

Subject: Proposed Cell Tower On Edgemont Blv

From: Corrie Kost <kost@triumf.ca>

Date: Mon, 25 Aug 2008 23:35:03 -0700

To: Mayor and Council - DNV <Council@dnv.org>

CC: 'FONVCA' <fonvca@fonvca.org>, klarsen@dnv.org, jdioszeghy@dnv.org, tguppy@dnv.org, clifts@dnv.org

Your Worship & Members of Council,

In light of the presentations made to council this evening I attach my presentation on this issue for your information. I trust council will not act rashly on this matter. It would thus seem appropriate to defer any final judgments on this matter until at least after the public meeting of September 10 to be held at St. Catherine's Church at 7pm.

Yours truly,

Corrie Kost

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CELLULAR TOWER HEALTH CONCERNS

(Issue Reviewed by Corrie Kost – 2851 Colwood Dr. email: corrie@kost.ca 25 August 2008)

What: Cellular Tower – height: 55 metres

Where: Provincial land on grass knoll just North of Fell overpass – needs access via DNV
Tower Centre Co-ordinates: 49 19' 56.2''N 123 5' 38.4''W. This is about 2000ft South-East of the Edgemont Village Area.



Proponent Contact:

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Real-estate manager
Bell mobility
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Vancouver BC
V5M 3M4
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355 West Queens Rd.
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Deciding Body Contacts:

Mr Patrick Coates – **Dept of Transportation**, BC, 200-1065 Columbia Str. New Westminster
V3M 6H7, BC Email Patrick.coates@gov.bc.ca Tel Work: 604-660-8302

Industry Canada, Pacific Region, 17th floor, 13401-108th Ave Surrey, BC, V3T 5V6
Attention: Neil Allwood, Tel: 604-930-8691 ext 123 Fax: 604-666-5473
Email: allwood.neil@ic.gc.ca

Why this document?

I have been and always will be a scientist. I am a citizen of this community and feel obliged to provide them with the truth to the best of my ability. Updates to this document may be provided as required.

Disclaimer:

The views/opinions expressed in this document are my own and do not necessarily express the views/opinions held by associations of which I am a member.

Summary:

A person's absorbed radiation from radio radiation is proportional to the power produced by the transmitter, and inversely proportional to the square of the distance away from the transmitter. As the distance to a cell phone tower is so great, compared to the cell phone (often held beside a person's head), it has a negligible direct contribution of absorbed radiation to the cell phone user. **Data currently available shows no statistically valid reason to assert that passive radiation received from cell towers, or even active radiation from cell phones, has caused any statistically significant change in the cancer rates.** The current scientific view is that brain cancers occur whether the person is exposed to RF radiation or not. In addition, the Inverse Square Law of electromagnetic fields guarantees that the active intensity received in actually using even the latest low powered cell phone is still several orders more than that of the passive intensity from the cell tower. With the latest cell phone models, the active intensity falls by a factor of about a hundred if a clear signal is received. For non cell phone users, the passive exposure (from cell towers) is several orders of magnitude less than the user exposure. **The exposure from adjacent cell phones on non-cell phone users is about the same as the exposure from cell towers. So if there are health reasons to ban towers then the banning of all cell phones would, logically, also be required.**

Proponent Key Statement:

According to the Public Notification document of May 23/2008 (regarding Bell Mobility Telecommunications Facility) **the RF fields are thousands of times below the operating limits** as dictated by Health Canada.

Relevant Web Material:

A very readable reference on base stations (cell towers – sometimes referred to as mobile phone towers) can be found at <http://www.rfcom.ca/primer/bases.shtml> It should be noted that the power radiated by these towers is about 1000 times lower than emissions from radio and television towers.

"Independent expert groups around the world have stated that there is no risk to the general public from base stations. The World Health Organization, for example, stated: "None of the recent reviews have concluded that exposure to the radiofrequency fields from mobile phones or their base stations causes any adverse health consequence".

An Expert Panel of the Royal Society of Canada said

"it appears that exposure of the public to radiofrequency fields emitted from wireless telecommunication base station transmitters is of sufficiently low intensity that biological or adverse health effects are not anticipated".

The Independent Expert Group on Mobile Phones in the UK said

"there is no general risk to the health of people living near to base stations where the exposures are only small fractions of guidelines".

Another very reputable web site on this issue is sponsored by the **American Cancer Society** http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phone_Towers.asp

I urge all politicians making decisions on the matter of Cell Towers to read the above reference. The “bottom line” quote from this reference states:

Cellular phone towers, like cellular phones themselves, are a relatively new technology, and we do not yet have full information on health effects. In particular, not enough time has elapsed to permit epidemiologic studies. There are some theoretical reasons why cellular phone towers would not be expected to increase cancer risk, and animal studies of RF have not suggested a risk of cancer. People who are concerned can ask for measurements of RF near cellular phone towers to be sure exposures do not exceed recommended limits.

