . . .

Thus, the proposed Verizon Wireless tower is required to comply with the FCC limits on RF Emissions. . . .

TRPA, having been created by an interstate compact, is a creature of federal law, and the

application of the TCA to its permitting process is not a matter of preemption. Rather, one must reconcile the intent of Congress in passing both the TCA [Telecommunications Act] and the Compact and give meaning to both statutes should there be any conflict in implementation. In furtherance of that standard, the agency position to date is this: TRPA will defer to the FCC regulations over general issues of human health and environmental impacts. However, TRPA could choose to regulate RF in the region should cellular facilities be proven to have a particular adverse effect on the unique environment of the Tahoe Region. TRPA has not received any such proof of adverse impacts of RF particular to Tahoe and therefore will not reexamine the determinations of the FCC. (underline added)

4. Again, we see here not a scientific spirit of inquiry as shall be undertaken per the Compact, Article VII(A)(1): “Utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decision making which may have an impact on man’s environment;” No. What we have is a “position” that TRPA takes which is UNSCIENTIFIC. We agree that TRPA could regulate the environmental effects of RF radiation, and is not pre-empted by the FCC from doing so. So let’s be very clear that this is a legal position, and not a scientific finding of any sort; it does not rest on valid science. And while the powers of the FCC may be “comprehensive” they are not above the rights of the people guaranteed by the U.S. Constitution.
5. Let me further expose this for what it is: This is the TRPA hiding behind the corrupt FCC and its UNSCIENTIFIC regulations, siding with its own associates and work-mates here locally in the wireless industry, and those in the community pushing a wireless expansion agenda, namely the Tahoe Prosperity Center, working hand in hand across conflict-of-interest lines with Verizon and other wireless interests while ignoring the interests of any project detractors. This is not just my opinion, as legal documents for the Eisenstecken case and my own experience show. Concerning the FCC, Harvard University’s Edmond J. Safra Center for Ethics published an ebook, an extensive expose’ which laid bare the facts: how the FCC is a regulatory agency “captured by” one of the most powerful lobbying and corporate industries in the nation, the telecommunications and wireless industry, which has extended its influence and corruption to certain members of Congress (see Exhibit 2, titled Captured Agency). Despite that, nothing has changed. That’s the influence of money. The FCC is further pushing for the unfettered and reckless rollout of the “5G” infrastructure that will further significantly degrade the environment with poisonous RF radiation nationwide, despite the outcry from the public in the millions, and scientific experts around the nation and world in the thousands. So TRPA hiding behind the FCC and its outdated RF radiation emissions guidelines is just more of the same. If you stand behind a NOTORIOUSLY corrupt agency like the FCC when you have the opportunity, if not the sworn duty, to do otherwise, then what does that make you?

6. I can remember when TRPA instituted a ban on two-stroke marine engines upon Lake Tahoe waters back in the late 1990s, requiring less-polluting four-stroke marine engines. It was controversial. Of course, that was based on science and reports of harm from Lake Tahoe and waters elsewhere from those exhaust and oil-spewing engines. TRPA could have “deferred” to federal USEPA regulations, but TRPA was a leader and paved the way for bans in other States on two-stroke engines where sensitive waters were concerned, reforming the industry. TRPA could be a leader here as well in how to safely manage wireless technology, and phase in the safer wired and wireless alternatives, at least in the region. The wired alternatives are nearly or completely safe from a FIRE standpoint, as discussed below, and can aid to preserve and restore our degraded environment while providing greater bandwidth.
  
7. TRPA could change its position: Among other things, the FCC was recently blocked by a Federal U.S. Court of Appeals in D.C. from essentially recertifying that its guidelines promulgated for RF radiation exposure in 1996 are safe. The FCC and the wireless industry can no longer claim the current RF radiation emission guidelines and products designed to meet them are safe. They aren’t. Wireless damages, disables, maims and kills. And the guidelines originate from questionable science that well pre-dated 1996. The judge rejected the FCC’s case because it provided no new findings to support their action, ruling the FCC acted “arbitrarily and capriciously” in certifying the guidelines as safe for humans—especially children, who are most vulnerable due to a number of factors. The FCC’s failure was in ignoring the harms presented to them in the record. Mr. Marshall’s a capable attorney and I assume he knows all this, but the word is always slow in getting out to the public (by design); the wireless industry has powerful friends and allies in the media, of course. The TRPA received a letter from Mr. Gresser, Esq., citing numerous conflict-of-interest concerns with appointing Mr. Andrew Strain to be the TRPA Hearing Officer in this matter and requesting his replacement. I support that letter and don’t know if Mr. Strain will be replaced. That would be a good start, and I hope he is replaced.
  
8. Will you, Board member, support the staff “position,” and thereby be standing up for corruption, and unsafe environmental conditions, or will you stand up for the Region and its people you are charged to protect using the best available science? We will at least know where you stand and what you stand for as individuals and collectively at the end of this. The thing I don’t get is why TRPA is willing to turn its back on its mission, science, the Compact, to ally with a corrupt and unsafe wireless industry. Why act as the shill for a reckless and unsafe industry now that you know, especially when there are many ways to mitigate wireless harms and completely safe alternatives with wired connections?
  
9. Do you really think people come to visit Lake Tahoe so they can be surrounded by towers and blanketed in electro-smog? I certainly hope not! If we saw smoke we would ask, “Where’s the fire? Let’s put it out.” But because we can’t see, taste, or smell RF radiation it’s easy to assume it’s not there, and do nothing to mitigate the potential and significant harms. But those towers aren’t out of sight, aren’t out of mind. Some people really suffer acutely from them. They cause

and contribute to chronic disease. The public is catching on and I expect that more will in time. The industry is hoping it will be too late for the public to stop their agenda to bathe the whole planet in microwaves, with no choice in the matter, but that doesn't matter. Towers can be torn down later after better alternatives are developed, and we'll all just throw away our cell phones and other wireless devices unless they are *independently* proven safe, because the dangers will be much clearer. Want cancer?

10. TRPA is UNSCIENTIFIC in another way, also. Referring to the Staff Analysis again, “. . . TRPA could choose to regulate RF in the region should cellular facilities be proven to have a particular adverse effect on the unique environment of the Tahoe Region. TRPA has not received any such proof of adverse impacts . . .” Science proceeds on general principles, repeatable experiments and effects from one place to another, seeking out the principles that hold true in every case. It doesn't matter if centuries of wrong equations and theories and hypotheses come before: all it takes is one right, true equation or theory to make all others wrong and obsolete. That's how science is supposed to work. This TRPA statement of “position” goes beyond being merely unscientific, but is actually quite cynical in my view, by ignoring ALL the evidence of harm previously submitted. By their statement, TRPA has not received any “proof of any such impacts” so it is unclear just what kind of scientific proof would meet their position. Clearly, substantial evidence has been provided of biological effects and harms well below FCC exposure limits, but TRPA refuses to see it. I'm no lawyer; I am a scientist and again, TRPA is UNSCIENTIFIC here because that isn't how science works.
11. The position is like saying, “you know that general principle we call gravity. The scientists say it works the same on either side of the ridge between Carson Valley and Lake Tahoe. But they only have studies to show it affects the Carson City side, so we can ignore gravity and pretend we have no proof of it in our unique Lake Tahoe environment.” Nope. The affects are the same either side, it's been shown in enough places to establish a general principle we call gravity. It even works on the moon. Similarly, other researchers have tested scientific hypotheses for answers to questions such as: what are the levels at which biological effects from RF radiation can be detected? What are the mechanisms by which tissues are affected? And they've outlined and proven a number of generalized principles that are applicable under similar conditions and repeatable, and therefore do not exclude the Lake Tahoe region in that regard because of its uniqueness. There are no findings of fact to support this position of TRPA's either, which I can only characterize as arbitrary and capricious with regard to what scientific or other information the TRPA will consider. No science here, honorable Board members.
12. And you know what else? Pretty soon Tahoe's environment won't be so “unique.” It will be just like everywhere else where the bees and other insects, birds and amphibians, and the plant community have been significantly affected, reduced and eliminated by RF radiation, and the residents and visitors will be surrounded by towers and bathed in electro-smog as poisonous as in any big city. No thanks. No thanks to you TRPA for failing to uphold those “unique” values

with regard to wireless emissions so far, but there is still time to change your position, reconsider a return to science and give up your position advocating to do nothing about the effects of wireless poison.

**B. THREATS DUE TO FIRE ASSOCIATED WITH THE TOWER MUST BE MITIGATED**

1. After what our community just went through with the Caldor Fire coming to the Basin, it is almost unbelievable to me that TRPA has no apparent sensitivity to the issues surrounding the multiple fire hazards associated with towers. Within the Staff Report and its attachments I could find no discussion of any potentially significant effects or mitigation requirements relative to a tower fire, tower collapse and/or fire, increased effects on the flammability of the surrounding trees, and fuel transportation, handling and storage for the emergency back-up generator. Such a discussion could have been provided at 2.b., for instance, which only discusses generator noise and visual impacts, opining without support that: “The project to which the use pertains, will not be injurious or disturbing to the health, safety, enjoyment of property, or general welfare of persons or property in the neighborhood, or general welfare of the region, and the applicant has taken reasonable steps to protect against any such injury and to protect the land, water, and air resources of both the applicant’s property and that of surrounding property owners.”
2. That the applicant has “taken reasonable steps” is a subjective statement. It’s unqualified and certainly falls short of “all reasonable steps” to mitigate reasonably anticipated multiple harms in my view. What I would like to focus your attention on here is the industry’s track record with regard to tower fires, which may occur due to a variety of causes. With every tower that goes up, the potential risks of a tower fire increase. See Exhibit 3, titled Tower Fires and Collapses, which contains dated photographs and other information from around the nation on the literally dozens and dozens of tower fires and collapses that have occurred, most often from mechanical defects like improper welding and faulty design or construction. Towers are shown that collapsed due to high winds, which are experienced frequently in our environment. Cell towers have increasingly become the target of arsonists, and while I can think of few things more misguided than exposing the region to the threat of fire by burning down a tower, I think to ignore this potential risk is naive, wishful thinking. I will add that wired cable and phone connections do not present any of these risks.
3. Some of you may recall a time when the Basin was completely without wireless. Look at those photos of towers on fire and contrast the fire risks then compared to now, with all these sparkplugs scattered throughout the community. All it would take is one tower fire to start a crown-fire in the trees under adverse fire conditions to destroy the whole region by fire and cause potentially disastrous adverse affects on water quality and Lake Tahoe’s troubled clarity. That would certainly make the above statement of “no significant effect” ludicrous on its face. A tower fire of some sort is reasonably foreseeable: TRPA is setting the entire Lake Tahoe Basin up for a disastrous wireless-caused fire event with the current regulatory approach, approving project after project piece-meal, with no evaluation of the immediate and cumulative potential

adverse effects on the forests and fire dangers, and therefore no mitigation requirements. The record shows the TRPA has a blindness to wireless FIRE dangers.

4. This blindness is evident in the Alternatives Analysis provided. Fire risk was not analyzed as part of the siting criteria. Verizon's preferred site sits at the bottom of very steep slopes leading up to Heavenly Ski Resort and the multi-million dollar homes and condos on Kingsbury Grade (TRPA's office) and the Ridge, and near the Stateline casino corridor, with U.S. Highway 50 and Pioneer Trail as essentially the only escape routes from the tower neighborhoods. Add to this the potential for high winds with an uninterrupted wind fetch from the north, across the Lake and funneled up the broad Ski Run Blvd. If such winds were to cause a tower collapse and fire in the basin there could be very great loss of life and property, as in the 2007 Angora Fire. That fire seems very small compared to what we were faced with during the 2021 Caldor Fire. Only with the aid of a tremendous assembled fire-fighting force, did we miraculously escape extensive destruction in 2021. I sat in traffic for nearly three hours, not moving, after the evacuation order was issued for South Lake Tahoe in 2021.
5. The Staff Analysis mentions that 125 gallons of fuel will be maintained on the project site for a back-up emergency generator. Many fires have been associated with use of emergency generators and fuel transportation, handling and storage. 125 gallons of liquid fuel seems like quite a lot of fire-power to be stored in a shed beneath the tower, but contrary to the Staff Analysis, the included Verizon plans actually specify a generator with a 132-gallon diesel tank. The simulations make the shed appear wooden, which is flammable, but no actual information on the materials to be employed is provided. So is it 125 or 132 gallons, and how will the 7-gallon discrepancy be accounted for? What storage, fire prevention, spill and leak countermeasures will be employed? The Staff Analysis doesn't say there are any, so I can't assume there are.
6. TRPA likes to trumpet its achievements in permit streamlining to assist others in their local, State and Federal efforts at fire management, and I applaud that effort, but I stress that the risks from cell towers and associated fires must be recognized and mitigated or TRPA is working at cross purposes with our fire-fighting heroes and other government agencies who have provided millions and millions of dollars to abate and fight fire threats in the Lake Tahoe Basin. The Staff Analysis claims the tower will aid in emergency response, the very type of fire emergency the TRPA is setting the stage for with the approval of this tower and those before it. (I'll add that wired alternatives (fiber optic cable and telephone lines) are nearly or completely safe from a FIRE standpoint, as discussed below, and can aid to preserve and restore our degraded environment while providing greater bandwidth and connectivity—and safety from RF radiation exposures.)

### C. COMMENTS ON INSURANCE NEEDS

1. Lest anyone think the wireless provider Verizon is going to step up and insure against these substantial fire and collapse risks, my understanding is the only insurance required was by the City (per the permit it issued approving the tower) stating the following, in relevant part:

17. Insurance. At all times relevant to this permit, the permittee shall obtain and maintain insurance policies as follows:

a. Commercial General Liability. Insurance Services Office Form CG 00 01 covering Commercial General Liability (“CGL”) on an “occurrence” basis, with limits not less than \$1,000,000 per occurrence or \$2,000,000 in the aggregate. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. CGL insurance must include coverage for the following: Bodily Injury and Property Damage; Personal Injury/Advertising Injury; Premises/Operations Liability; Products/Completed Operations Liability; Aggregate Limits that Apply per Project; Explosion, Collapse and Underground (“UCX”) exclusion deleted; Contractual Liability with respect to the permit; Broad Form Property Damage; and Independent Consultants Coverage. The policy shall contain no endorsements or provisions limiting coverage for (i) contractual liability; (ii) cross liability exclusion for claims or suits by one insured against another; (iii) products/completed operations liability; or (iv) contain any other exclusion contrary to the conditions in this permit.

2. Some of you Board members have extensive experience with insurance. Maybe you understand the meaning of the above clause, “Explosion, Collapse, and Underground . . . exclusion deleted;” it appears the insurer attempted to exclude these but was blocked from doing so? The Commercial General Liability (GCL) Insurance “in the aggregate” seems far too small at \$2M, especially if the facilities cause or contribute to a major fire. That amount will probably offset losses to the wireless provider and little more. The \$2M will barely pay for a few houses, let alone a neighborhood of housing and business losses, a ski resort or a significant part of the community. The aggregate insurance amount should be raised and the risks being insured against should be made specific rather than general. TRPA should require appropriate insurance and not leave it to the various localities and their limited various interests and patchwork of regulations that could affect the entire basin. My feeling is if the insurers had a greater payout due to fire events, the industry would be encouraged to improve its fire safety record. Currently there is no such pressure. This is critical to our communities!
3. Any meaningful discussion of insurance has to include the discussion of risk. What are you insuring for? What are you insuring against? What liability are you protecting the public from by requiring insurance, including issues of community health and risks to the environment. These

potential requirements for insurance are clearly NOT against FCC rules, which do not limit the ability of a government agency to protect itself and its public with insurance.

4. The TRPA must recognize potential liability exposure not only from electromagnetic frequencies (EMF), but it's also from falling objects, including falling snow and ice, and trees falling on the facilities. Trees do fall, and such falling should not be considered an "act of god" but rather a virtual certainty in time. Trees falling do not generally cause fires, but hitting an energized tower is another matter, and a great risk of fire. As stated above, I believe the insurance amount required for the permittee is FAR TOO LOW. If TRPA can require a bond or insurance for wireless permittees I strongly recommend it. Also, the insured permittee should never be allowed to list a "shell" company, other than the telecom itself as a licensee for insurance purposes. For example no "doing business as" some other entity with another name than, say, AT&T or Verizon Wireless to avoid exposure, and certainly NOT by promising indemnity instead of insurance.
5. Concerning limitations at the end of the quoted section, General Liability Insurance must be issued without a pollution or pollutant exclusion, because EMF is a pollutant (recognized under law) and should not be excluded or the approving agency could bear the liability for any harm that is done, which could be very substantial. Such harm may arise, for examples, in the event that EMF radiation occurs above allowable levels (e.g., per FCC guidelines) and/or is not detected timely and someone is harmed, or if the permittee or permit issuer fails to require the indicated testing or follow up in a timely manner due to any number of reasons. Such scenarios are not far-fetched and have occurred as I understand the issue. The Policy above does not clearly specify that pollutants and pollution must not be excluded and this should be added to all such policies.

#### **D. RF RADIATION STRESSES TREES AND OTHER VEGETATION AND INCREASE FIRE RISKS**

1. There are numerous reports in the scientific literature documenting the adverse effects of RF radiation on vegetation. See Exhibit 4 titled Environmental Health Trust Literature Summary, Plant Stress. Briefly summarizing the things I would like to point out to you, I provide here this excerpt:

“Electromagnetic (EMF) frequencies have been found to alter the growth and development of plants. Studies on wireless EMF frequencies have found [physiological and morphological changes](#), [increased micronuclei formation](#), [altered growth](#) as well as [adverse cell characteristics](#) such as thinner cell walls and smaller mitochondria. Electromagnetic exposure results in biochemical changes. Research shows that plants [perceive](#) and respond to electromagnetic fields and are a good model to study the biological effects of exposure. . . .”

2. Think about your home microwave oven. It works by energizing water molecules in the food, causing heating. RF radiation is microwave radiation. We are told that the FCC guidelines for human exposure prevent thermal effects in humans. I don't believe that, because of the way the testing was done and industry influence at the time, but setting that aside, the fact remains that microwaves agitate water molecules in the environment, causing heating of water vapor in the atmosphere and on the ground, and in the tissues of living organisms, subtle or pronounced as it may be. The vegetation around cell towers and other sources of RF radiation has been studied and shows stresses with slower growth rates, damage to tissues, excessive dryness, and increased formation of flammable terpenes and terpenoids, in the case of Pine trees.

### **Terpenes**

3. Pine trees emit a class of chemical hydrocarbons which are highly flammable called terpenes—providing the sticky resin and pine scent. Terpenes are used to produce turpentine and furniture varnishes, which you may know are highly flammable.
4. Dr. Martin Pall, PhD, has studied RF radiation and literature extensively and has put forth information that shows mechanisms for increased fire risks in vegetation exposed to RF radiation which I will briefly summarize (see Exhibit 5 titled Wildfires, EMF, Terpenes and More). Excerpting:

#### **Terpenes**

The first mechanism, expounded by Dr. Martin Pall, relies on research showing that electromagnetic fields (EMFs) from microwave radiation causes plants to produce excessive amounts [of] intracellular calcium, which in turn causes the plants to produce high levels of of substances called terpenes/terpenoids. Terpenes/terpenoids are usually produced by plants to repel insect predators and can also be emitted to warn other plants that insect predators are present—but in normal circumstances, this response is limited to one species at a time. When high levels of EMFs are present, as happens near cell towers or under power lines, all the plants will start producing high levels of terpenes/terpenoids, which are both highly combustible and highly volatile, and which can pool at ground level. **If a fire starts, it will burn more fiercely and be much harder to put out.**

Many people think that Dr. Pall's mechanism applies exclusively to 5G, but this is not so. The EMFs of 4G and 3G infrastructure, of Wi-Fi and of power lines, produce the same effects in plants. . . .

5. That same article discusses the work of Dr. Alsonfo Balmori:

#### **EMFs Cause Soil Acidification**

A second mechanism which explains how microwaves may make forest fires much worse is explained very clearly by Dr. Alfonso Balmori in his short paper, [“The Effects of Microwaves on the Trees and Other Plants”](#). In it, Dr. Balmori explains how EMFs cause soil acidification and create conditions in which trees are unable to absorb ground water, thus drying up.

Dr. Balmori cites the work of German scientist Wolfgang Vokrodt, whose pioneering work on dying trees near radar installations showed that microwaves interrupt the ability of trees to absorb water, thus drying them out, and create soil acidification, which further dries them out. Balmori also cites Swiss scientist Ulrich Hertel, who says that “a causal chain of electrical smog/stunted growth/damage to soil/dying trees is established.” Hertel explains that EMFs cause trees to lose the hair roots which absorb water from the soil, while capillaries shrink and become unable to pull water upward into the tops of the trees. “The delicate absorbent hair roots are missing, the trees are standing in water and yet die of thirst.”

Dry trees will burn easily. And sadly, most cell towers are placed on hills and mountains because this increases the range of each “cell.” Between the increased production of terpenes/terpenoids and the lack of moisture in the trees themselves due to the action of microwaves in the atmosphere, it is not surprising if forests are burning as never before.

6. So if we combine the heating of the atmosphere (water vapor) and vegetation with trees stressed due to lack of water, with dead needle-leaves/branches, and producing excessive, highly flammable terpenes from the remainder, we’ve got a recipe for fire, and increased chances that a stressed tree could fall on the tower and create a fire. None of these potential risks are evaluated or mitigated by the proposed permit.
  
7. In addition, species of aspen trees have been studied and show stress and susceptibility to damage and impairment by RF radiation. Aspen groves have been declining in the Lake Tahoe Basin, and State and federal agencies have spent substantial sums on projects to slow the decline. The tower is situated near a prized, scenic aspen grove along the westerly side of Ski Run Boulevard north of the tower, and diagonally across Ski Run Blvd to the SW of the tower. This area is most-likely classed as Stream Environment Zone (SEZ), which is one of the most severely impacted aquatic and habitat resource types in the Lake Tahoe Basin, and is afforded special protections under the TRPA regulations. I do not believe the TRPA thresholds concerning

SEZ are met, stemming largely from historic impacts. Nonetheless, every new significant or potentially significant impact or effect should be managed and mitigated to prevent the further loss and degradation of critical SEZ resources. The TRPA staff should examine the scientific evidence concerning impacts on aspen trees and associated species in the subject aspen grove and make a scientific determination on whether they could be reasonably expected to be adversely affected by emissions from the proposed tower, together with other known RF-radiation sources in the area. The current Staff Analysis does not consider any potential impacts to these offsite aquatic resources and SEZs due to RF radiation emissions within a short distance (with the SEZ margins perhaps only 200 feet or so from the tower) and within line-of-sight of the emitters, and is thus deficient in this regard. See Exhibit 6 titled Effects on Aspen and other Trees near Wireless Towers, in particular the two articles within titled, “Adverse Influence of Radio Frequency Background on Trembling Aspen Seedlings: Preliminary Observations” and “Radiofrequency Radiation Injures Trees Around Mobile Phone Base Stations,” as scientific evidence of these effects at levels below current FCC emission guidelines.

#### **E. TRPA EMPLOYS A DEFICIENT PUBLIC PARTICIPATION PROCESS**

1. The *Initial Environmental Checklist for Determination of Environmental Impact* (Checklist) is a form completed by the Applicant, Verizon wireless. As I understand it, subject to review by TRPA staff, the permit must address any shortcomings, requiring revisions to the application as necessary. The Checklist reportedly serves to document and support the evaluation of a variety of potential impacts and informs a Finding of No Significant Effect (FONSI, exemption from preparing an EIS), according to the Staff Analysis. The Checklist was not provided with the Hearing agenda materials for public comment posted on October 7, which seemed improper to me. Since it is part of the documentation for the FONSI, why was it not published in the Hearing Record for public review and comment? The Staff Analysis, letter A., says, “. . . A copy of the completed checklists will be made available at the Hearings Officer hearing and at TRPA.” How can the public meaningfully be expected to comment on the assertions in the document without it being provided prior to the meeting/hearing, which the TRPA does not allow the public to attend in person? I thought, why isn’t it standard procedure to post the document with the Staff Report, when that presumably forms the basis for the findings summarized in the Staff Analysis? So I went back to the TRPA website to see if I’d missed it. No, it wasn’t there when I first looked on or after October 7 or 8. I happened to return to the webpage for the Hearing Officer on Monday, October 11, and found it had been added as a new link sometime after October 7. I know this because I keep the old webpage up from the prior week, and the link wasn’t there — and then on Oct. 11 (3 days before the hearing) there it appeared, though the Oct 7, 2021 post date was not revised. (The posted document shows TRPA had it in their possession since June 2019.)
2. In addition I could find no provisions for, or description of, public participation in the lead-up to this matter, other than to testify at the hearing online. Were nearby property owners and interested parties like me notified? I certainly wasn’t, though I’d provided in 2020 the written

comments in Exhibit 1. No call for written comments or due date was mentioned in any of the written material associated with the Hearing. TRPA didn't post its Hearing agenda materials more than about a week or less in advance of its proposed action. The only opportunity for public participation noted at the website for TRPA related to this item was to sign up to attend the meeting online, and opportunity to testify for 3 minutes online. How is the public supposed to know whether written comments will even be considered?

3. To contrast, I worked as a State of California regulator for over 25 years and we always endeavored, wherever possible, to give the public at least three weeks to provide comments and input, and submit their comments and information 10 days in advance of a meeting or hearing, and often more if the matter was controversial, so that the Board members would have time to read and consider the information. TRPA's process just seems like going through the motions to minimize and avoid meaningful public involvement, while meeting the minimal administrative review requirements, if those are even being met. Was TRPA rushing this matter to meet FCC permit processing timeline concerns? This contrasts markedly with my experience in this very Basin, including many years work with TRPA staff and management; when they were more interested in public input, schedules could be adjusted and things could take a very long time, so I see this process as a very deliberate attempt to discourage meaningful public involvement due to a host of conflicting interests.

#### F. COMMENTS ON THE CHECKLIST

1. The Checklist document from Verizon is so deficient in my view that I don't want to spend a lot of time critiquing it in detail. I think doing so here would trivialize the unaddressed matters of life and death I have commented on above. I will summarize that it provides no substantive information to identify address the concerns I've stated above, and provides no substantive information beyond the Staff Report on which to base a FONSI. I've provided additional comments in a **separate attachment, Exhibit 7**.
2. However, I must point out here that I consider the entire Checklist to be invalid. The Declaration at the end says in bold letters "**original signature required**," beside what appears to be an obvious paste-up or form-fill of a typed man's name, "Joseph Sharp, SAC Wireless obo Verizon Wireless"; there is no signature on the page other than a digital signature (also not original) from the preparer for Mr. Sharp. This seems improper for a certification that I've reproduced below from the Checklist:

**DECLARATION:**

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Signature: (Original signature required.) Joseph Sharp, SAC Wireless obo Verizon Wireless

3. I would say, in fact, there is no certification; the document has no original signature as clearly and properly required, and Mr. Sharp, assuming he exists, could easily claim that the paste-up, or whatever it is, is not his signature. Convenient, when to the best of my knowledge and belief I have pointed out many incomplete, untrue and dangerously incorrect claims in the Checklist (see Exhibit 7). I further presume that the controversies and science concerning the effects of RF radiation on living things are broadly and widely known to those in the wireless industry, particularly those in positions of authority such as Mr. Sharp. To claim otherwise lacks plausibility in my view. I therefore would expect that these effects are known at some level to Mr. Sharp, and that's why the certification was not printed and signed in Mr. Sharp's hand before being provided to TRPA, to avoid any possibility of perjuring himself. The Staff Report provides no comment on this matter, or when the application was provided, accepted and deemed complete. If TRPA accepts this paste-up as legally valid, I would sure like to know the basis; otherwise the Checklist should have been rejected by TRPA back in 2019 as constituting an invalid, incomplete application, and it should be rejected now, in 2021, as a basis for Project/Permit approval.

**CONCLUSION**

In view of the above, I strongly urge you to deny this approval and Special Use Permit on the basis of unaddressed significant and potentially significant effects, until such time that the effects are fully addressed. I further pray for reform of your regulatory program for wireless installations through conducting a thorough programmatic analysis and EIS development, informed by science, with full public participation, meeting the requirements of law. Despite my comments and strong feelings, I welcome a dialogue on this matter in the spirit of science and good public policy.

I understand some of the Board members support philanthropic organizations for children, and bless you for that. You should understand that what we are dealing with here is a telecom industry whose product is always delivered with a dose of poison, telecom and computer industries that don't care who is injured in any way in their pursuit of profit, an industry that has a business model that frequently targets siting their wireless facilities on schools and playgrounds (and ski slopes) for children, those most vulnerable to the adverse health effects of RF radiation. The microwaves are invisible but the money isn't so the schools and others are attracted, to fill their accounts. Same goes for hospitals, another

siting target. Disgraceful. If the proposed Verizon tower is approved and built at Mr. Guillian's sledding hill for children, I suspect only uniformed parents will bring their children there in time. Woe be unto him and his business.

The California firefighters, God bless them, fought the telecoms off like the fighters they are after their health and cognition was impaired by RF radiation—no towers on our fire stations! No more towers in the Lake Tahoe Basin absent an approved EIS! This is about respecting freedom, the right to be free to enjoy our homes and communities free of poisonous assaults on our bodies, injecting RF radiation into our very cells and our environment from big-money industry sources we have no control over. It's a time for choosing: which side are you on?

Sincerely,

Alan Miller, Professional Engineer  
South Lake Tahoe

List of Exhibits (pdf format):

1. E-mailed Letter from Alan Miller, PE to TRPA, dated April 16, 2020, and its Attachment 2
2. Captured Agency
3. Tower Fires and Collapses
4. Environmental Health Trust Literature Summary, Plant Stress
5. Wildfires, EMF, Terpenes, and More
6. Effects on Aspen Trees and other Trees near Wireless Towers
7. Comments on the Checklist

Tahoe Regional Planning Agency

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**By email to:** [trpa@trpa.org](mailto:trpa@trpa.org)

CC to Executive Director Marchetta at: [jmarchetta@trpa.org](mailto:jmarchetta@trpa.org)

CC to City of South Lake Tahoe at: [PublicComment@cityofslt.us](mailto:PublicComment@cityofslt.us)

**TO:** TRPA BOARD MEMBERS

**FROM:** ALAN MILLER, PE

**DATE:** APRIL 16, 2020

**SUBJECT:** SEEKING A TRPA MORATORIUM ON NEW WIRELESS FACILITIES AND UPGRADES TO EXISTING WIRELESS FACILITIES IN THE LAKE TAHOE REGION

Honorable Chairman Yeates and Board Members,

I am writing to respectfully ask for TRPA's assistance in regulating the unfettered proliferation of cell phone towers and antennas, and other wireless facilities for the internet and other applications of radio-frequency radiation emissions, which has occurred and is occurring within my City of South Lake Tahoe community and elsewhere in the Tahoe region. I am specifically seeking a moratorium on such new facilities, and changes to existing facilities until a basin-wide evaluation and TRPA regulatory program can be developed, including appropriate environmental assessments. I am appealing to the TRPA as the next-level administrative remedy, short of a lawsuit, after petitioning my grievances to the City of South Lake Tahoe, which has resolutely ignored my concerns and the concerns of many other members of my community. The plain facts in this matter are that the wireless facilities are a threat to human health and the integrity of environmental ecology in the Tahoe basin. In May 2011 the International Agency for Research on Cancer (IARC) classified Radio Frequency-Electromagnetic Fields (RF-EMF, including non-ionizing extremely low frequencies of EMF) as a group 2B agent, i.e., a "possible" human carcinogen, right up there with lead, chlordane, DDT, ethylbenzene, and many other poisonous agents ([https://www.iarc.fr/wp-content/uploads/2018/07/pr208\\_E.pdf](https://www.iarc.fr/wp-content/uploads/2018/07/pr208_E.pdf)).

The City, under direction of the City Attorney, has repeatedly claimed federal pre-emption by the Federal Communications Commission (FCC) with regard to human health and environmental effects, despite the documented claims that the FCC has no particular expertise

or authority in these areas or concerning such wireless facilities. The City has not taken meaningful regulatory action to protect the people, fauna and flora in the City from the increasing “electrosmog” we are all being subjected to at various levels never before experienced in the history of humanity. Such radiation is scientifically proven to be harmful to people, animals and plants. While citing the outdated (1990’s-era) FCC regulations and guidelines the City has claimed a Categorical Exemption from the California Environmental Quality Act for locating wireless facilities on private property, with specious findings or none at all.

In many cases the antennas themselves and related facilities also blight our beautiful landscapes and viewsheds, such as at the Ski Run Marina area with multiple wireless facilities. You may not be aware, in just the latest instances, the City upheld on appeal the planned installation of a 112-foot-high cell tower in a residential neighborhood (within 200 feet of residences) near Ski Run Blvd, and on April 14, 2020, approved new draft ordinances (1<sup>st</sup> reading) that would make “preferred locations” for wireless facilities include land uses dedicated for Conservation and Recreation. In my view this will be potentially highly detrimental to Stream Environment Zones and forest environments and the people and animals and plants that rely on them. Radiation is no respecter of such conservation lands and SEZs.

