

COUNCIL – MAY 3, 2011

**SITE DEVELOPMENT FILE DA.10.070
CITY OF VAUGHAN
WARD 2
(Deferred Item)**

Council, at its meeting of February 15, 2011, adopted the following (Item 4, Report No. 7):

That this matter be reconsidered;

That this matter be deferred to the Council meeting of May 3, 2011, to permit discussion with members of the telecommunications industry with cell towers in the City of Vaughan;

That the memorandum from the Solicitor, C5, dated February 15, 2011, be received; and

That the following communications be received:

- a) Mr. Stephen J. D'Agostino, Thomson Rogers, 390 Bay Street, Suite 3100, Toronto, M5H 1W2, C4 and C12, dated February 9 and 15, 2011; and
- b) Ms. Josie Fedele, West Woodbridge Homeowners Association Inc., 57 Mapes Avenue, Woodbridge, L4L 8R4, C11, dated February 15, 2011.

Committee of the Whole recommendation of February 1, 2011:

- 1) That consideration of this matter be deferred to the February 15, 2011 Council Meeting;
- 2) That staff consult with the applicant and explore other sites, such as across from the Al Palladini Community Centre on the north side of Rutherford Road on the TRCA lands; and
- 3) That the following deputations and communications be received:
 1. Ms. Tina Catalano, 20 Dalmato Court, Woodbridge, L4L 8X7 and Communication C4, dated February 1, 2011;
 2. Ms. Josie Fedele, West Woodbridge Homeowner's Association, 35 Albany Drive, Woodbridge, L4L 2X5 and Communication C3; and
 3. Mr. Matthew Milligan, Rogers Communication, 8200 Dixie Road, Brampton, L6T 0C1.

Report of the Commissioner of Planning, dated February 1, 2011

Recommendation

The Commissioner of Planning recommends:

1. THAT Site Development File DA.10.070 (City of Vaughan) BE APPROVED, for the installation of a new 40m high telecommunication tower and accessory radio equipment cabinet on the subject lands shown on Attachments #1 to #3, and in the manner shown on Attachment #4.

Contribution to Sustainability

N/A

Economic Impact

The removal of an existing telecommunication facility which has been in operation on the site since 1991 and installation of a new telecommunication facility on the City owned lands will continue to generate income for the municipality.

Communications Plan

On April 7, 2010, the Proponent (Rogers Communications Inc.) held a required (in accordance with the City's Telecommunication Protocol) evening Information Session at Al Palladini Community Centre to provide area residents and landowners an opportunity to discuss any issues they may have with the proposed telecommunication tower. Three members of the community attended the meeting and the following issues were discussed:

- a) Health issues relating to radio frequency emissions; and,
- b) Do radio frequency emissions and health risks increase due to the proximity to metal fencing?

The Proponent addressed both inquiries at the meeting, and no written comments were received by the Proponent after the meeting was held.

Purpose

The Proponent (Rogers Communications Inc.) has submitted a Site Development Application on the subject lands shown on Attachments #1 and #2, for the installation of a new telecommunication facility consisting of a 40m high telecommunication tower and accessory radio equipment cabinet on lands owned by the City of Vaughan (Al Palladini Community Centre) as shown on Attachments #3 and #4. An existing 46m telecommunication facility shown on Attachment #3 will be removed from the site.

Background - Analysis and Options

City of Vaughan's Telecommunication Tower/Antenna Protocol

On June 23, 2003, the City of Vaughan adopted a protocol for establishing telecommunication tower/antenna facilities. In accordance with the City's protocol, all new tower/antenna systems greater than 16.6m in height require consideration by City of Vaughan Council. The proposed 40m high flagpole design tower exceeds the 16.6m maximum height exemption, and therefore, is subject to this application.

The protocol requires that telecommunication tower/antenna facilities proposed in the City of Vaughan undertake a public consultation process unless the proposal meets the criteria for exemption. The following facilities would be exempt from public consultation:

- a) towers less than 16.6m in height above ground;
- b) all proposals exempt from municipal approval (includes co-locating on existing telecommunication structures, and replacement of and modification to existing towers subject to specific criteria);
- c) towers located on any building where the tower height does not exceed 25% of the height of the building or 16.6m above ground level, whichever is greater;
- d) towers within industrial and commercial zoned areas, located a minimum of 100m away from residential areas.

1.3

As the proposal to locate a new tower on the subject lands does not meet the exemption to the public consultation process, the Proponent was required to undertake public notification and consultation, as discussed in the "Communications Plan" section of this report.

The Proponent attended a pre-application consultation meeting with the Vaughan Development Planning Department and subsequently submitted a Site Development Application with the required supporting documentation and application fee. The Proponent also conducted a survey of the surrounding area and it was determined that there were no facilities suitable for co-location within the vicinity network coverage.

The City of Vaughan's protocol also requires the following to be considered as part of the site selection criteria:

- a) maximum distance from residential areas;
- b) maximum distance from public and institutional facilities such as schools, hospitals, community centres, daycare and seniors residences;
- c) avoid natural features, vegetation, hazard lands (floodplains, steep slopes);
- d) avoid areas of topographical prominence, where possible, to minimize long/short range viewscales;
- e) compatibility with adjacent uses;
- f) access.

The existing facility located at the southeast corner of the site has been operational since June 3, 1991, prior to the current Protocol coming into effect, and prior to the development of the existing residential subdivision to the south. The Development Planning Department considers the replacement of the existing 46m high tower with a new 40 m high tower, relocated to the north side of the Community Centre along Rutherford Road and further away from the existing residential, to be acceptable. In order to ensure ongoing service, the telecommunications provider cannot immediately remove the existing tower. Once the proposed tower has been installed and is operational, the existing tower will be removed.

The Development Planning Department is currently reviewing the City of Vaughan's existing Telecommunication Protocol in light of Industry Canada's revised procedures for installing radio communication and broadcasting antenna systems, which took effect in January 1, 2008. A report updating the City's existing Protocol will be forthcoming to a future Committee of the Whole Working Session, sometime in mid-2011. Some of the items under consideration for the new Protocol include the introduction of timelines respecting response times for comments made through the Public consultation process; increasing the notification area; increasing the required minimum distance from residential areas; and, permitting the communication facilities on specific institutional lands subject to strict design criteria. The current proposal is not impacted by any of the proposed changes under consideration.

Location

The subject lands are located at 9201 Islington Avenue situated on the south side of Rutherford Road and east of Islington Avenue, on the Al Palladini Community Centre site, as shown on Attachments #1 and #2.

Official Plan and Zoning

The subject lands are designated "Open Space" by OPA #240 (Woodbridge Community Plan). The new City of Vaughan Official Plan 2010 designates the subject lands "Low-Rise Residential", as adopted by Vaughan Council on September 7, 2010, and is subject to Region of York approval. The proposal conforms to the Official Plans.

1.4

The subject lands are zoned A Agricultural Zone by By-law 1-88. It is noted that the siting of telecommunication tower/antenna facilities are not required to comply with the development standards set out in the City's Zoning By-law, as telecommunications is a matter of Federal jurisdiction. Furthermore, the subject lands are deemed a public use, which is subject to Section 3.10 Public Uses in By-law 1-88, and therefore, exempt from the zoning provisions.

Planning Considerations

The Development Planning Department conducted a review of the proposed telecommunication tower facility, its site location and design, and is of the opinion that the removal of the existing 46m high telecommunication tower and the installation of a new 40m high flagpole tower and telecommunication facility on the subject lands, can be supported.

The relocation of the proposed compound was discussed between City Staff and the Proponent in an attempt to move the current facility further away from the existing residential neighbourhood located to the south of the subject lands, and ensuring continuing network coverage for the immediate area. The existing location has been operational since June 3, 1991, prior to the City of Vaughan establishing a protocol for telecommunication towers/antennas. The existing compound is located at the southeast corner of the subject lands and houses a monopole designed structure which is 46m in height. It is approximately 22.5m away from the property line at the rear of the subject lands, which is adjacent to residential lots, whereas the newly proposed compound is in excess of 150m away from the residential lots to the south of the subject lands.

The proposed telecommunication tower and radio equipment shelter is to be located within a landscaped area adjacent to the Al Palladini Community Centre along Rutherford Road. The facility has an area of 53.3m², and is surrounded by a 2.4m high pressure treated board fence, as shown on Attachment #4. The 40m high tower is required in order to accommodate the necessary range and network demands the tower is intended to meet. Taking into consideration the area context and close proximity to Rutherford Road, the flagpole structure was considered the most appropriate option as it is to be constructed to contain the required antenna equipment interior to the pole structure. No antenna or wireless equipment is visible. The design, construction and installation of the tower will be consistent with the required engineering practices including structural adequacy.

The accessory walk-in radio equipment shelter is constructed of galvanized steel and is situated on top of a concrete slab. The shelter is approximately 4.64m x 3.30m with a height of 2.4m. All hydro requirements to service the equipment shelter for the telecommunications tower must be to the satisfaction of PowerStream Inc.

The Development Planning Department has no objection to the proposed layout and location of the compound and tower, and considers it an improvement over the existing situation, by relocating the compound more than 150m from the nearest residential; reducing the height of the tower by 6m; and making it less conspicuous by changing the design of the tower from a monopole to a flagpole.

Relationship to Vaughan Vision 2020/Strategic Plan

This report is consistent with the priorities set forth in Vaughan Vision 2020, particularly "Plan & Manage Growth & Economic Vitality".

Regional Implications

The Region of York Planning Department undertook a review of its Telecommunication Protocol in light of Industry Canada's revised procedures for installing radio communication and broadcasting systems, which has been in effect since January 1, 2008. In 2008 and early 2009, the Region of York Planning Department met with area municipalities (including Vaughan) and

industry stakeholders to update its Protocol. As a result, on April 23, 2009, the Region of York adopted Industry Canada's protocol outright. The proposed tower conforms to the adopted Industry Canada Protocol, and in doing so, also conforms to the Region of York's Protocol.