For a comprehensive and very readable review of Electromagnetic Fields readers are referred to the review articles by **WHO (World Health Organization)** at <http://www.who.int/peh-emf/about/WhatisEMF/en/> The section found at <http://www.who.int/peh-emf/about/WhatisEMF/en/index2.html> **should be read by all policy decision makers.** An even shorter document on this issue can be found at <http://www.who.int/mediacentre/factsheets/fs304/en/index.html> - which clearly indicate that ***“there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects.”*** and that the focus of research is now devoted to see if there are any health issues related to the much higher RF exposures from mobile phones themselves.

A 2005 memo (attached) from the then Chief Medical Health Officer of BC, Dr. Blatherwick, also confirmed that “The Medical Health Officer concludes, as has Health Canada and the Radiation Protection Service, that in light of the current scientific understanding of the risks of RF exposures to the general public, the installation of cellular antennas in the community do not pose an adverse health risk and Safety Code 6⁽²³⁾ provides an appropriate level of protection.”

Some in society say that we should use the “precautionary principle” – and wait till studies show it is absolutely safe. Of course **science cannot, in principle, prove anything is absolutely safe**. There have been many studies that have demonstrated that it is “relatively safe” to use cell phones. The counter-argument is “that we did not look deeper and longer”- and if no problem is found – to keep looking! A good article on this aspect was recently published in the Vancouver Sun ⁽¹⁵⁾ on Page D4 of the 9Aug2008 by Dan Gardner. Extra precautions can cost society more than the potential negative impact of a technology.

Impact of Rejecting all Cell Towers:

When cell coverage is poor – ie. there is a deficiency of receiving/transmitting towers, the cellular phones power levels increase substantially. **Thus, if there are any health concerns due to emissions at this frequency, the general population – which now form a majority of the population⁽²²⁾ – will be the most negatively impacted if the receiving towers are too far away.** A partial list of SAR⁽¹¹⁾ values for certain makes of cell phones can be found at

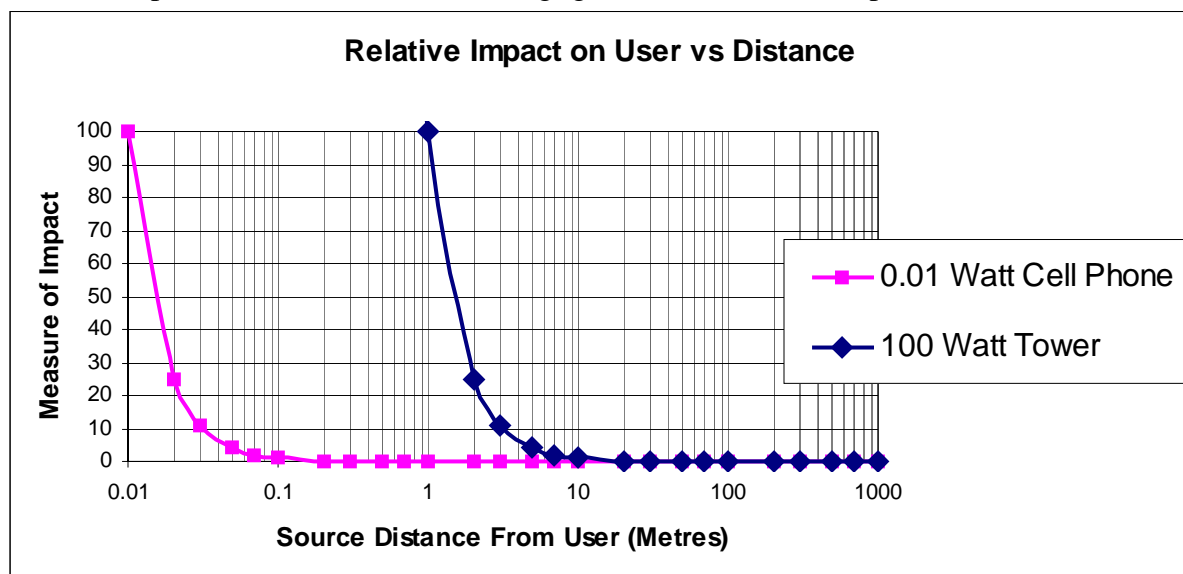
<http://www.bemi.se/founder/clips/cellularSAR.html>

Note that it ranges from 0.10 (W/kg) to over 2 (W/kg) depending on make/model.

The latest generation of cell phones typically operate at 1.8GHz with a typical maximum power of **100 milliwatts** and step down to **about 1 milliwatt if the signal level is very good.**⁽¹⁾ The earliest cell phones operated at about 4 watts – which approaches the power of a base station (~ 10watts)! These old cell phones MAY constitute a health risk if used close to the body for some time – but certainly not to the neighbours. Approximately 50% of the world populations use mobile phones⁽⁵⁾

As a basis of comparison the figure below shows the two relevant curves vs distance. One curve is for those who choose to use a cell phone (operating at a fairly low power level of 0.01 watts, ie. 10 milliwatts), while the second is the potential public danger of a cell tower inflicted without a choice (operating at a fairly high nominal level of 100 Watts).