In my pre-retirement job as a Chief of the North Lahontan Basin Regulatory Unit at the Lahontan Regional Water Quality Control Board I oversaw permitting for literally dozens of Environmental Improvement Projects and conservation-restoration projects over a decade and a half (prior to 2018), involving literally tens if not hundreds of millions of dollars (public funds) to restore and improve the degraded environments of Lake Tahoe. I am elated to hear the long-planned restoration of the Upper Truckee River/Trout Creek Marsh delta is finally receiving the funding to begin this most-important restoration action for Lake Tahoe water quality. At the same time, we have the proliferation of cell phone towers in the City (some 22 facilities), including in this very area (at the Tahoe Keys Marina/Cove East conservation area), amid bald eagle and other important wildlife habitats (photos attached).

I can understand the TRPA was formed before such wireless facilities, other than for AM/FM radio, were a significant factor, but all that has changed, and is planned to change more and very rapidly with the plans by wireless big-business interests in the region to implement the much-more-powerful next generation of wireless technology, 5G, for the so-called Internet of Things. Now is the time to act, before more facilities are imposed. The City and other local governments apparently have no desire or ability to understand or thwart the FCC rules and big-business interests behind the proliferating wireless technologies. I have grave concerns with human health effects and significant environmental effects given the current FCC radiation emissions guidelines. It is incumbent upon the TRPA to step up and protect the values of the

region in the absence of meaningful local protections. The Precautionary Principle to “first do no harm” must be invoked.

I have laid out my above concerns and other concerns in a February 18, 2020 letter to the City Planning Commission, and a subsequent April 10, 2020 letter to the City Council, which I will provide for your records and therefore not further reiterate here. I urge you and/or your staff to read these letters and their attachments. In particular I will call your attention to “the Lawsuit” in federal court against the City of Sante Fe, the State of New Mexico, and the United States, cited and provided here as a pdf attachment, as this lays out the human and environmental issues in great detail. (Here is the link to the Lawsuit with its many embedded links to further information <https://www.cellphonetaskforce.org/wp-content/uploads/2019/01/Doc-19-First-Amended-Complaint.pdf>.) I will provide my other letters and their attachments under separate cover.

In closing, I urge the TRPA Board and staff to act without further delay to fulfill its mandates under the bi-State Compact and TRPA Plans and ordinances. I request to be informed when you have received this communication, and of any future plans and/or actions TRPA will take with regard to the issues with wireless facilities I have outlined. I look forward to your response and I thank you for your service.

Alan Miller, PE

P.O. Box 7526, South Lake Tahoe CA 96158

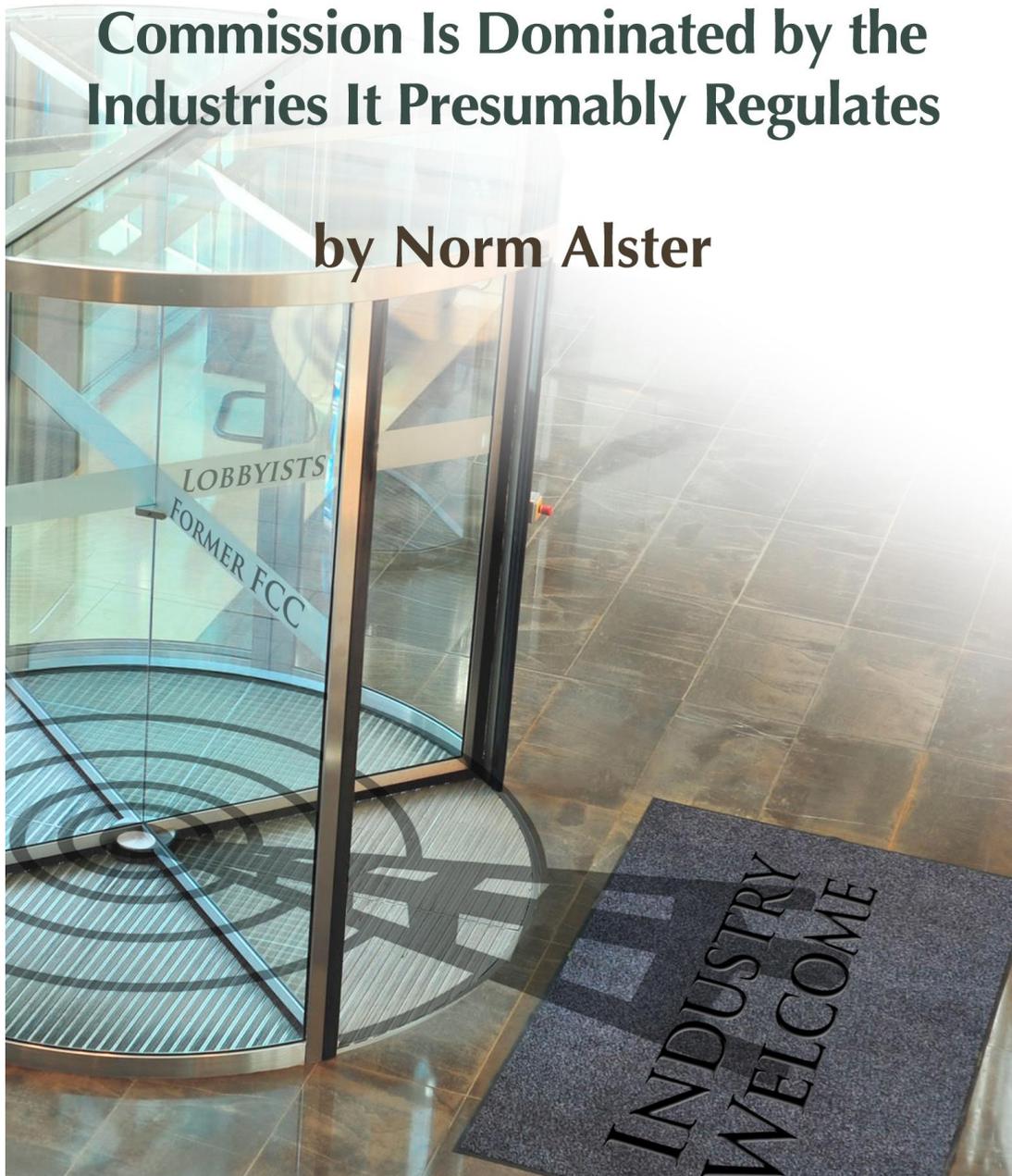
Attachments:

1. Photo of Tower adjacent to Upper Truckee River marsh at Tahoe Keys Marina and Venice Drive, City of South Lake Tahoe
2. LAWSUIT: Citation; IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF NEW MEXICO, No. 1:18-cv-01209-LF-JHR; SANTA FE ALLIANCE FOR PUBLIC HEALTH AND SAFETY, ARTHUR FIRSTENBERG, and MONIKA STEINHOFF, Plaintiffs, vs CITY OF SANTA FE, NEW MEXICO; HECTOR BALDERAS, Attorney General of New Mexico; and the UNITED STATES OF AMERICA, Defendants. (Sante Fe Alliance et al., First-Amended-Complaint.pdf)

# Captured Agency:

How the Federal Communications  
Commission Is Dominated by the  
Industries It Presumably Regulates

by Norm Alster



[www.ethics.harvard.edu](http://www.ethics.harvard.edu)

# Captured Agency

How the Federal Communications Commission Is Dominated  
by the Industries It Presumably Regulates

**By Norm Alster**

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*Published by:*

Edmond J. Safra Center for Ethics  
Harvard University  
124 Mount Auburn Street, Suite 520N  
Cambridge, MA 02138 USA  
<http://www.ethics.harvard.edu/>



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## Chapter One: The Corrupted Network

Renee Sharp seemed proud to discuss her spring 2014 meeting with the Federal Communications Commission.

As research director for the non-profit Environmental Working Group, Sharp doesn't get many chances to visit with the FCC. But on this occasion she was able to express her concerns that lax FCC standards on radiation from wireless technologies were especially hazardous for children.

The FCC, however, should have little trouble dismissing those concerns.

Arguing that current standards are more than sufficient and that children are at no elevated risk from microwave radiation, wireless industry lobbyists don't generally have to set up appointments months in advance. They are at the FCC's door night and day.

Indeed, a former executive with the Cellular Telecommunications Industry Association (CTIA), the industry's main lobbying group, has boasted that the CTIA meets with FCC officials "500 times a year."<sup>1</sup>

Sharp does not seem surprised. "There's no question that the government has been under the influence of industry. The FCC is a captured agency," she said.<sup>2</sup>

Captured agency.

That's a term that comes up time and time again with the FCC. Captured agencies are essentially controlled by the industries they are supposed to regulate. A detailed look at FCC actions—and non-actions—shows that over the years the FCC has granted the wireless industry pretty much what it has wanted. Until very recently it has also granted cable what it wants. More broadly, the FCC has again and again echoed the lobbying points of major technology interests.

Money—and lots of it—has played a part. The National Cable and Telecommunications Association (NCTA) and CTIA have annually been among Washington's top lobbying spenders. CTIA alone lobbied on at least 35 different Congressional bills through the first half of 2014. Wireless market leaders AT&T and Verizon work through CTIA. But they also do their own lobbying, spending nearly \$15 million through June of 2014, according to data from the Center for Responsive Politics (CRP). In all, CTIA, Verizon, AT&T, T-Mobile USA, and Sprint spent roughly \$45 million lobbying in 2013. Overall, the Communications/Electronics sector is one of Washington's super heavyweight lobbyists, spending nearly \$800 million in 2013-2014, according to CRP data.

But direct lobbying by industry is just one of many worms in a rotting apple. The FCC sits at the core of a network that has allowed powerful moneyed interests with limitless access a variety of ways to shape its policies, often at the expense of fundamental public interests.

As a result, consumer safety, health, and privacy, along with consumer wallets, have all been overlooked, sacrificed, or raided due to unchecked industry influence. The cable industry has consolidated into giant local monopolies that control pricing while leaving consumers little choice over content selection. Though the FCC has only partial responsibility, federal regulators have allowed the Internet to grow into a vast hunting grounds for criminals and commercial interests: the go-to destination for the surrender of personal information, privacy and identity. Most insidious of all, the wireless industry has been allowed to grow unchecked and virtually unregulated, with fundamental questions on public health impact routinely ignored.

Industry controls the FCC through a soup-to-nuts stranglehold that extends from its well-placed campaign spending in Congress through its control of the FCC's Congressional oversight committees to its persistent agency lobbying. "If you're on a committee that regulates industry you'll be a major target for industry," said Twaun Samuel, chief of staff for Congresswoman Maxine Waters.<sup>3</sup> Samuel several years ago helped write a bill aimed at slowing the revolving door. But with Congress getting its marching orders from industry, the bill never gained any traction.

Industry control, in the case of wireless health issues, extends beyond Congress and regulators to basic scientific research. And in an obvious echo of the hardball tactics of the tobacco industry, the wireless industry has backed up its economic and political power by stonewalling on public relations and bullying potential threats into submission with its huge standing army of lawyers. In this way, a coddled wireless industry intimidated and silenced the City of San Francisco, while running roughshod over local opponents of its expansionary infrastructure.

On a personal level, the entire system is greased by the free flow of executive leadership between the FCC and the industries it presumably oversees. Currently presiding over the FCC is Tom Wheeler, a man who has led the two most powerful industry lobbying groups: CTIA and NCTA. It is Wheeler who once supervised a \$25 million industry-funded research effort on wireless health effects. But when handpicked research leader George Carlo concluded that wireless radiation did raise the risk of brain tumors, Wheeler's CTIA allegedly rushed to muffle the message. "You do the science. I'll take care of the politics," Carlo recalls Wheeler saying.<sup>4</sup>

Wheeler over time has proved a masterful politician. President Obama overlooked Wheeler's lobbyist past to nominate him as FCC chairman in 2013. He had, after all, raised more than \$700,000 for Obama's presidential campaigns. Wheeler had little trouble earning confirmation from a Senate whose Democrats toed the Presidential line and whose Republicans understood Wheeler was as industry-friendly a nominee as they could get. And while Wheeler, at the behest of his Presidential sponsor, has taken on cable giants with his plans for net neutrality and shown some openness on other issues, he has dug in his heels on wireless.

Newly ensconced as chairman of the agency he once blitzed with partisan pitches, Wheeler sees familiar faces heading the industry lobbying groups that ceaselessly petition the FCC. At CTIA, which now calls itself CTIA - The Wireless Association, former FCC commissioner Meredith Atwell Baker is in charge.

## Wireless and Cable Industries Have the FCC Covered



And while cell phone manufacturers like Apple and Samsung, along with wireless service behemoths like Verizon and AT&T, are prominent CTIA members, the infrastructure of 300,000 or more cellular base stations and antenna sites has its own lobbying group: PCIA, the Wireless Infrastructure Association. The President and CEO of PCIA is Jonathan Adelstein, another former FCC commissioner. Meanwhile, the cable industry's NCTA employs former FCC chairman Michael Powell as its president and CEO. Cozy, isn't it?

FCC commissioners in 2014 received invitations to the Wireless Foundation's May 19<sup>th</sup> Achievement Awards Dinner. Sounds harmless, but for the fact that the chief honoree at the dinner was none other than former wireless lobbyist but current FCC Chairman Tom Wheeler. Is this the man who will act to look impartially at the growing body of evidence pointing to health and safety issues?

The revolving door also reinforces the clout at another node on the industry-controlled influence network. Members of congressional oversight committees are prime targets of

industry. The cable industry, for example, knows that key legislation must move through the Communications and Technology Subcommittee of the House Energy and Commerce Committee. Little wonder then that subcommittee chairman Greg Walden was the second leading recipient (after Speaker John Boehner) of cable industry contributions in the last six years (through June 30, 2014). In all, Walden, an Oregon Republican, has taken over \$108,000 from cable and satellite production and distribution companies.<sup>5</sup> But he is not alone. Six of the top ten recipients of cable and satellite contributions sit on the industry’s House oversight committee. The same is true of senators on the cable oversight committee. Committee members were six of the ten top recipients of campaign cash from the industry.<sup>6</sup>

## Cable & Satellite Campaign Contributions Top House Recipients Funded

Recipient	Amount
John A. Boehner	\$135,425
<b>Greg Walden</b>	<b>\$108,750</b>
Bob Goodlatte	\$93,200
John Conyers Jr.	\$84,000
Mike Coffman	\$82,137
<b>Fred Upton</b>	<b>\$73,500</b>
<b>Lee Terry</b>	<b>\$65,916</b>
<b>Henry A. Waxman</b>	<b>\$65,000</b>
<b>Cory Gardner</b>	<b>\$64,500</b>
<b>Anna G. Eshoo</b>	<b>\$60,500</b>

## Cellular Industry Campaign Contributions

### Top House Recipients Funded

Recipient	Amount
<b>Henry A. Waxman</b>	<b>\$41,500</b>
Scott H. Peters	\$40,300
<b>Greg Walden</b>	<b>\$35,750</b>
<b>Fred Upton</b>	<b>\$32,250</b>
Bob Goodlatte	\$31,250
<b>Lee Terry</b>	<b>\$29,600</b>
<b>Anna G. Eshoo</b>	<b>\$27,000</b>
<b>Doris O. Matsui</b>	<b>\$25,500</b>
<b>John Shimkus</b>	<b>\$24,000</b>
Peter J. Roskam	\$21,100

## Cable & Satellite Campaign Contributions

### Top Senate Recipients Funded

Recipient	Amount
<b>Edward J. Markey</b>	<b>\$320,500</b>
Kirsten E. Gillibrand	\$194,125
Mitch McConnell	\$177,125
Harry Reid	\$175,600
Charles E. Schumer	\$175,450
<b>Mark L. Pryor</b>	<b>\$172,950</b>
Michael F. Bennet	\$159,000
<b>Richard Blumenthal</b>	<b>\$148,800</b>
<b>Claire McCaskill</b>	<b>\$138,185</b>
Mark Udall	\$136,625

# Cellular Industry Campaign Contributions

## Top Senate Recipients Funded

Recipient	Amount
<b>Edward J. Markey</b>	<b>\$155,150</b>
Mark R. Warner	\$74,800
Harry Reid	\$73,600
<b>Mark L. Pryor</b>	<b>\$71,900</b>
<b>Roy Blunt</b>	<b>\$57,400</b>
John McCain	\$56,261
Charles E. Schumer	\$53,300
Roger F. Wicker	\$51,300
Barbara Boxer	\$49,578
Kelly Ayotte	\$43,333

The compromised FCC network goes well beyond the revolving door and congressional oversight committees. The Washington social scene is one where money sets the tone and throws the parties. A look at the recent calendar of one current FCC commissioner shows it would take very disciplined and almost saintly behavior on the part of government officials to resist the lure of lavishly catered dinners and cocktail events. To paraphrase iconic investigative journalist I.F. Stone, if you're going to work in Washington, bring your chastity belt.

All that free liquor, food and conviviality translates into the lobbyist's ultimate goal: access. "They have disproportionate access," notes former FCC commissioner Michael Capps. "When you are in a town where most people you see socially are in industry, you don't have to ascribe malevolent behavior to it," he added.<sup>7</sup>

Not malevolent in motive. But the results can be toxic. And blame does not lie solely at the feet of current commissioners. The FCC's problems predate Tom Wheeler and go back a long way.

Indeed, former Chairman Newton Minow, enduringly famous for his 1961 description of television as a "vast wasteland," recalls that industry manipulation of regulators was an issue even back then. "When I arrived, the FCC and the communications industry were both regarded as cesspools. Part of my job was to try to clean it up."<sup>8</sup>

More than 50 years later, the mess continues to pile up.

## Chapter Two: Just Don't Bring Up Health

Perhaps the best example of how the FCC is tangled in a chain of corruption is the cell tower and antenna infrastructure that lies at the heart of the phenomenally successful wireless industry.

It all begins with passage of the Telecommunications Act of 1996, legislation once described by South Dakota Republican senator Larry Pressler as “the most lobbied bill in history.” Late lobbying won the wireless industry enormous concessions from lawmakers, many of them major recipients of industry hard and soft dollar contributions. Congressional staffers who helped lobbyists write the new law did not go unrewarded. Thirteen of fifteen staffers later became lobbyists themselves.<sup>9</sup>

Section 332(c)(7)(B)(iv) of the Act remarkably—and that adverb seems inescapably best here—wrests zoning authority from local governments. Specifically, they cannot cite health concerns about the effects of tower radiation to deny tower licenses so long as the towers comply with FCC regulations.

### Congress Silences Public

Section 332(c)(7)(B)(iv) of the Communications Act provides:

**No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions.**

In preempting local zoning authority—along with the public’s right to guard its own safety and health— Congress unleashed an orgy of infrastructure build-out. Emboldened by the government green light and the vast consumer appetite for wireless technology, industry has had a free hand in installing more than 300,000 sites. Church steeples, schoolyards, school rooftops, even trees can house these facilities.

Is there any reason to believe that the relatively low level radiofrequency emissions of these facilities constitute a public health threat? Certainly, cell phones themselves, held close to the head, have been the focus of most concern on RF emissions. Since the impact of RF diminishes with distance, industry advocates and many scientists dismiss the possibility that such structures pose health risks.

But it's not really that simple. A troubling body of evidence suggests exposure to even low emission levels at typical cellular frequencies between 300 MHz and 3 GHz can have a wide range of negative effects.

In a 2010 review of research on the biological effects of exposure to radiation from cell tower base stations, B. Blake Levitt and Henry Lai found that “some research does exist to warrant caution in infrastructure siting.”<sup>10</sup> They summarized the results on one 2002 study that compared the health of 530 people living at various distances within 300 meters of cell towers with a control group living more than 300 meters away. “Results indicated increased symptoms and complaints the closer a person lived to a tower. At <10 m, symptoms included nausea, loss of appetite, visual disruptions, and difficulties in moving. Significant differences were observed up through 100 m for irritability, depressive tendencies, concentration difficulties, memory loss, dizziness, and lower libido.”<sup>11</sup>

A 2007 study conducted in Egypt found similar results. Levitt and Lai report, “Headaches, memory changes, dizziness, tremors, depressive symptoms, and sleep disturbance were significantly higher among exposed inhabitants than controls.”<sup>12</sup>

Beyond epidemiological studies, research on a wide range of living things raises further red flags. A 2013 study by the Indian scientists S. Sivani and D. Sudarsanam reports: “Based on current available literature, it is justified to conclude that RF-EMF [electro magnetic fields] radiation exposure can change neurotransmitter functions, blood-brain barrier, morphology, electrophysiology, cellular metabolism, calcium efflux, and gene and protein expression in certain types of cells even at lower intensities.”<sup>13</sup>

The article goes on to detail the effects of mobile tower emissions on a wide range of living organisms: “Tops of trees tend to dry up when they directly face the cell tower antennas. . . . A study by the Centre for Environment and Vocational Studies of Punjab University noted that embryos of 50 eggs of house sparrows were damaged after being exposed to mobile tower radiation for 5-30 minutes. . . . In a study on cows and calves on the effects of exposure from mobile phone base stations, it was noted that 32% of calves developed nuclear cataracts, 3.6% severely.”<sup>14</sup>

Does any of this constitute the conclusive evidence that would mandate much tighter control of the wireless infrastructure? Not in the estimation of industry and its captured agency. Citing other studies—often industry-funded—that fail to establish health effects, the wireless industry has dismissed such concerns. The FCC has typically echoed that position.

Keep in mind that light regulation has been one factor in the extraordinary growth of wireless—CTIA says exactly that in a Web post that credits the Clinton Administrations light regulatory touch.

# July 25, 2013



CTIA is an international nonprofit trade association that has represented the wireless communications industry since 1984.

But our position as the world's leader was no accident. It started with the Clinton Administration that had the foresight to place a "light regulatory touch" on the wireless industry, which was in its infancy at the time. That light touch has continued through multiple Administrations.

Obviously, cellular technology is wildly popular because it offers many benefits to consumers. But even allowing for that popularity and for the incomplete state of science, don't some of these findings raise enough concern to warrant some backtracking on the ham-fisted federal preemption of local zoning rights?

In reality, since the passage of the 1996 law, the very opposite has occurred. Again and again both Congress and the FCC have opted to stiffen—rather than loosen—federal preemption over local zoning authority. In 2009, for example, the wireless industry convinced the FCC to impose a "shot clock" that requires action within 90 days on many zoning applications. "My sense is that it was an industry request," said Robert Weller, who headed up the FCC's Office of Engineering and Technology when the shot clock was considered and imposed.<sup>15</sup>

And just last November, the FCC voted to further curb the rights of local zoning officials to control the expansion of antenna sites. Again and again, Congress and the FCC have extended the wireless industry carte blanche to build out infrastructure no matter the consequences to local communities.

The question that hangs over all this: would consumers' embrace of cell phones and Wi-Fi be quite so ardent if the wireless industry, enabled by its Washington errand boys, hadn't so consistently stonewalled on evidence and substituted legal intimidation for honest inquiry? (See Appendix for online study of consumer attitudes on wireless health and safety.)

Document searches under the Freedom of Information Act reveal the central role of Tom Wheeler and the FCC in the tower siting issue. As both lobbyist and FCC chairman, Wheeler has proved himself a good friend of the wireless industry.

In January of 1997, CTIA chieftain Wheeler wrote FCC Wireless Telecommunications Bureau Chief Michele C. Farquhar citing several municipal efforts to assert control over siting. Wheeler, for example, asserted that one New England state had enacted a law requiring its Public Service Commissioner to issue a report on health risks posed by wireless facilities.<sup>16</sup> He

questions whether such a study—and regulations based on its results—would infringe on FCC preemption authority.

FCC bureau chief Farquhar hastily reassured Wheeler that no such study could be consulted in zoning decisions. “Therefore, based on the facts as you have presented them, that portion of the statute that directs the State Commissioner to recommend regulations based upon the study’s findings would appear to be preempted,”<sup>17</sup> the FCC official wrote to Wheeler. She emphasized that the state had the right to do the study. It just couldn’t deny a siting application based on anything it might learn.

The FCC in 1997 sent the message it has implicitly endorsed and conveyed ever since: study health effects all you want. It doesn’t matter what you find. The build-out of wireless cannot be blocked or slowed by health issues.

Now let’s fast forward to see Wheeler on the other side of the revolving door, interacting as FCC chairman with a former FCC commissioner who is now an industry lobbyist.

A March 14, 2014 letter<sup>18</sup> reveals the chummy relationship between Wheeler and former commissioner Jonathan Adelstein, now head of PCIA, the cellular infrastructure lobbying group. It also references FCC Chairman Wheeler seeking policy counsel from lobbyist Adelstein:

## Wheeler Still Willing to Help

---

**From:** Jonathan Adelstein [mailto:adelstein@pcia.com]  
**Sent:** Friday, March 14, 2014 12:24 PM  
**To:** [REDACTED]  
**Cc:** Renee Gregory; Jonathan Campbell  
**Subject:** How to Spur Wireless Broadband Deployment

Tom – It was great to see you the other night at the FCBA event, and wonderful to see how much fun you’re having (if that’s the right word). I know I enjoyed my time there (thanks to your help with Daschle in getting me that role in the first place!).

Thanks for asking how we think the FCC can help spur wireless broadband deployment. The infrastructure proceeding perfectly tees up many of the top issues the FCC needs to address. As you requested, I’ve summarized briefly in the attached letter some of the key steps you can take now.

*“Tom – It was great to see you the other night at the FCBA event, and wonderful to see how much fun you’re having (if that’s the right word). I know I enjoyed my time there (thanks to your help with Daschle in getting me that role in the first place!).”*

*“Thanks for asking how we think the FCC can help spur wireless broadband deployment,”* the wireless lobbyist writes to the ex-wireless lobbyist, now running the FCC.

Adelstein's first recommendation for FCC action: "*Amend its rules to categorically exclude DAS and small deployments* [Ed. note: these are compact tower add-ons currently being widely deployed] *from environmental and historic review.*" Adelstein outlined other suggestions for further limiting local antenna zoning authority and the FCC soon did its part. Late last year, the agency proposed new rules that largely (though not entirely) complied with the antenna industry's wish list.

James R. Hobson is an attorney who has represented municipalities in zoning issues involving the FCC. He is also a former FCC official, who is now of counsel at Best, Best and Krieger, a Washington-based municipal law practice. "The FCC has been the ally of industry," says Hobson. Lobbyist pressure at the FCC was intense even back in the 70s, when he was a bureau chief there. "When I was at the FCC, a lot of my day was taken up with appointments with industry lobbyists." He says of the CTIA that Wheeler once headed: "Their reason for being is promoting the wireless industry. And they've been successful at it."<sup>19</sup>

The FCC's deferential compliance has allowed industry to regularly bypass and if necessary steamroll local authorities. Violation of the FCC-imposed "shot clock," for example, allows the wireless license applicant to sue.

The FCC's service to the industry it is supposed to regulate is evidently appreciated. The CTIA web site, typically overflowing with self-congratulation, spreads the praise around in acknowledging the enabling contributions of a cooperative FCC. In one brief summation of its own glorious accomplishments, CTIA twice uses the word "thankfully" in describing favorable FCC actions.

In advancing the industry agenda, the FCC can claim that it is merely reflecting the will of Congress. But the agency may not be doing even that.

Remember the key clause in the 96 Telecom Act that disallowed denial of zoning permits based on health concerns? Well, federal preemption is granted to pretty much any wireless outfit on just one simple condition: its installations must comply with FCC radiation emission standards. In view of this generous carte blanche to move radiation equipment into neighborhoods, schoolyards and home rooftops, one would think the FCC would at the very least diligently enforce its own emission standards. But that does not appear to be the case.

Indeed, one RF engineer who has worked on more than 3,000 rooftop sites found vast evidence of non-compliance. Marvin Wessel estimates that "10 to 20% exceed allowed radiation standards."<sup>20</sup> With 30,000 rooftop antenna sites across the U.S. that would mean that as many as 6,000 are emitting radiation in violation of FCC standards. Often, these emissions can be 600% or more of allowed exposure levels, according to Wessel.

Antenna standards allow for higher exposure to workers. In the case of rooftop sites, such workers could be roofers, painters, testers and installers of heating and air conditioning

equipment, to cite just a few examples. But many sites, according to Wessel, emit radiation at much higher levels than those permitted in occupational standards. This is especially true of sites where service providers keep adding new antenna units to expand their coverage. “Some of these new sites will exceed ten times the allowable occupational radiation level,” said Wessel.<sup>21</sup> Essentially, he adds, this means that nobody should be stepping on the roof.

“The FCC is not enforcing its own standard,” noted Janet Newton, who runs the EMF Policy Institute, a Vermont-based non-profit. That group several years ago filed 101 complaints on specific rooftop sites where radiation emissions exceeded allowable levels. “We did this as an exercise to hold the FCC’s feet to the fire,” she said. But the 101 complaints resulted in few responsive actions, according to Newton.<sup>22</sup>

Former FCC official Bob Weller confirms the lax—perhaps negligible is the more appropriate word—FCC activity in enforcing antenna standards. “To my knowledge, the enforcement bureau has never done a targeted inspection effort around RF exposure,” he said.<sup>23</sup> Budget cuts at the agency have hurt, limiting the FCC’s ability to perform field inspections, he added. But enforcement, he adds, would do wonders to insure industry compliance with its limited regulatory compliance requirements. “If there were targeted enforcement and fines issued the industry would pay greater attention to ensuring compliance and self-regulation,” he allowed.

Insurance is where the rubber hits the road on risk. So it is interesting to note that the rating agency A.M. Best, which advises insurers on risk, in 2013 topped its list of “emerging technology-based risks” with RF Radiation:

*“The risks associated with long-term use of cell phones, although much studied over the past 10 years, remain unclear. Dangers to the estimated 250,000 workers per year who come in close contact with cell phone antennas, however, are now more clearly established. Thermal effects of the cellular antennas, which act at close range essentially as open microwave ovens can include eye damage, sterility and cognitive impairments. While workers of cellular companies are well trained on the potential dangers, other workers exposed to the antennas are often unaware of the health risks. The continued exponential growth of cellular towers will significantly increase exposure of these workers and others coming into close contact with high-energy cell phone antenna radiation,”* A.M. Best wrote.<sup>24</sup>

So what has the FCC done to tighten enforcement? Apparently, not very much. Though it does follow up on many of the complaints filed against sites alleged to be in violation of standards it takes punitive actions very rarely. (The FCC did not provide answers to written questions on details of its tower enforcement policies.)

The best ally of industry and the FCC on this (and other) issues may be public ignorance.

An online poll conducted for this project asked 202 respondents to rate the likelihood of a series of statements.<sup>25</sup> Most of the statements were subject to dispute. Cell phones raise the risk of certain health effects and brain cancer, two said. There is no proof that cell phones are harmful, another declared. But among the six statements there was one statement of indisputable fact: “The U.S. Congress forbids local communities from considering health effects when deciding whether to issue zoning permits for wireless antennae,” the statement said.

Though this is a stone cold fact that the wireless industry, the FCC and the courts have all turned into hard and inescapable reality for local authorities, just 1.5% of all poll respondents replied that it was “definitely true.”

Public ignorance didn’t take much cultivation by the wireless industry on the issue of local zoning. And maybe it doesn’t matter much, considering the enormous popularity of wireless devices. But let’s see how public ignorance has been cultivated and secured—with the FCC’s passive support—on the potentially more disruptive issue of mobile phone health effects.

## Chapter Three: Wireless Bullies and the Tobacco Analogy

Issues of cable and net neutrality have recently attracted wide public attention (more on that in Chapter Six). Still, the bet here remains that future judgment of the FCC will hinge on its handling of wireless health and safety issues.

And while the tower siting issue is an egregious example of an industry-dominated political process run amuck, the stronger health risks appear to reside in the phones themselves. This is an issue that has flared up several times in recent years. Each time, industry has managed to beat back such concerns. But it's worth noting that the scientific roots of concern have not disappeared. If anything, they've thickened as new research substantiates older concerns.

The story of an FCC passively echoing an industry determined to play hardball with its critics is worth a further look. The CTIA's own website acknowledges the helpful hand of government's "light regulatory touch" in allowing the industry to grow.<sup>26</sup>

Former congressman Dennis Kucinich ventures one explanation for the wireless industry's success in dodging regulation: "The industry has grown so fast its growth has overtaken any health concerns that may have gained attention in a slow growth environment. The proliferation of technology has overwhelmed all institutions that would have attempted safety testing and standards," Kucinich said.<sup>27</sup>

But the core questions remain: Is there really credible evidence that cell phones emit harmful radiation that can cause human health problems and disease? Has the FCC done an adequate job in protecting consumers from health risks? Or has it simply aped industry stonewalling on health and safety issues?

Before wading into these questions, some perspective is in order.

First, there's simply no denying the usefulness and immense popularity of wireless technology. People depend on it for safety, information, entertainment and communication. It doesn't take a keen social observer to know that wireless has thoroughly insinuated itself into daily life and culture.

The unanswered question, though, is whether consumers would embrace the technology quite so fervently if health and safety information was not spun, filtered and clouded by a variety of industry tactics.

