2021-07-01 Comments on RF EMISSION STUDY of South St cell tower (SSct) on June 10th by VComm Telecommunications Engineering

The tone of the report indicates a strong link between VComm and the telecommunications industry, rather than an impartial view. This is obvious at the top of page 3, where VComm takes the initiative to directly remind the BOH of its limited leeway when dealing with the FCC. VComm indentifies itself as an engineering firm, and they are certainly not hygiene specialists: the measurements they performed in the context of SSct are very limited.

The BOH, by its mandate, is likely to have two preoccupations:

1. Did powering up the SSct substantially change the Electromagnetic Radiation Exposure (EMR) of nearby residents?

2. Are the discomforts reported by nearby residents truly associated with EMR exposures?

Answering #1 is more accessible than #2, because #1 involves environmental measurements, whereas #2 involves a cluster investigation.

The best technique to clarify #1 involves two sweeps of the 17 locations chosen by the BOH.

First, while all towers in the vicinity are operating, and soon after, a second sweep, while the SSct is turned off.

In the absence of cooperation of Verizon to accommodate a short powerdown of SSct, the next best thing is to use the emissions information (frequency, power, azimuth, elevation and distance) from SSct and other neighboring towers, to determine if SSct's contributions can be separated from those of other towers. This would allow the VComm survey to provide some information on #1 by quantifying the increase in human exposures associated with the powering up of SSct.

VComm could discriminate SSct signals from those of other towers by using technical characteristics (frequency, power, azimuth and elevation) to

1-separate them on the basis of frequency (did SSct contribute new frequencies to the neighborhood?)

2-by performing simple inverse square law calculations based on the characteristics SSct and other towers,

3-or by using directional antennas to directly measure in the field the contributions of other towers in proximity (and compare them to SSct levels).

These three techniques would allow an estimation of the shift in environmental EMR that occurred when SSct was turned on.

Table 2, page 7, hides two important aspects of the radiation.

The values reported are averages, which means that much higher values could exist for a fraction of the time (if the tower, at the moment of the survey, emitted signals 10% of the time, the crest value would be 10 times what is quoted in Table 2). People are sensitive to crest values.

Also, these single numbers do not inform on whether SSct contributes new frequencies to the environment.

Site #	% FCC	Average µW/m ²	Peak μW/m², using x 5	Austrian Me	dical Association Limit
1	0.01	1000	5000	for the diagnosis and treatment of EMF related	
2	0.11	11000	55000	health problems and illnesses: 1000 µW/m (peak)	
3	0.05	5000	25000	is "very far above normal" for 4 or more hours per day.	
4	0.04	4000	20000	https://vagbrytaren.org/Guideline%20%20AG-EMF.pdf	
5	0.07	7000	35000		
6	0.47	47000	235000	Bioinitiative: 1000 to 3 µW/m ² (peak)	
7	0.96	96000	480000	www.Bioinitiative.org	
8	0.07	7000	35000		
9	0.71	71000	355000	EUROPAEM EMF Guideline 2016	
10	1.66	166000	830000	Peak Limits for 4 hours per day	
11	0.15	15000	75000	Daytime	100 µW/m²
12	0.04	4000	20000	Nighttime	10 μW/m²
13	0.17	17000	85000	Sensitive populations	1 µW/m²
14	0.18	18000	90000	https://pubmed.ncbi.nlm.nih.gov/27454111/	
15	0.08	8000	40000		
16	0.42	42000	210000	Baubiology (Wofgang Maes) for sleeping areas	
17	0.02	2000	10000	Severe anomaly beyond (peak): 1000-10 µW/m ²	
				https://www.baubiolog _englisch.pdf	gie.de/downloads/english/richtwerte_2008

The table above transforms the values reported by Vcomm as "%FCC" (legal) into physical variables (μ W/m²). And then estimates the Peak Field values base on a reasonable duty factor (x5). The right of the table lists advice on limits to EMR derived by various health organizations, rather than by the industry-dominated FCC.

The details of the survey procedure are entirely absent, replaced by standard statements that could be described as legal intimidation of the BOH.

For example, the data presented in "Pittsfield MA Spectrum Analyzer Measurements.pdf" comes from a N9912A FieldFox

(https://www.keysight.com/ca/en/product/N9912A/fieldfox-a-handheld-rfanalyzer-4-ghz-6-ghz.html), not from the "Narda EA5091" mentioned in the report, and no details on the cable and antennas setup are given. Were the values obtained using a tripod and averaged over time, or out the window of a car? Why are crest values, directly available from the instruments, not reported?

This survey seems designed from the start to be primitive, and is conducted by an engineering firm completely unfamiliar with the proper procedures of hygiene surveys.

The most important element of any investigation is the willingness to provide relevant information, as opposed to limiting it.

Paul Héroux, PhD

paul.heroux@mcgill.ca

Professor of Toxicology and Health Effects of Electromagnetism McGill University Medicine Department of Surgery, McGill University Health Center InVitroPlus Laboratory, <u>Tel. (514) 767-5556</u> http://www.invitroplus.mcgill.ca/

From:	Paul Heroux, Dr.
To:	Armstrong, Gina
Subject:	Re: Pittsfield RF Emissions Study
Date:	Friday, July 9, 2021 3:16:36 PM

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders. Dr. Armstrong,

I listened to the video of the Pittsfield Board of Health meeting of July 7th.

There seemed to be uncertainty about a few points during the VComm presentation.

The 5% issue

...actually has to do with the management of emissions from co-located antennas.

If the limit set by FCC is exceeded at a given site that has multiple antennas, the particular antennas

contributing more that 5% to the total radiation energy must collectively reduce their emissions to meet the FCC limit.

A portable frequency analyzer instrument is capable of attributing the correct energy to each antenna.

Public-Occupational Limits

The public gets the most protective limit, because it is an innocent bystander.

The workers (Occupational Limit) are more likely to be exposed to higher levels of radiation, so their higher limit makes the continuation of their employment possible. But according to the law,

workers should be informed of the dangers of the radiation (be capable of early detection of effects), and be supervised by occupational

health physicians and hygienists that would perform measurements, and take actions to minimize their exposures.

The reactions to EMR reported by the residents near the South Street tower are typical of a situation where an individual's exposure

is rapidly changed from a low level to a higher one. I recently filed a brief for two people in England who experienced hypersensitivity

as a result of a visit to London (England). I am attaching the document for the information of the BOH members only.