Note the impact at realistic distances is negligible for the Tower output.



It should also be noted that cell towers output radio waves only when a local cell phone requests a connection. The average power output of a cell tower is related to how many calls are being made and thus at 4am this is expected to be extremely low! Of course, whether people are asleep or not they will still be exposed to this minimal electromagnetic field. Keep in mind that many TV and Radio broadcasts take place at all times of day – and their impact on the whole North Shore far exceed those output by cell towers^(7,8,9).

SOME Other Radio Frequency Sources in Our Environment:

WiFi Devices (including Computers and PDAs)⁽¹³⁾

Garage Door Openers

Wireless Video Camera

Wireless Remote Controls

Walkie-Talkie Radios

GMRS⁽¹⁶⁾ (General Mobile Radio Service) ~2watts 462/467MHz – max range 35Km but typically 1Km

Satellite Transmissions

Bluetooth devices (low, medium, high power)

Microwave Alarm Sensors

Store Security Devices (esp. on Entry/Exit)

Solar/Cosmic Electromagnet Radiation

Radio & Television Stations

Cordless Phones

Cell Phones

See Figures 2 & 3 to clarify where this issue is placed in the Electromagnetic Spectrum.

The relevant radio waves (in the UHF Band) have a wavelength of approximately 1 foot in air, and about 2 inches in body tissue. As a result, RF radiation can only be concentrated to about an inch or two in size. This makes it unlikely that the energy from radio waves could be concentrated on a small bit of tissue, affecting individual cells (which are approx 10,000 times smaller than the length of the radio wave).

Inverse Square Law:

The power/impact of RF drops in accordance with the inverse square law. Doubling the distance drops the impact/power by a factor of 4. Let's answer the following question-

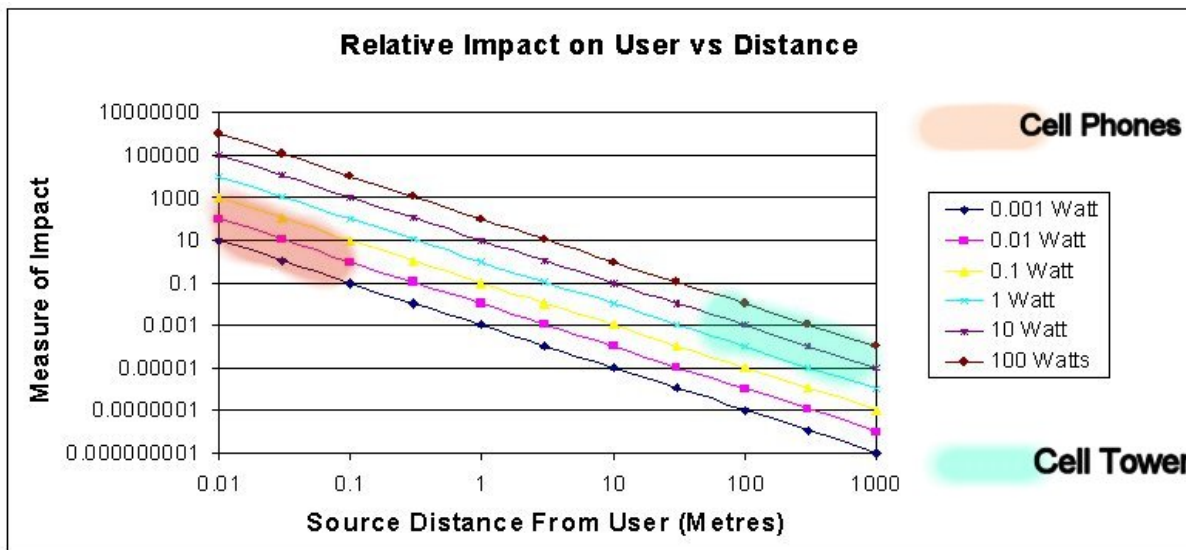
What power would a cell tower need to output at a distance of 200 feet to have the same impact as a modern cell phone with 100milliwatt at 2" from your head?

$(200 \times 12/2) \times (200 \times 12/2) \times 100 \text{milliwatt} = 144,000,000 \text{milliwatt} = 144,000 \text{watts}.$

The actual power output of a cell tower is much-much less. Conservatively 1000 times less (from what I understand, the power output is < 100 watts).

To put it another way. A cell phone operating at 100milliwatts has about the same impact on your neighbour – say 20 ft away as a cell tower 200 ft away operating at 10watts. **Cell phones used by homes adjacent to schools in this area will impose a much higher RF field than this proposed cell tower.**

The following diagram (based on simple formula $\text{Impact} = \text{constant} \times \text{Power}(\text{watts}) / \text{Distance}(\text{metres})^2$) should aid in clarifying the situation. For more details see reference 3.