To gain some insight into this question, we conducted an online survey of 202 respondents, nearly all of whom own cell phones, on Amazon's Mechanical Turk Web platform (see [Appendix](#)). One striking set of findings: many respondents claim they would change behavior—reduce wireless use, restore landline service, protect their children—if claims on health dangers of wireless are true.

It is not the purpose of this reporter to establish that heavy cell phone usage is dangerous. This remains an extremely controversial scientific issue with new findings and revised scientific conclusions repeatedly popping up. Just months ago, a German scientist who had been outspoken in denouncing the view that cell phones pose health risks reversed course. In an April 2015 publication, Alexander Lerchl reported results confirming previous research on the tumor-promoting effects of electromagnetic fields well below human exposure limits for mobile phones. “Our findings may help to understand the repeatedly reported increased incidences of brain tumors in heavy users of mobile phones,” the Lerchl team concluded.<sup>28</sup> And in May 2015, more than 200 scientists boasting over 2,000 publications on wireless effects called on global institutions to address the health risks posed by this technology.

But the National Cancer Institute still contends that no cell phone dangers have been established. A representative of NCI was the sole known dissenter among the 30 members of the World Health Organization’s International Agency for Research on Cancer (IARC) when it voted to declare wireless RF “possibly carcinogenic.”<sup>29</sup> If leading scientists still can’t agree, I will not presume to reach a scientific conclusion on my own.

## IARC RF working group: Official press release



International Agency for Research on Cancer



**PRESS RELEASE**  
**N° 208**

**31 May 2011**

**IARC CLASSIFIES RADIOFREQUENCY ELECTROMAGNETIC FIELDS AS  
POSSIBLY CARCINOGENIC TO HUMANS**

Lyon, France, May 31, 2011 -- The WHO/International Agency for Research on Cancer (IARC) has classified radiofrequency electromagnetic fields as **possibly carcinogenic to humans (Group 2B)**, based on an increased risk for **glioma**, a malignant type of brain cancer, associated with wireless phone use.

But let's at least look at some of the incriminating clues that health and biology research has revealed to date. And let's look at the responses of both industry and the FCC.

The most widely cited evidence implicating wireless phones concerns gliomas, a very serious type of brain tumor. The evidence of elevated risk for such tumors among heavy cell phone users comes from several sources.

Gliomas account for roughly half of all malignant brain tumors, which are relatively rare. The annual incidence of primary malignant brain tumors in the U.S. is only 8.2 per 100,000 people, according to the International Radio Surgery Association.

Still, when projected over the entire U.S. population, the public health impact is potentially very significant.

Assuming roughly four new glioma cases annually in the U.S. per 100,000 people, yields over 13,000 new cases per year over a total U.S. population of 330 million. Even a doubling of that rate would mean 13,000 new gliomas, often deadly, per year. A tripling, as some studies have found, could mean as many as 26,000 more new cases annually. Indeed, the respected online site Medscape in January 2015 reported results of Swedish research under the headline: *Risk for Glioma Triples With Long-Term Cell Phone Use.*<sup>30</sup>

And here's some eye-opening quantitative perspective: the wars in Iraq and Afghanistan, waged now for more than a decade each, have together resulted in roughly 7,000 U.S. deaths.

Preliminary—though still inconclusive—research has suggested other potential negative health effects. Swedish, Danish and Israeli scientists have all found elevated risk of salivary gland tumors. One Israeli study suggested elevated thyroid cancer risk. Some research has found that men who carry their phones in their pockets may suffer sperm count damage. One small study even suggests that young women who carry wireless devices in their bras are unusually vulnerable to breast cancer.

And while industry and government have never accepted that some portion of the population is unusually sensitive to electromagnetic fields, many people continue to complain of a broad range of symptoms that include general weakness, headaches, nausea and dizziness from exposure to wireless.

Some have suggested that the health situation with wireless is analogous to that of tobacco before court decisions finally forced Big Tobacco to admit guilt and pay up. In some ways, the analogy is unfair. Wireless research is not as conclusively incriminating as tobacco research was. And the identified health risks with wireless, significant as they are, still pale compared with those of tobacco.

But let's not dismiss the analogy outright. There is actually a very significant sense in which the tobacco-wireless analogy is uncannily valid.

People tend to forget that the tobacco industry—like the wireless industry—also adopted a policy of tone-deaf denial. As recently as 1998, even as evidence of tobacco toxicity grew overwhelming, cigarette maker Phillip Morris was writing newspaper advertorials insisting there was no proof smoking caused cancer.

It seems significant that the responses of wireless and its captured agency—the FCC—feature the same obtuse refusal to examine the evidence. The wireless industry reaction features stonewalling public relations and hyper aggressive legal action. It can also involve undermining the credibility and cutting off the funding for researchers who do not endorse cellular safety. It is these hardball tactics that look a lot like 20<sup>th</sup> century Big Tobacco tactics. It is these hardball tactics—along with consistently supportive FCC policies—that heighten suspicion the wireless industry does indeed have something to hide.

Begin with some simple facts issuing from meta-analysis of cellular research. Dr. Henry Lai, emeritus professor of bioengineering at the University of Washington, has reviewed hundreds of published scientific papers on the subject. He wanted to see how many studies demonstrated that non-ionizing radiation produces biological effects beyond the heating of tissue. This is critical since the FCC emission standards protect only against heating. The assumption behind these standards is that there are no biological effects beyond heating.

But Dr. Lai found that just over half—actually 56%—of 326 studies identified biological effects. And the results were far more striking when Dr. Lai divided the studies between those that were industry-funded and those that were independently funded. Industry-funded research identified biological effects in just 28% of studies. But fully 67% of non-industry funded studies found biological effects (Insert Slide—Cell Phone Biological Studies).

A study conducted by Swiss and British scientists also looked at how funding sources affected scientific conclusions on the possible health effects of cell phone usage. They found that of studies privately funded, publicly funded and funded with mixed sponsorship, industry-funded studies were “least likely to report a statistically significant result.”<sup>31</sup> “The interpretation of results from studies of health effects of radiofrequency radiation should take sponsorship into account,” the scientists concluded.<sup>32</sup>

So how does the FCC handle a scientific split that seems to suggest bias in industry-sponsored research?

In a posting on its Web site that reads like it was written by wireless lobbyists, the FCC chooses strikingly patronizing language to slight and trivialize the many scientists and health and safety experts who’ve found cause for concern. In a two page Web post titled “Wireless Devices and Health Concerns,” the FCC four times refers to either “some health and safety interest groups,” “some parties,” or “some consumers” before in each case rebutting their presumably groundless concerns about wireless risk.<sup>33</sup> Additionally, the FCC site references the World Health Organization as among those organizations who’ve found that “the weight of scientific

evidence” has not linked exposure to radiofrequency from mobile devices with “any known health problems.”

Yes, it’s true that the World Health organization remains bitterly divided on the subject. But it’s also true that a 30 member unit of the WHO called the International Agency for Research on Cancer (IARC) was near unanimous in pronouncing cell phones “possibly carcinogenic” in 2011. How can the FCC omit any reference to such a pronouncement? Even if it finds reason to side with pro-industry scientists, shouldn’t this government agency also mention that cell phones are currently in the same potential carcinogen class as lead paint?

Now let’s look a bit more closely at the troublesome but presumably clueless crowd of “some parties” that the FCC so cavalierly hastens to dismiss? Let’s begin with **Lennart Hardell**, professor of Oncology and Cancer Epidemiology at the University Hospital in Oreboro, Sweden.

Until recently it was impossible to gain any real sense of brain tumor risk from wireless since brain tumors often take 20 or more years to develop. But the cohort of long-term users has been growing. In a study published in the *International Journal of Oncology* in 2013, Dr. Hardell and Dr. Michael Carlberg found that the risk of glioma—the most deadly type of brain cancer—rose with cell phone usage. The risk was highest among heavy cell phone users and those who began to use cell phones before the age of 20.<sup>34</sup>

Indeed, those who used their phones at least 1640 hours (which would be roughly 30 minutes a day for nine years) had nearly three times the glioma incidence. Drs. Hardell and Carlberg also found that gliomas tend to be more deadly among heavy wireless callers.<sup>35</sup>

Perhaps of greatest long-term relevance, glioma risk was found to be four times higher among those who began to use mobile phones as teenagers or earlier. These findings, along with the established fact that it generally takes decades for tumors induced by environmental agents to appear, suggest that the worst consequences of omnipresent wireless devices have yet to be seen.

In a 2013 paper published in *Reviews on Environmental Health*, Drs. Hardell and Carlberg argued that the 2011 finding of the IARC that identified cell phones as a “possibly carcinogenic” needs to be revised. The conclusion on radiofrequency electromagnetic fields from cell phones should now be “cell phones are not just a possible carcinogen.” They can now be “regarded as carcinogenic to humans” and the direct cause of gliomas (as well as acoustic neuromas, a less serious type of tumor).<sup>36</sup> Of course, these views are not universally accepted.

The usual spin among industry supporters when presented with research that produces troubling results is along the lines of: “We might pay attention if the results are duplicated.” In fact, the Hardell results were echoed in the French CERENAT study, reported in May of 2014. The CERENAT study also found higher risk among heavy users, defined as those using their phones at least 896 hours (just 30 minutes a day for five years). “These additional data support

previous findings concerning a possible association between heavy mobile phone use and brain tumors,” the study concluded.<sup>37</sup>

Cell phones are not the only wireless suspects. Asked what he would do if he had policy-making authority, Dr. Hardell swiftly replied that he would “ban wireless use in schools and pre-schools. You don’t need Wi-Fi,” he noted.<sup>38</sup> This is especially interesting in view of the FCC’s sharply hiked spending to promote and extend Wi-Fi usage, as well as its consistent refusal to set more stringent standards for children (more on all this later). But for now let’s further fill out the roster of the FCC’s unnamed “some parties.”

**Martin Blank** is a Special Lecturer in Physiology and Cellular Biophysics at Columbia University. Unlike Dr. Hardell, who looks at broad epidemiological effects over time, Dr. Blank sees cause for concern in research showing there is biological response at the cellular level to the type of radiation emitted by wireless devices. “The biology tells you unequivocally that the cell treats radiation as a potentially damaging influence,” Dr. Blank said in a late 2014 interview.<sup>39</sup>

“The biology tells you it’s dangerous at a low level,” he added. Though some results have been difficult to replicate, researchers have identified a wide range of cellular responses including genetic damage and penetration of the blood brain barrier. Dr. Blank specifically cited the “cellular stress response” in which cells exposed to radiation start to make proteins.

It is still not clear whether biological responses at the cellular level translate into human health effects. But the research seems to invalidate the basic premise of FCC standards that the only biological effect of the type of radiation produced by wireless devices is tissue heating at very high power levels. But the standards-setting agencies “ignore the biology,” according to Dr. Blank. He describes the FCC as being “in industry’s pocket.”<sup>40</sup>

Sweden’s Lund University is annually ranked among the top 100 universities in the world. **Leif Salford** has been chairman of the Department of Neurosurgery at Lund since 1996. He is also a former president of the European Association for Neuro-Oncology. In the spring of 2000, Professor Salford told me that wireless usage constituted “the world’s largest biological experiment ever.”<sup>41</sup>

He has conducted numerous experiments exposing rats to cellular-type radiation. Individual experiments have shown the radiation to penetrate the blood-brain barrier, essential to protecting the brain from bloodstream toxins. Professor Salford also found that rats exposed to radiation suffered loss of brain cells. “A rat’s brain is very much the same as a human’s. They have the same blood-brain barrier and neurons. We have good reason to believe that what happens in rat’s brains also happens in humans,” he told the BBC in 2003. Dr. Salford has also speculated that mobile radiation could trigger Alzheimer’s disease in some cases but emphasized that much more research would be needed to establish any such causal relationship. Does this man deserve to be dismissed as one of a nameless and discredited group of “some parties?”

And what about the **American Academy of Pediatrics (AAP)**, which represents 60,000 American doctors who care for children? In a December 12, 2012 letter to former Ohio Congressman Dennis Kucinich, AAP President Dr. Thomas McInerny writes: “Children are disproportionately affected by environmental exposures, including cell phone radiation. The 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.”<sup>42</sup>

In a subsequent letter to FCC officials dated August 29, 2013, Dr. McInerny points out that “children, however, are not little adults and are disproportionately impacted by all environmental exposures, including cell phone radiation.” Current FCC exposure standards, set back in 1996, “do not account for the unique vulnerability and use patterns specific to pregnant women and children,” he wrote. (Insert slide: A Plea from Pediatricians). Does an organization representing 60,000 practitioners who care for children deserve to be brushed off along with “some health and safety interest groups?”

So what is the FCC doing in response to what at the very least is a troubling chain of clues to cellular danger? As it has done with wireless infrastructure, the FCC has to this point largely relied on industry “self-regulation.” Though it set standards for device radiation emissions back in 1996, the agency doesn’t generally test devices itself. Despite its responsibility for the safety of cell phones, the FCC relies on manufacturers’ good-faith efforts to test them. Critics contend that this has allowed manufacturers undue latitude in testing their devices.

Critics further contend that current standards, in place since cell phones were barely in use, are far too lax and do not reflect the heavy usage patterns that have evolved. Worse still, industry is allowed to test its own devices using an imprecise system that makes no special provision for protecting children and pregnant women. One 2012 study noted that the procedure widely used by manufacturers to test their phones “substantially underestimates” the amount of RF energy absorbed by 97% of the population, “especially children.” A child’s head can absorb over two times as much RF energy. Other persons with smaller heads, including women, are also more vulnerable. The authors recommend an alternative computer simulation technique that would provide greater insight into the impact of cellular radiation on children and on to the specific RF absorption rates of different tissues, which vary greatly.<sup>43</sup>

Acting on recommendations of the General Accounting Office, the FCC is now reconsidering its standards for wireless testing and allowed emissions. On the surface, this may seem to represent an effort to tighten standards to promote consumer health and safety. But many believe the FCC’s eventual new standard will actually be weaker, intensifying any health risk from industry’s self-reported emission levels. “They’re under great pressure from industry to loosen the criteria,” notes Joel Moskowitz, director of the Center for Family and Community Health at UC Berkeley’s School of Public Health.<sup>44</sup> One fear is that the FCC could measure the allowed radiation absorption level (SAR) over a wider sample of tissue, effectively loosening the

standard allowable energy absorption. One FCC official, who asked that his name not be used, contended that a decision had not yet been made to loosen the standard.

But to this point, there is little evidence the FCC is listening to anyone beyond its familiar friends in the wireless industry. Carl Blackman, a scientist at the Environmental Protection agency until retiring in 2014, notes that the FCC does rely to some degree on an inter-agency governmental group for advice on health matters. The group includes, for example, representatives from the EPA and the FDA.

Blackman served on that advisory group and he says that it has been divided. Though some government advisers to the FCC find evidence of wireless health risks convincing, others remain skeptical, said Blackman. Root of the skepticism: even though numerous researchers have found biological and health effects, the mechanism for action by non-ionizing radiation on the human body has still not been identified. “I don’t think there’s enough of a consensus within the Radio Frequency Inter-agency Working Group for them to come out with stricter standards,” he says.<sup>45</sup>

But political pressures also figure mightily in all this. The EPA, notably, was once a hub of research on RF effects, employing as many as 35 scientists. However, the research program was cut off in the late 80s during the Regan presidency. Blackman says he was personally “forbidden” to study health effects by his “supervisory structure.”<sup>46</sup> He termed it “a political decision” but recognized that if he wanted to continue to work at the EPA he would have to do research in another area.

Blackman is cautious in imputing motives to the high government officials who wanted his work at EPA stopped. But he does say that political pressure has been a factor at both the EPA and FCC: “The FCC people were quite responsive to the biological point of view. But there are also pressures on the FCC from industry.” The FCC, he suggests, may not just be looking at the scientific evidence “The FCC’s position—like the EPA’s—is influenced by political considerations as well.”<sup>47</sup>

Still, the FCC has ultimate regulatory responsibility and cannot indefinitely pass the buck on an issue of fundamental public health. Remarkably, it has not changed course despite the IARC classification of cell phones as possibly carcinogenic, despite the recent studies showing triple the glioma risk for heavy users, despite the floodtide of research showing biological effects, and despite even the recent defection of core industry booster Alex Lerchl. It is the refusal of both industry and the FCC to even acknowledge this cascade of warning signs that seems most incriminating.

Of course, industry behavior goes well beyond pushing for the FCC’s willful ignorance and inaction. Industry behavior also includes self-serving public relations and hyper aggressive legal action. It can also involve undermining the credibility of and cutting off the funding for researchers who do not endorse cellular safety. It is these hardball tactics that recall 20<sup>th</sup> century Big Tobacco tactics. It is these tactics that heighten suspicion that the wireless industry does

indeed have a dirty secret. And it is those tactics that intensify the spotlight on an FCC that so timidly follows the script of the fabulously wealthy, bullying, billion-dollar beneficiaries of wireless.

## Chapter Four: You Don't Need Wires To Tie People Up

So let's look a little more deeply at some of the actions of an industry group that boasts of 500 meetings a year with the FCC. Lobbying is one thing. Intimidation is another. CTIA has shown its skill at—and willingness to use—both.

Outright legal bullying is a favored tactic. The City of San Francisco passed an ordinance in 2010 that required cell phone manufacturers to display more prominently information on the emissions from their devices. This information was already disclosed—but often buried—in operator manuals and on manufacturer websites. The idea was to ensure that consumers saw information already mandated and provided.

Seeing this as a threat to its floodtide of business, the industry sued the City of San Francisco. The City, fearing a prolonged legal fight with an industry that generates hundreds of billions of dollars in annual revenue, backed down.

On May 12, 2015, Berkeley, California's City Council unanimously passed a similar ordinance. Joel Moskowitz, director of the Center for Family and Community Health at the University of California-Berkeley's School of Public Health, has been involved in the effort. Berkeley, he says, didn't want to run into the same legal threats that paralyzed San Francisco. So it tried to draft the most inoffensive and mild language possible. The proposed Cell Phone Right to Know ordinance: "To assure safety, the Federal Government requires that cell phones meet radio frequency (RF) exposure guidelines. If you carry or use your phone in a pants or shirt pocket or tucked into a bra when the phone is ON and connected to a wireless network, you may exceed the federal guidelines for exposure to RF radiation. This potential risk is greater for children. Refer to the instructions in your phone or user manual for information about how to use your phone safely."<sup>48</sup>

Sounds pretty inoffensive, no? Not to the CTIA, which indicated that it was prepared to sue, according to Berkeley City Attorney Zach Cowan.<sup>49</sup> (On June 8<sup>th</sup>, CTIA did indeed sue the City of Berkeley.)

Well, from the industry point of view, why not throw around your weight? Smash mouth legal tactics have been highly successful thus far as industry has managed to throttle several efforts to implicate manufacturers in cases where heavy users suffered brain tumors.

But one current case has advanced in district court in Washington to the point where the judge allowed plaintiffs to present expert witness testimony. The industry response: file a legal action seeking to invalidate long-held court methods for qualifying expert witnesses.

This is a very rich industry that does not hesitate to outspend and bully challengers into submission. Meanwhile, amidst the legal smoke and medical confusion, the industry has

managed to make the entire world dependent on its products. Even tobacco never had so many hooked users.

Such sustained success in the face of medical doubt has required industry to keep a lid on critics and detractors. Many scientists who've found real or potential risk from the sort of microwave radiation emanating from wireless devices have learned there is a price to be paid for standing up to the industry juggernaut. A few prominent examples:

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In 1994, University of Washington researchers Henry Lai and N.P. Singh found that rats exposed to microwave radiation suffered DNA damage to their brain cells. This was a scary finding since DNA damage can lead to mutations and possibly cancer.

The reaction from industry was swift. Motorola was at that time the U.S. market leader in cell phones. In a memorandum obtained by the journal *Microwave News*, Motorola PR honcho Norm Sandler outlined how the company could "downplay the significance of the Lai study." One step: "We have developed a list of independent experts in this field and are in the process of recruiting individuals willing and able to reassure the public on these matters," Sandler wrote. After outlining such measures, he concluded that Motorola had "sufficiently war-gamed" the issue. The practices of lining up industry-friendly testimony and "war-gaming" researchers who come up with unfavorable results have been persistent themes with this industry.

## Motorola "War-Games" Bad News

### ***Motorola, Microwaves and DNA Breaks: "War-Gaming" the Lai-Singh Experiments***

"We have developed a list of independent experts in this field and are in the process of recruiting individuals willing and able to reassure the public on these matters."

"I think we have sufficiently war-gamed the Lai-Singh issue..."

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After Lai's results were published, Motorola decided to sponsor further research on microwaves and DNA damage. Oftentimes, lab results cannot be reproduced by other

researchers, particularly if experiments are tweaked and performed a bit differently. Non-confirming studies raise doubt, of course, on the original work.

Motorola lined up Jerry Phillips, a scientist at the Veteran’s Administration Medical Center in Loma Linda, California, and Phillips tested the effect of radiation at different frequencies from those tested by Lai and Singh. Nevertheless, Phillips found that at some levels of exposure, DNA damage increased, while at other levels it decreased. Such findings were “consistent” with the sorts of effects produced by chemical agents, Phillips said in an interview.<sup>50</sup> In some cases, the radiation may have activated DNA repair mechanisms, reducing the overall microwave effect. But what was important, Phillips explained, is that there were *any* biological effects at all. The wireless industry has long contended—and the FCC has agreed—that there is no evidence that non-ionizing radiation at the frequencies and power levels used by cell phones is biologically active.

Understanding the potential impact of “biological effect” findings, Motorola again turned to damage control, said Phillips. He recalls receiving a phone call from a Motorola R&D executive. “I don’t think you’ve done enough research,” Phillips recalls being told. The study wasn’t ready for publication, according to the Motorola executive. Phillips was offered more money to do further research without publishing the results of what he’d done.

But Phillips felt he’d done enough. Despite warnings for his own boss to “give Motorola what it wants,” Phillips went ahead and published his findings in 1998. Since then, Phillips’ industry funding has dried up. Meanwhile, as many other researchers report, government funding to do independent research on microwave radiation has dried up, leaving the field at least in the U.S. to industry-funded scientists. “There is no money to do the research,” Said Phillips. “It’s not going to come from government because government is controlled by industry.”<sup>51</sup>

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Om P. Gandhi is Professor of Electrical and Computer Engineering at the University of Utah and a leading expert in dosimetry—measurement of non-ionizing radiation absorbed by the human body. Even before cell phones were in wide use, Professor Gandhi had concluded that children absorb more emitted microwave radiation. “The concentration of absorbed energy is 50 to 80% greater,” he explained.<sup>52</sup>

These conclusions were not acceptable to Professor Gandhi’s industrial sponsors. In 1998, he recalls, an executive from a cell phone manufacturer—which he did not want to identify—told him directly that if he did not discontinue his research on children his funding would be cut off. Professor Gandhi recalled replying: “I will not stop. I am a tenured professor at the University of Utah and I will not reject my academic freedom.” Professor Gandhi also recalled some of his thought process: “I wasn’t going to order my students to alter their results so that I can get funding.” His industry sponsors cancelled his contract and asked for a return of funds.

Professor Gandhi believes that some cell phone users require extra protection because their heads are smaller and more absorptive. “Children, as well as women and other individuals with smaller heads absorb more concentrated energy because of the proximity of the radiating antenna to the brain tissue,” he said. And yet the FCC has not acted to provide special protection for these groups. Asked why not, Professor Gandhi conceded that he doesn’t know. He does note, however, that recent standards-setting has been dominated by industry representatives.<sup>53</sup>

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While the mobile industry refuses to admit to even the possibility that there is danger in RF radiation, giant insurance companies see things differently. Several insurers have in recent years issued reports highlighting product liability risk with cell phones. This is important because it is evidence that where money is on the line professionals outside the industry see the risk of legal liability.

Legal exposure could be one reason—perhaps the central one—the industry continues to stonewall. Should legal liability be established, one key question will be how much wireless executives knew—and at what point in time. Meanwhile, the combination of public relations denials, legal intimidation and the selective application of pressure on research follows a familiar pattern. “The industry is basically using the tobacco industry playbook,” UC Berkeley’s Moskowitz said in a recent radio interview.<sup>54</sup>

That playbook has thus far been highly successful in warding off attention, regulation and legal incrimination.

## **Chapter Five: \$270 Billion . . . and Looking for Handouts**

The FCC's network of corruption doesn't just shield industry from needed scrutiny and regulation on matters of public health and safety. Sometimes it just puts its hand directly into the public pocket and redistributes that cash to industry supplicants.

Such is arguably the case with the Universal Service Fund. Originally established to extend telephone service to rural and urban areas that industry would find difficult or uneconomical to wire, the USF is now shifting from subsidizing landline phone service to subsidizing the extension of broadband Internet. USF monies also support the Lifeline program, which subsidizes cell phone service to low-income consumers, and the E-Rate program, which subsidizes Internet infrastructure and service to schools and libraries.

Since 1998, more than \$110 billion has been allocated to Universal Service programs, notes Charles Davidson, director of the Advanced Communications Law & Policy Institute at New York Law School. The FCC has allocated over \$40 billion to the E-Rate program alone.

Who pays the freight for these high-cost programs? You do.

Technically, landline and wireless phone companies are assessed for the Universal Service fund's expenditures. But the FCC also allows those companies to pass on such charges to their subscribers, which they do. Both landline and wireless subscribers pay a monthly Universal Service charge that is tacked on to their phone bills. That charge has been rising and recently amounted to a 16% surcharge on interstate calls.

Consumers who pay for these programs might be interested to learn that both the E-Rate and Lifeline programs have been riddled with fraud. Government watchdogs have repeatedly found the programs to be inefficient and prone to inflated and fraudulent claims. But the programs have been a windfall for tech and telecom industry beneficiaries. Wherever the FCC presides, it seems, these industries reap a windfall.

The General Accounting Office (GAO) has issued several reports citing fraud, waste and mismanagement, along with inadequate FCC oversight of the subsidy program. Bribery, kickbacks and false documentation can perhaps be expected in a handout program mandated by Congress and only indirectly supervised by the FCC.

But the scope of fraud has been impressive. The most striking corruption has marred the E-Rate program, which subsidizes Internet hardware, software and service for schools and libraries, and the Lifeline cell phone subsidies.

In recent years, several school districts have paid fines to settle fraud cases involving bribery, kickbacks, non-competitive bidding of contracts and false documentation in the E-Rate

program. More eye opening perhaps are the settlements of fraud claims by tech giants like IBM, Hewlett Packard and AT&T. The HP case, for example, involved some colorful bribery allegations, including gifts of yachts and Super Bowl tickets. HP settled for \$16 million. An HP official and a Dallas Independent School District official both received jail sentences.

The Lifeline program has also been riddled with fraud. A Wall Street Journal investigation of the five top corporate beneficiaries of Lifeline showed that 41% of more than 6 million subsidy claimants “couldn’t demonstrate their eligibility or didn’t respond to requests for certification.”<sup>55</sup> AT&T, Verizon, and Sprint Nextel were three of the major Lifeline beneficiaries.

The FCC has initiated several efforts to clean up USF programs and seems honestly determined to bring greater accountability and efficiency to its subsidy efforts. Nevertheless, problems with fraud persist, as reported recently by the FCC’s own top investigator.

Congress established the FCC’s Office of Inspector General in 1989 to “provide objective and independent investigations, audits and reviews of the FCC’s programs and operations.” Here’s what the FCC’s internal investigative unit said in a September 30, 2014 report to Congress about its Office of Investigation (OI): “*The bulk of the work of OI involves investigating and supporting civil and criminal investigations/prosecutions of fraud in the FCC’s federal universal service program.*”<sup>56</sup>



## OFFICE OF INVESTIGATION

**The bulk of the work of OI involves investigating and supporting civil and criminal investigations/prosecutions of fraud in the FCC’s federal universal service program.**

Fraud—as pervasive and troubling as it has been—is just one of the problems with the programs of universal service. It may not even be the fundamental problem. More fundamental issues concern the very aim, logic and efficiency of programs to extend broadband and wireless technology at public expense. Though the aims of extending service to distant impoverished areas seem worthy on the surface, there are many reasons to think the major beneficiaries of these programs are the technology companies that win the contracts.

Lobbyists have long swarmed over the FCC looking to get an ever-growing piece of the USF honeypot. An FCC report on meetings with registered lobbyists details a 2010 meeting with representatives of the International Society for Technology in Education and other education lobbyists. Topics discussed, according to the FCC report, included “the need to raise the E-Rate’s annual cap.”<sup>57</sup>

The CTIA, leaving no stone unturned in its efforts to pump up member revenues, last year responded to a House hearing on the USF by grousing that “current USF-supported programs skew heavily toward support of wireline services. . . . The concentration of USF monies to support wireline services is inconsistent with technological neutrality principles and demonstrated consumer preferences,” CTIA wrote.<sup>58</sup> An industry that generates hundreds of billions of dollars in equipment and service revenues annually bellies up for a bigger slice of the \$8 billion a year USF.

The grousing has paid off. The FCC recently announced that it will raise spending on E-Rate from what had been a cap of \$2.4 billion a year to \$3.9 billion. A significant portion of new outlays will go to Wi-Fi—yet another wireless industry victory at the FCC. But the CTIA is by no means the only industry group pressing the FCC.

Leading the roster of active lobbyists on E-Rate issues is the Software and Information Industry Association. Beginning in 2006, SIAA led all lobbyists with 54 mentions of E-Rate in its filings, according to the Center for Responsive Politics. SIAA board members include executives from tech heavyweights Google, Oracle and Adobe Systems.

Tech business leaders—many of them direct beneficiaries of FCC programs—made a direct pitch to FCC Chairman Wheeler last year to hike E-Rate funding. “The FCC must act boldly to modernize the E-Rate program to provide the capital needed to upgrade our K-12 broadband connectivity and Wi-Fi infrastructure within the next five years,” the executives wrote.<sup>59</sup>

There were dozens of corporate executive signees to this letter, including the CEOs of many Fortune 500 giants. But let’s just consider the participation of three: top executives of Microsoft, Google and HP all joined the call to expand E-Rate subsidies. Consider the simple fact that these three tech giants alone had revenues of \$270 billion—more than a quarter of a trillion dollars—in a recent four-quarter period. Together, they produced nearly \$40 billion in net income. And yet their top executives still thought it necessary to dun the FCC—and really, they were surreptitiously hitting up the public—for ramped-up spending on what was then a \$2.4 billion a year program.

Is that greed? Arrogance? Or is it simply behavior conditioned by success in repeatedly getting what they want at the public trough? Almost never mentioned in these pleas for higher subsidies is the fact that ordinary American phone subscribers are the ones footing the bill for the E-Rate program—not the FCC or the telecom industry.

Much of the added spending, as noted, will go towards the installation of wireless networks. And yet Wi-Fi does not have a clean bill of health. When Lennart Hardell, professor of Oncology and Cancer Epidemiology at the University Hospital in Orebro, Sweden, was asked what he would do if given policy authority over wireless health issues, he replied swiftly that he would “ban wireless use in schools and pre-school.” Noting that there are wired alternatives, Professor Hardell flatly stated: “You don’t need Wi-Fi.”<sup>60</sup> And yet the FCC, prodded by an industry ever on the lookout for incremental growth opportunities, is ignoring the health of youngsters to promote expanded Wi-Fi subsidies in schools across the U.S.

And what about the merit of the program itself? Overlooking the fraud and lobbying and Wi-Fi safety issues for a moment, shouldn’t schools and libraries across the country be equipped with the best electronic gear, accessing the Internet at the fastest speeds? Doesn’t the government owe that to its younger citizens, especially those disadvantaged by the long-referenced digital divide?

Well, maybe. But answers to these questions hinge on even more fundamental question: Do students actually learn more or better with access to the latest high-speed electronic gadgetry?

It would be foolish to argue that nobody benefits from access to high-speed Internet. But the benefits are nowhere near as broad or rich as corporate beneficiaries claim. Some researchers, for example, have concluded that computers don’t seem to have positive educational impact—they may even have negative impact—when introduced into the home or freely distributed to kids from low income backgrounds.

Duke University researchers Jacob Vigdor and Helen Ladd studied the introduction of computers into North Carolina homes. They found that the academic performance of youngsters given computers actually declined. “*The introduction of home computer technology is associated with modest but statistically significant and persistent negative impacts on student math and reading test scores,*” the authors wrote in a National Bureau of Economic Research Working Paper.<sup>61</sup> The impact was actually most negative on the poorer students.

A study in the *Journal of International Affairs* examined the impact of the global One Laptop Per Child Program (OLPC), which has distributed millions of computers to children around the world. Researchers Mark Warschauer and Morgan Ames conclude: “*The analysis reveals that provision of individual laptops is a utopian vision for the children in the poorest countries, whose educational and social futures could be more effectively improved if the same investments were instead made on more proven and sustainable interventions. Middle- and high-income countries may have a stronger rationale for providing individual laptops to children, but will still want to eschew OLPC’s technocratic vision. In summary, OLPC represents the latest in a long line of technologically utopian schemes that have unsuccessfully attempted to solve complex social problems with overly simplistic solutions.*”<sup>62</sup>

## Can One Laptop Per Child Save the World's Poor?

“...In summary, One Laptop Per Child represents the latest in a long line of technologically utopian development schemes that have unsuccessfully attempted to solve complex social problems with overly simplistic solutions.”