Conclusion

The Development Planning Department has reviewed the proposal to relocate and replace the existing 46 m high telecommunication tower and accessory radio equipment facility located at the southeast corner of the property with a new 40m high flagpole tower on the north side of the Al Palladini Community Centre along Rutherford Road, in accordance with the Official Plan and Zoning By-law, and the City of Vaughan's Protocol for Establishing Telecommunication Tower/Antenna Facilities. The development of the new 40m high flagpole structure and associated equipment cabinet on the subject lands, is considered to be acceptable as it replaces an existing 46m high tower with a 40m flagpole tower that will be located 150m away from the residential lots to the south, and continue the existing network coverage for the immediate area, and accordingly, the Development Planning Department can support the approval of Site Development Application DA.10.070.

Attachments

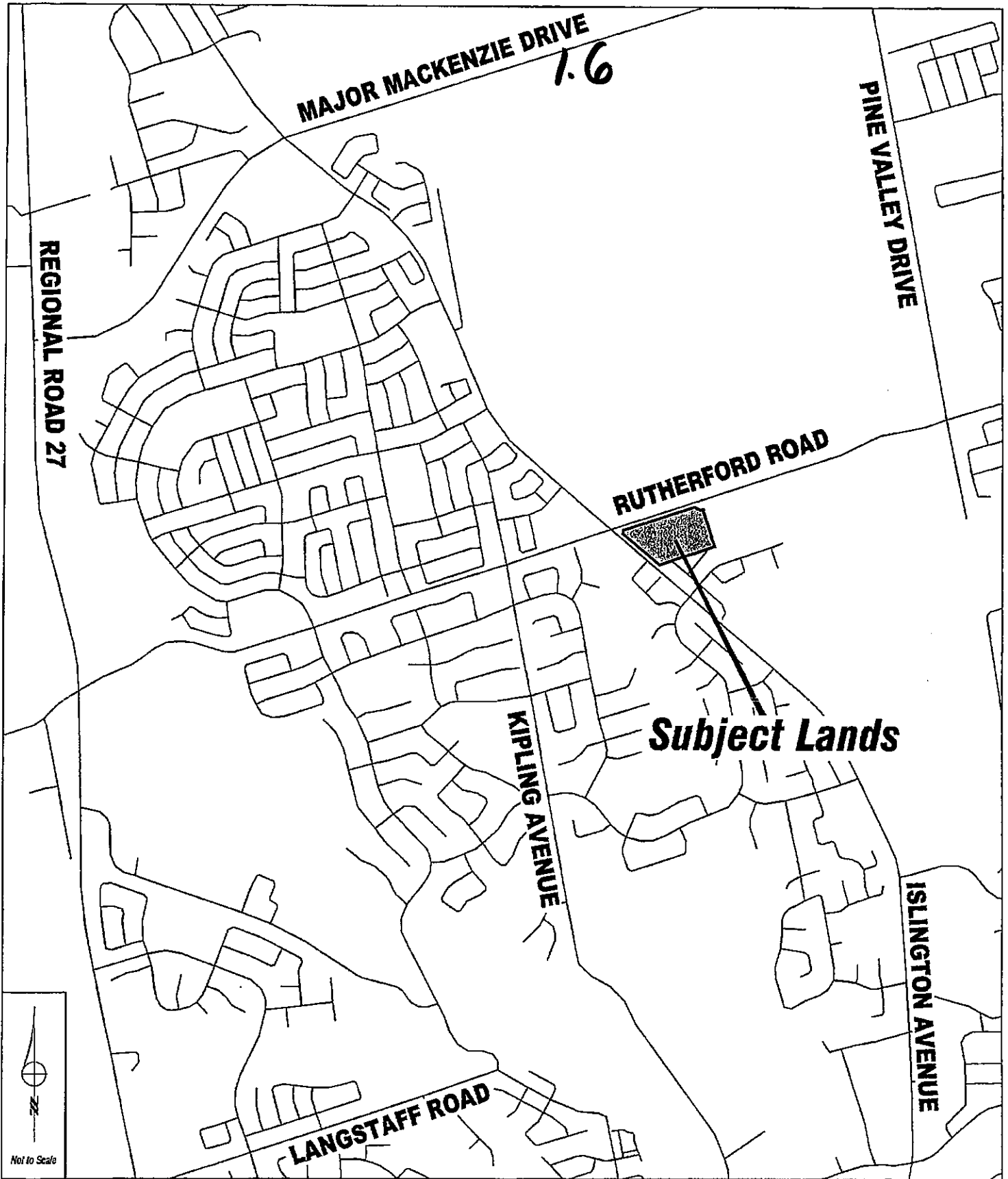
1. Context Location Map
2. Location Map
3. Site Plan
4. Compound Plan and Tower Detail
5. Communication C3, Committee of the Whole, February 1, 2011
6. Communication C4, Committee of the Whole, February 1, 2011
7. Communication C4, Council, February 15, 2011
8. Communication C5, Council, February 15, 2011
9. Communication C11, Council, February 15, 2011
10. Communication C12, Council, February 15, 2011

Report prepared by:

Christina Napoli, Acting Senior Planner, ext. 8483
Carmela Marrelli, Senior Planner, ext. 8791

/LG

(A copy of the attachments referred to in the foregoing have been forwarded to each Member of Council and a copy thereof is also on file in the office of the City Clerk.)



Context Location Map

LOCATION:
Part Lot 15, Concession 7

APPLICANT:
City of Vaughan

\\V011\1 ATTACHMENTS\DA\en 10.070.dwg



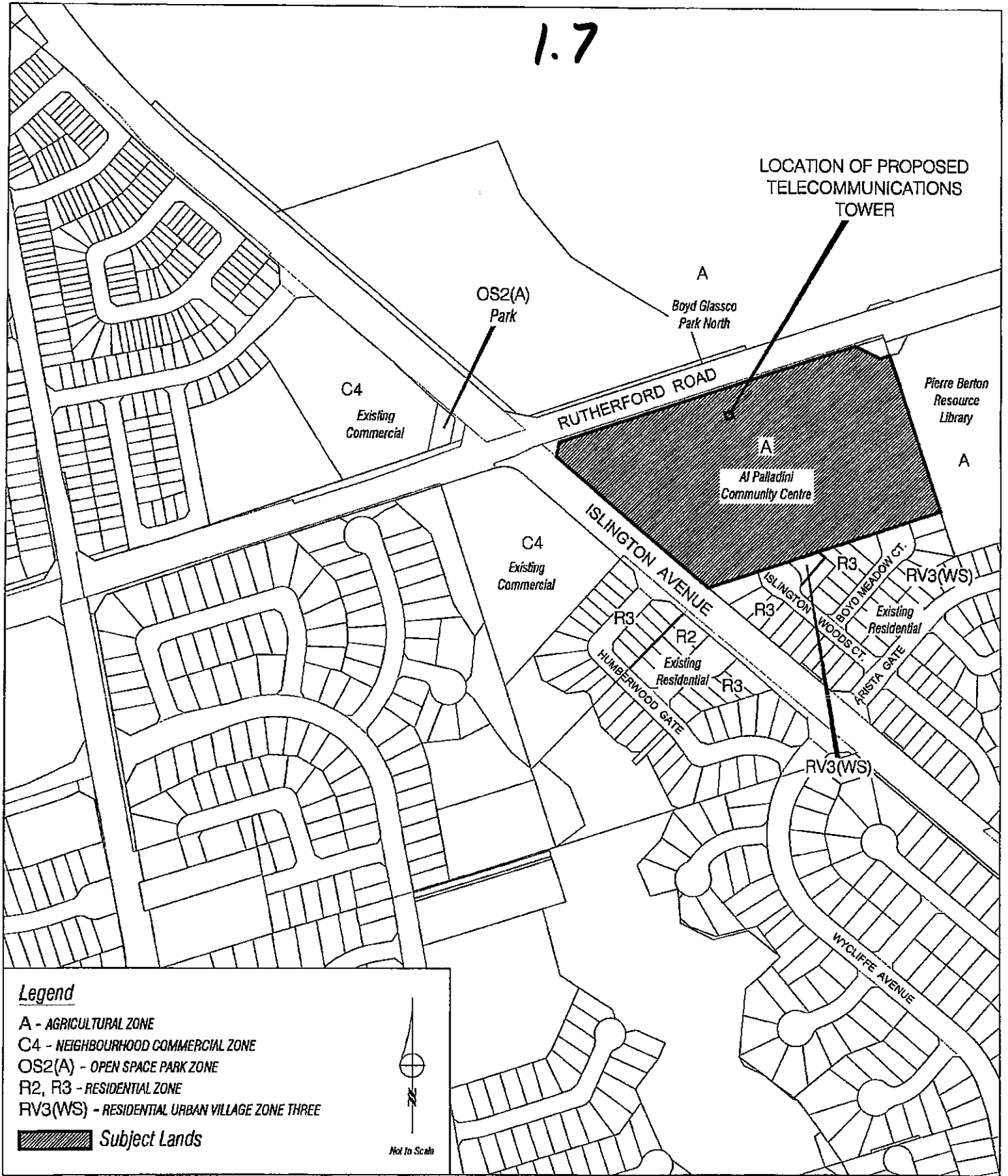
Attachment

FILE:
DA.10.070

DATE:
August 31, 2010




1.7



Legend

- A - AGRICULTURAL ZONE
- C4 - NEIGHBOURHOOD COMMERCIAL ZONE
- OS2(A) - OPEN SPACE PARK ZONE
- R2, R3 - RESIDENTIAL ZONE
- RV3(WS) - RESIDENTIAL URBAN VILLAGE ZONE THREE