What If...

What if I stood/lived right underneath the tower?

Since the tower is 55metres high you are well away from the source. More importantly – radiation of the field pattern is horizontal – not vertical at this point – so the field levels are much-much lower than if you were 55metres from the tower AND 55metres up in the air. Picture the beams coming out like light from a lighthouse. Those living within ~ 200 metres are likely to be the least impacted.

Are some people sensitive to mobile phone signals?

Scientific studies reported in reputable journals^(17,19,20,21) have failed to verify the existence of such people. It is interesting how others try (but failed) to refute such objective studies⁽¹⁸⁾. For a readable summary on this issue see http://en.wikipedia.org/wiki/Electrical_sensitivity which concluded in 2005, a systematic review looking at the results of 31 experiments that 'electromagnetic hypersensitivity' is unrelated to the presence of electromagnetic fields, although more research into this phenomenon is required. “The best evidence currently available suggests that cognitive behavioural therapy is effective for patients who report being hypersensitive to weak electromagnetic fields”

Benevento Resolution

The International Commission for Electromagnetic Safety (ICEMS) held an international conference entitled .The Precautionary EMF Approach: Rationale, Legislation and Implementation., hosted by the City of Benevento, Italy, on February 22, 23 & 24, 2006. The meeting was dedicated to W. Ross Adey, M.D. (1922-2004). The scientists at the conference endorsed and extended the 2002 Catania Resolution and resolved that: see ⁽²⁾

Note that the above resolution is mostly concerned about the impact of local – near the body – wireless devices. The focus should be on distance-distance-distance! **If** there is a health issue it would show up with cell phone usage – not cell towers.

Other Canadian Municipalities:

In Nov 2007 Toronto published its guidelines on “Prudent Avoidance Policy on Siting Telecommunication Towers and Antennas”⁽²⁴⁾. It basically adopted a standard (about 100 times more stringent than the Canada standard) which this particular applicant (BELL) should also be able to meet – and even beat by an additional factor of 10 (eg. by an overall factor of 1000).

Aircraft Safety Concerns:

Federal regulations “recommend” aircraft maintain a minimum of 2000 ft above the local terrain with a hard limit of 1000ft except on approaches to landing areas. There are no landing areas in proximity to Edgemont Village so one expects aircraft to stay well above the 180ft height of the proposed tower. In time the adjacent forest height, on both sides of the highway, will almost approach the height of this proposed tower.

Environmental Impacts:

Some concern has been expressed that such a tower will kill native and migratory birds. This is dubious as birds have good eyesight. Even if the proposed tower is not illuminated the ambient light from the highway provides sufficient visibility at night.

Impact On Property Values:

When was the last time you heard people, interested in buying a property, inquire if there was a cell tower nearby? Now if you told them that the reception in the area is poor/non-existent because no cell tower was available in the area – how do you think this would impact property values? Saying “no” to any and all cell towers may be financially counterproductive.

Bottom line:

There is no convincing scientific evidence that the weak RF signals from base stations cause adverse health effects. The power impact of the cell tower is far lower than the impact of a cell phone – and about on par with the impact of a cell phone used by your neighbour! **Not allowing adequate number of cell towers could potentially increase the health risk (if ever science/research find any!)** since any health risks associated with increase in power output of the cell phones to make and maintain a connection with a distant tower far outweighs any potential health impacts of the cell towers themselves. A sort of reverse catch-22:

- **if you believe there are no health risks then there is no reason to reject towers on the basis of health concerns**

On the other hand

- **if you believe there are health risks then rejecting this tower will make things worse – for both users and non cell phone users.**

Alternatives:

We can, and I think we should, oppose the proposed cell tower on aesthetic grounds. Towers like this do not belong in or adjacent to a residential neighbourhood. We should insist on a study about the **costs/feasibility of using several lower powered, conventional, smaller towers** (which are essentially not noticeable), **or camouflage the proposed tower appropriately⁽¹³⁾**, compared with the cost of the proposed high tower which is grossly out of place near a residential area. Cell Phone companies can provide good service AND still be good neighbours!

References/Definitions:

RF Exposure: SAR (Specific Absorption Rate)^(10,12) Standards and Test Methods

These references are very readable and outline the various world standards.

See <http://www.ce-mag.com/archive/03/01/miller.html> &

http://www.emctech.com.au/sar/SAR_Article_2003.pdf an excellent Primer, from U of Ottawa can be found at <http://www.rfcom.ca/primer/limits.shtml>

The reputable web site <http://www.rfcom.ca/primer/health.shtml> includes the following...

“Several authoritative scientific organizations have independently reviewed the available studies, and all have stated that there is no evidence that wireless phones or their base stations have any adverse effects on human health. All are agreed that additional research and continued surveillance are needed.”