Access to computers in the home may not work educational magic. But what about computers in the classroom? Don't they have educational value there?

The anecdotal evidence is mixed at best. Consider how students in Los Angeles, newly equipped with flashy iPads at a mind-boggling taxpayer cost of more than \$1 billion, went about using the new tools to improve their educational performance. “Instead of solving math problems or doing English homework, as administrators envisioned, more than 300 Los Angeles Unified School District students promptly cracked the security setting and started tweeting, posting to Facebook and playing video games.”<sup>63</sup>

But let's cut through the self-serving corporate claims and the troubling anecdotes to hear from someone who actually has had extensive and unique field experience. Kentaro Toyama was co-founder of Microsoft's research lab in India. Over more than five years he oversaw at least a dozen projects that sought to address educational problems with the introduction of computer technology. His conclusion: “The value of technology has been over-hyped and over-sold.”

The most important factor in improving schools, says Toyama, now the W.K Kellogg Associate Professor of Community Information at the University of Michigan, is good teachers. Without good, well-trained teachers, adequate budgets and solid school administration, technology does little good. “Technology by itself never has any kind of positive impact,” he said.<sup>64</sup>

The only schools in his experience that benefited from increased technology investment were those where “the teachers were very good, the budgets adequate.” The richer schools, in essence. But as both Vigdor and Warschauer found, the introduction of technology has by itself little if any positive effect. For a public conditioned to believe in the virtues of new technology, such testimony is a bracing dose of cold reality.

But what about cost? Doesn't technology in the schools more efficiently replace alternative investments? Cost reductions are often the most persuasive argument for technology, Toyama agrees. But even these have been overstated. The costs of introducing new technology run far beyond initial hardware and software investments, said Toyama. In reality, the total costs of ownership—including maintenance, training, and repair—typically run to five or ten times the initial cost, according to Toyama. He said of the investment in technology for cost benefits: "I would say that in the long run—and even in the medium run and the short-run—that's probably the worst and most misguided conclusion to come to."<sup>65</sup>

He adds: "The inescapable conclusion is that significant investments in computers, mobile phones and other electronic gadgets in education are neither necessary nor warranted for most school systems. In particular, the attempt to use technology to fix underperforming class rooms . . . is futile. And for all but wealthy, well-run schools, one-to-one computer programs cannot be recommended in good conscience."<sup>66</sup>

But that doesn't keep industry lobbyists from recommending them. And it hasn't kept the FCC for spending scores of billions subsidizing technology to the very groups least likely to benefit from it.

Unmoved by the arguments of researchers and educators like Vigdor, Warschauer, and Toyama, the FCC keeps moving to increase technology subsidies. Ignoring research that disputes the value of technology in closing the so-called "digital divide," the FCC has even pioneered a new slogan: "the Wi-Fi gap."

In announcing that it was lifting E-Rate's annual budget from \$2.4 billion to \$3.9 billion and stepping up investment in wireless networking, FCC chairman Wheeler exulted that "10 million students are going to experience new and better opportunities."<sup>67</sup> The impact on consumer pocketbooks (and potentially on youngsters' health from daily Wi-Fi exposure) were not mentioned.

The two Republican members of the FCC did at least recognize the pocketbook impact. "It always seems easier for some people to take more money from the American people via higher taxes and fees rather than do the hard work," said Commissioner Michael O'Reilly.<sup>68</sup>

The subsidized provision of high-speed Internet service is yet another pet project of the FCC. Julius Genachowski, chairman from 2009 to 2013, championed the transition of the USF from landline phone service to broadband. Universal broadband Internet connections would begin to absorb the monies collected from consumers to extend basic phone service.

As with government subsidies for cell phone service, classroom technology, and Wi-Fi, there are basic questions about the wisdom of subsidizing broadband. Charles Davidson and Michael Santorelli of the New York Law School found that spending billions to extend broadband is a flawed approach since there are many largely ignored reasons people choose not to adopt

broadband. “Everybody is pushing broadband non-stop,” noted Davidson, director of the Law School’s Advanced Communications Law and Policy Institute. “I think the FCC is focused on the wrong set of issues,” he said.<sup>69</sup>

Already, he explained, over 98% of Americans have access to wired or wireless broadband. The issue is not one of supply. It’s one of demand. Many people—for a variety of reasons—don’t really care about broadband, he contends. Price is one issue. Also powerful factors—but given almost no attention—are privacy and security concerns. “In our view, they should be focused on barriers to meaningful broadband utilization: privacy and security,” said Davidson.<sup>70</sup>

But consumer privacy (more on this subject in Chapter Seven) has no well-funded lobby with limitless access to the FCC.

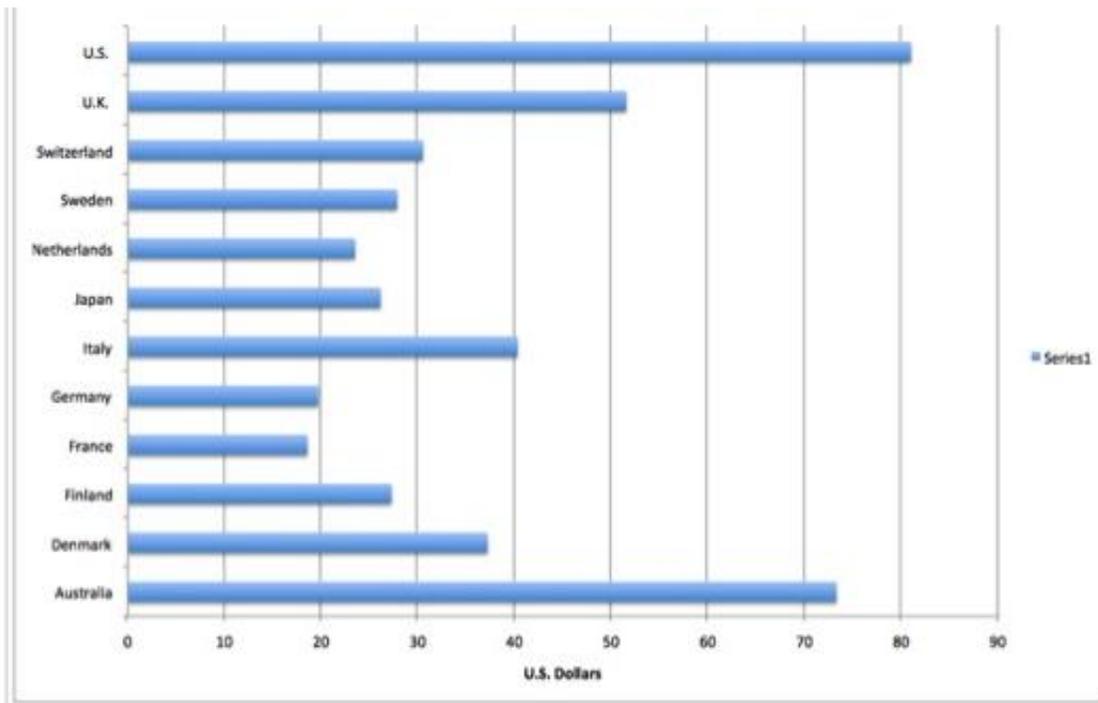
## Chapter Six: The Cable Connection

The network has also been active in diluting FCC control of the cable television industry. Over the years, cable has devolved into major de facto local monopolies. Comcast and Time Warner Cable, whose merger proposal was dropped in April, are dominant forces in both cable television and broadband Internet subscriptions. Somehow, though, they have managed to steer clear of one another in specific markets, giving each pricing power where it faces little local competition.

It's interesting that cable companies annually rank in consumer polls among the "most hated" or "most disliked" American corporations. Indeed, Comcast and Time Warner Cable often top the "most hated" list.<sup>71</sup> Why would these companies—providers of the TV programming that has so expanded consumer options in recent decades—be so widely scorned? After all, the U.S. has been a leader in developing both cable technology and diverse television programming.

The problem is that it hasn't been anything close to a leader in bringing down subscriber prices. Industry consultants typically measure pricing by the metric of average revenue per subscriber. Industry trackers at IHS compared the price of U.S. pay television (which includes satellite services) to those in more than 60 other countries. U.S. prices were the highest, with only Australia even coming close. The average revenue per subscriber in the U.S. in 2013 was \$81. But in France it was just \$18.55. In Germany it was \$19.68. In Japan it was just over \$26.

### Pay TV Monthly Revenue Per Person:



And U.S. cable prices have risen in recent years at rates three or more times the rate of inflation. This has been going on for some time. From 1995 to 2013 cable rates increased at a 6.1% annual clip. The Consumer Price Index, by contrast, rose by just 2.4% annually. Former FCC commissioner Michael Copps says the FCC shares a major part of the blame. “The FCC is as culpable for allowing that as much as the companies for imposing it,” he said.<sup>72</sup>

One area where the FCC has contributed to the problem is in its traditional rubber-stamping of merger agreements. The proposed Comcast/Time Warner Cable deal has been shelved, largely because of Justice Department reservations. But a long run of earlier FCC-sanctioned deals allowed Comcast and Time Warner Cable to grow to the market dominance—and attendant pricing power—they currently command.

Lofty monthly cable bills pinch consumers. But it’s more than that. Subscribers paying \$80 a month are often paying for a lot of channels they don’t watch and don’t want. The FCC has never required cable operators to charge for what consumers actually want to watch. Kevin Martin, who chaired the FCC from 2005 to 2009, pushed to “debundle” programming in hopes of lowering bills. But the issue was never resolved. Only recently have viable competitive alternatives to cable’s “bundled” packages become available. The satellite service Dish, for example, months ago introduced its Sling offering that enables consumers to opt for smaller and cheaper packages.

In fairness to cable operators, it should be pointed that programmers often require operators to take unwanted or fledgling channels along with their stars. New York cable operator Cablevision Systems filed suit against Viacom in 2013, charging that in order to get popular channels like MTV and Nickelodeon it was also forced to take low-rated channels like Nicktoons and VH1 Soul. But the simple truth is that no matter who is to blame, the cable consumer pays high prices, typically for some programming he doesn’t want. As it often does when powerful interests pursue dubious practices, the FCC has for the most part idly stood by.

Still, the FCC isn’t entirely to blame. Some factors in the growth of the cable giants cannot be laid at its doorstep. Local municipalities often granted monopoly or duopoly status in granting franchises to cable network builders. With the huge capital investments required to cable metropolitan areas, this once seemed to make sense.

And over the years, the cable giants have used a variety of tactics to weaken what little local competition they may have had. Active lobbyists on the local level, the cable giants have managed to convince a growing number of states to outlaw municipal systems that could threaten private corporate incumbents. The FCC for many years declined to tangle with the states in this matter, partly due to the opposition of Republican commissioners. But the Wheeler-led Commission did vote recently to override state laws that limit the build-out of municipal cable systems.

Still, many years of industry subservience will be difficult to swiftly undo. One linchpin merger shows how FCC decision-making has been thoroughly undermined by the revolving door, lobbying, and carefully targeted campaign contributions. All conspired in Comcast's pivotal 2011 buyout of NBC Universal, a deal which reinforced Comcast's domination of both cable and broadband access. This deal also set the stage for the recent headline-grabbing acrimony over the issue of net neutrality.

In 2011, mighty Comcast proposed to acquire NBC Universal. A series of mergers including the 1986 acquisition of Group W assets and the 2002 acquisition of AT&T's cable assets had already vaulted Comcast into cable market leadership. In bidding for NBC Universal, a huge step towards vertical integration, Comcast was once again raising the stakes. NBC Universal would give Comcast a treasure trove of programming, including valued sports content like NFL football and the Olympics.

Suddenly, the issue was not just cable subscriber base size—where Comcast had already bought its way to dominance. NBC Universal would also allow Comcast to consolidate its growing power as a broadband Internet provider. And with NBC Universal's programming assets, Comcast would gain new leverage when negotiating prices to carry the competing programming content of rivals. This would prompt a new round of debate over net neutrality. Couldn't a programming-rich Comcast slow down rival services—or charge them more to carry their programming?

To short-circuit any potential opposition to the merger, Comcast assembled a superstar cast of lobbyists. As Susan Crawford reports in her 2013 book, “Comcast hired almost eighty former government employees to help lobby for approval of the merger, including several former chiefs of staff for key legislators on congressional antitrust committees, former FCC staffers and Antitrust Division lawyers, and at least four former members of Congress.<sup>73</sup> Such “profligate hiring,” Crawford observes, pretty much silenced the opposition to the deal. If Comcast had already retained one member of a lobbying firm, the firm could not under conflict of interest rules object to the deal. And Comcast had locked up key lobbying shops. Money was both weapon and silencer.

Of course, Comcast had always been a big spender on lobbying, with outlays exceeding \$12 million every year since 2008. Lobbying costs peaked in 2011 at \$19.6 million, according to the Center for Responsive Politics.

For its part, the FCC had a long history of approving most media mergers. So it was hardly a great surprise when the agency, after exacting some relatively minor concessions from Comcast, rubber-stamped the deal. Comcast would thus broaden its footprint as local monopoly distributor of cable. And with its new programming assets, it would enhance its leverage in negotiating deals to carry its rivals' programming. It would also fortify its position of growing strength as broadband Internet gatekeeper.

The most telling footnote to the deal would come just four months later. FCC Commissioner Meredith Atwell Baker, who voted to approve the merger in January 2011, left the FCC to become a top-tier Comcast lobbyist in May. It was the ultimate—and perhaps most telling—glide of the revolving door.

Baker's was a high-profile defection. But it was neither the first nor the last. Comcast had successfully convinced other FCC officials to take their expertise and government contacts to the cable giant. Comcast has long been a master at spinning the revolving door to its own advantage. "Comcast has been very good at hiring everyone who is very smart," said Crawford.<sup>74</sup>

Approval of the NBC Universal deal was another in the long string of FCC merger approvals that made Comcast a nationwide monopolist that could dictate both pricing and viewer programming choice.

But the deal may have had another unintended consequence. It set the stage for Comcast's subsequent battles on net neutrality. "Those mergers gave additional oomph to the issue of net neutrality," noted former commissioner Copps. Speaking specifically of Comcast's buyout of NBC Universal, IHS senior analyst Eric Brannon agreed. "That merger laid the grounds for net neutrality."

In allowing Comcast to acquire major programming assets, the deal would sharpen questions about the power of gatekeepers like Comcast to control the flow of traffic from rival Web services. So in bowing to lobbyist pressure, the FCC would bring on itself a whole new set of pressures by focusing public attention on the issue of net neutrality.

With activists rounding up comments from the public and hip TV personalities like HBO's John Oliver also beating the drums, net neutrality quickly grew into a popular issue that won the support of President Obama, and by proxy, his hand-picked appointee Tom Wheeler. When the FCC ruled in February of 2015 that it would seek Title II authority to regulate the Internet and presumably block any favoritism by broadband gatekeepers, it seemed to finally cast its lot with the public against steamrolling corporate interests

The issue had simmered for years but reached full boil when movie purveyor Netflix, which had argued that its service was slowed down by Comcast, signed a side deal ensuring better download speeds for its wares. This triggered an outburst of public concern that Comcast was now in position to operate "fast" and "slow" lanes, depending on whether a rival programmer could afford to ensure that Comcast provide adequate download speed.

With nearly 4 million comments—many supplied or encouraged by public interest groups—filed to the FCC, net neutrality was a bankable political issue. And there's no question, net neutrality attracted public interest because it gave cable viewers—long furious at the treatment by the monopolists who send them monthly bills—issues of both viewing pleasure and economics.

But it also fed into the longstanding sentimental but increasingly unrealistic view of the Internet as the last bastion of intellectual freedom. Internet romanticists have long seen the Web as a place that somehow deserves special rules for breaking the stranglehold of traditional media and offering exciting new communications, information retrieval and shopping efficiencies.

Yes, the Internet is a modern marvel. This is beyond dispute. But some of the favors it has won from government over the years have had unfortunate unintended consequences.

In the 1990s, for example, net access providers were repeatedly exempted as an “infant industry” from paying access charges to the Baby Bells even though they had to connect users through local phone networks. The long distance companies were then paying as much as \$30 billion a year for the privilege. But the Internet was exempted.

As the late 90s approached, the Internet was no longer an infant industry. Still, the exemption from access charges was extended. That exemption essentially allowed AOL in the late 90s to offer unlimited unmetered online time, a key factor in boosting usage and siphoning advertisers from print media. Why buy an ad in print that might get viewed with the transitory flip of a page when you can get round-the-clock attention online?<sup>75</sup> FCC decisions to grant the Internet access-charge exemptions arguably accelerated the decline of print media and much of the quality journalism print advertising could once support.

Meanwhile, retailers on the Internet were making inroads into brick and mortar retail business with the help of a Supreme Court-sanctioned exemption from collecting sales tax.<sup>76</sup> This judicial coddling of the Internet was the death knell for many smaller mom and pop local businesses, already challenged to match online pricing. And that’s not all. The special favors continue virtually every year, as Congress proposes and/or passes legislation to extend special tax exemptions to Internet services.

Well, maybe tax breaks aren’t such a bad idea for such an innovative and transformational emerging technology. For all its faults, the Internet—gateway to all goods, repository of all things, wizardly guide to all knowledge, enabler of universal self-expression—is undeniably cool.

But let’s not deny that the combination of tax advantages and deregulation was toxic. Allow an industry to emerge with advantages over useful existing industries that largely play by the rules—well, maybe that can be rationalized. But then fail to hold the upstart industry to the same rules, allowing it more leeway to trample fundamental rights because it has the technical capacity to do so. Well, then you have a cruel Faustian bargain.

With the see-no-evil deregulatory gospel loosing all constraints, the Web would devolve into a playground for corporate snoops and criminals. For all its wonders, the Internet comes at a cost: the loss of control over personal data, the surrender of personal privacy, sometimes even the confiscation of identity.

Perhaps the most favorable consequence of net neutrality—and one that has gotten surprisingly little attention—is that it could set the stage for privacy reform. (More on this in Chapter Seven). The FCC can now choose to exercise its Title II powers to enforce privacy standards over broadband Internet. Privacy is one area where the FCC has done a pretty good job in the past.

Worth remembering, though, is that the hard-fought public victory over Net Neutrality may be transitory. AT&T and others have threatened to go to court to upend the FCC rules. And there's a fair chance a Republican Congress will legislate against Title II.

Meanwhile, though, one supreme irony has begun to unfold in the marketplace.

Modern-day laissez fair ideologues love to invoke the wisdom of markets as represented by the “mysterious hand” of Adam Smith. Unfortunately, in the absence of effective regulation, the putatively wise “mysterious hand” generally seems to work its magic for those with huge financial resources and the political access it buys.

In the current cable situation, however, the mysterious hand may actually be working in consumer-friendly ways. Years of regulation that favored the cable companies have now backfired as the market reacts to monopolistic pricing and content control.

Whereas cable giants have commanded premium monthly subscriber prices to deliver packages of largely unwatched channels, the market is now beginning to burst with new “debundled” options that are whittling away at cable’s vast subscriber base.

Satellite service Direct TV, as noted, now offers its streaming video Sling TV package of popular networks that includes live sports and news. Amazon, Apple, CBS, HBO, Netflix, Sony, and others offer a variety of streaming video options that allow viewers to cut the cable cord. Suddenly, consumers have the cherry-picking capability that bundled—and expensive—cable packages have never allowed.

In this case, at least, the unintended consequences of the FCC’s pro-industry policies may be producing an unexpected pro-consumer twist.

## Chapter Seven: What about Privacy?

Has any issue gotten as much lip service—and as little meaningful action?

For all the various congressional bills, corporate self-regulatory schemes and presidential Privacy Bill of Rights proposals, the simple truth remains that no personal information is safe on the Internet. Data brokers have built a multi-billion dollar business exchanging information used to build profiles of Net users. Your shopping and surfing habits, your health history, your banking data, your network of social ties, perhaps even your tax filings are all potentially exposed online. Both legal and criminal enterprises amass this information. And it doesn't go away.

At any given moment people you don't know somehow know where you are. They may very well know when you made your last bank deposit, when you had your last asthma attack or menstrual period. Corporations encourage and pay for every bit of information they can use or sell. Creepy? Perhaps, but as Jeff Chester, president of the Center for Digital Democracy points out: "The basic business model that drives online is advertising."<sup>77</sup>

The FCC largely escapes blame on this one. It is the Federal Trade Commission that has had primary responsibility for protecting Internet privacy. The FCC does have some limited authority, which, some critics say, could have been exercised more vigorously. But for the most part the FCC is not to blame for the rampant online abuse of personal privacy and identity.

The FCC does however have privacy authority over the phone, cable and satellite industries. Until recently, at least, the FCC has kept privacy issues at bay among the companies in these industries. "The FCC has generally taken privacy very seriously," noted Harold Feld, a senior vice president at the non-profit Public Knowledge.<sup>78</sup>

But dynamics now in place suggest that privacy may be the next great testing ground for the FCC. A new chance, perhaps, to champion public interest. Even before the opportunity for privacy enforcement under Title II regulatory powers, the FCC faces new challenges from phone companies, now itching to monetize their vast consumer data stashes the way Net companies have. The commonly used term is "Google envy."

"Until now, ISPs (Internet Service Providers) have mostly not gotten into hot water on privacy—but that's changing," observed Jonathan Mayer, a fellow at the Center for Internet and Society.<sup>79</sup> Verizon and AT&T, major providers of mobile Internet access, have each introduced "super cookies" that track consumer behavior even if they try to delete older, less powerful, forms of cookies. AT&T is actually charging its customers an extra \$30 a month *not* to be tracked.

Showdowns loom.

In adopting Title II to enforce net neutrality, the FCC has made broadband Internet access a telecom service subject to regulation as a “common carrier.” This reclassification means that the FCC could choose to invoke privacy authority under Title II’s Section 222. That section, previously applied to phone and cable companies, mandates the protection of consumer information. Such information—called CPNI for Customer Proprietary Network Information—has kept phone companies from selling data on whom you call, from where you call and how long you spend on the phone. Consumers may have taken such protection for granted on their phone calls. But they have no such protection on their Internet activity—which, as noted, has been a multi-billion dollar safe house hideaway for corporate and criminal abusers of personal privacy.

Now, though, the FCC could put broadband Internet communications under Section 222 protection. To Scott Cleland, a telecom industry consultant who has often been ahead of the analytic pack, this would be a momentous decision.

When the smoke clears—and it hasn’t yet—the FCC could make consumer identifiers like IP addresses the equivalent of phone numbers. Suddenly, the Internet companies that have trafficked in all that personal data would be subject to the same controls as the phone and cable companies.

Cleland argues that the risk for privacy abuses extends beyond broadband access providers like Comcast and Verizon to Internet giants like Google and Facebook that have until now flourished with all that personal data. “They are at risk and they are going to live under the uncertainty their business model could be ruled illegal by the FCC,” Cleland said.<sup>80</sup>

Much has been written about the legal challenges broadband access providers intend to mount against the FCC’s new rules. But Cleland argues that a very different type of legal action could engulf companies that have benefited from the use and sale of private data. Trial lawyers, he argues, will see opportunity in rounding up massive class action suits of Internet users whose privacy has been violated. What sorts of privacy abusers face legal action? Anyone who has “collected CPNI via some type of cookie,” according to Cleland.

“Right now, edge providers like Google, Facebook and Twitter are at risk of being sued by trial lawyers,” he said.<sup>81</sup>

Sounds great for consumers who care about privacy on the Internet and how it has been abused. But the FCC, Cleland was reminded, has never been a consumer advocate. “Bingo,” replied Cleland. That’s what makes the FCC’s potential move into privacy protection so important and so surprising, he suggests.

There are other signs that the FCC under Tom Wheeler might actually become more consumer-friendly on the issue of data privacy. While Wheeler has brought some former associates from lobbying groups to the FCC, he has also peppered his staff with respected

privacy advocates. Indeed, he named Gigi Sohn, longtime president of the non-profit Public Knowledge, as Counsellor to the Chairman in April.

Another appointee with a privacy background is Travis LeBlanc, head of the FCC's Enforcement Bureau. In previous employment in California's Office of the Attorney General, LeBlanc was active in enforcing online privacy. LeBlanc has stated an interest in privacy and has already taken action against two firms that exposed personal information—including social security numbers—on unprotected Internet servers.

But many aspects of LeBlanc's approach to regulating Internet privacy under Title II remain unclear. Unfortunately, the FCC declined repeated requests to make LeBlanc available for an interview. (It also declined to answer written questions on its enforcement intentions in both privacy and cell tower infrastructure emissions.)

It remains to be seen if LeBlanc and his superiors at the FCC are really willing to take on privacy enforcement. Such a stance would require great courage as the entire Internet infrastructure is built around privacy abuse. It is also questionable whether the FCC would have the courage to challenge Google—a rare corporate ally in the battles over Net Neutrality.

## Chapter Eight: Dependencies Power the Network of Corruption

As a captured agency, the FCC is a prime example of institutional corruption. Officials in such institutions do not need to receive envelopes bulging with cash. But even their most well-intentioned efforts are often overwhelmed by a system that favors powerful private influences, typically at the expense of public interest.

Where there is institutional corruption, there are often underlying dependencies that undermine the autonomy and integrity of that institution. Such is the case with the FCC and its broader network of institutional corruption.

As noted earlier, the FCC is a single node on a corrupt network that embraces Congress, congressional oversight committees and Washington social life. The network ties the public sector to the private through a frictionless revolving door—really no door at all.

Temptation is everywhere in Washington, where moneyed lobbyists and industry representatives throw the best parties and dinners. Money also allows industry to control other important factors, like the research agenda. All of this works together to industry's advantage because—as with other instances of institutional corruption—there are compromising dependencies. Policy makers, political candidates and legislators, as well as scientific researchers are all compromised by their dependence on industry money.

**Dependency #1** – So much of the trouble here comes back to the core issue of campaign finance. Cable, cellular and educational tech interests know where to target their funds for maximum policy impact. And the contributions work, seemingly buying the silence of key committee congressmen—even those with past records as progressives. Key recipients of industry dollars include Massachusetts Senator Ed Markey and, until he retired, California Democrat Henry Waxman. Though they have intermittently raised their voices on such issues as data privacy and cellular health and safety, neither has shown any great inclination to follow through and take up what would have to be a long and tough fight on these issues.

**Dependency #2** – Democrats might be expected to challenge industry now and then. They traditionally have done so, after all. But this is the post-*Citizens United* era where the Supreme Court has turned government into a giant auction house.

Bid the highest price and you walk home with the prize—your personal congressman, legislative loophole, even an entire political party.

Such is the case with technology industries and the Democrats. The communications/electronics industry is the third largest industry group in both lobbying and campaign contributions, according to the Center for Responsive Politics. In just 2013 and 2014, this industry sector spent well over \$750 million on lobbying.<sup>82</sup>

Only the finance/insurance/real estate and health industries outspend the tech sector on lobbying. But those industry groups lean Republican. Over 62% of the finance/insurance/real estate campaign contributions go to the GOP. Health contributions lean Republican 57% to 43%. But the technology group leans sharply to Democrats, who got 60% of contributions in the 2013-2014 election cycle.<sup>83</sup> The two next largest industry groups—energy/natural resources and agribusiness—also lean heavily Republican. So of the top five industry groups whose money fuels and often tilts elections four are strongly Republican. The Democrats need the tech industry—and they show that dependence with consistent support, rarely raising such public interest issues as wireless health and safety and Internet privacy.

**Dependency #3** – Spectrum auctions give the wireless industry a money-making aura. In recent Congressional testimony, an FCC official reminded legislators that the FCC has over the years been a budget-balancing revenue-making force.<sup>84</sup> Indeed, the auctions of electromagnetic spectrum, used by all wireless communications companies to send their signals, have yielded nearly \$100 billion in recent years. The most recent auction to wireless providers produced the unexpectedly high total of \$43 billion. No matter that the sale of spectrum is contributing to a pea soup of electromagnetic “smog” whose health consequences are largely unknown. The government needs money and Congress shows its appreciation with consistently pro-wireless policies.

**Dependency #4** – Science is often the catalyst for meaningful regulation. But what happens when scientists are dependent on industry for research funding? Under pressure from budget cutters and deregulators, government funding for research on RF health effects has dried up. The EPA, which once had 35 investigators in the area, has long since abandoned its efforts.<sup>85</sup> Numerous scientists have told me there’s simply no independent research funding in the U.S. They are left with a simple choice: work on industry-sponsored research or abandon the field.

## Chapter Nine: A Modest Agenda for the FCC

Nobody is proposing that cell phones be banned. Nor does anyone propose the elimination of the Universal Service program or other radical reforms. But there are some steps—and most are modest—that the FCC can take now to right some of the wrongs that result from long years of inordinate industry access and influence:

1. Acknowledge that there may be health risks in wireless communications. Take down the dismissive language. Maturely and independently discuss the research and ongoing debate on the safety of this technology.

2. In recognition of this scientific uncertainty, adopt a precautionary view on use of wireless technology. Require prominent point-of-sale notices suggesting that users who want to reduce health risks can adopt a variety of measures, including headphones, more limited usage and storage away from at-risk body parts.

3. Back off the promotion of Wi-Fi. As Professor Lennart Hardell has noted, there are wired alternatives that do not expose children to wireless risk.

4. Petition Congress for the budgetary additions needed to expand testing of emissions on antenna sites. It was Congress after all that gave industry carte blanche for tower expansion so long as they comply with FCC standards. But there is evidence of vast non-compliance and Congress needs to ensure that tower infrastructure is operating within the law.

5. Acknowledge that children and pregnant women may be more vulnerable to the effects of RF emissions and require special protection.

6. Promote cable debundling as a way to lighten consumer cable bills, especially for those customers who don't care about high-cost sports programming.

7. Apply more rigorous analysis to properly assess the value of technology in education. Evidence continues to pile up that technology in education is not as valuable as tech companies claim. Pay less attention to tech CEOs—pay more attention to the researchers who've actually studied the impact of trendy technology fixes on learning

8. Take over enforcement of personal privacy rights on the Internet. Of all the basic suggestions here, this would require the most courage as it would involve challenging many of the entrenched powers of the Internet.

## Chapter Ten: Stray Thoughts

Some concluding thoughts:

Why do so many of the most dubious FCC policies involve technology?

In large part, of course, because the FCC has authority over communications and that is a sector that has been radically transformed—along with so many others—by technology.

Let's be clear, though. The problem is not technology, which unarguably brings countless benefits to modern life. The problem is with the over-extension of claims for technology's usefulness and the worshipful adulation of technology even where it has fearful consequences. Most fundamentally, the problem is the willingness in Washington—for reasons of both venality and naïveté—to give technology a free pass.

Personally, I don't believe that just because something can be done it should heedlessly be allowed. Murder, rape and Ponzi schemes are all doable—but subject to prohibition and regulation. Government regulators have the responsibility to examine the consequences of new technologies and act to at least contain some of the worst. Beyond legislators and regulators, public outrage and the courts can also play a role—but these can be muffled indefinitely by misinformation and bullying.

There are precedents for industries (belatedly perhaps) acting to offset the most onerous consequences of their products. In responding to a mix of litigation, public demand and regulatory requirement, the auto industry, for example, has in the last 50 years substantially improved the safety and environmental footprint of its products.

Padded instrument panels, seat belts, air bags, and crumple zones have all addressed safety issues. Environmental concerns have been addressed with tightened emissions and fuel consumption standards. The response to new safety challenges is ongoing. Before side air bags were widely deployed, sedan drivers side-swiped by much larger SUVs were at vastly disproportionate risk of death and dismemberment.<sup>86</sup> But the deployment of side air bags has “substantially” reduced the risk of collision deaths.<sup>87</sup> Overall, auto fatality rates per 100,000 persons have dropped by nearly 60% in the U.S. since 1966.<sup>88</sup> Today, automakers continue to work on advanced safety features like collision avoidance.

It can be argued that most of these safety improvements came decades after autos were in wide usage and only in response to outrage at Ralph Nader's 1965 revelations on the auto industry.<sup>89</sup> No matter the catalysts. The simple truth remains that the auto industry—and its regulators—have for the last half-century been addressing safety and environmental issues.

But with the overwhelming application of money and influence, information and communications technologies have almost totally escaped political scrutiny, regulatory control, and legal discipline.

Should the Internet have been allowed to develop into an ultra-efficient tool for lifting personal information that includes financial records, health histories and social security numbers? Should wireless communications be blindly promoted even as new clues keep suggesting there may be toxic effects? Should local zoning authorities and American citizens be stripped of the right to protect their own health? Should education be digitized and imposed just because technology companies want to develop a new market and lock in a younger customer base?

All these questions can perhaps be rolled up in one: do we all just play dead for the corporate lobbyists and spinners who promote the unexamined and unregulated application of their products?

Finally, a word about the structure of the FCC. With five commissioners—no more than three from the same party—the structure seems to make some kind of sense.