 Subject Lands



Location Map

LOCATION:
Part Lot 15, Concession 7

APPLICANT:
City of Vaughan

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Attachment

FILE:
DA.10.070

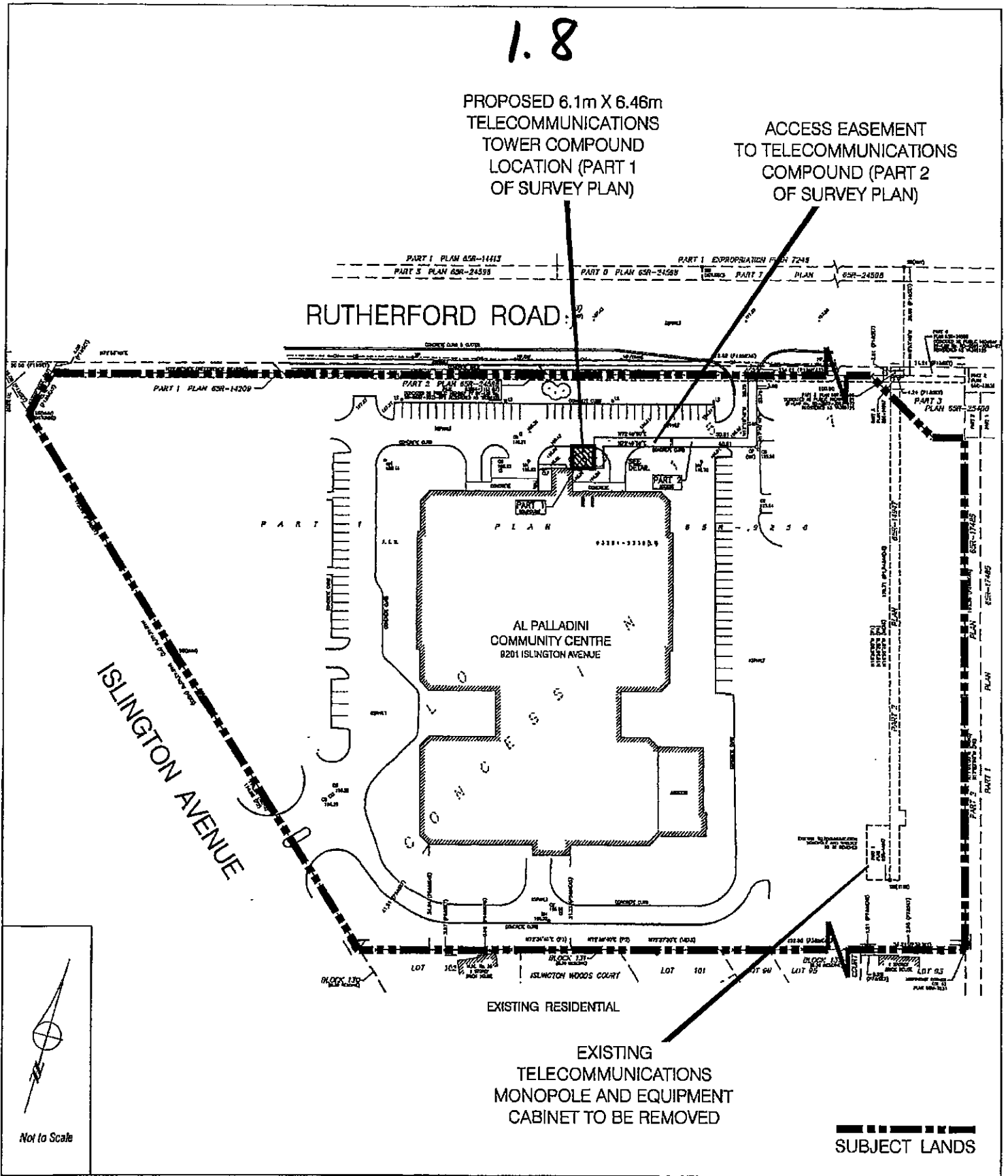
DATE:
August 31, 2010

2

1.8

PROPOSED 6.1m X 6.46m
TELECOMMUNICATIONS
TOWER COMPOUND
LOCATION (PART 1
OF SURVEY PLAN)

ACCESS EASEMENT
TO TELECOMMUNICATIONS
COMPOUND (PART 2
OF SURVEY PLAN)



Site Plan

LOCATION:
Part Lot 15, Concession 7

APPLICANT:
City of Vaughan

11/07/11 ATTACHMENTS/04/16/100/000/04



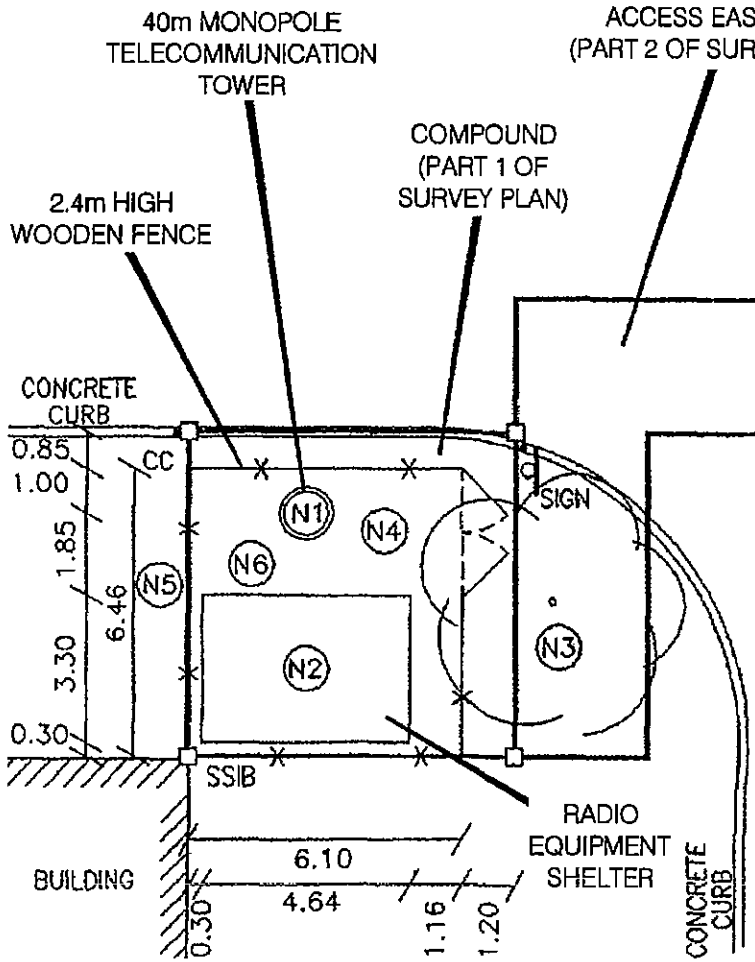
Attachment

FILE:
DA.10.070

DATE:
August 31, 2010

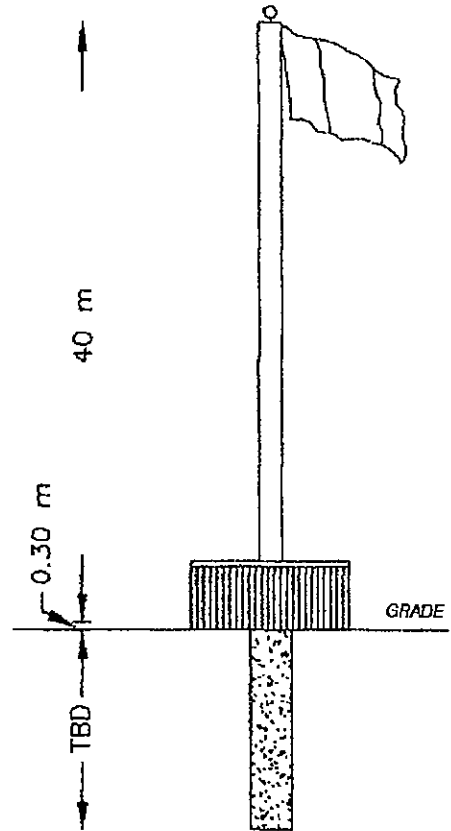
3

1.9



PROPOSED COMPOUND LAYOUT PLAN

Not to Scale



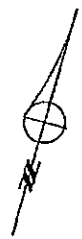
TOWER ELEVATION

LOOKING NORTH

Not to Scale

NOTES

- (N1) PROPOSED STEEL FLAG POLE ON CONCRETE CAISSON. FOUNDATION DESIGN PENDING SOIL REPORT.
- (N2) PROPOSED RADIO EQUIPMENT CABINETS ON CAST IN PLACE REINFORCED CONCRETE SLAB.
- (N3) HYDRD CONNECTION AND ROUTING TO BE DETERMINED IN CONSULTATION WITH LOCAL AUTHORITY.
- (N4) REMOVE EXISTING TOPSOIL. PROOF ROLL SUBGRADE AND PLACE 300 mm GRANULAR A ACROSS COMPOUND AREA. FINISHED GRAVEL SURFACE TO BE MIN. 150 mm ABOVE EXISTING GRADE AND SLOPED AWAY FROM CABINETS AT MIN. 1% ON ALL SIDES TO PROVIDE ADEQUATE DRAINAGE.
- (N5) PROPOSED 2.4 m HIGH PRESSURE TREATED BOARD FENCE (0.025 x 0.15 m) SURROUNDING COMPOUND.
- (N6) REMOVE EXISTING TREE IN PROPOSED COMPOUND. PLANT 1 ASH EQUIVALENT IN VICINITY. LOCATION TO BE DETERMINED IN CONSULTATION WITH THE CITY OF VAUGHAN.



Not to Scale

Compound Plan & Tower Detail



APPLICANT: City of Vaughan
 LOCATION: Part Lot 15, Concession 7

Attachment

FILE: DA.10.070

DATE: August 31, 2010

4

1.10
C3 - CW - Feb 1/11
Items 4, 5, 6, 7

The Implementation of a
Prudent Avoidance Policy for the Siting of
-Cellular Telephone Antennas -
the Experience of Toronto*

Ronald Macfarlane

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277 Victoria Street, 7th floor, Toronto, Ontario, M5B 1W2, Canada, rmacfar3@city.toronto.on.ca

Introduction

The use of wireless communication technology is increasing rapidly. In particular, cellular telephones and their associated transmission towers are becoming more widespread. Cellular telephones allow for improved communication and are becoming an integral part of how we live and work. They can enhance work productivity, improve service capabilities, and provide for increased personal or family security. However, there is an associated concern over the potential health effects of this technology, in particular the emissions of radio waves.

In Canada, the regulation of telecommunication devices is a federal matter, which is administered by Industry Canada. Telecommunication devices must meet the requirements of Safety Code 6: Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz. This code, developed by Health Canada, includes guidelines for exposure to the public. Allowable power densities for public exposures vary depending on frequency and range between 2 and 10 W/m². These are based on a threshold for behavioural effects at a specific absorption rate (SAR) of 4 W/kg and a protection factor of 50 (Health Canada, 1999).