The same reference has another noteworthy quote – *“undue anxiety can be averted by emphasizing that our current knowledge indicates that lifestyle, diet, genetic factors, and improved healthcare have a far more significant effect overall on human health than hypothetical risks such as RFR.”*

To add balance to this issue it is also noted in the above that *The Independent Expert Group on Mobile Phones in the UK (2000)* recommended that *“a precautionary approach to the use of mobile phone technologies be adopted until much more detailed and scientifically robust information on any health effects becomes available”*. However, since “threats of serious damage” have not been shown to exist the invocation of the “precautionary principle” seems unwarranted at this time (my comment).

“Even long term exposure to cellular microwaves exposes you to a millionth of the energy you receive by standing in front of a fireplace, or walking outside in the sun. Look on an electromagnetic scale, you shall find the microwave frequency to be weaker than infrared, visible light, and UV. Be more worried about walking around without sunscreen than talking on a cell phone.” From

<http://cellphonesafety.wordpress.com/2006/09/27/what-is-bluetooth-and-is-it-safe/> and

http://en.wikipedia.org/wiki/Wireless_electronic_devices_and_health

Note that no health effect has been consistently demonstrated at exposure levels below the (International Commission on Non-Ionizing Radiation Protection) ICNIRP-limits established in 1998. **However, the data base for this evaluation is limited especially for long-term low-level exposure.** See http://ec.europa.eu/health/ph_risk/committees/04_scenihp/docs/scenihp_o_006.pdf

- (1) <http://www.eskimo.com/~nanook/radio/2007/04/undestanding-cell-phone-tower-health.html> (warning -ISP provider)
- (2) <http://www.icems.eu/docs/BeneventoResolution.pdf>
- (3) http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf
- (4) <http://www.microwaves101.com/encyclopedia/biological.cfm> (warning - sponsored by vendors!)
- (5) http://en.wikipedia.org/wiki/Mobile_phone
- (6) http://en.wikipedia.org/wiki/Mobile_phone_radiation_and_health#Health_hazards_of_handsets
- (7) CKKS-FM operates at 1465.024 MHz with an effective isotropic radiated power of 3,381 watts from Mt. Seymour – see http://www.broadcasting-history.ca/listings_and_histories/radio/histories.php?id=74&historyID=35
- (8) http://en.wikipedia.org/wiki/Mount_Seymour - used by 15 Radio Stations and 6 TV Stations
- (9) <http://www.who.int/peh-emf/about/WhatisEMF/en/index4.html>
- (10) <http://www.mmfa.org/public/sar.cfm?lang=eng>
- (11) **What is SAR?**

SAR stands for **Specific Absorption Rate**, which is the unit of measurement for the amount of RF energy absorbed by the body when using a mobile phone. The SAR is determined at the highest certified power level in laboratory conditions. However, the actual SAR level of the phone while operating can be well below this value. This is because the phone is designed to use the minimum power required to reach the network. Therefore, the closer you are to a base station, the more likely it is that the actual SAR level will be lower.

- (12) http://www.youtube.com/watch?v=uRQYan_-CTQ
- (13) <http://www.wireless-center.net/Building-Wireless/Power-Limits.html> -The "high" band runs from 5.725GHz to 5.825GHz, and has a **maximum transmitter power of 1 watt**
- (14) http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1194947399556
- (15) <http://digital.vancouver.sun.com/epaper/showlink.aspx?bookmarkid=8DGJ1ZEIR9U7&preview=magnifier&linkid=eec69df2-db54-4712-be19-86e5061a16d1&pdaffid=K6ZKAh5Kg5S54kkD8Sck8A%3d%3d>
- (16) [http://www.ic.gc.ca/epic/site/smt-gst.nsf/vwapj/sp462-467e.pdf/\\$FILE/sp462-467e.pdf](http://www.ic.gc.ca/epic/site/smt-gst.nsf/vwapj/sp462-467e.pdf/$FILE/sp462-467e.pdf)
<http://www.cnp-wireless.com/ArticleArchive/Wireless%20Telecom/2005Q2WT%20GMRS.html>
<http://www.ic.gc.ca/epic/site/smt-gst.nsf/en/sf08478e.html#annex6>
- (17) <http://www.bmj.com/cgi/content/full/332/7546/886>
- (18) <http://www.bmj.com/cgi/eletters/bmj.38765.519850.55v1#133115>
- (19) <http://www.ehponline.org/docs/2007/10286/abstract.html>
- (20) Rubin, James; J Das Munshi J, Simon Wessely (March-April 2005). "[Electromagnetic hypersensitivity: a systematic review of provocation studies](#)". *Psychosomatic Medicine* 2005 Mar-Apr;67(2):224-32 **67** (2): 224–32.
- (21) Rösli M (June 2008). "Radiofrequency electromagnetic field exposure and non-specific symptoms of ill health: a systematic review". *Environ. Res.* **107** (2): 277–87.
[doi:10.1016/j.envres.2008.02.003](https://doi.org/10.1016/j.envres.2008.02.003). [PMID 18359015](https://pubmed.ncbi.nlm.nih.gov/18359015/).
- (22) According to Ekos Research Associates – 72.4% of Households had cellphone access in 2007.
- (23) <http://www.hc-sc.gc.ca/ewh-semt/pubs/radiation/99ehd-dhm237/preface-preambule-eng.php>
- (24) <http://www.toronto.ca/legdocs/mmis/2007/hl/bgrd/backgroundfile-8919.pdf>