But in practice, it works out poorly. The identification of commissioners by party tends to bring out the worst in both Republicans and Democrats. Instead of examining issues with clear-sighted independence, the commissioners seem to retreat into the worst caricatures of their parties. The Republicans spout free market and deregulatory ideology that is most often a transparent cover for support of business interests. The Democrats seems satisfied if they can implement their pet spending programs—extension of broadband wireless to depressed urban and rural schools, cell phone subsidies for low income clients. The result is a Commission that fulminates about ideology and spends heavily to subsidize powerful interests.

Perhaps one solution would be to expand the Commission to seven by adding two public interest Commissioners. The public interest only rarely prevails at the FCC. So it would represent vast improvement if both Republican and Democrat commissioners had to vie for support of public interest representatives in order to forge a majority. The public interest, in other words, would sometimes carry the swing votes.

It's very hard to believe, though, that Congress would ever approve such a plan. It simply represents too much of a threat to the entrenched political power of the two parties. Why would they ever agree to a plan that dilutes that power?

It's also worth noting that the public interest is not always easy to define. Sometimes there are arguably conflicting definitions. Still, an FCC with public interest commissioners is an idea worth consideration. It would at least require party apologists to defend how they so consistently champion the moneyed interests that have purchased disproportionate access and power in Washington.

## **Appendix—Survey of Consumer Attitudes**

What does the public believe about the science and politics of wireless health research? Under what conditions would people change wireless usage patterns? Is the FCC currently trusted to protect public health? How would confirmation of health risks affect trust in the FCC?

These are some of the questions Ann-Christin Posten<sup>90</sup> and Norm Alster<sup>91</sup> hoped to answer with an April 2015 online survey of 202 respondents. Participants were recruited through Amazon's Mechanical Turk online platform. All were U.S. residents and had achieved qualifying approval rates in prior Mechanical Turk surveys.

Participants were asked how likely they believed the following statements to be true:

Statement 1. Prolonged and heavy cell phone use can have a variety of damaging effects on health.

Statement 2. Prolonged and heavy cell phone use triples the risk of brain tumors.

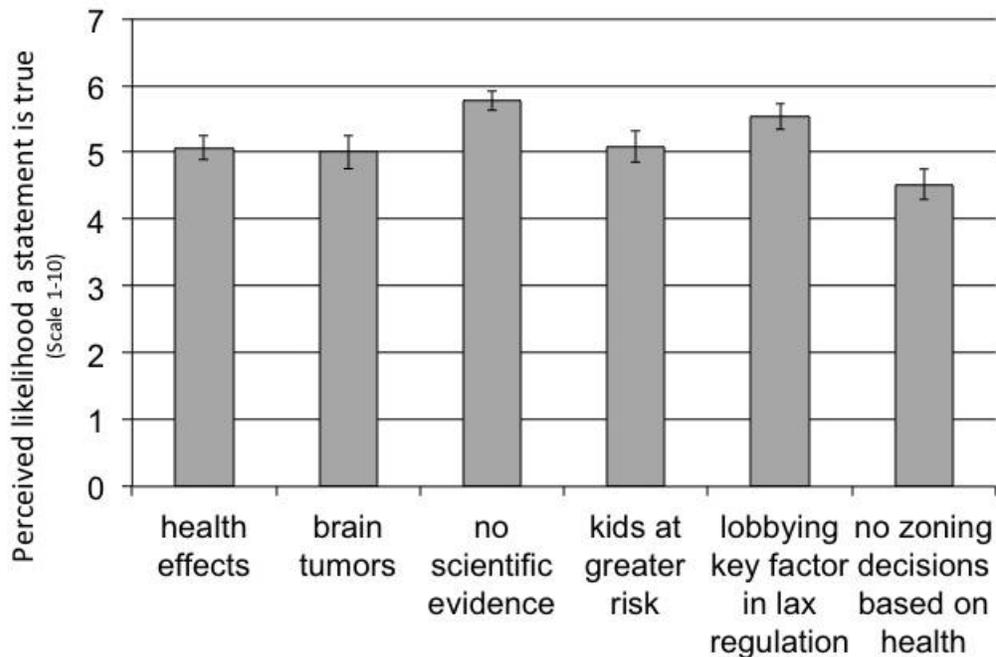
Statement 3. There is no scientific evidence that proves that wireless phone usage can lead to cancer or a variety of other problems.

Statement 4. Children and pregnant women are especially vulnerable to radiation from wireless phones, cell towers and Wi-Fi

Statement 5. Lobbying and campaign contributions have been key factors in keeping the government from acknowledging wireless hazards and adopting more stringent regulation.

Statement 6. The U.S. Congress forbids local communities from considering health concerns when deciding whether to issue zoning permits for wireless antennae.

### How likely is it that each of the statements is true?

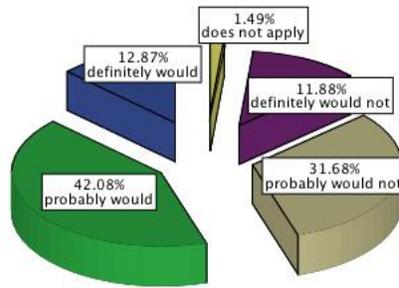


Two findings seem especially interesting:

1. Statement 3 received a higher credibility rating than Statements 1 and 2. The different credibility levels are statistically significant. Respondents are more likely to trust in wireless safety than to believe there are general or specific health risks.

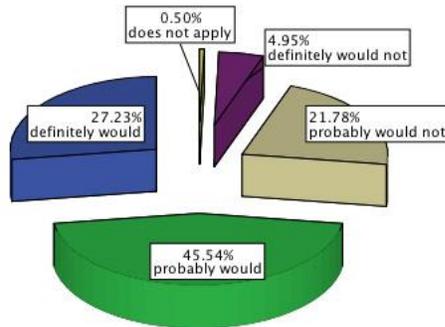
2. The only statement that is a matter of uncontested fact is Statement 6 on the outlawing of opposition to antenna sites on health grounds. (All other statements have been both proclaimed and denied.) And yet Statement 6 was least likely to be believed. Just 1.5% of respondents recognized this as an “absolutely true” statement. Over 14% thought this statement was “not true at all.” Answers to this question would seem to reflect public ignorance on the political background to wireless health issues.

Participants were also asked how they would change behavior if claims of wireless health risks were established as true:



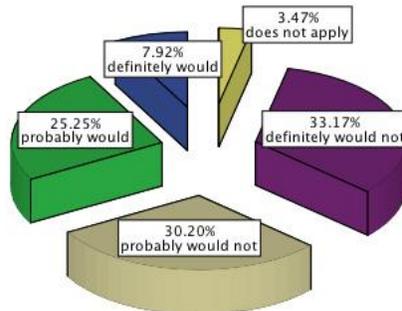
**If statement 1 was true,  
I would start using headphones.**

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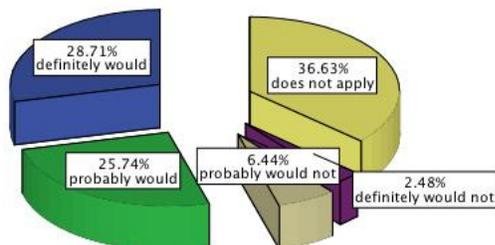
**If statement 1 was true,  
I would restrict the amount of time  
I spend on the phone.**

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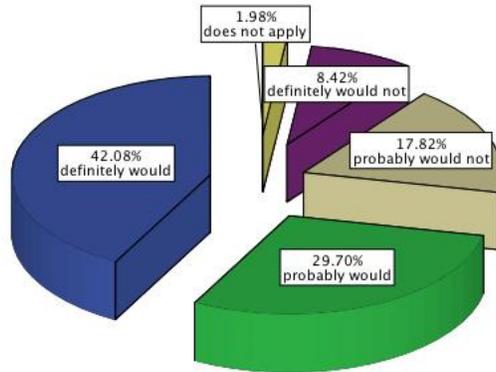


**If statement 1 was true,  
I would start up a new land line  
account for home use.**

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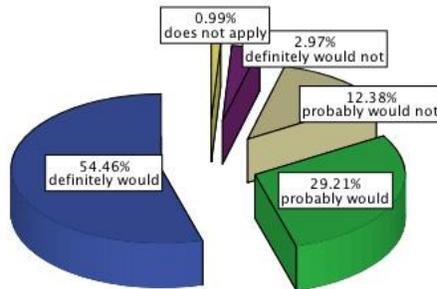


**If statement 1 was true,  
I would restrict my children's cell phone use.**



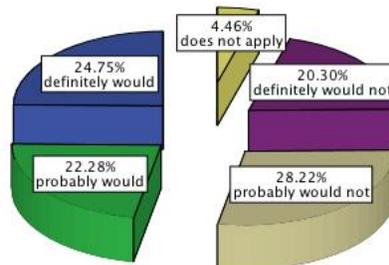
**If statement 2 was true,  
I would start using headphones.**

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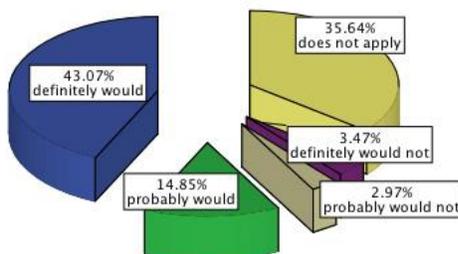
**If statement 2 was true,  
I would restrict the amount of time  
I spend on the phone.**

---



**If statement 2 was true,  
I would start up a new land line  
account for home use.**

---



**If statement 2 was true,  
I would restrict my children's cell phone use.**

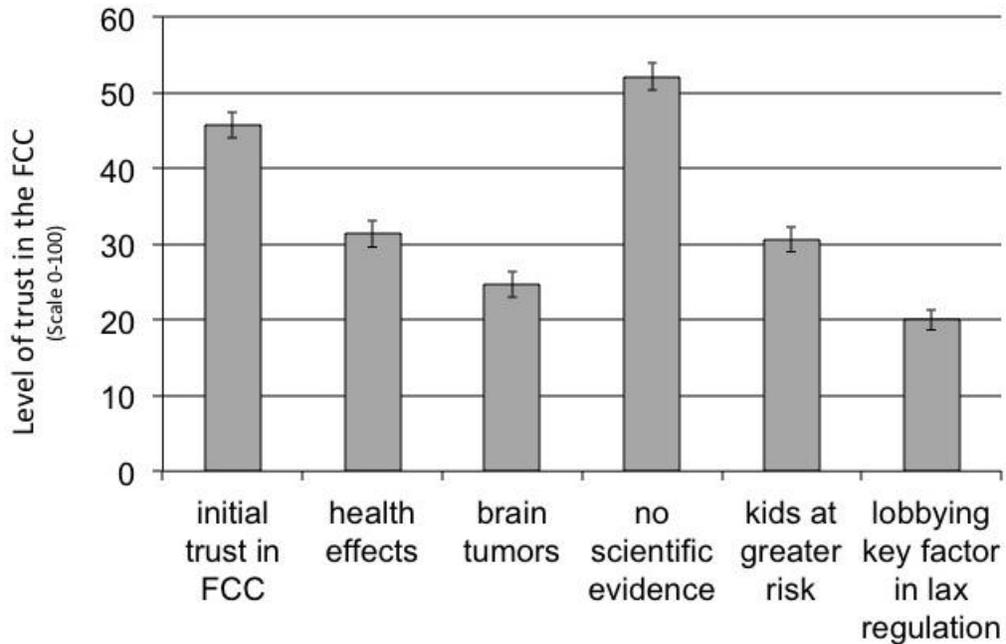
The greatest impact on behavior came when respondents were asked to assume it is true that prolonged and heavy cell phone use triples the risk of brain tumors. More than half said they would “definitely” restrict the amount of time spent on the phone. Just over 43% would “definitely” restrict their children’s phone use. Perhaps most surprisingly, close to 25% would “definitely” start up a new landline phone account. (This last response suggests it may be foolishly premature for the phone giants to exit the landline business just yet.)

The inclination of consumers to change behavior should negative health effects be confirmed suggests the stakes are enormous for all companies that derive revenue from wireless usage.

This survey points to—but cannot answer—some critical questions: Do wireless companies better protect themselves legally by continuing to deny the validity of all troublesome research? Or should they instead be positioning themselves to maintain consumer trust? Perhaps there is greater financial wisdom in listening to the lawyers right now and denying all chance of harm. If so, however, why would anyone seriously concerned about health listen to the industry—or to its captured agency? That’s a question the FCC will eventually need to answer.

Trust could eventually become a central issue. Respondents were initially asked to describe their level of trust in the wireless industry and in the FCC as its regulator. Not surprisingly, establishment of any of the presumed health risks—or confirmation of inordinate industry pressure—resulted in statistically significant diminution of trust in both the industry and the FCC.

### How trust in FCC would be affected by establishment of various facts



On a scale of 1 to 100, the FCC had a mean baseline trust level of 45.66. But if the tripling of brain tumor risk is established as definitely true, that number falls all the way to 24.68. If “lobbying and campaign contributions” have been “key factors” in keeping the government from acknowledging wireless hazards, the trust level in the FCC plummets to 20.02. All results were statistically significant.

It’s clear that at this point confirmation of health dangers—or even of behind-the-scenes political pressures—from wireless will substantially diminish public trust in the FCC. Skeptics might argue that this gives the FCC motive to continue to downplay and dismiss further evidence of biological and human health effects. Those of a more optimistic bent might see in these findings reason to encourage an FCC concerned about public trust to shake itself loose from special interests.

## Endnotes

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- <sup>2</sup> November 2014 interview with Renee Sharp.
- <sup>3</sup> December 2014 interview with Twaun Samuel.
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- <sup>6</sup> Id.
- <sup>7</sup> November 2014 interview with Michael Copps.
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- <sup>19</sup> December 2014 interview with James R. Hobson.
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- <sup>24</sup> Best’s Briefing, “Emerging Technologies Pose Significant Risks with Possible Long-Tail Losses,” February 11, 2013, <http://www.ambest.com/directories/bestconnect/EmergingRisks.pdf>.
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- <sup>26</sup> CTIA, “Policy & Initiatives: Innovation,” <http://www.ctia.org/policy-initiatives/policy-topics/innovation>.
- <sup>27</sup> February 2015 interview with Dennis Kucinich.
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- <sup>66</sup> Id.
- <sup>67</sup> FCC Chairman Tom Wheeler, quoted in Grant Gross, “FCC Approves Plan to Spend \$1B a Year on School Wi-Fi,” IDG News Service, July 11, 2014.
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- <sup>76</sup> 1992 Supreme Court decision in *Quill Corp. v. North Dakota*, 504 U.S. 298 (1992).
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- <sup>91</sup> Investigative Journalism Fellow, Project on Public Narrative at Harvard Law School.

Cell tower fires. <https://www.ourwebofinconvenienttruths.com/fires-and-collapses/>

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# **Cell Tower Fires    Collapses & Falling** **Debris** **Worker Deaths & Accidents** **Cell Site Safety Protocol**

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## **TWO QUESTIONS**

- 1) Did a professional engineer (PE) evaluate and certify any of these projects' safety before they went live?
- 2) Who carries liability for damages—the landowner, the telecom corporation and/or the municipality?

**THIS GALLERY SHOWS IMAGES of CELL TOWER FIRES & COLLAPSES**  
**for longer lists, click the links above... or go below the photo gallery**



Cell phone tower fire  
caused by electrical/mechanical issues.

Hanover, VA, June 26, 2020

<https://www.nbc12.com/2020/06/26/cell-phone-tower-hanover-catches-fire/>

Source: Hanover Fire and EMS



Electrical malfunction causes fire  
with rooftop cellular antennas  
Brooklyn, NY, April 18, 2021

<https://ehtrust.org/firecell-tower-brooklyn-new-york/>

<https://anash.org/fire-extinguished-on-roof-of-crown-heights-apartment-building/>

Photo credit: Berel Meyers/Anash.org



Tornado damages tower array

Moore, OK, March 25, 2015

<http://qrznow.com/tornado-damage-to-legendary-koma-tower-array/>

Source: qrznow.com



Cell tower fire  
caused by improper welding  
near Heritage High School.  
Newport News, VA, Jun 16, 2015

<http://wtkr.com/2015/06/16/cell-phone-tower-near-heritage-high-school-catches-fire/>

Source: WTKR3



Cell tower fire  
caused by improper welding.  
Greenville, TN, Nov 4, 2014  
[https://www.greenvillesun.com/xml/nitf/flames-damage-verizon-wireless-tower/article\\_1619f00e-5383-530a-a69e-0dbd2acc3c6a.html](https://www.greenvillesun.com/xml/nitf/flames-damage-verizon-wireless-tower/article_1619f00e-5383-530a-a69e-0dbd2acc3c6a.html)  
Photo credit: Kristen Buckles



Cell tower fire  
caused by improper welding.  
Bensalem, PA, June 21, 2013

<https://www.csmonitor.com/USA/Latest-News-Wires/2013/0624/Bensalem-tower-fire-Crews-dismantle-cell-tower-that-caught-fire-in-Pa>

Photo credit: Jo Ciavaglia/Bucks County Courier Times/AP



Cell tower fire  
during routine maintenance.  
Tinton Falls, NJ, Jan 24, 2011

<https://patch.com/new-jersey/longbranch/parkway-cell-tower-fire-saturday-set-off-by-routine->

[maintenance](#)

Source: The Patch



Cell tower collapse in high winds.

Broken Arrow, OK, Dec 9, 2009

[http://wirelessestimator.com/content/articles/?pagename=Cell\\_Tower\\_News\\_12.09](http://wirelessestimator.com/content/articles/?pagename=Cell_Tower_News_12.09)

Source: <http://wirelessestimator.com>



High winds topple cell tower,  
crushing Chief's vehicle  
Oswego, NY, Nov 14th, 2003

<https://www.firehouse.com/home/news/10530195/oswego-new-york-cellular-tower-crushes-chiefs-vehicle>

Photo credit: Steve Yablonski/Oswego Bureau Chief



**NEW TONIGHT**

**STADIUM LIGHT CATCHES F  
OTAY RANCH HIGH SCHOOL**

**UNCE 473 NEW CORONAVIRUS CASES. T**

A light pole holding cellular antennas  
at Otay Ranch High School caught fire,  
damaging the stadium

Chula Vista, CA, March 9, 2021

<https://fox5sandiego.com/news/local-news/stadium-light-catches-fire-at-south-bay-high-school/>

Source: fox5sandiego.com



Cell tower felled by tornado  
across U.S. Route 280.

Smiths Station, Lee County, AL, March 3, 2019

<https://www.nytimes.com/2019/03/03/us/tornado-alabama-georgia-deaths.html>

Photo credit: Mike Haskey/Ledger-Enquirer, via Associated Press



Paper lanterns caught in cell tower  
at Lantern Fest cause fire  
in Gaston County, NC, May 2, 2015

<https://www.gastongazette.com/article/20150602/News/306029947>

Source: Gaston Gazette



Welding causes cell tower fire.

Sanford, FL, August 24, 2013

<https://insidetowers.com/sanford-florida-cell-tower-no-longer-a-risk/>

Source: insidetowers.com



Welding causes cell tower fire.  
Bensalem, Pa, June 21, 2013

<http://levittownnow.com/2013/06/21/nearby-cell-tower-on-fire-may-collapse/>

Photo credit: Twitter.com/Mz\_Erica7801



Welding causes cell tower fire  
near daycare center.

Lilburn, GA, Dec 1, 2011

[https://www.gwinnettdaily.com/archive/cell-tower-fire-closes-rockbridge-road-evacuates-day-care/article\\_c799bdd9-1162-52a6-8cd7-7784653883ae.html](https://www.gwinnettdaily.com/archive/cell-tower-fire-closes-rockbridge-road-evacuates-day-care/article_c799bdd9-1162-52a6-8cd7-7784653883ae.html)

Source: Gwinnett Daily Post



Cell tower collapses in high winds.  
Ruidoso, NM, Dec 18, 2009  
[http://wirelessestimator.com/content/articles/  
/?pagename=Cell\\_Tower\\_News\\_12.09](http://wirelessestimator.com/content/articles/?pagename=Cell_Tower_News_12.09)  
Photo credit: Steve Kitchens



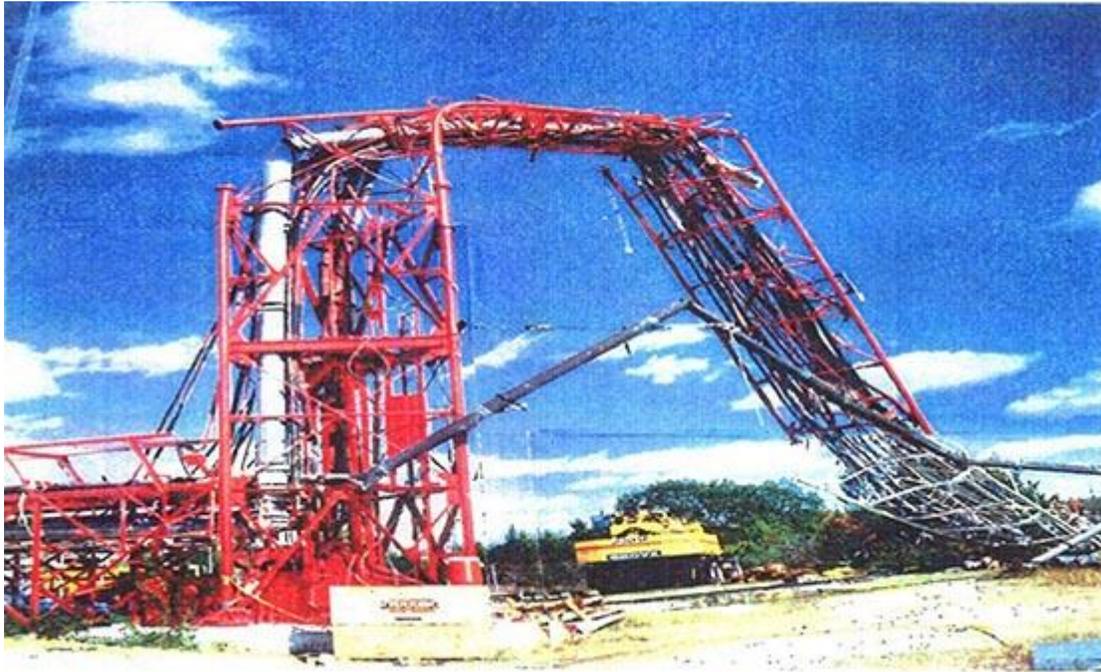
Cell tower collapses during construction.  
La Mirada, March 18, 2008  
<https://www.ocregister.com/2008/03/18/kfi-tower-topples/>  
Source: Orange County Register



Malibu Canyon fire, 2007  
Overburdened with weighty telecom gear,  
the pole collapsed. 14 houses burned.

[http://www.malibutimes.com/news/article\\_7ace05ac-c1eb-11e2-8303-0019bb2963f4.html](http://www.malibutimes.com/news/article_7ace05ac-c1eb-11e2-8303-0019bb2963f4.html)

Photo by Teresa Gelbman



Cell tower collapses during maintenance,  
killing three workers.

Cedar Hill, TX, October 12, 1996

[https://www.osha.gov/doc/engineering/1997\\_r\\_05.html](https://www.osha.gov/doc/engineering/1997_r_05.html)

Source: U.S. Department of Labor, Occupational Safety and Health Administration

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## Cell Tower Fires: The Longer List

4/18/21 Electrical malfunction causes fire with rooftop cellular antennas in Brooklyn

<https://ehtrust.org/firecell-tower-brooklyn-new-york/>

<https://anash.org/fire-extinguished-on-roof-of-crown-heights-apartment-building/>



Hanover, VA, June 26, 2020

<https://www.nbc12.com/2020/06/26/cell-phone-tower-hanover-catches-fire/>

Source: Hanover Fire and EMS

3/9/2021 A light pole holding cellular antennas at Otay Ranch High School caught fire, damaging the stadium in Chula Vista, CA

<https://fox5sandiego.com/news/local-news/stadium-light-catches-fire-at-south-bay-high-school/>

11/25/2020 Cell Tower Fire Causes Structural Damage in Lapeer County, MI

<https://www.aglmediagroup.com/cell-tower-fire-causes-structural-damage/>

6/26/2020 Cell Tower in Hanover County, Va.

<https://www.nbc12.com/2020/06/26/cell-phone-tower-hanover-catches-fire/>

5/1/2018 Cell Tower Fire in Philadelphia, PA

<https://6abc.com/cell-phone-tower-fire-philadelphia-schuylkill-expressway/3412963/>

6/16/2015 Cell phone tower near Virginia Heritage High School catches fire. Now it is leaning over.

<http://wtkr.com/2015/06/16/cell-phone-tower-near-heritage-high-school-catches-fire/>

5/2/2015 Several paper lanterns caused fire in a cell tower at Lantern Fest in Gaston County, NC

<https://www.gastongazette.com/article/20150602/News/306029947>

11/4/2014 Cell Tower Fire in Greeneville, TN

[https://www.greenevillesun.com/xml/nitf/flames-damage-verizon-wireless-tower/article\\_1619f00e-5383-530a-a69e-0dbd2acc3c6a.html](https://www.greenevillesun.com/xml/nitf/flames-damage-verizon-wireless-tower/article_1619f00e-5383-530a-a69e-0dbd2acc3c6a.html)

9/13/2014 Cell tower fire at Thurston High sends up smoky plume.

<https://kval.com/news/local/cell-tower-fire-near-thurston-high-sends-up-smoky-plume>

7/15/2014 School Football Field Cell phone tower catches fire in Grandview, Ohio.

<https://www.dispatch.com/article/20140715/NEWS/307159836>

2/4/2014 Cell tower fire closes U.S. 95 exit ramp in Las Vegas, NV

<https://lasvegassun.com/news/2013/feb/04/cell-tower-fire-closes-us-95-exit-ramp-jones-boulev>

8/21/2013 Cell Tower Fire in Sanford, FL

<https://www.wftv.com/news/local/cell-phone-tower-catches-fire-seminole-co/271605586/>

6/21/2013 Pennsylvania Fire results in Collapse Fears: Collapse Zone created at base and they vacated the buildings.

<http://levittownnow.com/2013/06/21/nearby-cell-tower-on-fire-may-collapse/>

<https://www.csmonitor.com/USA/Latest-News-Wires/2013/0624/Bensalem-tower-fire-Crews-dismantle-cell-tower-that-caught-fire-in-Pa>

<https://www.nbcphiladelphia.com/news/local/cell-phone-tower-on-fire-in-bucks-county/1984967/>

5/16/2013 Cell Tower Fire in Middletown, NJ Video:

<https://www.youtube.com/watch?v=baUNlzbJt5I>

<https://www.nbcnewyork.com/news/local/cell-tower-lean-new-jersey-police-monmouth-county/2079578/>

5/16/2013 New Jersey Cell Tower Fire.

[https://www.nj.com/monmouth/2013/05/cell\\_tower\\_fire\\_knocks\\_out\\_main\\_middletown\\_police\\_communications.html](https://www.nj.com/monmouth/2013/05/cell_tower_fire_knocks_out_main_middletown_police_communications.html)

2/4/2013 Cell phone tower catches fire near U.S. 95 Las Vegas

<https://www.reviewjournal.com/news/cell-tower-catches-fire-closes-u-s-95-ramps/>

8/10/2012 Cell tower at Risk of Falling after Fire Atlanta Georgia.

<https://www.ajc.com/news/local/cell-phone-tower-taken-down-following-fire/eRLICZmYOeUNeoCzskHGRJ/>

8/10/2012 Cell phone tower to be taken down following fire, Georgia.

<https://www.ajc.com/news/local/cell-phone-tower-taken-down-following-fire/eRLICZmYOeUNeoCzskHGRJ/>

6/11/2012 Explosion near cell tower likely caused by propane leak, Iowa

<https://www.lemarssentinel.com/story/1641878.html>

12/1/2011 Cell tower fire closes Rockbridge Road, evacuates day care.

[https://www.gwinnettdailynews.com/archive/cell-tower-fire-closes-rockbridge-road-evacuates-day-care/article\\_c799bdd9-1162-52a6-8cd7-7784653883ae.html](https://www.gwinnettdailynews.com/archive/cell-tower-fire-closes-rockbridge-road-evacuates-day-care/article_c799bdd9-1162-52a6-8cd7-7784653883ae.html)

6/21/2011 Osprey nest, electrical problem sparked Poulsbo cell tower fire Washington State

<https://www.kitsapdailynews.com/news/osprey-nest-electrical-problem-sparked-poulsbo-cell-tower-fire/>

5/26/2011 Kansas City Cell Tower Fire closes Interstate 435

<https://www.youtube.com/watch?v=PiiXBnbBl8o>

1/22/2011 Cell Tower Fire in New Jersey

<https://patch.com/new-jersey/longbranch/parkway-cell-tower-fire-saturday-set-off-by-routine-maintenance>

1/13/2011 Cell Tower Fire at Rancho Cucamonga, CA fire station

<https://www.redlandsdailyfacts.com/2011/01/13/cell-tower-reportedly-burning-at-rancho-cucamonga-fire-station/>

5/10/2010 Water Tower Fire Wipes Out WiMAX and Cell Phone Service on Madison, Wisconsin's West Side

<https://stopthecap.com/2010/05/20/water-tower-fire-wipes-out-wimax-and-cell-phone-service-on-madison-wisconsins-west-side/>

10/1/2007 Sprint, Verizon, AT&T sign \$12 million settlement over 2007 Malibu Canyon wild fire

<https://www.scpr.org/blogs/environment/2012/09/13/9969/sprint-verizon-t-sign-12-million-settlement-over-2/>

7/4/2007 Cell Tower Fire in Howell, MI

[https://www.mlive.com/annarbornews/2007/07/updated\\_cell\\_phone\\_tower\\_fire.html](https://www.mlive.com/annarbornews/2007/07/updated_cell_phone_tower_fire.html)

4/14/2006 Cell Tower Fire in Prince George County, MD

<https://www.washingtonpost.com/wp-dyn/content/article/2006/04/14/AR2006041400981.html>

8/24/2001 Burning Cell Tower at Risk of Falling in Seminole County, Oregon

<https://insidetowers.com/sanford-florida-cell-tower-no-longer-a-risk/>

# Cell Tower Collapses & Falling Debris: The Longer List

2/28/2020 Cell tower crashes into a building at St.Johns (Canada).

<https://www.cbc.ca/news/canada/newfoundland-labrador/cell-phone-tower-st-pats-bowling-lane-1.5480854>



A fallen cell tower lies across U.S. Route 280  
after tornadoes touched down in Alabama, Georgia and Florida.  
Smiths Station, Lee County, AL, March 3, 2019

<https://www.nytimes.com/2019/03/03/us/tornado-alabama-georgia-deaths.html>

Photo credit: Mike Haskey/Ledger-Enquirer, via Associated Press

10/17/2019 A famous antenna tower has collapsed near Tucson. It was probably 1,000 feet tall. It was a local landmark.