The use of wireless telecommunication devices (e.g., radio, television, and wireless telephones) has resulted in ubiquitous radio frequency (RF) fields in the environment. On the ground, maximum power fields are usually found 30 to 250 meters from base telephone towers. Results from monitoring studies typically show levels of RF well below current Canadian exposure limits (Health Canada, 1998a; Thansandote, et al., 1996). For example, in Vancouver at a school with a roof-mounted antenna, the highest levels measured (25 times less than Canadian exposure limits) were on the roof. At ground level around the school, the maximum RF levels measured were 230 times below current standards. Indoor levels were even lower - 4,900 times below the limit (Thansandote, et al., 1999).

At the request of elected representatives, Toronto Public Health (TPH) reviewed the need for a policy of prudent avoidance for the siting of cellular (mobile) telephone base antennas in the City of Toronto. After a review of the literature and exposure standards for radio frequencies (RF), TPH concluded that a policy of prudent avoidance was justified. In its November 1999 report to the Board of Health recommended that exposures to the public should be kept at least 100 times lower than current Canadian limits (TPH, 1999). The Board of Health endorsed this recommendation and the City is presently developing a planning protocol for the siting of base antennas, which will include the recommendations for prudent avoidance. This paper outlines the rationale behind this recommendation.

*) Original paper

Health Effects

In discussing health effects of radio waves, it is common to refer to thermal, athermal and non-thermal effects, as follows:

- Thermal effects occur when there is sufficient RF energy to cause a measurable increase in the temperature of the object or person (e.g., more than 0.1°C).
- Athermal effects occur when there is sufficient energy to cause an increase in the temperature of the body, but no change in temperature is observed due to natural or external cooling.
- Non-thermal effects are those occurring when the energy of the wave is insufficient to raise temperatures above normal temperature fluctuations of the biological system being studied (RSC, 1999).

The thermal effects of RF fields in general are well known. They include changes in temperature regulation, endocrine function, cardiovascular function, immune response, nervous system activity, and behaviour (Elder, 1987; Roberts, et al., 1986; Cleary, 1990 - as cited in RSC, 1999). Current Canadian and International standards are set to prevent adverse health outcomes from the thermal effects of RF (ICNIRP, 1998; RSC, 1999).

Some of the non-thermal effects of concern that have been studied include the following: the potential to promote the formation of tumours; the increase in the permeability of the blood-brain barrier; the potential influence on the natural pain control mechanism; and, changes in sleep patterns. In 1999, at the request of Health Canada, the Royal Society of Canada (RSC) reviewed the health effects of RF. It noted that there is increasing evidence that biological effects occur at low levels of RF which do not result in any thermal effects. It concluded that it is still uncertain whether these biological effects should be considered adverse effects. However, the scientific evidence is not sufficient to rule out the possibility of adverse health effects at such low levels of exposure (RSC, 1999).

Other areas of concern are the impacts of RF on reproduction and cancer (Elwood, 1999; RSC, 1999). The RSC concluded that the weight-of-evidence available did not suggest that RF can cause cancer or reproductive effects in humans. More research is needed to confirm if RF can cause genetic damage or if biological effects would lead to adverse health impacts (RSC, 1999).

Standard Setting

Health Canada has indicated that it will review permissible exposure levels if there are demonstrable effects at low-level exposure (Health Canada, 1998b). The precautionary principle argues for caution when there are uncertainties on what level of exposure could have potential adverse effects. Waiting for confirmation of adverse effects from epidemiological studies before taking action does not adhere to a public health approach, which encourages prevention over cure. So far, human studies have not indicated a strong link between RF exposures and adverse human health effects (RSC, 1999). This is reassuring – if there are any health impacts at current levels of RF found in the environment, they are likely to be small. However, due to various methodological limitations, such studies by themselves are not sufficient as proof of either safety or harm.

In deciding whether current exposure levels of RF are a concern, there are several areas of uncertainty that need to be addressed. For example,

- **Non-thermal effects:** Current standards are based on thermal effects of RF. Available data show that biological effects do occur at levels below those where thermal effects are known to occur. While there is uncertainty in the health significance of these effects, it is also uncertain whether current standards would protect from potential adverse effects should these be confirmed.
- **Duration of exposure:** Current standards are based on short-term effects. Longer-term animal studies at lower levels of RF showed behavioural changes because of mild heat stress. Stress is known to lead to various adverse health outcomes. In addition, a doubling of cancer incidence has been reported in cancer-prone mice at average exposure levels of RF close to occupational

exposure limits. More studies are needed to confirm if long-term low level exposures can lead to adverse effects.

- Use of threshold effect: Present standards are based on a threshold rather than a no-effect level. Preference is normally given to the use of a no-adverse effect level (NOAEL) in developing environmental health standards.

A protection factor is usually considered for each of the following areas of uncertainty:

- Using data from animal studies rather than from observations in humans
- Variability in sensitivity among humans, including children and other sensitive sub-groups
- Use of data from short-term rather than long-term studies
- Severity of the effects observed, such as an adverse effect level rather than a no-adverse effect
- Quality of the overall data available (CalEPA, 1997; MDEP, 1990; US EPA, 1993)

Based on current practice of environmental standard setting in various agencies, the uncertainties identified above suggest that a protection factor of 1,000 to 10,000 is justified and prudent. Current levels for the public under Safety Code 6 incorporate a protection factor of 50. A protection factor of 10 was used for setting occupational limits and an additional factor of 5 to derive public exposure levels from occupational levels. This is less than is often customary, where a factor is used to convert exposure levels from a 40-hour work-week to continuous exposures, and an additional protection factor of 10 to take into account that some people in the general population are often more sensitive than workers. Nor does this consider that effects have been reported at occupational exposure limits. Ensuring that levels of RF were kept 100 times below Safety Code 6 recommendations would be equivalent to using a safety factor of 5,000. This is within the range given above.

Prudent Avoidance

In examining the need for a prudent avoidance policy, Toronto Public Health considered two factors:

- Specific situations where high levels of exposure may occur; and
- The weight-of-evidence that harm may occur at these levels of exposures.

There are situations where Toronto residents could be exposed to levels of RF approaching Safety Code 6. Given the degree of uncertainty as to whether or not such levels could result in adverse health effects, Toronto Public Health supports the implementation of a prudent avoidance policy. Such a policy encourages the adoption of individual or societal actions to avoid unnecessary exposures to radio frequencies that entail little or no cost.

Toronto Public Health was requested to consider a policy of prudent avoidance based on restricting the siting of base transmitter antennas a certain distance from schools and day-care centres and away from residential areas. Given the density of Toronto, the mixed land use, and the existing network of antennas, it would be difficult to implement such an approach. Toronto Public Health believes that a prudent avoidance policy that ensures that the public is exposed to levels less than those recommended by Safety Code 6 would provide a greater level of protection in a more consistent way, than limiting antennas from specific areas or by requiring a minimum set-back.

In Canada, the final authority for the approval of the installation of base transmission towers lies with Industry Canada. The City of Toronto has little direct control over this matter. Therefore, the City is working with the industry and citizens to develop a planning protocol for the siting of antennas in Toronto. This protocol will ask those who wish to install, replace or modify base antennas to show that radio frequency exposures in the areas normally used by people other than telecommunications workers (e.g. roof-top gardens, balconies, or grounds) are at least 100 times lower than those currently recommended by Safety Code 6.

The application of this prudent avoidance policy and protocol is expected to be feasible and readily achievable (see Table 4). It will also provide a rational basis with which to evaluate and respond to community concerns about both existing and future installations. The predicted exposures from single installations are very low, and thus in most cases, this policy is not expected to have an adverse impact on existing facilities. However, this policy provides an extra measure of protection as the number of installations increases in the city, and in the event that new research provides evidence that adverse effects do occur at levels which are below current standards.

References

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1.14

www.land-sbg.gv.at/celltower

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Table 1 Radio Frequency Exposure Limits for the Canadian Public

Frequency	Power Density (W/m^2)
30-300 MHz	2
300-1,500 MHz	Frequency 150
1,500 to 300,000 MHz	10

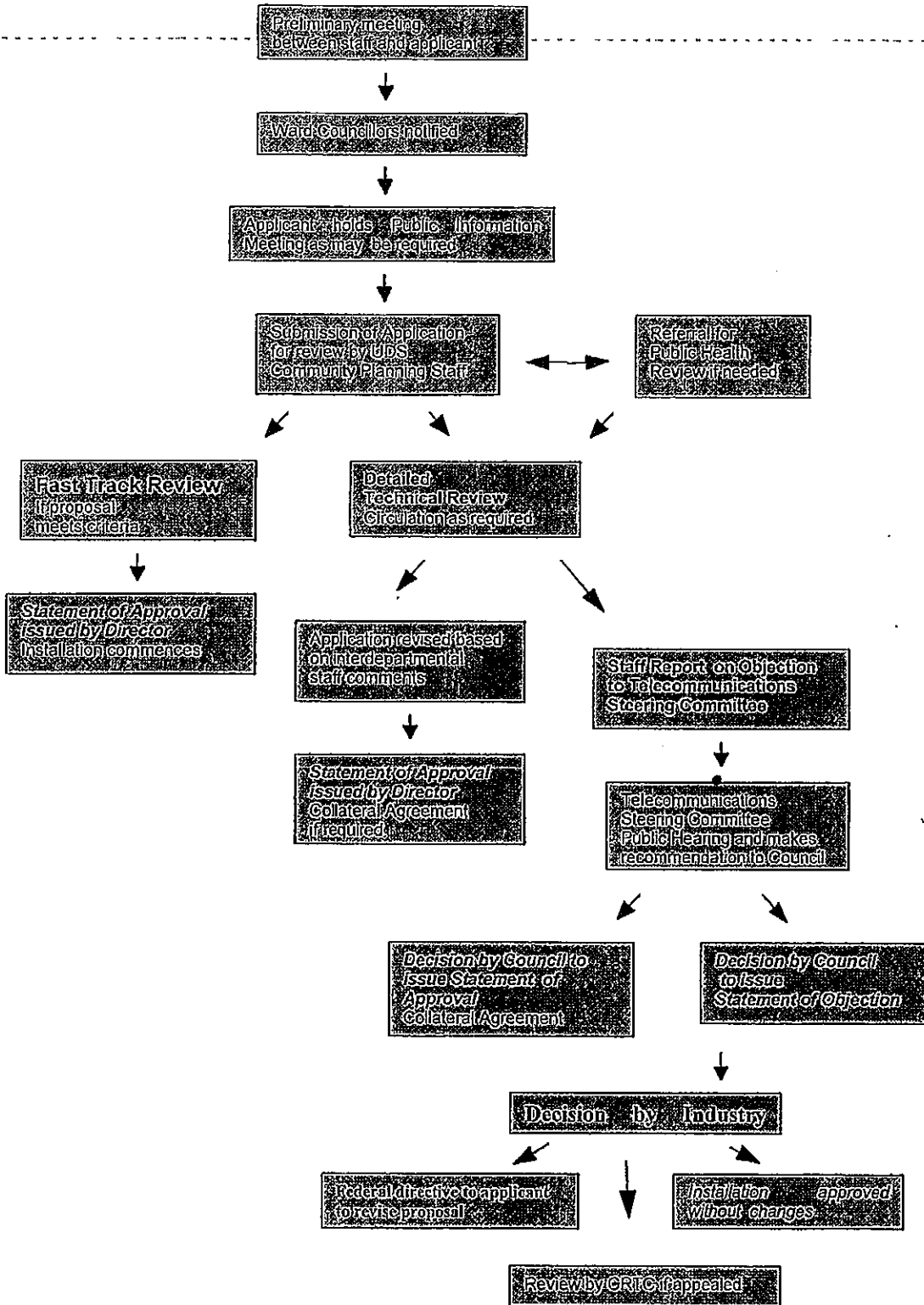
Table 2 Radio Frequencies and Health Effects below SAR of 4 W/Kg