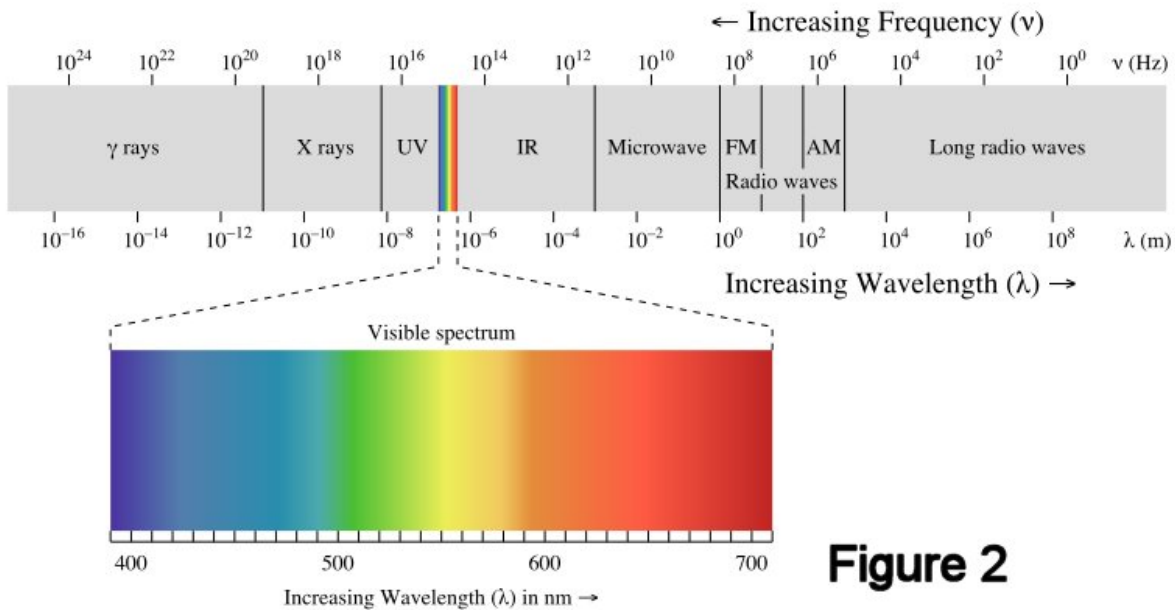


Figure 2

Figure 3

CLASS	FREQUENCY	WAVELENGTH	ENERGY
γ	300 EHz	1 pm	1.24 MeV
HX	30 EHz	10 pm	124 keV
SX	3 EHz	100 pm	12.4 keV
	300 PHz	1 nm	1.24 keV
EUV	30 PHz	10 nm	124 eV
NUV	3 PHz	100 nm	12.4 eV
NIR	300 THz	1 μ m	1.24 eV
MIR	30 THz	10 μ m	124 meV
FIR	3 THz	100 μ m	12.4 meV
EHF	300 GHz	1 mm	1.24 meV
SHF	30 GHz	1 cm	124 μ eV
UHF	3 GHz	1 dm	12.4 μ eV
VHF	300 MHz	1 m	1.24 μ eV
HF	30 MHz	1 dam	124 neV
MF	3 MHz	1 hm	12.4 neV
LF	300 kHz	1 km	1.24 neV
VLF	30 kHz	10 km	124 peV
VF	3 kHz	100 km	12.4 peV
ELF	300 Hz	1 Mm	1.24 peV
	30 Hz	10 Mm	124 feV

More Numbers!

(Ref4) Microwave ovens are allowed to leak 5 mw/cm^2 (50 w/m^2) at a distance of 5 cm away. Power level will drop off as the square of the distance, so 50cm away it can be no more than 0.05 mw/cm^2 (0.5 w/m^2).

(Ref4) Cell towers will never put out anywhere near 10 mw/cm^2 (100 w/m^2) to pedestrians nearby. Maximum effective radiated power (ERP) is on the order of 100 watts, but remember, ERP includes antenna gain; the actual power that is radiated is on the order of a few watts. By the time it reaches pedestrians, out at 100 meters for example, the power density is no more than 0.001 mw/cm^2 (0.01 w/m^2).