<https://kvoa.com/news/local-news/2019/10/18/480-feet-tower-collapses-near-three-points/>

<https://www.kold.com/2019/10/18/toppled-tower-triggers-trouble/>

3/3/2019 A cell tower falls across U.S. Route 280 highway in Lee County, Ala., after a tornado

<https://www.nytimes.com/2019/03/03/us/tornado-alabama-georgia-deaths.html>

3/25/15 Tornado damage to legendary KOMA tower array in Moore, OK

<http://qrznow.com/tornado-damage-to-legendary-koma-tower-array/>

5/1/14 Arkansas Tornadoes Take Down Two Towers in Mayflower and Vilonia, AR  
<https://www.aglmediagroup.com/restoration-efforts-ensue-after-arkansas-tornado-takes-down-2-towers/>

3/26/2014 Tower Collapse in Blaine, KS  
<https://fox2now.com/news/two-men-who-died-in-kansas-tower-collapse-from-st-charles/>

3/14/2014 Tower Collapse in North Adams, MA  
[https://www.masslive.com/news/2014/03/heavy\\_wind\\_and\\_rain\\_causes\\_col.html](https://www.masslive.com/news/2014/03/heavy_wind_and_rain_causes_col.html)

2/20/2014 Crescenta CAAT&T Withdraws Cell Tower Application: Debris fall off cell tower onto residence.  
<https://www.crescentvalleyweekly.com/news/02/20/2014/att-withdraws-cell-tower-application/>

2/2/2014 “Firefighter and two contractors dead after two cell phone towers collapse during maintenance in Clarksburg, WV  
<https://www.dailymail.co.uk/news/article-2550553/Firefighter-two-contractors-dead-two-cell-phone-towers-collapse-maintenance.html>  
OSHA Investigation: [https://www.osha.gov/doc/engineering/pdf/2014\\_r\\_06.pdf](https://www.osha.gov/doc/engineering/pdf/2014_r_06.pdf)

2/2/2014 Cell phone towers collapse in West Virginia, killing 3  
<https://www.foxnews.com/us/cell-phone-towers-collapse-in-west-virginia-killing-3>

1/13/2014 Tower Collapse in Chewelah, WA  
<https://www.spokesman.com/stories/2014/jan/13/in-brief-cell-tower-near-ski-resort-collapses-in/>

10/1/2013 Tower Collapse in Willow, AK  
<https://www.adn.com/alaska-news/article/willow-cell-tower-collapses-mat-su-drafts-new-rules/2013/11/15/>

7/20/2013 Tower Collapse in San Ramon, CA  
<https://patch.com/california/sanramon/update-police-suspect-vandals-in-radio-tower-collapse>

5/28/2013 Two killed in cell tower collapse in Copiah County, MS.  
<https://www.wlbt.com/story/22439997/2-killed-in-cell-phone-tower-fall/>

3/30/2013 Tower collapse: Heavy wind and rain blamed for downing ‘major communications’ equipment in Berkshires, knocking out police, fire radio service, Massachusetts  
[https://www.masslive.com/news/2014/03/heavy\\_wind\\_and\\_rain\\_causes\\_col.html](https://www.masslive.com/news/2014/03/heavy_wind_and_rain_causes_col.html)

3/6/2013 Tower Collapse in St. Louis, MO  
<https://fox2now.com/news/cell-tower-collapse-could-have-been-prevented/>

1/16/2013 Tower Ice Falling Video  
<https://www.youtube.com/watch?v=aqy32tzTRkA>

10/31/2012 Associated Press – Hurricane Sandy takes out 25% of cell towers in U.S.  
<https://gadgets.ndtv.com/telecom/news/hurricane-sandy-takes-out-25-percent-of-cell-towers-in-us-286624>

2/13/2012 El Paso Texas, Decorative Frond Falls From Palm Tree Cell Phone Tower, slices through man's car.  
<https://www.pinterest.at/pin/388224430380184160/>

6/20/2011 A cell tower, damaged by fire, has been taken down after it hung precariously over Highway 305. Washington State.  
<http://archive.kitsapsun.com/news/code-911/highway-305-reopened-following-cell-tower-fire-ep-418436358-357191651.html>

4/4/2011 Cell Tower Collapse in Ballard County, KY  
<https://www.kfvs12.com/story/14380276/afternoon-update-cell-tower-2-homes-collapse-in-ballard-county/>

2/18/2011 High winds likely cause in cell tower collapse in Clinton, PA  
[https://www.lehighvalleylive.com/hunterdon-county/express-times/2011/02/high\\_winds\\_likely\\_cause\\_in\\_cel.html](https://www.lehighvalleylive.com/hunterdon-county/express-times/2011/02/high_winds_likely_cause_in_cel.html)

1/12/2011 Giant Icicles Fall From Sky, Smash Cars  
<https://www.theblaze.com/news/2011/01/12/giant-icicles-fall-from-sky-smash-cars>

12/18/2009 Cell Tower Collapse in Ruidoso, NM  
[http://wirelessestimator.com/content/articles/?pagename=Cell\\_Tower\\_News\\_12.09](http://wirelessestimator.com/content/articles/?pagename=Cell_Tower_News_12.09)

12/15/2009 One dead following New York tower collapse  
[http://wirelessestimator.com/content/articles/?pagename=Cell\\_Tower\\_News\\_12.09](http://wirelessestimator.com/content/articles/?pagename=Cell_Tower_News_12.09)

12/14/2009 Worker Dies in Cell Tower Collapse in Tulsa, OK  
<https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwjmk720907tAhU7GFkFHZBkCxoQFjADegQIBRAC&url=https%3A%2F%2Fdownloads.regulations.gov%2FOSHA-2014-0018-0002%2Fcontent.pdf&usg=AOvVaw1kmCWXvB9oOHUX3TQfGEOv>

12/12/2009 Tower ice buildup seen as culprit for collapse in Dawson County, TX.  
[http://wirelessestimator.com/content/articles/?pagename=Cell\\_Tower\\_News\\_12.09](http://wirelessestimator.com/content/articles/?pagename=Cell_Tower_News_12.09)

12/9/2009 High winds collapse tower in Oklahoma  
[http://wirelessestimator.com/content/articles/?pagename=Cell\\_Tower\\_News\\_12.09](http://wirelessestimator.com/content/articles/?pagename=Cell_Tower_News_12.09)

1/24/2009 Cell Tower Collapse in Wellesley, MA  
<https://www.metrowestdailynews.com/article/20090124/News/301249964>

5/29/2008 Cell Tower Collapse in Browns Summit, NC

<https://www.wfmynews2.com/article/news/local/cell-phone-tower-falls-over-in-guilford-county/83-402796410>

5/7/2008 Internet tower falls on tanker truck in Shawnee, OK

<https://www.news-star.com/article/20080507/NEWS/305079925>

3/18/2008 Cell Tower Collapse in La Merida, CA

<https://www.oregister.com/2008/03/18/kfi-tower-topples/>

10/2007 Overburdened with weighty telecom gear, the pole collapsed. 14 houses burned in Malibu Canyon, CA

[http://www.malibutimes.com/news/article\\_7ace05ac-c1eb-11e2-8303-0019bb2963f4.html](http://www.malibutimes.com/news/article_7ace05ac-c1eb-11e2-8303-0019bb2963f4.html)

11/14/2003 Oswego, New York Cellular Tower Crushes Chief's Vehicle

<https://www.firehouse.com/home/news/10530195/oswego-new-york-cellular-tower-crushes-chiefs-vehicle>

10/12/1996 Tower Collapse in Cedar Hill, TX Kills Three

[https://www.osha.gov/doc/engineering/1997\\_r\\_05.html](https://www.osha.gov/doc/engineering/1997_r_05.html)

List of catastrophic collapses of broadcast masts and towers from Wikipedia

[https://en.wikipedia.org/wiki/List\\_of\\_catastrophic\\_collapses\\_of\\_broadcast\\_masts\\_and\\_towers](https://en.wikipedia.org/wiki/List_of_catastrophic_collapses_of_broadcast_masts_and_towers)

This video does not have a date, but I think it is important to include

Tower ice falling

<http://www.youtube.com/watch?v=aqy32tzTRkA>

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## **Telecom Worker Deaths & Accidents: The Longer List**

List of Incident Investigations from the Occupational Safety and Health Administration (OSHA)

<https://www.osha.gov/communication-towers/incident-investigations>



Tulsa, OK, August 30th 2013

A man latched to a cell phone tower, 10-stories off the ground, is knocked out by a falling antenna.

<https://www.newson6.com/story/5e363a9c2f69d76f62057bfe/tulsa-fire-department-rescues-worker-from-top-of-cell-phone-tower>

Source: newson6.com

4/11/2014 Worker rescued after hanging from Charlotte cell phone tower, Charlotte, NC.

<https://www.wbtv.com/story/25218063/man-trapped-at-top-of-cell-tower-in-east-charlotte/>

4/1/2014 A Deadly Surge in Tower Climber Accidents

<https://projects.propublica.org/graphics/cell-tower-accidents>

8/30/2013 Tulsa Fire Department Rescues Worker From Top Of Cell Phone Tower

<https://www.newson6.com/story/5e363a9c2f69d76f62057bfe/tulsa-fire-department-rescues-worker-from-top-of-cell-phone-tower>

1/23/2013 Gaithersburg Maryland: Trapped Worker is rescued after freezing.

<https://www.nbcwashington.com/news/local/crews-work-to-rescue-man-from-cell-phone-tower/1950256/>

12/24/2012 Spokane fire department rescues dangling cell tower worker, Spokane Washington.

<https://komonews.com/news/local/spokane-fire-department-rescues-dangling-cell-tower-worker-11-20-2015>

6/27/2012 Cell Tower Climber Falls 153 Feet, Dies on Impact, Minnesota

<https://www.grandforksherald.com/news/man-who-died-after-falling-cell-tower-identified-1>

12/23/2011 Worker hurt in 80-ft. fall from cell tower in Marcy New York.

[https://www.syracuse.com/news/2011/12/worker\\_hurt\\_in\\_80-ft\\_fall\\_from.html](https://www.syracuse.com/news/2011/12/worker_hurt_in_80-ft_fall_from.html)

8/5/2011 Texas: Six Hour Rescue for Tower Worker

<https://www.statter911.com/2011/08/05/more-than-six-hour-rescue-to-get-man-from-760-foot-level-of-tower-firefighters-in-burleson-texas-tell-their-story/>

8/4/2011 Burleson fire dept. rescues man from cell tower, Texas

<https://www.wfaa.com/article/news/local/burleson-fire-dept-rescues-man-from-cell-tower/287-337687816>

11/21/2008 Worker who fell 65 feet from cell tower dies: Arizona

[https://tucson.com/news/local/crime/worker-who-fell-feet-from-cell-tower-dies/article\\_c0932089-a4e0-5c14-9ce4-bb2cd8be86c1.html](https://tucson.com/news/local/crime/worker-who-fell-feet-from-cell-tower-dies/article_c0932089-a4e0-5c14-9ce4-bb2cd8be86c1.html)

5/28/2008 Fatal bandwidth: 6 cell tower deaths in 5 weeks: Indiana, Nebraska, Georgia.

<https://fortune.com/2008/05/28/fatal-bandwidth-6-cell-tower-deaths-in-5-weeks/>  
<https://scienceblogs.com/thepumphandle/2008/05/30/april-may-2008-deadly-for-antenna-tower-workers>

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## **Other Concerning Situations: The Longer List**

6/28/2014 Teen Talked Down From Cell Tower

<http://www.nbcchicago.com/news/local/Suburban-Teen-Rescued-From-Cell-Tower-265033731.html>

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## **CELL SITE SAFETY PROTOCOL**

by Katie Singer

Around 1750 B.C., Babylon's King Hammurabi wrote a code to protect people from new technologies' hazards, and to hold builders liable for any harms caused by their projects.

Hammurabi's principles still stand. Before any condo building, bridge, water treatment facility, electrical system, highway or cell site goes live, the corporation that builds it has a duty to ensure that the technology will not imperil life, health or property. Within their discipline, independent, state-licensed professional engineers (PEs) evaluate and mitigate hazards of new technologies or building projects. With his or her seal, a professional engineer assumes full responsibility for a project's design. If a building' collapses because of its design, the PE is liable. If a builder doesn't follow correct design, the builder holds liability.

All cellular sites are electrical equipment. The National Fire Protection Association recognizes five hazards associated with using electricity: electrical contact, thermal effects, overcurrent, fault current and overvoltage. During a cell site's design, to ensure that the new project will not imperil life, health or property, a state-licensed professional electrical engineer must evaluate each hazard and certify that it has been mitigated. A state-licensed professional structural engineer must certify the structural integrity of each pole that holds telecom equipment. To honor their professional obligations, city councilors and county commissioners should not issue a building permit until they have PE-certified documents that prove that each proposed cellular site is safe.

Before permitting installation of any new cell sites in NAME YOUR CITY OR COUNTY, to protect health, life and property from cellular sites' potential fire hazards, collapses and other hazards, we therefore require comprehensive documentation prepared under the responsible charge of and certified by an independent, state-licensed professional engineer demonstrating that hazards at each cell site have been evaluated and mitigated.

To address their liability, every property owner (a municipality, corporation or homeowner whose property holds the cell site) has a duty to require that telecom corporations provide sealed engineering documents demonstrating that the hazards have been mitigated. Sealed engineering documents prove that the property owner has not been negligent.

To view cell towers that have collapsed and/or caught fire, visit [www.OurWeb.tech/fires-and-collapses](http://www.OurWeb.tech/fires-and-collapses).

Addendum: In the past, people concerned about telecommunications' harms have focused on proving that the electromagnetic radiation emitted by devices and infrastructure harms living creatures. Despite thousands of studies demonstrating such harm ([www.saferemr.com](http://www.saferemr.com); [www.bioinitiative.org](http://www.bioinitiative.org)), these efforts have largely failed. They've failed because telecom proponents are merchants of doubt. Repeatedly, the corporations promote the idea that research is inconclusive or unavailable. (See Mark Hertsgaard and Mark Dowie's 2018 article in *the Nation*, "How Big Wireless Made Us Think That Cell Phones are Safe." <https://www.thenation.com/article/archive/how-big-wireless-made-us-think-that-cell-phones-are-safe-a-special-investigation/>)

The Cell Site Protocol shifts the paradigm: it requires telecom corporations to prove that their proposed installation meets the safety standards of the National Fire Protection Association before it goes live. It requires city officials to require a professional engineer's sealed documents

that prove that the proposed equipment is safe...before they issue a permit to install the equipment. Most states have statutes that require these protocols.

Every concerned citizen should assume (as engineers do) that electricity—and the electronic devices and infrastructure that depend on electricity)—are not safe until they're proven safe.

To begin raising questions of safety about proposed telecom equipment, ask whether or not your city authorities are properly trained to evaluate documents proving that electrical hazards of telecom infrastructure have been evaluated and mitigated. Ask for documentation that verifies such training.

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<https://ehtrust.org/electromagnetic-fields-impact-tree-plant-growth/>

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## Electromagnetic Fields Impact Tree and Plant Growth

Feb 17, 2018

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### Electromagnetic Fields, Tree & Plant Growth

Electromagnetic (EMF) frequencies have been found to alter the growth and development of plants. Studies on wireless EMF frequencies have found [physiological and morphological changes](#), [increased micronuclei formation](#), [altered growth](#) as well as [adverse cell characteristics](#) such as thinner cell walls and smaller mitochondria. Electromagnetic exposure results in biochemical changes Research shows that plants [perceive](#) and respond to electromagnetic fields and are a good model to study the biological effects of exposure.

Documentation of tree damage from base stations is made visible in the Report “Tree Damage Caused by Mobile phone base stations” in which he states, “RF radiation effects on plants have not been considered. In the Explosive Proliferation of the diverse wireless communication technologies across the entire environment and almost all areas of life, this represents an uncovered risk” ([Breunig, 2017](#)).

Note: EMFs also have been shown to alter the behavior of bees and [birds](#).

## Austrian Telecom Giant Telstra is Aware

“Telstra is also funding research into whether uniquely Australian obstacles – including flora – will disrupt 5G signals, which occupy a higher frequency and don’t travel as far as other mobile signals. “Something that seems to be unique to Australia, and we found with earlier standards, is how gumtrees impact those radio signals and the way they get from the radio tower to the end user,” – ‘Telstra pushes for 5G that Works in Australia,’ [The Sydney Morning Herald, January 9, 2017](#).

### Research Studies:

Breunig, Helmut. [“Tree Damage Caused By Mobile Phone Base Stations An Observation Guide.”](#) (2017).

You can also download the Observation Guide at: [Competence Initiative for the Protection of Humanity, the Environment and Democracy](#)

Waldmann-Selsam, C., et al. [“Radiofrequency radiation injures trees around mobile phone base stations.”](#) *Science of the Total Environment* 572 (2016): 554-69.

- “In the last two decades, the deployment of phone masts around the world has taken place and, for many years, there has been a discussion in the scientific community about the possible environmental impact from mobile phone base stations. Trees have several advantages over animals as experimental subjects and the aim of this study was to verify whether there is a connection between unusual (generally unilateral) tree damage and radiofrequency exposure.
- To achieve this, a detailed long-term (2006-2015) field monitoring study was performed in the cities of Bamberg and Hallstadt (Germany).
- The measurements of all trees revealed significant differences between the damaged side facing a phone mast and the opposite side, as well as differences between the exposed side of damaged trees and all other groups of trees in both sides. Thus, we found that side differences in measured values of power flux density corresponded to side differences in damage. The 30 selected trees in low radiation areas (no visual contact to any phone mast and power flux density under  $50\mu\text{W}/\text{m}^2$ ) showed no damage. Statistical analysis demonstrated that electromagnetic radiation from mobile phone masts is harmful for trees. These results are consistent with the fact that damage afflicted on trees by mobile phone towers usually start on one side, extending to the whole tree over time.”

Martin Pall. [“Electromagnetic Fields Act Similarly in Plants as in Animals: Probable Activation of Calcium Channels via Their Voltage Sensor”](#) *Current Chemical Biology*, Volume 10 , Issue 1 , 2016

- It has been shown that low intensity microwave/lower frequency electromagnetic fields (EMFs) act in animals via activation of voltage-gated calcium channels (VGCCs) in the plasma membrane, producing excessive intracellular calcium  $[Ca^{2+}]_i$ , with excessive  $[Ca^{2+}]_i$  leading to both pathophysiological and also in some cases therapeutic effects. The pathophysiological effects are produced largely through excessive  $[Ca^{2+}]_i$  signaling including excessive nitric oxide (NO), superoxide, peroxynitrite, free radical formation and consequent oxidative stress. The activation of the VGCCs is thought to be produced via EMF impact on the VGCC voltage sensor, with the physical properties of that voltage sensor predicting that it is extraordinarily sensitive to these EMFs.
- It is shown here that the action of EMFs in terrestrial, multicellular (embryophyte) plants is probably similar to the action in animals in most but not all respects, with calcium channel activation in the plasma membrane leading to excessive  $[Ca^{2+}]_i$ , leading in turn to most if not all of the biological effects. A number of studies in plants are briefly reviewed which are consistent with and supportive of such a mechanism. Plant channels most plausibly to be involved, are the so-called two pore channels (TPCs), which have a voltage sensor similar to those found in the animal VGCCs.

Halgamuge, M.N. [“Weak radiofrequency radiation exposure from mobile phone radiation on plants.”](#) *Electromagnetic Biology and Medicine* 36.2 (2017): 213-235.

- “Our analysis demonstrates that the data from a substantial amount of the studies on RF-EMFs from mobile phones show physiological and/or morphological effects (89.9%,  $p < 0.001$ ). Additionally, our analysis of the results from these reported studies demonstrates that the maize, roselle, pea, fenugreek, duckweeds, tomato, onions and mungbean plants seem to be very sensitive to RF-EMFs. Our findings also suggest that plants seem to be more responsive to certain frequencies...”

Shikha Chandel, et al. [“Exposure to 2100 MHz electromagnetic field radiations induces reactive oxygen species generation in \*Allium cepa\* roots.”](#) *Journal of Microscopy and Ultrastructure* 5.4 (2017): 225-229.

- “The present study investigated the role of cell phone EMF-r in inciting oxidative damage in onion (*Allium cepa*) roots at a frequency of 2100 MHz. Onion roots were exposed to continuous wave homogenous EMF-r for 1, 2 and 4 h for single day. The results showed that EMF-r exposure enhanced the content of MDA,  $H_2O_2$  and  $O_2^-$ . Also, there was an upregulation in the activity of antioxidant enzymes– SOD and CAT– in onion roots. The study concluded that 2100 MHz cell phone EMF-r incite oxidative damage in onion roots by altering the oxidative metabolism.”

Gustavino, B., et al. [“Exposure to 915 MHz radiation induces micronuclei in \*Vicia faba\* root tips.”](#) *Mutagenesis* 31.2 (2016): 187-92.

- The increasing use of mobile phones and wireless networks raised a great debate about the real carcinogenic potential of radiofrequency-electromagnetic field (RF-EMF) exposure associated with these devices. Conflicting results are reported by the great majority of in vivo and in vitro studies on the capability of RF-EMF exposure to induce DNA damage and mutations in mammalian systems. Aimed at understanding whether less ambiguous responses to RF-EMF exposure might be evidenced in plant systems with respect to mammalian ones, in the present work the mutagenic effect of RF-EMF has been studied through the micronucleus (MN) test in secondary roots of *Vicia faba* seedlings exposed to mobile phone transmission in controlled conditions, inside a transverse electro magnetic (TEM) cell.
- Results of three independent experiments show the induction of a significant increase of MN frequency after exposure, ranging from a 2.3-fold increase above the sham value, at the lowest SAR level, up to a 7-fold increase at the highest SAR. These findings are in agreement with the limited number of data on cytogenetic effects detected in other plant systems exposed to mobile phone RF-EMF frequencies and clearly show the capability of radiofrequency exposure to induce DNA damage in this eukaryotic cell system.
- It is worth noticing that this range of SAR values is well below the international limits for localised exposure (head, trunk), according to the ICNIRP guidelines (35) and IEEE std C95.1 (38), which are 10 (8.0) W/kg for occupational exposure and 2.0 (1.6) W/kg for general public exposure respectively.

Halgamuge, Malka N., See Kye Yak and Jacob L. Eberhardt. [“Reduced growth of soybean seedlings after exposure to weak microwave radiation from GSM 900 mobile phone and base station.”](#) *Bioelectromagnetics* 36.2 (2015): 87-95.

- The aim of this work was to study possible effects of environmental radiation pollution on plants. The association between cellular telephone (short duration, higher amplitude) and base station (long duration, very low amplitude) radiation exposure and the growth rate of soybean (*Glycine max*) seedlings was investigated.
- The exposure to higher amplitude (41 V m<sup>-1</sup>) GSM radiation resulted in diminished outgrowth of the epicotyl. The exposure to lower amplitude (5.7 V m<sup>-1</sup>) GSM radiation did not influence outgrowth of epicotyl, hypocotyls, or roots. The exposure to higher amplitude CW radiation resulted in reduced outgrowth of the roots whereas lower CW exposure resulted in a reduced outgrowth of the hypocotyl. Soybean seedlings were also exposed for 5 days to an extremely low level of radiation (GSM 900 MHz, 0.56 V m<sup>-1</sup>) and outgrowth was studied 2 days later. Growth of epicotyl and hypocotyl was found to be reduced, whereas the outgrowth of roots was stimulated.
- Our findings indicate that the observed effects were significantly dependent on field strength as well as amplitude modulation of the applied field.

Senavirathna, M.D., et al. [“Nanometer-scale elongation rate fluctuations in the \*Myriophyllum aquaticum\* \(Parrot feather\) stem were altered by radio-frequency electromagnetic radiation.”](#) *Plant Signal Behav* 9.3 (2014).

- Statistically significant changes to this plant from a non thermal effect.

Soran, M.L., et al. [“Influence of microwave frequency electromagnetic radiation on terpene emission and content in aromatic plants.”](#) *Journal of Plant Physiology* 171.15 (2014): 1436-43.

- Microwave irradiation resulted in thinner cell walls, smaller chloroplasts and mitochondria, and enhanced emissions of volatile compounds, in particular, monoterpenes and green leaf volatiles (GLV). These data collectively demonstrate that human-generated microwave pollution can potentially constitute a stress to the plants.
- The above is only a small sampling of the research showing biological effects at non thermal levels on living organisms.

Waldmann-Selsam, C., et al. [“Radiofrequency radiation injures trees around mobile phone base stations.”](#) *Science of the Total Environment*, vol. 572, 2016, pp. 554-69.

- In the last two decades, the deployment of phone masts around the world has taken place and, for many years, there has been a discussion in the scientific community about the possible environmental impact from mobile phone base stations. Trees have several advantages over animals as experimental subjects and the aim of this study was to verify whether there is a connection between unusual (generally unilateral) tree damage and radiofrequency exposure. To achieve this, a detailed long-term (2006-2015) field monitoring study was performed in the cities of Bamberg and Hallstadt (Germany). During monitoring, observations and photographic recordings of unusual or unexplainable tree damage were taken, alongside the measurement of electromagnetic radiation. In 2015 measurements of RF-EMF (Radiofrequency Electromagnetic Fields) were carried out. A polygon spanning both cities was chosen as the study site, where 144 measurements of the radiofrequency of electromagnetic fields were taken at a height of 1.5m in streets and parks at different locations. By interpolation of the 144 measurement points, we were able to compile an electromagnetic map of the power flux density in Bamberg and Hallstadt. We selected 60 damaged trees, in addition to 30 randomly selected trees and 30 trees in low radiation areas (n=120) in this polygon. The measurements of all trees revealed significant differences between the damaged side facing a phone mast and the opposite side, as well as differences between the exposed side of damaged trees and all other groups of trees in both sides. Thus, we found that side differences in measured values of power flux density corresponded to side differences in damage. The 30 selected trees in low radiation areas (no visual contact to any phone mast and power flux density under  $50\mu\text{W}/\text{m}^2$ ) showed no damage. Statistical analysis demonstrated that electromagnetic radiation from mobile phone masts is harmful for trees. These results are consistent with the fact that damage afflicted on trees by mobile phone towers usually start on one side, extending to the whole tree over time.

Haggerty, Katie. [“Adverse Influence of Radio Frequency Background on Trembling Aspen Seedlings.”](#) *International Journal of Forestry Research* 2010.836278 (2010).

- “This study suggests that the RF background may have strong adverse effects on growth rate and fall anthocyanin production in aspen, and may be an underlying factor in aspen decline.”

Kouzmanova, M., et al. [“Alterations in enzyme activities in leaves after exposure of \*Plectranthus sp.\* plants to 900 MHz electromagnetic field.”](#) *Biotechnology & Biotechnological Equipment* 23.sup1 (2009): 611-615.

- “The purpose of our study was to investigate the alterations in enzyme activities in leaves after exposure of plants *Plectranthus sp.* to 900 MHz EMF and their dependence on the time elapsed after exposure.
- Alterations in activity of isocitrate dehydrogenase, malate dehydrogenase and glucose-6-phosphate dehydrogenase in leaves were registered immediately after the end of the exposure and 1, 2 and 24 hours later. Irradiation of plants induced different alterations in enzyme activities depending on the time elapsed after irradiation. Immediately after exposure the activity of the three investigated enzymes decreased, but increased at 24th hour.
- In conclusion, the data provide evidence that plants perceive and respond to electromagnetic fields and are a good model to study the effects of mobile phone radiation.”

Trebbi, Grazia, et al. [“Extremely low frequency weak magnetic fields enhance resistance of NN tobacco plants to tobacco mosaic virus and elicit stress-related biochemical activities.”](#) *Bioelectromagnetics* 28.3 (2007): 214-223.

- “Increasing evidence has accumulated concerning the biological effects of extremely low frequency magnetic fields (ELF-MFs) in different plant models.
- Following ELF-MFs exposure, an increased resistance was detected, particularly after an 8-h treatment, as shown by the decrease in lesion area and number. Moreover, two enzyme activities involved in resistance mechanisms were analyzed: ornithine decarboxylase (ODC) and phenylalanine ammonia-lyase (PAL). Uninoculated leaves previously exposed to ELF-MFs in general showed a significant increase relative to controls in ODC and PAL activities, in particular for 13 microT static MF plus 28.9 microT, 10 Hz sinusoidal MF (24 h) treatment.
- In conclusion, ELF-MFs seem to influence the HR of tobacco to TMV, as shown by the increased resistance and changes in ODC and PAL activities, indicating the reliability of the present plant model in the study of bioelectromagnetic interactions.”

## **International Conference on EMF Impacts to Trees**

### **“The effect of electromagnetic radiation on trees” The Groene Paviljoen, Baarn, 2**

**2/18/2011**

Website of Conference <http://www.boomaantastingen.nl/>

[Download Program of Conference](#)

### **Tree Damage from Chronic High Frequency Exposure**

Volker Schorpp; physicist [Lecture](#) (about 31 MB)

Unknown Tree Diseases in Urban Surroundings and the Possible Effects of WiFi Access Points on Ash Trees (in the lab) – Dr. André van Lammeren

Unexpected Effects on Changing Environmental Factors – Dr. Ing. Rein Roos

Innovative Assessments of Tree Health – Ir. Lies Steel

Visible Damage on Free-standing Trees – Dr. ing. Dipl. Phys. Volker Schorpp

Click here to see a PDF of one of the presentations “[Tree Damage from Chronic High Frequency Exposure Mobile Telecommunications, Wi-Fi, Radar, Radio Relay Systems, Terrestrial Radio, TV etc.](#)” by Dr. Volker Schorpp

Effects of Electromagnetic Stress on Trees – BSc PhD. Andrew Goldsworthy

Call for Support for Further Study – Hans Groen in 't Wout

[“Trees Under High Frequency” PDF German](#)

[On vimeo treedamage by electromagnetic radiation](#) from [Boomaantastingen](#) on [Vimeo](#).

[“Trees are Affected by Electromagnetic Radiation” 2010 Laboratory testing Negative Impact on Plant Health](#)

- “An initial lab tests of the effects of electromagnetic radiation on the growth of plants, indicates that the radiation might negatively affect the health of plants. The research was carried out by Wageningen University, part of Wageningen UR. Ash trees in the urban environment are increasingly suffering from growth disturbances were found in a growing cell with so-called WiFi access points discoloration and dieback of leaves changing. Although the effects of multiple radiation sources and several trees were found, the researchers found it desirable to repeat the test and preferably for a longer period and on a larger scale. In other reports erroneously reported that TU Delft and TNO in this research involved. Trees in urban areas in recent years show an increasing number of damage such as cracks, bumps, discoloration and various forms of tissue necrosis. In the past, whether these phenomena are caused by biological factors such as pests and diseases. To date, that investigation no clear cause identified. Wageningen University was commissioned by the municipality of Alphen aan den Rijn how the increasing number of sources of electromagnetic radiation, such as masts, could play a role in the deteriorating health

of the trees. It was a growing cell the effect of radiation of known WiFi access points on small Esboompjes investigated.”

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<https://unitedpushback.com/5g-emf-rf-whats-causing-all-the-terrible-forest-fires/>

# 5G/EMF/RF: What's Causing All the Terrible Forest Fires?

September 30, 2021



The image shows the top portion of a Salon news article. At the top, the Salon logo is in red, with navigation links for NEWS & POLITICS, CULTURE, FOOD, SCIENCE & HEALTH, LIFE STORIES, and VIDEO. A search bar is on the right. The main headline reads: "California's massive wildfires are doing something no wildfire has ever done before". Below it is a sub-headline: "Raging California wildfires jumped across the oft-snowy Sierra for the first time in recorded history". The byline says "By NICOLE KARLIS PUBLISHED SEPTEMBER 2, 2021 5:52PM (EDT)". Below the text is a large photograph of a forest fire at night, with a firefighter silhouetted in the foreground. A caption below the photo reads: "Cal firefighter Travis Moore lights a backfire along Highway 50 as the Caldor Fire burns near Lake Tahoe, CA on Tuesday August 31, 2021. (Wally Skatj/Los Angeles Times via Getty Images)".

by [naturalistactivist](#) (Greece)

Have you ever been to the scene of a recent forest fire? It is a vision from hell—all those charred tree trunks pointing black, accusing fingers at the sky, the piles of drifting grey ash. But the worst thing is the smell. It is not the pleasant smell of burned wood but of rotten flesh, as all the things which have died in the fire decompose.

A forest fire does not just burn trees. It burns all the creatures who live in it and cannot escape, the ones who cannot run or fly fast enough or far enough, the ones trapped between two fronts or encircled by flames. It burns boar and deer, foxes and jackals, hedgehogs and mice, polecats and weasels. And it burns birds, whose flaming feathers blaze more brightly as they flap their wings.

That tiny lump of rotting flesh was a robin. That was a nightingale. That was an owl. That was a tree rat. That thing over there was a fox cub. That little mound was a tortoise. The insects? Well, they're just ash.

In your mind you can still hear them scream. They all screamed as the fire caught them. Even the birds screamed. I have seen too many forest fires in recent years and they fill me with horror because I know it is not just trees that are burning, but whole ecosystems. They will not come back as before because the lack of trees to hold rainwater diminishes the water table. Places that were once thriving forests are changed forever.

I don't need to tell you that our planet is suffering many more, bigger, hotter and more terrible fires in recent years than ever before. All summer long, the news has been full of fires in Greece, Turkey, and California. Last winter fires burned across Australia and the Amazon. Why are there so many fires, such big fires, even in unlikely places such as the Pantanal wetlands in Brazil?

The usual explanation is global warming/climate change—call it what you like. According to this theory, it's all because we are burning too any fossil fuels and releasing too much carbon into the atmosphere, which in turn is making our planet warmer and more combustible.

I have never been persuaded by the global warming/climate change argument, though the mainstream media (and many people) refer to it as accepted fact. For one thing, I could never understand how a planet on which every life form is carbon-based should be, as it were, "allergic" to carbon. But a great many scientists have jumped on this particular bandwagon (that's where all the research grants are) and voices of dissent are mocked or stifled by lack of funding. It is worth remembering that we have no accurate climate data from any but the recent past.

Michael Crichton, in his excellent but much criticized novel, *State of Fear*, points out that atmospheric carbon is nothing new: peat bogs and wetlands traditionally emitted huge amounts of carbon dioxide without warming the planet. We have now drained around 70% of these bogs and wetlands, so all that carbon that is no longer going into the atmosphere. Maybe carbon isn't the problem?

Where the climate change theory really falls down, though, is in its inability to explain the mechanism by which burning fossil fuels/atmospheric carbon causes forest fires. How does it do this? Vague phrases such as "complex interactions we don't fully understand" simply beg the question. Either there is a mechanism or there isn't. The climate change theory cannot explain the number and intensity of recent forest fires because it cannot identify how and why carbon causes them.

On the other hand, there is a strong correlation between increasing numbers, and severity, of forest fires with the proliferation of wireless infrastructure. Thirty years ago there were very few cell towers, and correspondingly fewer forest fires. Now cell towers are everywhere, along with other types of wireless infrastructure such as smart meters, and serious fires that resist being put out are increasing, engulfing ever-larger areas. Several mechanisms exist to explain why microwave radiation causes and prolongs fires. Taken together, they make a coherent argument which the climate change theory does not.