Frequency	Exposure Level (Whole body SAR W/Kg)	Duration	Effects	Reference
Not given	1 - 3	Not given	Decreased task performance	ICNIRP, 1998
Not given	1-4	30 minutes	Temperature increase < 1°C	ICNIRP, 1998
2450 MHz	1.5	2.5 hr/day 180 days	Reduces eosinophils and white blood cell count	Guy et al., 1980
2450 MHz	1.23	8 hr/day 80 days	Difference in activity	D'Andrea et al., 1979
2450 MHz	1.2-2.2	8 hr/day 40, 85 days	Changes in red blood cells and dietary habits	Ferri and Hagan 1977
960 MHz	0.21 - 2.1 mW/Kg with carrier modulation of 217 Hz	20-40 min.	Decreased cell growth at exposures of 30 minutes or more	Kwee and Raskmark, 1998
2450 MHz	0.4 - 0.7	550 - 15750 hrs	Threshold for changes in behaviour	D'Andrea et al., 1991
2850 MHz	1 W/m^2	Not given	Increased permeability in the blood-brain barrier	Oscar and Hawkins, 1977
900 MHz pulsed	0.13 - 1.4	1 hr/day 18 months	2.4 increase in risk of lymphoma	Rechapoli et al., 1997
2450 MHz	0.14 - 0.7	7 hr/day 90 days	Changes in behaviour	D'Andrea et al., 1986
2450 MHz pulsed	0.15 - 0.4	25 months	Elevated adrenal mass; differences in immune competence	Guy et al. 1985
915 MHz	0.016 - 5 W/Kg continuous and modulated	Not given	Increased permeability in the blood-brain barrier	Salford et al., 1992, 1994

Table 3 Exposure Level Calculations

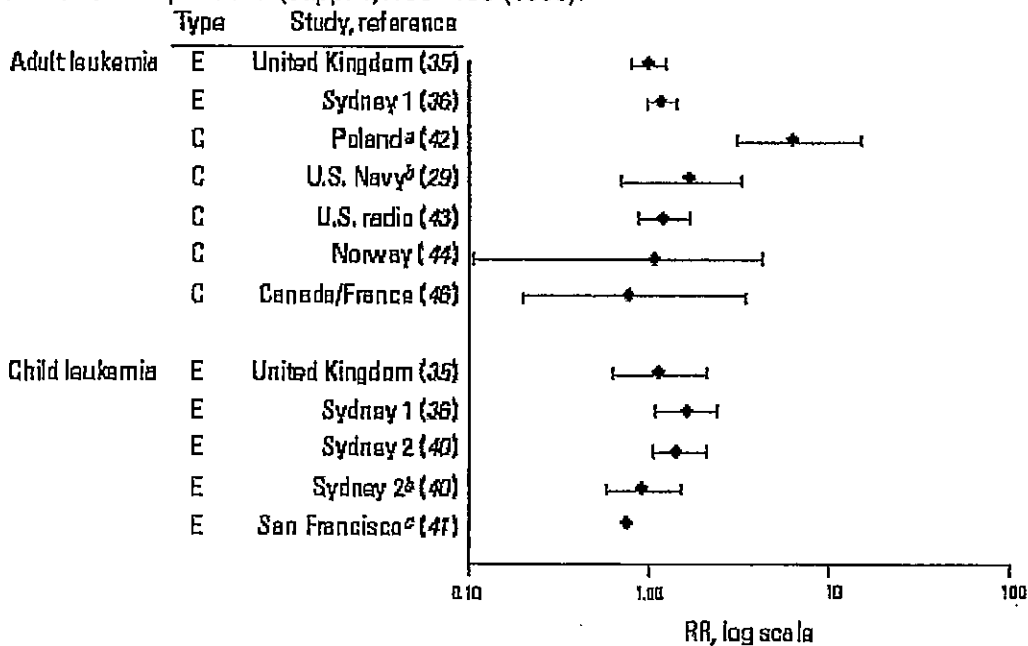
Approach	Recommended 24 hr public exposure cri- terion (W/Kg)	Modification factors
From occupational levels of 0.4 W/Kg	0.0008	÷ 10 for sensitive populations ÷ 10 for use of LOEL rather than NOEL ÷ 5 for converting to continuous exposures
From short-term studies (4 W/Kg)	0.0004	÷ 10 for use of LOEL rather than NOEL ÷ 10 for use of short-term rather than long-term ÷ 10 for extrapolation to humans ÷ 10 for sensitive populations
From long-term studies (0.14 W/Kg) (D'Andrea et al, 1986)	0.00028	÷ 10 for extrapolation to humans ÷ 10 for sensitive populations ÷ 5 for converting to continuous exposures
From long-term studies (0.13 W/Kg) (Repacholi et al, 1997)	0.00005	÷ 10 for extrapolation to humans ÷ 10 for sensitive populations ÷ 24 for converting to continuous exposures

Table 4 Proposed Process



<h3 style="text-align: center;">Exposure Level Calculations</h3> <ul style="list-style-type: none"> ■ From occupational levels of 0.4 W/Kg ÷ 10 for sensitive populations ÷ 10 for use of LOEL rather than NOEL ÷ 5 for converting to continuous exposures  <ul style="list-style-type: none"> ■ 0.0008 W/Kg (24-hr) 	<h3 style="text-align: center;">Exposure Level Calculations</h3> <ul style="list-style-type: none"> ■ From short-term studies (4 W/Kg) ÷ 10 for use of LOEL rather than NOEL ÷ 10 for use of short-term rather than long-term ÷ 10 for extrapolation to humans ÷ 10 for sensitive populations  <ul style="list-style-type: none"> ■ 0.0004 W/Kg (24-hr)
<h3 style="text-align: center;">Exposure Level Calculations</h3> <ul style="list-style-type: none"> ■ From long-term studies (0.14 W/Kg) (D'Andrea et al, 1986) ÷ 10 for extrapolation to humans ÷ 10 for sensitive populations ÷ 5 for converting to continuous exposures  <ul style="list-style-type: none"> ■ 0.00028 W/Kg (24-hr) 	<h3 style="text-align: center;">Exposure Level Calculations</h3> <ul style="list-style-type: none"> ■ From long-term studies (0.13 W/Kg) (Repacholi et al, 1997) ÷ 10 for extrapolation to humans ÷ 10 for sensitive populations ÷ 24 for converting to continuous exposures  <ul style="list-style-type: none"> ■ 0.00005 W/Kg (24-hr)

Relative risks and 95% confidence limits for studies of leukemia in adults and in children. Type of study: C, occupational cohort; E, ecological. aAll lymphatic and hematopoietic--total leukemia not given. bExcluding Lane Cove area. cNo confidence limits given; nonsignificant. Source: Elwood JM; Environ Health Perspect 107 (Suppl 1):155- 168 (1999).



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April 20, 2010.

Christine Holke David, Clerk of the Committee,
Standing Committee on Health, House of Commons,
131 Queen Street, Ottawa, Ontario, K1A 0A6,
holkec@parl.gc.ca

Dear Christine Holke David,

I would like this written submission entitled "*Urgent Need to Revise Safety Code 6 as it does NOT protect the Health of Canadians*" to be part of my testimony to the House of Commons Standing Committee on Health regarding Radio Frequency Radiation and Health.

Thank you,

Magda Havas
Associate Professor

Urgent Need to Revise Safety Code 6 as it does NOT protect the Health of Canadians.

Magda Havas, B.Sc., Ph.D.,
Environmental and Resource Studies Program,
Trent University, Peterborough, ON, K9L 1K3, Canada

Expertise: Please note that I have been teaching courses and doing research at Trent University on the Health Effects of Electromagnetic Energy since the 1990s. Prior to that time I conducted research on toxic chemicals in the environment. I have provided expert testimony in both Canada and the United States dealing with power lines and radio frequency antennas. My current research is helping doctors diagnose and treat patients with electrohypersensitivity (EHS), which has been recognized as a disability in Sweden. I work with people who are electromagnetically sensitive and who respond to microwave radiation at levels well below Safety Code 6 guidelines.

Previous Testimony House of Commons Environmental Committee: Charles Caccia invited me to address the *House of Commons Environmental Committee* on May 21, 2002. My presentation was entitled: *Wired and Wireless Electromagnetic Energy: An overview of Health Concerns and a Call for Action*. I am including the handouts that I presented to the Environmental Committee as part of my documentation (Appendix A). I expect you will find French translations of these handouts in the archives.