(Ref4) Pacemakers are designed to handle 10 mw/cm^2 (100 w/m^2)

June 20, 2005

Health Concerns With Respect to Cellular Phone Transmission Antennas

The Medical Health Officer is often asked to comment on concerns raised by citizens about potential health effects related to the installation and operation of cellular phone base stations (antennas) in the community. The Medical Health Officer relies on the expert advice of Radiation Protection Services of the BC Centre for Disease Control and Health Canada on issues related to electromagnetic radiation and health effects. The current respective positions of Health Canada and Radiation Protection Services are provided within this memo.

Background on Cellular Transmission Technology:

The original cellular (analog) technology utilizes the "radiofrequency" portion of the electromagnetic spectrum between 800-900 MHz (near the FM/TV, AM Radio bands and cordless telephone frequencies). The newer digital technology utilizes the frequency bands of 800-900 MHz and 1800-2200 MHz and relies on antennas of significantly less power than the analog system, which therefore emits significantly lower radiofrequency (RF) radiation.

Health Risks:

As with many other potential risks, the science of RF radiation and impacts on health is constantly being augmented. Recent studies (since 2000) include the Stewart Report from the UK, a major WHO report and the summary report from the National Radiological Protection Board of the UK. The general scientific consensus holds that the power from cellular base stations is far too low in the community to result in adverse health impacts. The current Canadian (Safety Code 6)⁽²³⁾ and international standards such as ICNIRP provide significant safety margins for public exposure to RF.

Critics of Safety Code 6 have challenged the adequacy of the Canadian standard to protect the public from effects other than those resulting from the thermal heating of cells in the body. In 1999 an Expert Panel convened by the Royal Society of Canada concluded that:

“Safety Code 6 protects both workers and the general public from adverse health effects associated with whole body thermal exposures to radiofrequency fields. It is clear to the panel that there are a number of observed biological effects of exposure of cells or animals to non-thermal levels of exposure to RF fields....The panel found no evidence of documented health effects in animals or humans exposed to non-thermal levels of radiofrequency fields. The panel therefore does not recommend that Safety Code 6 be altered to include regulation at the non-thermal levels of RF which have been shown to produce these biological effects.”

Subsequently, the Independent Expert Group on Mobile Phones (2000) re-affirmed the conclusions reached by the Royal Society of Canada (1999). “All of the authoritative reviews completed within the last two years have concluded that there is no clear evidence of adverse health effects associated with RF fields from mobile phones.”

In “A Summary of Recent Reports on Mobile Phones and Health (2000-2004)” the National Radiological Protection Bureau in the U.K. summarized the most up-to-date knowledge on base station emissions as follows: “Further, these reports stress that very low level exposures, typical of base stations, are extremely unlikely to cause any effects on biophysical grounds, whereas localized exposures, typical of those from mobile phones, may induce effects as a result of mild heating of superficial tissues close to the headset.”

In B.C., the Radiation Protection Service of the BC Centre for Disease Control has recently responded to the question “*Has scientific research shown that there is a health hazard near cellular transmitting sites?*”

“Most research studies conducted to date have not shown that electromagnetic fields surrounding a cellular transmitter site cause cancer or other adverse health effects in the population. This agrees with current exposure standards in that the levels of exposure where people are located are found both by measurement and calculation to be well below allowable exposure standards.”

Local Exposure Studies:

In 1997 Health Canada conducted a survey of radiofrequency radiation from cellular base stations in and around 5 schools in Vancouver, in response to the health concerns raised by nearby residents earlier that year. The measurements revealed that:

- The **highest** level of electromagnetic radiation from a PCS antenna (across the street) was more than 6,000 times **below** the Safety Code levels.
- In three of the schools the levels of radiation from all PCS digital antenna were actually lower than the normal AM and FM radio signals that have been in the area for decades.

Since the cellular and PCS signals from transmitting towers that the general public is typically exposed to are known to be very low and since they have been measured in BC and found to be very low and since they are well below Health Canada’s Safety Code 6 and other international allowable exposure levels, **they do not pose a health risk.**

“Prudent Avoidance”:

The practice of “prudent avoidance” has been advocated by some in their opposition to specific siting of cellular antennas in the vicinity of schools, day-cares or residential buildings. In this instance prudent avoidance does not result in any increased level of protection as might be the case in requiring buffer zones next to high voltage transmission lines (where both magnetic and electric fields are present as opposed to RF fields). It would be difficult, if not impossible, to “prudently avoid” some level of exposure to RF fields in an urban setting, whether it be from AM, FM, TV or cellular phones. The Medical Health Officer concludes that there is no public health benefit in practicing prudent avoidance with respect to cellular phone transmission antennas. In fact, prudent avoidance may ignore the reality that the area immediately below the antennas has the lowest RF levels.

Conclusion:

The Medical Health Officer concludes, as has Health Canada and the Radiation Protection Service, that in light of the current scientific understanding of the risks of RF exposures to the general public, the installation of cellular antennas in the community do not pose an adverse health risk and Safety Code 6 provides an appropriate level of protection. We will continue to stay current on the scientific knowledge around this issue and provide updates to decision-maker and the community when necessary.