## **Terpenes**

The first mechanism, expounded by Dr. Martin Pall, relies on research showing that electromagnetic fields (EMFs) from microwave radiation causes plants to produce excessive amounts intracellular calcium, which in turn causes the plants to produce high levels of substances called terpenes/terpenoids. Terpenes/terpenoids are usually produced by plants to repel insect predators and can also be emitted to warn other plants that insect predators are present—but in normal circumstances, this response is limited to one species at a time. When high levels of EMFs are present, as happens near cell towers or under power lines, all the plants will start producing high levels of terpenes/terpenoids, which are both highly combustible and highly volatile, and which can pool at ground level. **If a fire starts, it will burn more fiercely and be much harder to put out.\***

Many people think that Dr. Pall's mechanism applies exclusively to 5G, but this is not so. The EMFs of 4G and 3G infrastructure, of Wi-Fi and of power lines, produce the same effects in plants. Greece did not have 5G in 2018, yet the fires at the seaside town of Mati that year were so hot they melted the glass and metal of cars. However, Dr. Pall thinks that 5G will make fires much worse.

### [E-Course: Herbal Energetics \(Ad\)](#)

Dr. Pall also thinks that when terpene/terpenoid vapours accumulate, trees may spontaneously combust. It is possible that my husband and I actually witnessed spontaneous combustion in a fire this summer. The fire started halfway up a mountain, near a cell tower, at the base of a V-shaped gorge, with high cliffs and no exit by road. One moment it wasn't there; then suddenly trees were engulfed in flames. It is hard to see how anyone could have caused such a fire in such a place without getting burned alive. However, we were miles away across a bay and cannot prove it. Accusations that someone deliberately set the fire have not been proved either.

## **EMFs Cause Soil Acidification**

A second mechanism which explains how microwaves may make forest fires much worse is explained very clearly by Dr. Alfonso Balmori in his short paper, [“The Effects of Microwaves on the Trees and Other Plants”](#). In it, Dr. Balmori explains how EMFs cause soil acidification and create conditions in which trees are unable to absorb ground water, thus drying up.

## THE EFFECTS OF MICROWAVES ON THE TREES AND OTHER PLANTS

© Alfonso Balmori Martínez. Biologist.  
Valladolid. Spain.  
December, 2003

### Plants and electromagnetic fields

In several germination rehearsals realized in laboratory subjecting the seeds to a static magnetic field, it has been proven a increase in the speed and in the number of germinations. In experiments of growth, it has been proven that the exposed plants develops bigger longitude and weight (Martínez *et al.*, 2003). In a study realized under a high tension line between Austria and the Czech Republic, its effect on wheat and corn cultivations was evaluated. The results indicated a reduction in the production of wheat of 7% in the next fields to the electric line during the 5 years that the investigation lasted (Soya *et al.*, 2003). It is usually corroborated a stimulating effect on the growth and development of plants subjected to static magnetic fields, but inhibitory action in the case of variable magnetic fields (Martínez *et al.*, 2003).

Effects in the balance of calcium in meristem cells of the pea roots subjected to magnetic fields were observed (Belyavskaya, 2001). Another study realized with microwaves also checked a long term descent in the levels of calcium and sulfur in the leaves of beech tree directly related with the power of the broadcast radiation (Schmutz *et al.*, 1996). In animal cells has been proven the same thing, the microwaves can affect the intercellular communication and that can affect the functioning to the calcium channels (Dutta *et al.*, 1989).

30 years ago two Canadian Investigators observed a deterioration that was unpredictable on the plants subjected to microwaves (Tanner & Romero-Sierra, 1974). More recently other authors have notified cytogenetical changes (micronuclei, interchromosomal bridges and chromosomal fragments) induced in wheat exposed to a source of microwaves. They conclude that those effects are not thermal (Pavel *et al.*, 1998). An Ukrainian investigator has also observed alterations in condensed chromatin distribution of meristem cells exposed to low magnetic fields (Belyavskaya, 2001).

Dr. Balmori was, at the time of writing, more concerned with tree and forest death than forest fires, but recent events make this a very pertinent paper indeed because the same mechanism that causes trees to die also makes them very combustible.

In California this past summer, two major fires burned their way right across the Sierra Nevadas, something which has never happened before. There has always been enough moisture in the trees and soil of these mountains to stop or slow fires down, but [not this year](#): “the California Bay Area’s live fuel-moisture content (FMC), a metric which measures the ratio of moisture to natural combustible material, was historically low...the fuel-moisture content at higher elevations is extremely low, too.” So what caused this?

Dr. Balmori cites the work of German scientist Wolfgang Vokrodt, whose pioneering work on dying trees near radar installations showed that microwaves interrupt the ability of trees to absorb water, thus drying them out, and create soil acidification, which further dries them out. Balmori also cites Swiss scientist Ulrich Hertel, who says that “a causal chain of electrical smog/stunted growth/damage to soil/dying trees is established”. Hertel explains that EMFs cause trees to lose the hair roots which absorb water from the soil, while capillaries shrink and become

unable to pull water upward into the tops of the trees. “The delicate absorbent hair roots are missing, the trees are standing in water and yet die of thirst.”

Dry trees will burn easily. And sadly, most cell towers are placed on hills and mountains because this increases the range of each “cell”. Between the increased production of terpenes/terpenoids and the lack of moisture in the trees themselves due to the action of microwaves in the atmosphere, it is not surprising if forests are burning as never before.

## Heating

There is a third mechanism which will also make fires worse: heating from EMFs. A recent paper by Arno Thielens, “[Environmental Impacts of 5G](#)”, states that microwaves are causing an increase in temperature in all wildlife including plants. (This happens to us too). This heating is continuous because we are always surrounded by microwaves, which heat anything containing water molecules. In nature the sun sets, or there is shade, but man-made microwaves continue to irradiate everything and everyone 24/7. Even a tiny increase in temperature will have effects if it goes on long enough. If trees and plants are warmer than they should be, this too will contribute to forest fires.



Trees producing flammable terpenes and terpenoids, trees that are drying out because they cannot absorb water, trees that are warmer than they should be: these three mechanisms, all caused by EMFs from wireless technology, explain why forest fires are becoming both more common and much worse. The climate change theory cannot explain the number and intensity of recent forest fires. Microwave theory can, and does. The price of wireless technology will be a global desert.

\* Dr. Pall's work is based on many studies that show how EMFs cause plants to produce excessive intracellular calcium and terpenes/terpenoids. The database <https://emf-portal.org/en> contains many of them.

*Top image [Link](#)*

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Aspen Adverse Effects of EMF\_RF-radiation

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Volume 2010 | Article ID 836278 | <https://doi.org/10.1155/2010/836278>

Katie Haggerty, "Adverse Influence of Radio Frequency Background on Trembling Aspen Seedlings: Preliminary Observations", *International Journal of Forestry Research*, vol. 2010, Article ID 836278, 7 pages, 2010. <https://doi.org/10.1155/2010/836278>

# Adverse Influence of Radio Frequency Background on Trembling Aspen Seedlings: Preliminary Observations

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**Academic Editor:** Terry L. Sharik

Received 21 Jun 2009

Revised 31 Oct 2009

Accepted 17 Feb 2010

Published 13 May 2010

## Abstract

Numerous incidents of aspen decline have been recorded in North America over the past half century, and incidents of very rapid mortality of aspen clones have been observed in Colorado since 2004. The radio frequency (RF) environment of the earth has undergone major changes in the past two centuries due to the development and use of electricity in power and communications applications, and the anthropogenic RF background continues to increase in intensity and complexity. This study suggests that the RF background may have strong adverse effects on growth rate and fall anthocyanin production in aspen, and may be an underlying factor in aspen decline.

## 1. Introduction

Incidents of aspen decline in North America have been observed since the mid-20th Century [1–3]. Stands at the limits of aspen's lower elevation range, on sites with poor drainage, with limited water [4] or nutrient supply [5], are more susceptible to decline. Stand age and clonal differences are also factors in susceptibility to decline [6]. Factors initiating decline include: defoliation by insects, damage caused by wildlife, severe drought, and extreme weather incidents [7]. Damage caused by these factors can diminish the vigor of affected clones and make them vulnerable to opportunistic fungal pathogens and insects [8]. The concept of forest decline has been used to

describe the interaction of these various factors; however, the underlying causes of aspen decline are not well understood [9]. Since 2004, incidents of very rapid aspen clone mortality have been seen in Colorado [10]. Because the electromagnetic (EM) environment of the earth has changed radically in the past two centuries, this study investigates the possibility that anthropogenic changes in this environment, particularly in the radio frequency (RF) spectrum, are adversely affecting growth and health of aspen populations, making them vulnerable to decline.

Electromagnetic energy from the sun is essential for life on earth. Plants rely on inputs of EM energy for photosynthesis and for regulation of periodic functions (flowering, shoot and root growth, respiration, and dormancy). A plant's response to EM energy is dependant on frequency, timing, and intensity of the signal. The source of the EM input, however, makes no difference. Timing of plant processes is an important mechanism for plant protection and efficient functioning in changing day/night and seasonal environmental conditions [11]. Although photosynthesis requires fairly strong energy input in the blue and red visual frequencies (full sun/shade) [12], photoperiodic responses in plants are typically triggered by energy inputs in the red and far-red frequencies that are in the range of  $10^{-4}$  times the energy required for photosynthesis, and even a brief flash of light during a plant's subjective night can be enough to trigger a short night response, strongly affecting plant behavior and morphology [13]. The radio frequencies, lower than 300 gigahertz, are below visual and infrared frequencies in the electromagnetic spectrum. The earth's natural RF environment has a complex periodicity that has been more or less the same within the lifespan of modern tree taxa. Before 1800, the major components of this environment were broadband radio noise from space (galactic noise), from lightning (atmospheric noise), and a smaller RF component from the sun [14]. Because of the periodic nature of the naturally occurring RF background, plants may have evolved to use those environmental signals, as well as visible light, to regulate periodic functions, and therefore they may be sensitive to anthropogenic RF input. The intensity of the human-generated RF environment has increased gradually since about 1800. This background of RF pollution is now many times stronger than the naturally occurring RF environment. From the perspective of evolutionary time, the change can be considered sudden and dramatic [14, 15].

Many experiments have been conducted investigating possible effects of RF exposure on plants and animals. Generally, exposures to particular single frequencies at particular, usually fairly high intensities, have been used in these previous experiments [16]. However, the assumption seems to have been made that the low-level background of RF pollution has no effect on biological systems. Therefore, not only has this particular phenomenon not been studied, but it has been generally disregarded in earlier experiments designed to look for effects of RF exposure. Results of those previous experiments are often difficult to duplicate, and it may be that the anthropogenic RF background has been a confounding factor. However, for some RF effects on biological systems, consistent results have been documented in previous experiments: growth rates of plants [17] and fungi [18] can be increased or decreased by RF exposure. Exposure to RF signals can induce plants to produce more meristems [19], affect root cell structure [20, 21], and induce stress response in plant species, causing biochemical changes [22]. Effects on circadian rhythms in several animal species have been documented [23]. Some possible mechanisms of effect have been identified [24]. This experiment investigates the effects of the radio frequency background on aspen seedlings. The objective of this preliminary study

was to determine if aspens respond to the current RF background in ways that result in reduced growth, or in increased susceptibility to pathogens.

### 1.1. Study Area

The experiment was conducted in a rural area near Lyons, Colorado: at 40.29

Latitude and  $-105.28$  Longitude, at an altitude of 1,700 meters, and on a north-facing slope. The ecological system in the area of the experiment is Rocky Mountain Lower Montane. The site was about 400 meters below the lower elevation of aspen's natural range in Colorado. The north-facing slope was chosen as a somewhat cooler microclimate than other aspects. Vegetation included various grasses, which were mowed on the  $8 \times 10$  m experimental plot. Vegetation in the east, south, and west directions from the experiment included: wild grasses and various low shrubs, rabbit brush (*Chrysothamnus nauseosus*), sage (*Artemisia tridentata*), wild currant (*Ribes cereum*), chokecherry (*Prunus virginiana*), yucca (*Yucca angustifolia*), and skunkbush (*Rhus trilobata*). North of the experiment, there were large cottonwood trees along the river, with grass and chokecherry undergrowth.

### 1.2. Materials and Methods

In order to create an environment free of RF signals, a Faraday cage was built, using two layers of aluminum window screen supported by a bamboo frame. Cage dimensions were 75 cm by 75 cm by 120 cm. The aluminum screen material in the configuration used for this experiment was tested at a laboratory of the National Institute of Standards and Technology (NIST) in Boulder, CO. From 1.0 MHz to 3.0 GHz, its effectiveness in attenuating RF signals was found to vary from 40 dB to 73 dB across the entire range of frequencies (Figure 1). Theoretically, an enclosure made of this material would reduce signal intensity by a factor of  $10^{-4}$  to  $10^{-7.3}$ , blocking essentially all ambient RF energy, including the naturally occurring RF background. In practice, the shielding effectiveness of a Faraday cage made of this material could be somewhat less than that of the material itself due to gaps or imperfect electrical contact at seams and closures, and to the internal RF acoustical properties of the cage. A similar cage was constructed as a control, with fiberglass screen, which is not conductive and which does not block RF signals, instead of aluminum. A transistor radio was used to test the effectiveness of the cages to block the RF background. No radio stations could be picked up inside the Faraday cage. In both the mock-Faraday cage and the uncaged area, numerous stations were received in the AM and FM bands. A sweep of RF background at the site, June 6, 2009, using an *Anritsu* spectrum analyzer, showed that field intensity ranged from  $-117$  dBm to  $-87$  dBm at frequencies from 1 to 1,000 MHz. Mean field intensity was  $-109$  dBm.

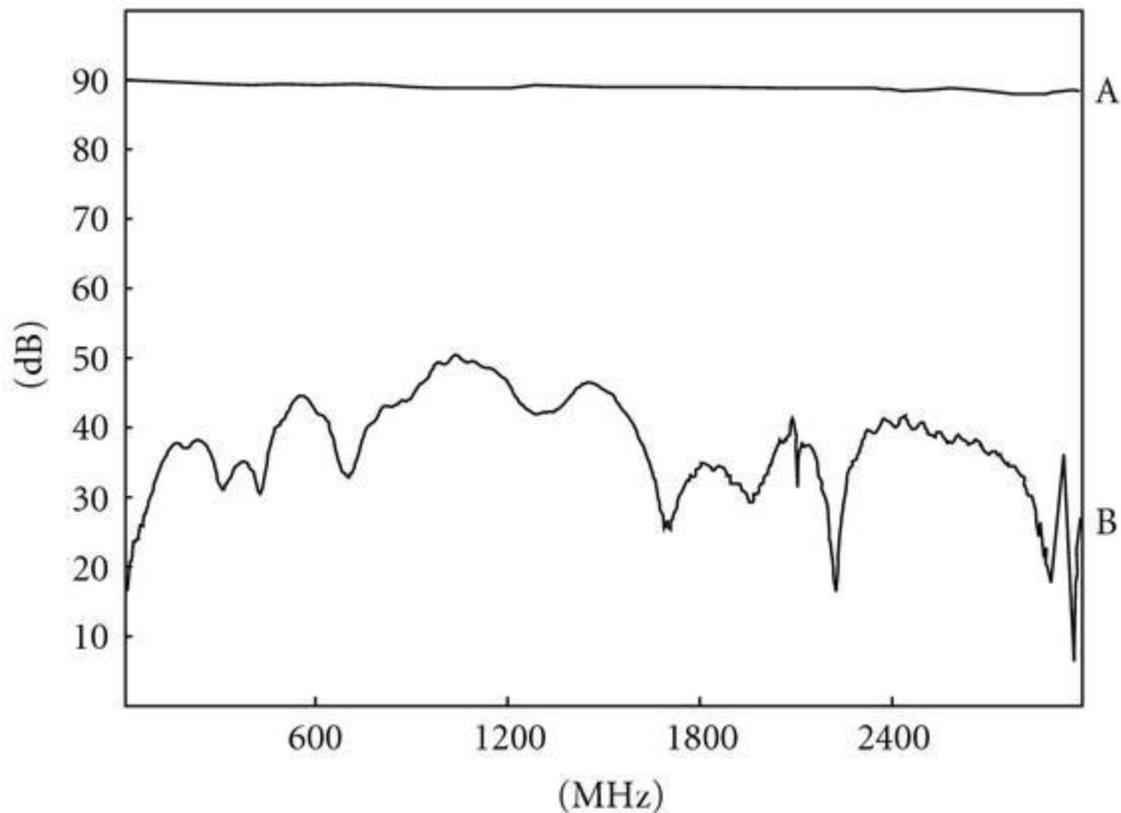


Figure 1.

The aluminum screen material in the configuration used for this experiment was tested at NIST in Boulder, CO. From 1.0 MHz to 3.0 GHz, its effectiveness in blocking RF signals was found to vary from 40 dB to 73 dB across the entire range of frequencies.

axis = Radio frequency from 1.000 MHz to 3000.000 MHz in increments of 300.000 MHz left to right.

axis = Decibel scale. Reference signal level was 90 dB. A = Reference signal. B = Attenuated signal.

On May 28, 2007, 30 aspen seedling plugs were obtained from the Colorado State Forest Service (CSFS) nursery in Fort Collins, Colorado. Seed for these seedlings came from Caffey County near Salida Colorado, approximately 195 km SSW of the experiment site, at an elevation of about 2,100 meters. The seeds were germinated in June 2006 at the CSFS Nursery, and the resulting seedlings were grown in a shade house in a Styrofoam planter-block of 30 seedling plugs. The seedlings had leafed out in early spring and, when purchased on May 28, 2007, were not producing new leaves. Seedlings were transplanted into no. 1 black gallon plastic pots on June 5, 2007 using a commercial potting medium, Black Gold, composed of: 45–55% Canadian sphagnum peat moss, compost, pumice, perlite, and composted worm castings (N .05%: water soluble .006%, water insoluble .044%). Since only 27 seedlings were needed for the experiment,

due to space restrictions, the three smallest seedlings were discarded. The remaining seedlings were relatively uniform in height, stem diameter, and leaf development, and the leaves appeared healthy and green. The 27 seedlings were assigned to 3 groups of 9 seedlings each, with variation in size distribution distributed equally among the 3 groups. After potting, the three groups were photographed and randomly assigned to the mock-shielded cage, the shielded cage, or to the unshielded area. The experiment began June 6, 2007. All treatments in the experiment were exposed to full sun from sunrise to late afternoon. There was a distance of three meters between treatment enclosures. All seedlings in the experiment were watered at the same time 1-2× per week, depending on the weather, using Lyons water. Seedlings were watered with a weak solution of fertilizer (5-10-5) on July 29, 2007, and otherwise were not fertilized.

Two sets of a calibrated thermometer and humidity gauge were used to compare temperature and humidity readings between cages under various weather conditions and times of day and night. The monitoring devices were placed in the middle of the monitored treatment enclosure, just above the top of the pots. A board was placed south of the devices to provide shade. A lux meter was used to measure light intensity in the treatment areas. Shielding reduced light intensity by 35% for the mock-shielded enclosure and 40% for the RF-shielded enclosure. Naturally occurring sunlight intensity was not reduced for the group that was not shielded. Except for the difference in RF background intensity, conditions in the shielded and mock-shielded enclosures were very similar. The unshielded seedlings were exposed to higher light levels (full sun), higher airflow, and generally lower humidity than the shielded and mock-shielded treatments since they were not in a screened enclosure.

### **1.3. Measurements**

After seedlings were transplanted and placed in the three treatment enclosures in early June, they began to grow again. Because of that, there was a shoot node dividing spring growth from the summer growth phase that was easy to identify. Measurement of active leader (shoot) length was taken from the tip of the shoot down to that first shoot node, so leader length measured was only that produced after the experiment began on June 6, 2007. For leaves emerging directly from a main stem, leader length was recorded as 0.00 cm.

On July 28-29, 2007, measurements of active leader length and width of each leaf on each active leader were made on all seedlings in the experiment. Leaves had not begun to drop at that time, and the great majority of them in all treatment groups appeared healthy and green. Leaf width was converted into estimated leaf area using an algorithm (Leaf Area (cm

) = 0.637 \* Leaf Diameter (cm)

) developed by W.D. Shepperd of the USDA forest Service's Rocky Mountain Research Station [25]. After measurements were taken, all seedlings were returned to their cages. October 5-6 photos were taken showing differences in leaf coloration, and relative leaf area affected by necrotic lesions.

## **2. Results**

Seven seedlings in each RF-exposed group and eight seedlings in the shielded group produced active leaders and new leaves during the experiment. The RF shielded group evidenced more vigorous growth, producing 74% more total leader length and 60% more leaf area than the mock-shielded group, though the number of leaves produced by both groups was nearly the same (Table 1). The two RF-exposed groups' morphology and behavior were very similar and within the current norm for aspen, including absence of fall anthocyanin production, and extensive leaf area affected by necrotic lesions in fall senescing leaves. On active leaders, the shielded group showed fall production of anthocyanins far outside the norm, absence of fall leaf tissue necrotic lesions, and a wide range of fall colors: bright orange, yellow, green, dark red, and black (a combination of dark green leaf tissue with red veins). Shielded leaves produced in the spring flush (before treatment), however, were similar in appearance to leaves in the two exposed groups in color, size, and incidence of lesions. All of the shielded leaves on active leaders had dark to bright red veins and petioles indicating strong anthocyanin production (Figure 2). On October 5, 2007, unshielded and mock-shielded seedlings had leaf tissue ranging in color from yellow to green, and a high percentage of leaf tissue in both exposed groups displayed necrotic lesions (Figures 3 and 4). Shielded seedlings had larger leaves, petioles and leaf veins were red, and tissue colors varied from yellow to dark green (Figure 5). Some shielded leaves looked black because of the combination of red veins and dark green tissue (Figure 6). Leaves on active leaders in the shielded group were substantially free of leaf tissue lesions (Figure 7), but unshielded and mock-shielded leaves were all affected to some extent by leaf tissue necrosis (Figure 8).

Table 1\_

Various characteristics of aspen seedlings following one of three RF treatments.



Figure 2\_

October 6, 2007. Mock-shielded seedlings on the left and shielded seedlings on the right, the latter showing more total leaf area, stronger fall leaf coloration, and minimal leaf necrosis symptoms.



Figure 3\_

Unshielded seedling, showing green to yellow leaf coloration and gray to brown necrotic leaf tissue, Oct. 6, 2007.



Figure 4\_

Mock-shielded seedling, exhibiting yellow leaf coloration and brown lesions, Oct. 6, 2007.



Figure 5\_

Shielded seedling, showing red petioles and veins on light green leaf tissue, and very little leaf tissue affected by necrosis. Oct. 6, 2007.



Figure 6\_

Shielded seedling. Combination of red veins and green leaf tissue makes leaves look black (left side of photo), Oct. 6, 2007.



Figure 7.

Shielded seedling, with leaves on active leaders mainly free of necrotic lesions, and leaf veins and petioles red, Oct. 6, 2007.



Figure 8.

Mock-shielded seedling, showing all leaves affected by necrotic lesions to some extent, leaf veins yellow or green, and petioles light red to pink, Oct. 6, 2007.

### 3. Discussion

Because only one treatment enclosure was established for each treatment, differences among groups could not be analyzed statistically. Results of this experiment do, however, suggest several possible effects of RF exposure on aspen. Those effects include reduction of shoot length and leaf area, suppression of fall anthocyanin production, and increased incidence of necrotic leaf tissue in fall senescing leaves. Reduced vigor in the two RF-exposed groups is demonstrated

by lower total leader length and diminished production of leaf area relative to the shielded group. A study [26] comparing mutant nonanthocyanin-producing strains of fall anthocyanin-producing species, *Cornus sericea*, *Vaccinium elliotii*, and *Viburnum sargentii*, showed very similar results to this experiment with regard to fall color in that extensive necrotic leaf tissue was seen in nonanthocyanin-producing mutants during fall leaf senescence and leaves dropped while still green. Wild-type strains of those species, which produced anthocyanins, did not exhibit necrotic lesions. In that study, leaf tissue damage in mutant strains was shown to be caused by photooxidative stress. During fall leaf senescence photosynthetic mechanisms become vulnerable to damage by visible light. Anthocyanins shield the photosynthetic apparatus from high light levels, preventing photoinhibition and damage to leaf tissue due to light stress. Transport of foliar nutrients requires energy provided by photosynthesis [27], and since the majority of nutrients in overwintering deciduous trees are derived from foliar nutrient transport during autumn leaf senescence, differences in anthocyanin production could have major effects on plant fitness [28].

Since all leaves on active leaders in the shielded aspen group showed striking fall coloration, and since each of the seedlings was genetically distinct, it appears that the Faraday cage environment favored strong production of anthocyanins during fall leaf senescence. Five bright sunny days, Sept. 30–Oct. 4, accompanied by cool nights (~5 C) preceding the appearance of red leaf coloration, provided optimal conditions for anthocyanin production. Although shielding materials substantially reduced light levels in the two caged groups (mock-shielded and shielded), the behavior and appearance of the two RF-exposed groups (mock-shielded and unshielded) were most similar, both showing no apparent anthocyanin production, leaf tissue remaining light green or yellow, and a high percentage of leaf tissue affected by necrotic lesions.

### **3.1. Radio Frequency Environment**

Beginning around 1800, EM experimentation, establishment of electrical telegraph systems, generation and distribution of electricity, and the use of broadcast signals gradually began to fill the region of the electromagnetic spectrum below 300 GHz. Currently, the RF spectrum is quite crowded, and new technologies are constantly being developed to allow more information to be transmitted on the available frequencies [29]. Unintended broadband RF noise is created as a by-product of electrical power generation, transmission, and use. These human-made RF sources create a background noise (as differentiated from signal) level generally 10 to 100 times stronger than the naturally occurring background of galactic noise and atmospheric noise at frequencies below 30 MHz [14]. Human-generated signal intensities in large regions of the RF spectrum are in the range of  $10^3$ – $10^6$  times stronger than the naturally occurring RF background in urban areas [15]. Because terrestrial and satellite RF sources are numerous and widely dispersed globally, and since below 30 MHz radio signals can travel great distances around the earth by bouncing between the ionosphere and the earth's surface [14], currently a strong human-generated RF background exists at every point on the earth's surface, although radio field strength is relatively greater in the most populous and urbanized areas. Globally, the highest field strengths occur in central Europe, the eastern United States, and in China (Figure 9). Forest decline was first recognized and defined based on observed events in central Europe and the eastern US, and China, at this time, is experiencing rapid desertification.

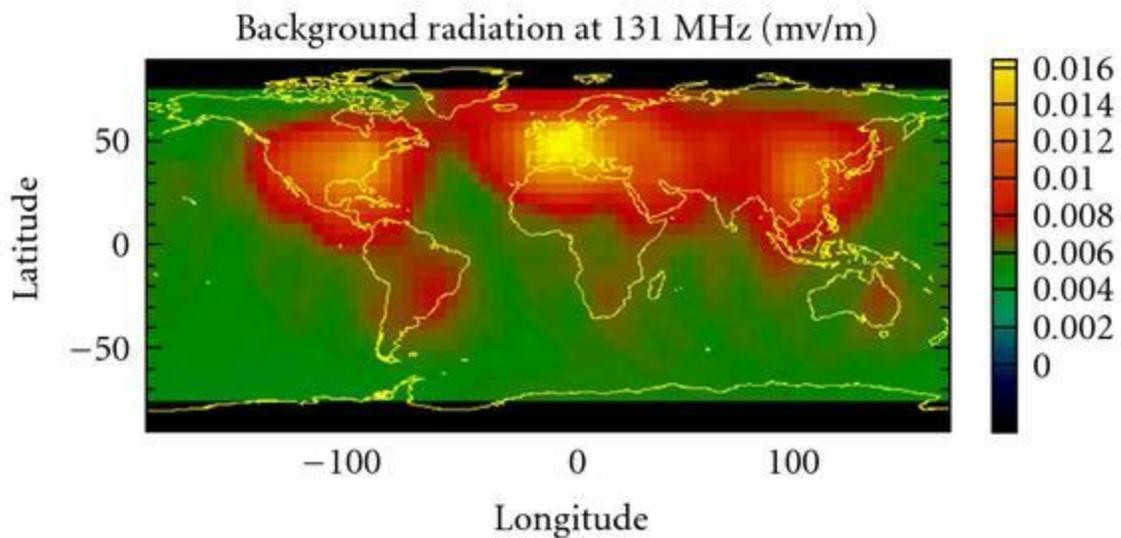


Figure 9.

Forte Satellite: 131 MHz RF background 2000. Areas of highest radio background intensity occur in the eastern United States, central Europe, and China. Acquired by the Los Alamos National Laboratory FORTE spacecraft. Principal investigator A.R. Jacobson.

### 3.2. Forest Decline

The first widely recognized incidents of forest decline [30] began in the late 1970s. In a European study [31], stress factors related to forest defoliation were found to be age, altitude, drought, and various types of air pollution, in descending order of importance. Although the statistical correlation was high for some of these effects, because the number of samples was large, the effects documented were quite small and altogether could account for only 15–55% of the observed decline, depending on species. No temperature variables were found to have significant effects. In several studies, climate change was found not to be a causal agent in forest decline [32, 33]. There is evidence, however, that trees involved in forest decline are less tolerant of extreme weather conditions. Freeze damage, possibly indicating disrupted dormancy, for instance, has been noted as one symptom of forest decline where temperature and/or precipitation pattern changes were not evident [32, 34]. More recently, it has been shown that mortality rates of all dominant tree species in the western United States have been doubling every 17–29 years in old growth forests, and that recruitment of new trees is now occurring at a lower rate than mortality [35]. Since aspen decline and other tree decline incidents worldwide have similar symptoms, and since no definitive explanation has been found for those events, it seems plausible that their decline may be related to RF exposure.

Changes in health and growth rates of aspen and other plants, due to increasing RF exposure, would have been difficult to detect for two reasons: first, because the RF background is widely dispersed globally, comparisons between plant populations, even over great distances, would

always have been between RF-exposed groups, even though exposure levels would vary with relative proximity to RF sources. Second, it is difficult to compare the health and appearance of plants living today to those living 200 years ago, though some comparisons can be made from previous research data, tree ring data, and pollen samples, for instance. Changes would have occurred very slowly over time, from the human perspective, and would have been widely dispersed geographically so that, at any particular time, RF-altered plant morphology and behavior would have been normal, the norm, by definition. Plants and animals have in previous experiments been shown to respond in various ways to RF exposure. Growth of organisms may be inhibited or accelerated by RF exposure, thus possibly affecting interactions at the level of communities and ecosystems from microscopic to global scales. In the case of aspen, reduced plant vigor and adverse effects on fall storage of nutrients due to RF exposure could leave seedlings vulnerable to pathogens and less able to accommodate other environmental stress.

#### **4. Conclusions**

The results of this preliminary experiment indicate that the RF background may be adversely affecting leaf and shoot growth and inhibiting fall production of anthocyanins associated with leaf senescence in trembling aspen seedlings. These effects suggest that exposure to the RF background may be an underlying factor in the recent rapid decline of aspen populations. Further studies are underway to test this hypothesis in a more rigorous way.

#### **Acknowledgments**

The author wishes to thank an anonymous reviewer for many helpful comments, Dr Wayne Shepperd for advice and encouragement, the Marbrook Foundation, Sangha Foundation, Brian Haggerty, Alan Haggerty, Hoshi Motors, and Barbara and Bruce Leaf for financial support, Brigitte Lause for editorial advice, and Patricia Kluck and Roland Rodriguez for technical support.

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## Outline

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5. 1. Introduction
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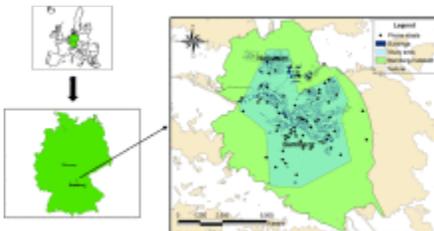
## Figures (8)

1.

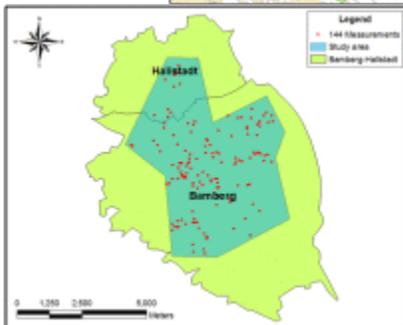
Bernartzky (1986), revisited:



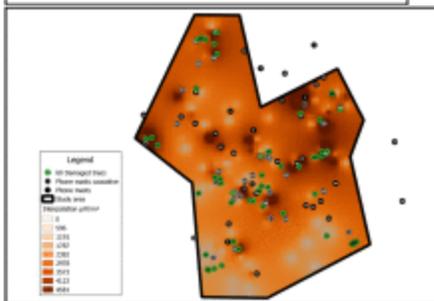
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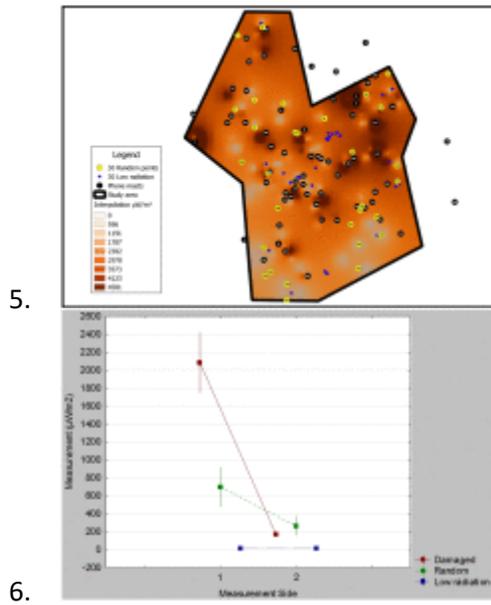


3.