As I reviewed my 2002 presentation, I am sorry to say that little has changed in Canada regarding our guidelines, despite the fact that (1) many new studies have been published documenting adverse biological and health effects of radio frequency and microwave radiation (see the Bioinitiative Report at www.bioinitiative.org ; and (2) scientists and medical doctors from around the world have signed resolutions, petitions, and written advisories trying to get international guidelines lowered to protect the public against radio frequency radiation exposure (see list in Appendix B) and warnings about cell phone use (Appendix C).

Industry Canada sides with the Wireless Industry: Communities from Prince Edward Island to Vancouver Island are opposing towers and antennas placed in residential areas, near schools and daycare centres. When communities oppose tower placement, the final arbitrator is Industry Canada and they often side with the Telecom Industry. In Charlottetown, PEI, City Council voted against allowing Rogers to erect a tower near a convent and several schools/day care centres. Yet Industry Canada overruled Charlottetown City Council and provided Rogers with a license to operate. Antennas are placed in areas where there is already adequate cell phone reception, so lack of service is not the primary factor in the decisions that are made regarding the placement of antennas. This blatant disrespect for the jurisdiction of local governments and the wishes of citizens is unacceptable.

----- **Electrohypersensitivity --an Emerging Health Crisis:** If the number of emails and phone calls I receive on a daily basis from people who are ill because of this radiation or who are trying to prevent yet another antenna in their neighbourhood is any indication of what is happening on a much larger scale, then we are experiencing an environmental health crisis that is likely to erupt as unpredictably as a volcano. This illness (electrohypersensitivity) is debilitating and those who are severely affected are no longer able to work. Three percent of the population has severe sensitivity and 35% of the population may be moderately sensitive to this radiation and this figure comes from peer-reviewed research I conducted in schools in both Canada and the United States (Havas and Olstad 2009, Havas et al. 2004).

It is particularly heart breaking when children become ill following exposure to the radiation from mobile phones and wireless routers that Health Canada tells us is perfectly safe since the levels are below thermal effects. The assumption that the only biological effect of microwave radiation is thermal, is just that, an assumption that has been repeatedly demonstrated to be false.

A Royal Society Report (1999) reviewed Safety Code 6 and this report stated that biological effects occur below SC6 guidelines and that some of these biological effects may cause adverse health effects. This report was published in 1999, yet the guidelines have not changed substantially. Indeed, one change that has occurred is that Health Canada removed a phrase from their 1999 guideline that stated: "*Certain members of the general public may be more susceptible to harm from RF and microwave exposure*" (page 11). It is unclear why this statement was removed.

The Canadian Human Rights Commission recognizes that electromagnetic exposure is one cause of environmental sensitivities (Sears 2007).

Cardiovascular Disease: We have scientific evidence that microwave radiation from a cordless DECT phone affects the heart and causes arrhythmia and tachycardia in double blind placebo experiments. This could be life threatening to those with heart disease (Havas et al. 2010). This research is peer-reviewed and a short youtube video of it is available at: <http://www.youtube.com/watch?v=EI9fZX4iww>.

Cancer: We have evidence that there is an increase in various types of ipsilateral tumors including gliomas, acoustic neuromas, salivary gland tumors, and uveal melanomas by those who have used a cell phone for 10 years or longer. Some of this evidence was presented to the U.S. Senate Committee on Cell Phones in September 2009. A short video clip of the Senate hearing (10 minutes) is available at: <http://www.youtube.com/watch?v=npK5HsxukyA>.

Reproductive Problems: Using cell phones has also been linked to reproductive problems associated with abnormal sperm and behavioural problems with children born to mothers who used their cell phones while pregnant. See: <http://www.youtube.com/watch?v=K4uz2TucwnI>.

Environmental Petition: I have submitted two environmental petitions to the Auditor General of Canada in 2008. One concerns **cordless DECT phones** that radiate unnecessarily 24-hours a day and are making people ill (Havas 2008). The other Environmental Petition concerns **energy efficient compact fluorescent lighting (CFL)** that is also making people ill and is a concern

----- raised by the UK Dermatological Association, Migraine Action, and Epilepsy Action (Havas and Hutchinson 2008). CFL are not only bad for human health because of the UV radiation, dirty electricity, and radio frequency radiation they emit, but they also contain mercury, which is a neurotoxin, is bad for the environment and is of particular concern if broken inside the home. Even the lighting industry recognizes the future of CFLs is far from bright as they are trying to replace them with LEDs as quickly as possible.

The Canadian Government, and especially Health Canada has failed to do its homework and has allowed products that are harmful to human health. Their lack of foresight and their response to the Auditor General Petition is a disgrace. Whether their response is due to incompetence or to collusion with industry is difficult to determine but they are failing to protect the Health of Canadians as their name implies.

Credibility of government agencies responsible for the Health of the Environment and for Human Health is at an all time low. This includes the World Health Organization as demonstrated by the Interphone Study, which involved 13 countries, cost millions of dollars, and was supposed to be release 4 years ago. We are told that the “scientists can’t agree on the interpretation of the results. When the WHO was encouraged to release the results without interpretation, they refused to do so.

Collusion between government regulatory agencies and multinational companies is so serious that several books are being written on this topic. I would strongly encourage you to read “Doubt is Their Product”, “Bending Science”, and “Environmental Skepticism”. These 3 books document why attempts to protect the environment and to protect human health are failing. The multinational companies with their billion dollar profits are far too influential within the walls of government.

Quote from *Environmental Skepticism: Ecology, Power and Public Life*.

“Environmental skepticism is the position that major environmental problems are either unreal or unimportant [or] . . . inauthentic.”

Quote from *Bending Science: How reliable is the science that federal regulators and legislators use to protect public from dangerous products?*

“As this disturbing book shows, ideological or economic attacks on the research are part of an extensive pattern of abuse. Bending Science makes a compelling case for reforms to safeguard both the integrity of science and the public health” (Harvard University Press 2008).

Quote from *Doubt is Their Product: How Industry’s Assault on Science Threatens your Health*.

“For almost half a century, the tobacco companies hired consultants and scientists—swarms of them, in times of greatest peril—initially to deny (sometimes under oath) that smokers were at greater risk of dying of lung cancer and heart disease, then to refute the evidence that secondhand smoke increases disease risk in nonsmokers. The industry and its scientists manufactured uncertainty by questioning every study, dissecting every method and disputing every conclusion. What they could not question was the enormous, obvious casualty

-----count—the thousands of smokers who die every day from a disease directly related to their habit—but no matter. Despite the overwhelming scientific evidence, the tobacco industry was able to wage a campaign that successfully delayed regulation and victim compensation for decades—and it is still doing so.”

Unfortunately, the same tactics are used by the telecommunication industry. Research funded by either the military or by the wireless industry predominantly shows no adverse effects of this technology, where as research independently funded shows the reverse. Henry Lai, at the University of Washington, as well as others (Huss et al. 2007), have documented this inverse relationship between adverse biological effects and source of funding. If the research was truly independent than both groups should document similar results.

This denial of any biological or health effects, especially in the face of so many studies documenting adverse effects is difficult to comprehend.

In a recent presentation in Thunder Bay (February 22, 2010), where the President of Lakehead University--Dr. Fred Gilbert--has opted in favor of wired rather than wireless internet access, Dr. Lai presented studies that document the following effects of radio frequency radiation: cancer, cellular/molecular disruption, changes in electrophysiology and behavior, affects on the nervous system, altered permeability of the blood-brain barrier, changes in calcium flux, cardiovascular disorders, hormonal and immunological changes, altered metabolic rate, reproductive problems and subjective symptoms (electrohypersensitivity).

Safety Code 6 Guidelines are Inadequate to Protect Public Health: The current guidelines we have in Canada for radio frequency radiation are orders of magnitude higher than in countries like Russia (1% of SC 6) and Salzburg, Austria (0.01% of SC 6). It is unlikely that Russians are more sensitive to this radiation and thus need more protective guidelines. While guidelines for chemical toxicants may vary slightly from country to country we have no other example, that I'm aware of, where guidelines range 4 orders of magnitude.

Canada has no long-term guidelines for radio frequency radiation exposure. Our exposure guideline is based on power density averaged over a 6-minute period. This was an engineering guideline rather than a biological guideline as living organisms are affected by extremes not averages. It is woefully inadequate and misguided.

Recommendations: The time is long overdue to re-evaluate Safety Code 6 and reduce guidelines to protect the Canada population. It is also necessary to bring in legislation to limit the placement of antennas near schools and other sensitive areas; to establish wireless-free zones for those who are sensitive; and to fund research on electrosensitivity and especially on the means by which this illness can be reversed and eradicated.

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Jacques, P.J. 2009. *Environmental Skepticism, Ecology, Power and Public Life*. Ashgate Publishing Company, Burlington, Vermont. 222 pp.

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Royal Society of Canada. 1999. A Review of the Potential Health Risks of Radiofrequency Fields from Wireless Telecommunication Devices An Expert Panel Report prepared at the request of the Royal Society of Canada for Health Canada, March 1999.

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Appendix 1.

House of Commons, Environmental Committee. notes 2002

Wired and Wireless Electromagnetic Energy: An Overview of Health Concerns and a Call for Action. Oral Presentation by Dr. Magda Havas to the House of Commons Environmental Committee, May 21, 2002.

Attached are notes submitted to the Environmental Committee prior to translation (see pdf Havas Caccia RFR 02 HO). The French translation should be available in the Environmental Committee Archives.