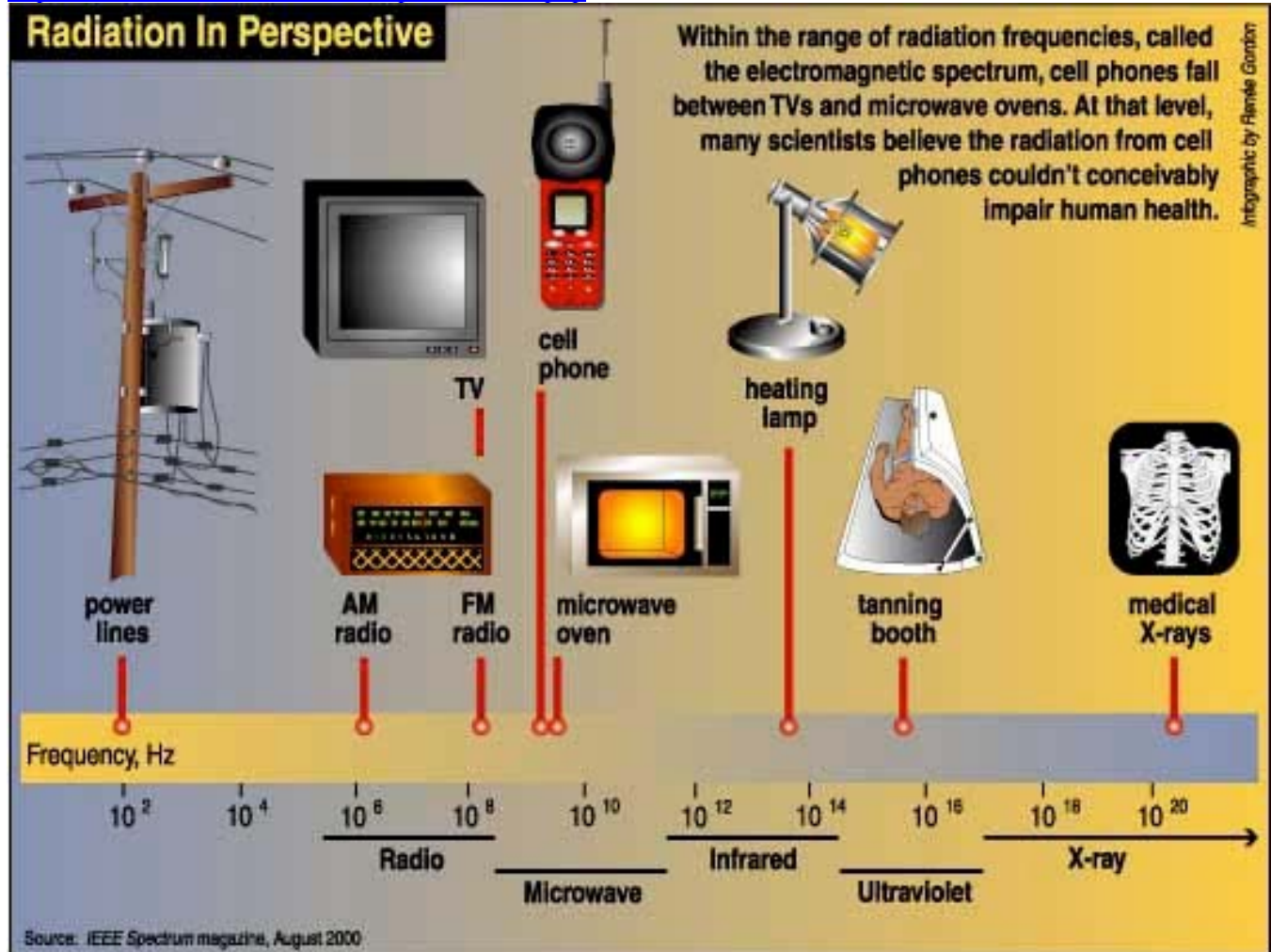
F.J. Blatherwick, CM, CD, MD, FRCP(C)
Chief Medical Health Officer

Revised/Updated June 20, 2005

Some interesting misc. tid-bits...

- If using a cell phone is like throwing a pea at your neighbour, then the impact of a cell tower is like throwing a speck of dust at him.
- Microwaves have been around for more than 50 years – and heating has been the only side effect seen – and that was at power levels much-much higher than output by cell phones.
- Canada Safety Council's take on safety of cell phones fails to mention ANY health risks!
- It is logically impossible to prove a negative - that cell phones cannot cause cancer. Hence no amount of research can ever satisfy the skeptical amongst us.

<http://www.ehso.com/ehshome/cellphonecancer.php>



For a rational view on **Cell Phones and Kids** see

<http://www.aboutkidshealth.ca/News/Cell-phones-brain-tumours-and-kids-Health-Canada-clears-the-airwaves.aspx?articleID=11041&categoryID=news-type>