4.





## Tables (8)

1.

- Table 1
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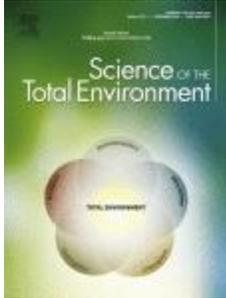
6. • Table 6



**ELSEVIER**

**Science of The Total Environment**

Volume 572, 1 December 2016, Pages 554-569



# Radiofrequency radiation injures trees around mobile phone base stations

Author links open overlay panel [Cornelia Waldmann-Selsam<sup>a</sup>](#) [Alfonso Balmori-de la Puente<sup>b</sup>](#) [Helmut Breunig<sup>c</sup>](#) [Alfonso Balmori<sup>d</sup>](#)

<https://doi.org/10.1016/j.scitotenv.2016.08.045> [Get rights and content](#)

## Highlights

- High frequency nonionizing radiation is becoming increasingly common.
- This study found a high level of damage to trees in the vicinity of phone masts.
- Deployment has been continued without consideration of environmental impact.

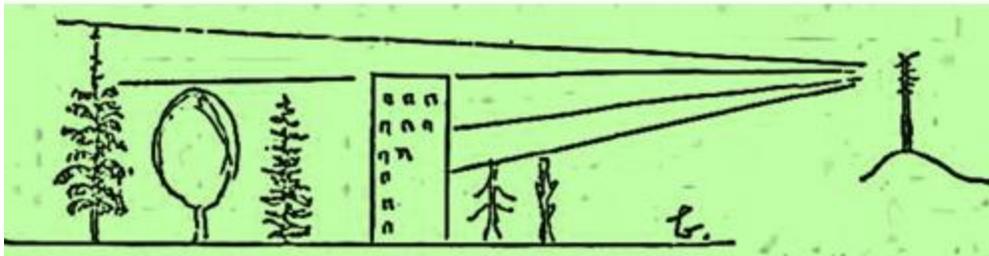
## Abstract

In the last two decades, the deployment of phone masts around the world has taken place and, for many years, there has been a discussion in the scientific community about the possible environmental impact from mobile phone base stations. Trees have several advantages over animals as experimental subjects and the aim of this study was to verify whether there is a connection between unusual (generally unilateral) tree damage and radiofrequency exposure. To achieve this, a detailed long-term (2006–2015) field monitoring study was performed in the cities of Bamberg and Hallstadt (Germany). During monitoring, observations and [photographic recordings](#) of unusual or unexplainable tree damage were taken, alongside the measurement of [electromagnetic radiation](#). In 2015 measurements of RF-EMF (Radiofrequency Electromagnetic Fields) were carried out. A polygon spanning both cities was chosen as the study site, where 144

measurements of the radiofrequency of electromagnetic fields were taken at a height of 1.5 m in streets and parks at different locations. By interpolation of the 144 measurement points, we were able to compile an electromagnetic map of the power [flux density](#) in Bamberg and Hallstadt. We selected 60 damaged trees, in addition to 30 randomly selected trees and 30 trees in low radiation areas ( $n = 120$ ) in this polygon. The measurements of all trees revealed significant differences between the damaged side facing a phone mast and the opposite side, as well as differences between the exposed side of damaged trees and all other groups of trees in both sides. Thus, we found that side differences in measured values of power flux density corresponded to side differences in damage. The 30 selected trees in low radiation areas (no visual contact to any phone mast and power flux density under  $50 \mu\text{W}/\text{m}^2$ ) showed no damage. Statistical analysis demonstrated that electromagnetic radiation from mobile phone masts is harmful for trees. These results are consistent with the fact that damage afflicted on trees by mobile phone towers usually start on one side, extending to the whole tree over time.

## Graphical abstract

### Bernartzky (1986), revisited:



1. [Download : Download high-res image \(131KB\)](#)
2. [Download : Download full-size image](#)

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## Keywords

Electromagnetic radiation

Effects on trees

Phone masts

Radiofrequencies

[View full text](#)

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**[A systematic quality assessment of Environmental Impact Statements in the oil and gas industry](#)**

Science of The Total Environment, Volume 572, 2016, pp. 570-585

- •

**[Radiotelemetry and wildlife: Highlighting a gap in the knowledge on radiofrequency radiation effects](#)**

Science of The Total Environment, Volume 543, Part A, 2016, pp. 662-669

- •

**[Low-amplitude, high-frequency electromagnetic field exposure causes delayed and reduced growth in \*Rosa hybrida\*](#)**

Journal of Plant Physiology, Volume 190, 2016, pp. 44-53

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## Comments on the Checklist

The *Initial Environmental Checklist for Determination of Environmental Impact* (Checklist) is a form completed by the Applicant, Verizon wireless. Subject to review by TRPA staff, the permit must address any shortcomings, requiring revisions to the application as necessary. Thus, more than two years after submittal we come to the Special Use Permit and its provisions. Are adverse effects addressed? (Note, bold headers and numbering below corresponds to Checklist Sections.)

**Project Description:** The first thing to note is that the proposal is to use the existing shed, with minor expansion. The plans provided for the SUP approval indicate the shed is to be removed. Its replacement is not specified, other than in drawings for visual simulations. (See my emailed letter for comments on fuel storage in a flammable shed.)

### 4. Vegetation letters a.-h.:

Focusing on letters a.-e., the Applicant indicates, in essence, no effects on vegetation other than the direct removal of five trees less than 12 inches in diameter at breast height. I refer you to my letter's comments on the potentially significant adverse effects on pine and aspen trees. The tower will be in close proximity to a number of existing pine trees, and will emit radiation directly into the pine tree canopy, stressing the trees and increasing likelihood of tree mortality over time. The appearance of sickly or dying/dead trees in the vicinity of the tower, and the loss and potential losses of mature pine trees, will further degrade the scenic quality and resources of the viewshed.

The scenic aspen grove on Ski Run Blvd. is in potentially subject to RF radiation effects, as discussed in my letter, as it is in close proximity to, and within line of sight of the tower, and the potential direct-but-non-removal impacts on this sensitive resource should be evaluated and avoided or mitigated. The Staff Analysis and Permit do not address these potentially significant effects on vegetation. With regard to letter h., is this aspen grove considered a "natural old-growth ecosystem" and, if not, why not? I assume it has been there a long, long time, though individual trees may not survive more than 60-80 years, which is "old-growth" for that plant community. Any change to this sensitive ecosystem should be considered potentially significant, at a minimum.

The TRPA Staff Analysis, section F., informs us, "The proposed project is visible form Pioneer Trail, along Scenic Roadway Unit #45, currently in non-attainment, and from portions of the Heavenly Valley Ski Resort recreation area. . ." indicating the project area is not meeting current scenic thresholds. This should raise the potential significance of ANY new, proposed scenic impact, such as loss of existing trees by direct removal (to erect an additional highest-height-allowable and highly-visible tower) but that seems not to matter here based on the documentation provided.

**5. Wildlife:** This section indicates there will be no changes to wildlife habitats and species diversity, or adverse effects on, or reductions of, the animals that inhabit them, or impede their movements. This is telecom industry corruption, simply ignoring impacts disclosed in the science, hiding behind the FCC guidelines. However, the assumptions are unchallenged by TRA, and that is TRPA being UNSCIENTIFIC,

seeing no impacts where the scientific record is replete with evidence of very significant impacts: on bees, in particular, but also other insects, migrating birds, amphibians, and threatened species such as our majestic bald eagles, to name only a few.

**7. Light and Glare:** Letter a. indicates there will be exterior lighting: “4 service lights with 6-hour timers” and then goes on to answer “No” to questions of whether these lights will be brighter than the surroundings, or cast light off the project site, or onto public lands. No further explanation is provided. As I pointed out previously, the Staff Analysis in section F. indicates, “The proposed project is visible from Pioneer Trail, along Scenic Roadway Unit #45, currently in non-attainment, and from portions of the Heavenly Valley Ski Resort recreation area. . .” So how are these lights not visible? Consulting the Staff Analysis at letter H. 2.b., the tower will not contain lights. . .” so there is an inconsistency with the project Application. It is possible the Application was changed or lighting was removed as a condition of the Special Use Permit, but the truth about lighting remains in the dark. My opinion is no lights should be allowed other than for the utility shed, downcast and appropriate to the setting. Tower lights set high above the ground would be a glaring eyesore and detract from enjoyment of the night skies.

**10: Risk of Upset:** This is where the Applicant drags a red-herring across the form to divert attention from the facts concerning explosions and “the release of hazardous substances, including . . . radiation . . .” preferring to focus attention only on fuel storage for a diesel generator. I’ve already written of my concerns with the generator, and of the substantial risks due to explosions and fire, and resulting evacuation concerns, in my letter. None of the matters of explosions, tower collapses, or radiation releases due to accident or upset, are addressed as they should be in the Staff Report or Permit. I would add concerns with ice-fall from the tower, also, on children and others in the sledding/access areas. Any warning signs for ice fall?

**15. Energy:** The question is whether the proposed project will use “substantial” amounts of power or energy. “Substantial” is not defined, so no point arguing. What I will note is that that project will require power, and the power used for non-mobile wireless uses (i.e., connecting to internet) is substantially more than required for connection through fiber optic cable or phone line, with generally lesser bandwidth. Power needs for all the existing towers and the proposed tower are not disclosed, evaluated or compared, probably because there is no baseline for comparison.

**17. Human Health:** No impacts or potential impacts are identified by the Applicant or TRPA. Refer to my letter where significant adverse impacts, including death, are addressed.

**18. Scenic Resources/Community Design:**

The Applicant indicates the tower can be seen from Pioneer Trail, and answers “No” to whether it can be seen from a scenic vista seen from a public area. The TRPA Staff Analysis, section F., informs us, “The proposed project is visible from Pioneer Trail, along Scenic Roadway Unit #45, currently in non-attainment, and from portions of the Heavenly Valley Ski Resort recreation area. . .” indicating the project area is not meeting current scenic thresholds. Heavenly Ski Resort is located primarily on public lands of the U.S Dept. of Agriculture, U.S. Forest Service, and therefore is a “public area.” The Checklist

indicates “No” inconsistencies with TRPA’s Scenic Quality Improvement Program. The Staff Analysis (in Project Description, in Letter F., in letter H.1.(a), and in letter H.2.(a) and (b)) opines little more than because the tower is a monopine design to simulate a pine tree in an existing pine forest it won’t detract from scenic quality. I disagree. The monopine tower will stand out from the surrounding vegetation because it is the largest tree-like thing on the parcel both in terms of trunk diameter and height. The simulations show the branching patterns do not match the surrounding Jeffrey pines, being more compact. I see all these efforts in the writings to attempt to overcome these issues and make it blend in. I guarantee, no matter what, I and others will be able to spot this tower without any problem.

This is how TRPA nicks away our scenic resources with their FONSI and ignoring cumulative effects. There is no explanation about what the non-attainment of the scenic thresholds is all about, no discussion of why this should be approved given that this is an avoidable impact to scenic resources in an area currently in non-attainment, no findings to support allowing the impact, just a dismissal of any significant impacts because it looks like a fake tree. The mind boggles.

**21. Findings of Significance:**

Letter a. is checked “No” and should be checked “Yes” or “Data Insufficient” in light of my comments. Letter b. should be checked “No” because the short-term goal of Verizon to erect an unsightly and dangerous tower to close a purported gap in their area of coverage conflicts with the long unmet, and therefore long-term, TRPA goal to improve the environment to abate the VERY significant threats from FIRE facing our Lake and regional community, and to meet scenic thresholds in non-attainment. TRPA gets farther from these goals with this tower, and the others towers they’ve allowed in the Ski Run scenic area under their FONSI.

# Opposing Verizon Cell Tower, Agenda Item VIII B, Uphold the Appeal

Inbox

AI

Al Miller <syngineer1@gmail.com> Mar 21, 2022, 11:00 PM

to jmarshall, bcornell

I am requesting the TRPA Governing Board uphold the Appeal based on increased wildfire risk due to a tower fire such as may happen due to malfunction, welding, and other causes such as interactions with birds. Please include these comments and information in the record. The risk associated with fires from this proposed Verizon macrotower, and other cellular facilities already approved by TRPA and built, threaten all the values, all the investments and man-power put into the restoration and preservation of Lake Tahoe. The Staff Report says, in relevant part,

“ . . . For forest fire risk, TRPA is unaware of cell towers being any more risk prone than existing structures built to fire code in the Tahoe Basin or any forest fires ignited by cell towers. . . (p. 308)”

It is clear that TRPA is unaware of quite a number of things it could be aware of, but chooses to ignore. The news reports are clear, towers can and do catch fire. Whether they cause a "forest fire" or a fire within the urban areas at Lake Tahoe that could lead to a conflagration that could devastate the communities and forests of Lake Tahoe is an irrelevant technicality. What follows is a compilation of reports on how **Verizon** cellular facilities contributed to a disastrous forest/wildland fire in 2006, and additional reports on fires specifically associated with **Verizon** wireless towers, culled from a list of over 30 tower fires between 2006, and 2021, already provided in the record of this matter (and ignored). See <https://www.ourwebofinconvenienttruths.com/fires-and-collapses/#fires>. Notably, many news reports of tower fires do not list the owner/service provider. This is a brief sampling demonstrating the fire risks associated with cellular towers, which appear to be increasing from the increasing frequency of news reports of tower-associated fires. Links to articles are followed by a summary.

<https://archive.kpcc.org/blogs/environment/2012/09/13/9969/sprint-verizon-t-sign-12-million-settlement-over-2/>

October 2007

## **Sprint, Verizon, AT&T sign \$12 million settlement over 2007 Malibu Canyon fire**

Molly Peterson | September 13, 2012

---

California utility regulators have settled a dispute with three telecommunication companies over responsibility for a wildfire in Malibu five years ago.

When Santa Ana winds swept through Malibu Canyon in October of 2007, they knocked over three utility poles. Those poles sparked a fire that burned nearly 4,000 square acres. It destroyed

14 structures and three dozen cars.

Cell phone companies had antennas on the poles, or shared pole ownership with other telecommunication companies. The California Public Utilities Commission investigated whether these five companies contributed to the fire by unsafely mounting equipment there.

The settlement just announced resolves liability for three companies: Sprint, Verizon, and AT&T. Together they'll pay \$12 million in equal shares. About \$7 million will go to the state's general fund and the rest goes into a new utility pole inspection fund.

The Public Utilities Commission is still investigating two more companies, Southern California Edison and NextG. Regulators say the settlement can help deter other utilities that maintain electronic equipment in wildland or fire-prone areas.

<https://aglmediagroup.com/cell-tower-fire-causes-structural-damage/>

11/25/2020 (excerpted)

A 200-foot cell tower in Lapeer County, Michigan, owned by American Tower, suffered an interior electrical fire earlier this week, according to a report in the County Press, causing damage to the integrity of the structure.

The newspaper reported that flames could be seen shooting from the top of the tower at nighttime, while the base of the tower was so hot that the metal glowed orange and pink. Lapeer Fire & Rescue and Elba Township Fire Dept. firefighters were dispatched to the fire just past 9 p.m.

High winds were forecast for the area the next day. Fears that the tower would collapse onto nearby powerlines were not realized, but the self-supported structure did list to the side. Tenants on the tower — AT&T, **Verizon** and T-Mobile — believe the tower will need to be dismantled, according to reports.

[https://www.greenevillesun.com/xml/nitf/flames-damage-verizon-wireless-tower/article\\_1619f00e-5383-530a-a69e-0dbd2acc3c6a.html](https://www.greenevillesun.com/xml/nitf/flames-damage-verizon-wireless-tower/article_1619f00e-5383-530a-a69e-0dbd2acc3c6a.html)

11/4/2014 (excerpted)

A fire that started about 2:30 p.m. Monday damaged the top section of a cellphone tower at 4882 Baileyton Road, sheriff's Deputy Randy Christy said in a report.

The tower, owned by **Verizon Wireless**, was being worked on by contractors from MWT Telecommunications, of Nephi, Utah.

Site foreman Alex Knight told deputies that workers were welding on the tower and heard "two

loud noises," the report said.

"Mr. Knight stated he looked up and saw flames and a lot of smoke," the report said.

All power to the tower was cut off by Greeneville Light & Power System.

The United Volunteer Fire Department responded to the fire with one truck and three firefighters, fire Chief Brad Ball said.

Ball said that a coaxial cable caught on fire as welders worked.

The fire was up too high on the tower for United firefighters to extinguish, Ball said.

<https://lasvegassun.com/news/2013/feb/04/cell-tower-fire-closes-us-95-exit-ramp-jones-boule/>

2/2/2013 (excerpted)

A fire on a **Verizon Communications** Inc. cell phone tower has forced authorities to shut down the U.S. 95 exit and on-ramps to Jones Boulevard.

The fire started about 11:30 a.m. when welders were working to reinforce the structure with additional metal plates, Las Vegas Fire & Rescue spokesman Tim Szymanski said.

Szymanski said the ramps were closed because the tower is leaning toward NV Energy power lines.

<https://www.kitsapdailynews.com/news/osprey-nest-electrical-problem-sparked-poulsbo-cell-tower-fire/>

6/21/2011 (excerpted)

## **Osprey nest, electrical problem sparked Poulsbo cell tower fire**

POULSBO — An osprey nest and an electrical malfunction ignited the cell phone tower fire that closed down State Route 305 for 12 hours Monday in the Lemolo area. Kitsap County Deputy Fire Marshal Tina Turner said an electrical malfunction at a lighted beacon on top of the 150-foot tower caught the bird's nest on fire before 4 a.m. Monday. Turner said the birds likely damaged the beacon or its 110-volt power wire while building their nest, contributing to the fire.

The tower leaned precariously, raising concern it could fall across the highway. The state Department of Transportation closed both lanes of SR 305 and detoured traffic through Lemolo. **Verizon, which operates the tower jointly with AT&T**, dispatched a crane company to dismantle the tower. The crane lowered the tower to the ground at about 4 p.m. and the highway was reopened.

The ospreys remained in the area for the remainder of the day, circling their former nest site. One bird was missing a large section of feathers on its right wing, apparently burned away during the fire. Witnesses said the ospreys began bringing new sticks to the tower shortly after the fire subsided.

Ospreys are protected under the federal Migratory Bird Treaty Act and state law. State Department of Fish and Wildlife Biologist Jeff Skriletz told the Herald in April that companies can modify the nests outside of the nesting season, which lasts through September, but modifications require state approval and careful oversight. In some cases the state has allowed property owners to remove a nest while building an alternative nesting platform nearby.

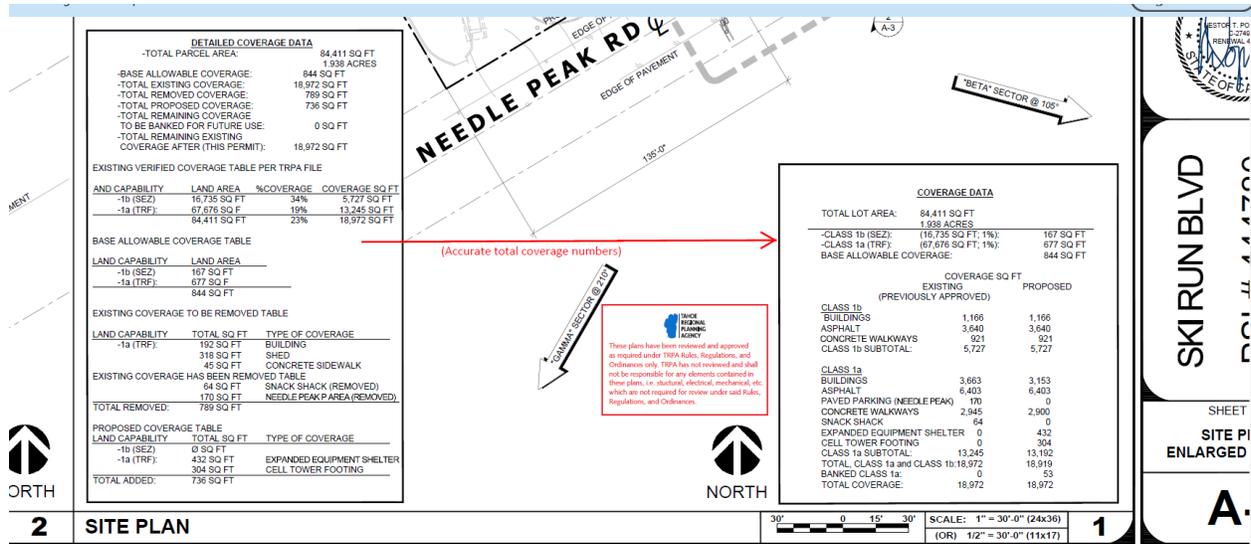
“It’s getting to be a real issue,” Skriletz said of ospreys nesting on cell towers. “We still need to work out a statewide approach to it.”

# Appeal Exhibit 6

## Excerpts are from the Approved Plans – set 1 of 2:

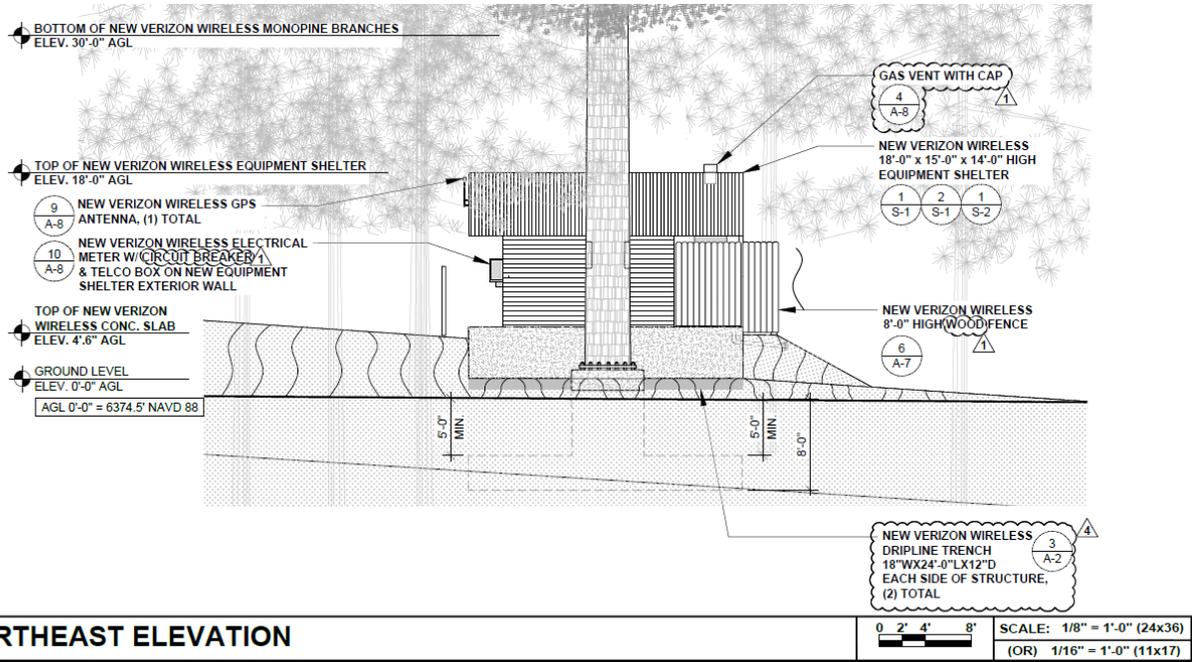
The plan sheets seems to show a number of inconsistencies with regard to dimensions for what will actually be built. In every case I carefully measured using the scaled drawings provided, I determined that the Project, if built according to the approved plans, will be overcovered with regard to the 736 square feet of total coverage available for the project.

Sheet A-1: It is clear from the table to the right below that proposed coverage is 432 sf for the “EXPANDED EQUIPMENT SHELTER” and 304 sf for the “CELL TOWER FOOTING” bringing the “TOTAL PROPOSED COVERAGE” to 736 sf, as shown in the table to the right, with “TOTAL REMAINING COVERAGE TO BE BANKED FOR FUTURE USE” of zero. So be it. I don’t know how the numbers were derived, nor do I need or care to know for purposes here.



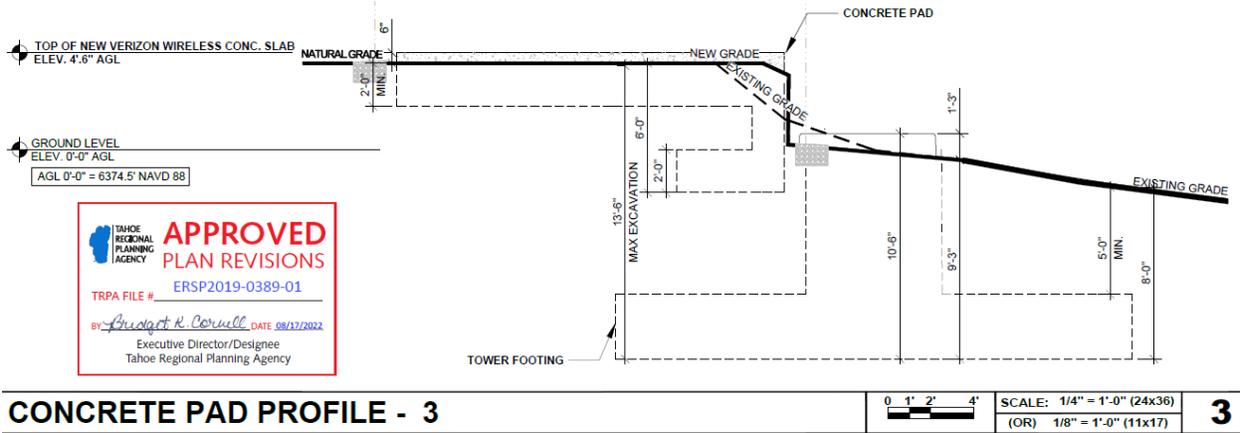






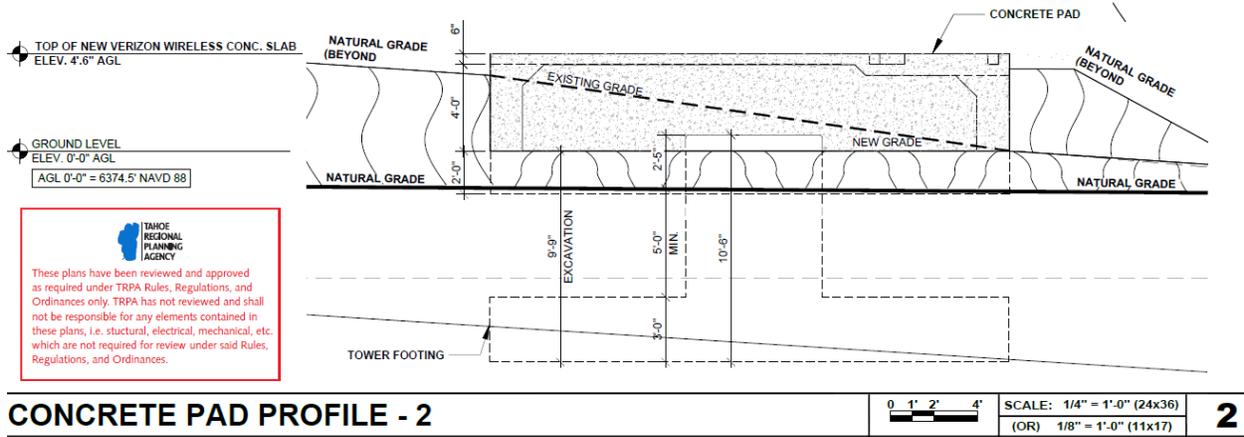
**Excerpts are from the Approved Plans – set 2 of 2:**

In the depiction of the tower foundation below, viewed from the shed front, from sheet GR-2, the width measurement appears to be very close to 25 ft. This drawing shows the narrow 1 ft gap for the shed roof runoff, between the shed foundation and the tower foundation riser, drainage also intercepted by the foundation below. The total width of the two foundations, from the outer edges of them, is around 35.5 ft, and does not include the roof overhang on the left, for drainage.



**APPROVED PLAN REVISIONS**  
 TRPA FILE # ERSP2019-0389-01  
 BY *Gregory K. Cornell* DATE 08/17/2022  
 Executive Director/Designee  
 Tahoe Regional Planning Agency

In this detail below from sheet GR-2, viewed from the shed side, the width of the foundation is close to 23.5 ft, the same as the foundation.



Taking the measurements from the Concrete Pad Profiles above, the combined footprint is estimated at 35.5 ft X 23.5 ft = 834 sf. Coverage shown less coverage allowed is 834 sf – 736 sf = **98 sf over allowable coverage**; recall the roof overhang was not shown and has been left out of the estimation.

## to serve man

(cue intro music like Twilight Zone)

the super-technologists came to our aid, giving us presents and gifts that they made  
they tamed electricity, gave us new tools, not to adopt them, we'd have to be fools

they gave us a book we did not understand on 5g and wireless called, "**to serve man**"  
towers and cell phones, satellites in space, blasting their waves into every far place

they said it was safe; it sure seemed a good thing for defense from the bomb, yes, the whole world to  
ring

with radio, radar and microwave stations connecting all people in all of the nations

computers and routers and things for the home, tvs and wi-fi and then the smart phone (groan)  
computers at work and at school and in cars, no way to escape getting hit with five bars

but those in the know have a long history of the dangers involved with electricity

they know they can use it to poison mankind, read into their book and you will know their mind

**refrain:** they gave us all a partial book they titled, "**to serve man**"

the trillionaires behind the scenes did not disclose the real plan

to rule with secret **military apps** in residential **tech**

the one percent of one percent are leading us into a wreck

the first things to go were the birds and the bees; who knows what's been lost? mostly no one sees

they tell us the sixth mass-extinction is "on," ecosystems world-around soon will be gone

## to serve man

they say it's from carbon, from energy use, to stop global warming we have to reduce!

it's double-speak brought to you by those corrupt; we're cooking the planet with what they've cooked up

'cause wireless energy's off of the chart, pollution and carbon like a global fart

juice needed to power the world of 5g may need to be doubled by twenty-thirty

not carbon alone, but toxics you will find, open dumps with e-waste of every kind

and wastes from making the next, best, latest thing to upgrade the throw-aways they're marketing

they're sending up rockets and spaceships galore, polluting the air as we've never before and

with thousands of satellites sending 5g, there'll be no escaping, no place that's wave-free

**refrain:** they gave us all a partial book they titled, "**to serve man**"

the trillionaires behind the scenes did not disclose the real plan

to rule with secret **military apps** in **residential tech**

the one percent of one percent are leading us into a wreck

they're rolling 5g out, we don't have a say, they make it sound wonderful in every way

a net-link at high speed wherever you are, the world of amusement, the self-driving car

but what they don't tell you is they want your cash, the total financial control of your stash

it's the "chinese model" they mean to enforce, surveillance and tracking, no legal recourse

## to serve man

we have to look deep into their hidden hand to see the ingredients in “**to serve man**”  
to see that mankind is just part of the soup for globalists bent on control by that group

the code in their cookbook would do Orwell proud with microwaves well-placed for controlling crowds  
microwaves cook, they can burn, they can kill, if you don’t go along you’ll be forced to their will

the media won’t tell us; they’re part of the scheme, they program you with microwave-tv dreams  
they sell you their drugs and their cars and their hype for electronic things, every possible type

an “internet of things” where all is connected, one global supply chain, controlled, unsuspected  
with subterfuge they hide their most secret fact: that we’ll be the ones cooked if we don’t soon act

**refrain:**            they gave us all a partial book they titled, “**to serve man**”  
                          the trillionaires behind the scenes did not disclose the real plan  
                          to rule with **Secret Military Apps** in **Residential Tech**  
                          the one percent of one percent are leading us into a wreck

and last, but not least, the 5g is a weapon, developed for war, something like a ray-gun  
to reduce population they plan genocide, one flip of a switch can *decide who gets fried*

that is the big picture, things not being said, those behind this want control, us sick or dead  
we’re governed by tyrants, time to turn the tide, join the awakening coming world-wide

we weren’t meant to know what is in the cookbook, we trusted in fascists without a close look

it’s not too late, rise up, resist, force a ban! the cookbook serves tyrants; it’s not to serve man!