Appendix 2.
**Resolutions and Appeals by International Groups of Scientific
and Medical Doctors.**

- 2000:** **Salzburg Resolution, Austria.** Scientists recommend 0.1 microW/cm² for radio frequency radiation exposure [www.landsbg.gv.at/celltower]. Guideline in U.S. is 1000 microW/cm². No long-term guideline exists in the U.S.
- 2002:** **Catania Resolution, Italy.** Scientists recognize adverse health effects of EMF at levels below international guidelines. [www.emrpolicy.org/faq/catania.pdf]
- 2002:** **Freiburger Appeal, Germany.** Physicians request tougher guidelines for radio frequency exposure, endorsed by hundreds of healthcare practitioners. [www.mastsanity.org/doctors-appeals.html]. Read quote from this appeal on next page.
- 2004:** **World Health Organization, Workshop on ElectroSensitivity, Czech Republic, Oct 2004.** Scientists recognize electrohypersensitivity and propose calling it “idiopathic syndrome”, which means “no known cause”.
- 2005:** **Irish Doctors’ Environmental Association (IDEA), Ireland.** Doctors recognize electrohypersensitivity (EHS) is increasing and request advice from government on how to treat EHS [www.ideaireland.org].
- 2005:** **Helsinki Appeal, Finland.** Call for new safety standards, reject International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines. [www.emrpolicy.org/headlines/helsinki_appeal_05.pdf]
- 2006:** **Benevento Resolution, Italy.** Scientists recognize adverse health effects, recommend precautionary principle, identify funding biased studies, recognize need for wireless-free zones [www.icems.eu]-International Commission for Electromagnetic Safety.
- 2007:** **BioInitiative Report, USA.** Reviewed 2000 studies showing biological effects of ELF and RF radiation and calling for biologically based exposure guidelines. [www.bioinitiative.org]
- 2008:** **Venice Appeal, Italy.** Scientists recognize biological effects at non-thermal levels, that standards are inadequate, that electro-sensitivity exists and that there is a need to research mechanisms. [www.icems.eu/resolution.htm]
- 2009:** **Porto Alegre Resolution, Brazil.** Scientists and doctors recognize electrohypersensitivity and are concerned that exposure to electromagnetic fields may increase the risk of cancer and chronic diseases; that exposure levels established by international agencies (IEEE, ICNIRP, ICES) are obsolete; and that wireless technology places at risk the health of children, teens, pregnant women and others who are vulnerable.

Appendix 3:**Warnings about Cell Phones**

United Kingdom: “. . . we believe that the widespread use of mobile phones by children for non-essential calls should be discouraged.” (Stewart Report 2000)

Germany: People should avoid using Wi-Fi wherever possible because of the risks it may pose to health. (2007)

France: The French government is warning consumers to avoid “excessive” cell phone use because of concerns that mobile phone use could increase the risk of some cancers . . . children who use cell phones face the most danger from the devices. (2008). Cell phones banned in primary schools and models cannot be used near the ear.

Russia: Children under the age of 18 should not use cell phones (2008).

India: Ministry of Télécommunication recommends that children, pregnant women and people suffering from heart ailments limit use of mobile phones (2008).

Toronto Board: Children under 8 should use cell phones for emergencies only and teens should limit calls to under 10 minutes (2008).

Pittsburgh Cancer: Head of prominent cancer research institute warns faculty and staff to limit cell phone use because of the possible risk of cancer (2008).

Belgium: Discourage the use of cell phones by children (2008).

Finland: The Radiation and Nuclear Power Authority urges parents to err on the side of caution, because . . . there is no definitive research indicating the absence of health risks from cell phone use (2009).

Seoul Korea: “Cellular phones could harm the study atmosphere at schools and could cause health risks for kids. It is desirable to prohibit students from using cell phones at schools.” (2009).

U.S. FCC: Consumer Facts: Recommends precautionary steps for use of cell phones (2009).

XXX

Electro Hypersensitivity

Talking to Your Doctor

In addition to numerous other health problems, electromagnetic pollution has been associated with an increase in the number of individuals suffering from a condition known as electrohypersensitivity (EHS). EHS is defined by the World Health Organization as: "...a phenomenon where individuals experience adverse health effects while in the vicinity of devices emanating electric, magnetic, or electromagnetic fields."

In Sweden, it is classified as a disability and health care facilities with low levels of exposure to electromagnetic fields and radiofrequency radiation are available. The Canadian Human Rights Commission report also acknowledges environmental sensitivity attributed to electromagnetic exposure. (28) Researchers estimate that approximately 3% of the population has severe symptoms of EHS, and another 35% of the population has moderate symptoms such as an impaired immune system and chronic illness (Havas, 2007).

Because EHS is an **environmental sensitivity**, avoidance of triggers is essential in preventing symptoms and regaining good health. Like other environmental sensitivities, EHS presents with a variety of symptoms and it is common to have overlapping conditions. For instance, Multiple Chemical Sensitivity and Fibromyalgia, among other illnesses, are common in people with EHS and severity of symptoms in people with M.S., Diabetes, and other illnesses have been shown to be exacerbated with exposure to electromagnetic fields (EMF) and abated with mitigation of the EMF source(s).

SYMPTOMS OF ELECTRO HYPERSENSITIVITY

The biological effects from exposure to EMF/EMR include both adverse health effects and loss of homeostasis and well-being. Symptoms vary from patient to patient depending on their physical biology and exposure intensity and duration. Symptoms quickly improve when away from EMF/EMR sources, particularly when the patient moves away from computers, fluorescent lighting, transformers, wireless antenna, cell and cordless phones,

appliances and out of proximity to cell phone towers, electrical substations and power lines. All these are potential sources of higher than normal EMF/EMR exposure. Symptoms recur on returning to the irradiated environment. Over time, sensitivity is increased to smaller and smaller EMF/EMR exposures. (Sage, 2001)

SYMPTOMS OF ELECTRO HYPERSENSITIVITY					
Neurological		Cardiac	Respiratory	Dermatological	Ophthalmologic
headaches	depression	palpitations	sinusitis	skin rash	deteriorating vision
difficulty concentrating	anxiety	pain or pressure in the chest	asthma	facial flushing	pain or burning in the eyes
muscle and joint pain	confusion and spatial disorientation	low or high blood pressure	bronchitis	itching	pressure in/behind the eyes
memory loss	fatigue	shortness of breath	pneumonia	burning	floaters
dizziness	weakness	arrhythmias			cataracts
nausea	tremors	slow or fast heart rate		swelling of face and neck	
irritability	muscle spasms				
numbness	leg/foot pain				
tingling	"Flu-like" symptoms				
hyperactivity	fever				
altered reflexes	insomnia				
OTHER					
digestive problems	abdominal pain	testicular/ovarian pain/swelling	enlarged thyroid	great thirst	dehydration
nosebleeds	internal bleeding	hair loss	pain in the teeth	deteriorating fillings	Light sensitivity
swollen lymph nodes	loss of appetite	hypoxia	allergies	frequent urination and incontinence	night sweats
immune abnormalities	redistribution of metals within the body	ringing in the ears (tinnitus or similar chronic ear-noise)	impaired sense of smell	altered sugar metabolism	dryness of lips, tongue, mouth, eyes
Severe reactions can include seizures, paralysis, psychosis, and stroke					

BIOLOGICAL EFFECTS OF EMF/EMR EXPOSURE

(Excerpted from: Do You Have Microwave Sickness? Paul Doyon)

Exposure to EMF/EMR:

Induces Oxidative Damage leading to depletion of the body's natural store of antioxidants like Super Oxide Dimutase (SOD), Catalase, Glutathione, CoQ10, and Melatonin. When the body becomes depleted in antioxidants, premature aging, increased infections, and sticky blood are just a few of the consequences. With a depressed level of antioxidants in the blood, for example, high-density lipoproteins (HDL) or the good cholesterol will bind with free radicals (oxidants) turning the good cholesterol into bad cholesterol or low-density lipoproteins (LDL).

Affects an abnormal influx of calcium into cells. When there is an abnormal influx of calcium into mast cells, for example, they produce histamine. This is just one of the ways in which microwave exposure has been known to trigger or aggravate allergic reactions.

Induces mitochondria dysfunction. The mitochondria are the powerhouse of the cell. Dysfunctional mitochondria will interfere with the cells' ability to produce energy and can be linked to fatigue and possibly even obesity.

Depolarizes the body's red blood cells, causing them to clump together. When this happens, the amount of oxygen getting to the brain cells and the cells of the body's other organs is diminished substantially leading to hypoxia. This can cause symptoms similar to altitude sickness: nausea, dizziness, inability to concentrate, and so on.

Induces a decrease in the numbers of Natural Killer (NK) cells. This leads to the body's weakened ability to recover from viral and other types of infections. Therefore, people exposed to microwave radiation would take longer than normal to recover from your day-to-day infections.

Long-term microwave radiation has been shown to change a particular form of white blood cell (lymphocyte) ratio - known as the T-helper/T-suppressor (T4/T8) cell ratio - from normal to abnormal. Abnormalities in this T-lymphocyte ratio have been shown to lead to an increased susceptibility to viral, fungal, and bacterial infections. Symptoms include sore throats, low-grade fevers, weakness, persistent fatigue, and swollen lymph glands.

Increases viruses, bacteria, mold, parasites, and yeast in the blood of the human host.

Induces what is known as "subliminal" stress causing the adrenal glands to excrete an abnormally greater amount of cortisol and adrenaline. Excretion of adrenaline, for one, can lead to irritability and a feeling of hyperactivity - the latter now very common in children with ADHD. In a continuous state this will eventually lead to adrenal exhaustion. Excessive cortisol has been linked to obesity.

Causes a decrease of 5-HT in the blood. 5-HT is a precursor to the production of the brain hormone serotonin. Low levels of serotonin have been linked to anxiety and depression. An increase in anxiety and depression can in turn be linked to an increase in the number of suicides.

Induces a decrease in levels of the brain hormone norepinephrine. This hormone is essential for control of the autonomic nervous system, and lack of it can lead to autonomic nervous system disorders. For example, if the autonomic nervous system is not working properly, the body will have trouble regulating its temperature - i.e. cooling itself when it is warm and heating itself when it is cold. An abnormal decrease in norepinephrine levels has also been connected to short-term memory disturbances and depression.

Alters production of melatonin. This brain hormone and antioxidant is necessary for proper sleep. 42 million (approximately one in five) Americans now take sleep medication for insomnia while others often experience sleep disturbances due to exposure to electromagnetic radiation (EMR). A drop in melatonin levels has also been connected with increases in breast cancer.

Reduces the levels of the brain hormone, dopamine. A drop in dopamine levels have been linked with depression.

Affects an abnormal drop in the levels of the neurotransmitter acetylcholine. A drop in the levels of this neurotransmitter has been linked to a number of neurological and neuromuscular disorders - including Alzheimer's disease.

Induces restlessness and hence may very well also be responsible for a syndrome called restless leg syndrome (RLS).

Alters regional cerebral blood flow. In conditions like autism and chronic fatigue syndrome (CFS) it has been shown via SPECT

The Canadian Human Rights Commission approved a Policy on Environmental Sensitivities on June 15th 2007. EHS is included in this report and is recognized as a disability.
http://www.chrc-ccdp.ca/legislation_policies/policy_environ_politique-en.asp

Diagnostic Criteria

Diagnostic criteria are such that independent physicians would come to the same conclusion when examining a particular patient. This is important both for treatment purposes and for research.

With regard to multiple chemical sensitivity, thirty-four experienced North American physicians and researchers who had examined patterns of symptoms in thousands of people reached a consensus regarding criteria to establish a diagnosis:

- symptoms are reproducible with repeated exposure;
- the condition is chronic;
- low levels of exposure [lower than previously or commonly tolerated] result in manifestations of the syndrome;
- symptoms improve or resolve when the incitants are removed;
- responses occur to multiple chemically unrelated substances; and
- symptoms involve multiple organ systems.

A systematic literature review confirmed the diagnostic criteria, and suggested that neurological symptoms could be an additional criterion. The consensus diagnostic criteria were also validated, as they identified those most and least likely to be affected among 2,546 patients in Toronto medical practices with high and low prevalence of patients with sensitivities. In the same study, a combination of four neurological symptoms also discerned people most likely affected by multiple chemical sensitivities: having a stronger sense of smell than others; **feeling dull/groggy; feeling "spacey;" plus having difficulty concentrating.** A pattern consistent with these diagnostic criteria is also reported for sensitivities to electromagnetic phenomena.

"Environmental sensitivities" does not describe a single, simple condition with a universal cause. Environmentally sensitive individuals link their symptoms to aspects of their environment such as being in a particular place or being exposed to one or more factors such as chemicals, biological materials or **electromagnetic phenomena.** Table 1 lists some terms that have been used to describe aspects of environmental sensitivities.

Adding to the complexity of the clinical picture are overlapping conditions, also listed in Table 1. Environmental exposures may not contribute to all these conditions in all patients, but one should be alert to the possibility that a range of factors may contribute to an individual's ill health.

Table 1: Names used for aspects of environmental sensitivities and commonly overlapping conditions

<u>Aspects of Environmental Sensitivities</u>	<u>Commonly Overlapping Conditions</u>
State of heightened reactivity to the environment	Fibromyalgia
Total allergy syndrome	Myalgic encephalomyelitis (ME) Chronic fatigue syndrome
Toxicant-Induced Loss of Tolerance (TILT)	Post-viral fatigue syndrome
Multiple chemical sensitivity(ies) (MCS)	Post-infectious neuromyasthenia
Multiple chemical hypersensitivity(ies)	Yuppie flu
Chemical intolerance(s)	Chronic pain
Gulf War illness/syndrome	Migraine
Idiopathic environmental intolerance	Arthritis
Environmental illness	Allergies
Chemical injury/allergy	Rhinitis
Toxic injury	Asthma
Tight building syndrome	Food Intolerance syndrome
Sick building syndrome	Celiac disease
Twentieth century disease	Irritable bowel syndrome
Chemically induced illness	Major depression
Chemophobia	Anxiety or panic disorder
Electromagnetic (hyper) sensitivities /intolerance	Hypothyroidism
Radiowave sickness	

(http://www.chrc-ccdp.ca/research_program_recherche/esensitivites_hypersensibilitee/page2-en.asp#21)

TREATMENT

(Excerpted from *The Medical Perspective on Environmental Sensitivities* > Page 6 The Canadian Human Rights Commission Research Project)

Early recognition, avoidance of symptom-triggering agents, environmental control, treatments that may reduce residual toxins and recovery of normal biological processes are key to regaining health for people with sensitivities. Without mitigation of the incitant, people with environmental sensitivities may become severely debilitated.

The most immediate and effective course of action is to avoid all sources of electromagnetic radiation.

Once exposure to incitants is eliminated, helpful interventions include:

- treating gastrointestinal infections which, if untreated, can lead to absorption of internal toxins and large-molecule food antigens, or conversely, may lead to poor absorption of nutrients;
- regimens to enhance detoxification and elimination such as sauna and exercise therapy;
- reduction of heavy metal contamination using oral and intravenous chelation for toxic metals (shown to be safe to treat lead in children; it is currently in clinical trials for children with autism);
- oral and intravenous vitamins;
- securing hormonal homeostasis, given that many of the toxins observed are endocrine disruptors;
- correcting biochemical irregularities;
- psychological, social and spiritual support;
- occupational accommodation.

The Environmental Health Clinic at the The New Women's College Hospital, Toronto, Ontario
<http://www.womenscollegehospital.ca/programs/program76.html>

All patients with suspected Environmental Sensitivities would benefit greatly from attending this clinic.

The Environmental Health Clinic is a unique multidisciplinary clinic, and the only one of its kind in Ontario. It was established in 1996 by the Ministry of Health and Long Term Care to be a provincial resource in promoting environmental health, and to improve health care for people with environment-linked conditions such as Chronic Fatigue Syndrome, Fibromyalgia and Multiple Chemical Sensitivities.

The Environmental Health Clinic is the clinical part of a joint clinical and research program of Women's College Hospital and the University of Toronto.

The purpose of the Clinic is to:

- Educate our clients, the public and health-care professionals about environmental health issues
- Provide a comprehensive multidisciplinary assessment for clients with Environmental Sensitivities/Intolerances (and related conditions), Chronic Fatigue Syndrome and Fibromyalgia, and to make recommendations to their treating physicians regarding the management of their ongoing health care needs
- Gain a better understanding of the health-care needs of those with Environmental Sensitivities/Intolerances, Chronic Fatigue Syndrome and Fibromyalgia through participation in clinical research a better understanding of the health-care needs of those with Environmental Sensitivities/Intolerances, Chronic Fatigue Syndrome and Fibromyalgia through participation in clinical research

A physician referral is required. To have a referral package mailed to you, call toll free 1-800-417-7092.

THE CONTROVERSY

(Excerpted from the *Bioinitiative Report*, <http://www.bioinitiative.org/report/>)

Problems with Existing Public Health Standards (Safety Limits)

Today's public exposure limits for telecommunications are based on the presumption that heating of tissue (for RF) or induced electric currents in the body (for ELF) are the only concerns when living organisms are exposed to RF.

In the past, scientists and engineers developed exposure standards for electromagnetic radiation based on what we now believe are faulty assumptions that the right way to measure how much non-ionizing energy humans can tolerate (how much exposure) without harm is to measure only the heating of tissue (RF) or induced currents in the body (ELF). In the last few decades, it has been established beyond any reasonable doubt that bioeffects and some adverse health effects occur at far lower levels of RF and ELF exposure where no heating (or induced currents) occurs at all; some effects are shown to occur at several hundred thousand times below the existing public safety limits where heating is an impossibility.

Effects occur at non-thermal or low-intensity exposure levels thousands of times below the levels that federal agencies say should keep the public safe. For many new devices operating with wireless technologies, the devices are exempt from any regulatory standards. The existing standards have been proven to be inadequate to control against harm from low-intensity, chronic exposures, based on any reasonable, independent assessment of the scientific literature. The explosion of new sources of RF and ELF has created unprecedented levels of artificial electromagnetic fields that now cover all but remote areas of the habitable space on earth.

Main Reasons for Disagreement Among Experts

1. Scientists and public health policy experts use very different definitions of the standard of evidence used to judge the science, so they come to different conclusions about what to do. Scientists do have a role, but it is not exclusive and other opinions matter.
2. We are all talking about essentially the same scientific studies, but use a different way of measuring when "enough is enough" or "proof exists".
3. Some experts keep saying that all studies have to be consistent (turn out the same way every time) before they are comfortable saying an effect exists.
4. Some experts think that it is enough to look only at short-term, acute effects.
5. Other experts say that it is imperative we have studies over longer time (showing the effects of chronic exposures) since that is what kind of world we live in.
6. Some experts say that everyone, including the very young, the elderly, pregnant women, and people with illnesses have to be considered -- others say only the average person (or in the case of RF, a six-foot tall man) matter.
7. There is no unexposed population, making it harder to see increased risk of diseases.
8. The lack of consensus about a single biological mechanism of action.
9. The strength of human epidemiological studies reporting risks from ELF and RF exposures, but animal studies don't show a strong toxic effect.
10. Vested interests have a substantial influence on the health debate.

No one would recommend that drugs used in medical treatments and prevention of disease be randomly given to the public, especially to children. Yet, random and involuntary exposures to EMFs occur all the time in daily life.

Medical conditions are successfully treated using EMFs at levels below current public safety standards, proving another way that the body recognizes and responds to low-intensity EMF signals. Otherwise, these medical treatments could not work. The FDA has approved EMF's medical treatment devices, so is clearly aware of this paradox.

RECOMMENDED READING

Resources are endless on this topic. Here are some links to highly recommended reading materials.

The BioInitiative Report

<http://www.bioinitiative.org/report/index.htm>

By the BioInitiative Working Group. An international working group of scientists, researchers and public health policy professionals (The BioInitiative Working Group) has released its report on electromagnetic fields (EMF) and health. They document serious scientific concerns about current limits regulating how much EMF is allowable from power lines, cell phones, and many other sources of EMF exposure in daily life.

The Canadian Human Rights Commission Policy on Environmental Sensitivities.

http://www.chrc-ccdp.ca/legislation_policies/policy_envIRON_politique-en.asp?lang_update=1

Evidence that Electromagnetic Radiation is Genotoxic: The implications for the epidemiology of cancer and cardiac, neurological and reproductive effects

by Dr. Neil Cherry June 2000

<http://www.whale.to/b/cherry6.html>

WEEP Canadian Initiative to stop Wireless, Electric, and Electromagnetic Pollution.

<http://weepinitiative.org>

TOWN OF MARKHAMPolicy for Establishing Telecommunication
Towers

June 2009

INTRODUCTION

Radiocommunications and broadcasting services (e.g. personal communications services and cellular, fixed wireless, broadcasting, etc.) have become an important component of the way business, and society in general, operates today. These services are used daily by the public, safety and security organizations, government, wireless service providers, broadcasters, utilities and businesses; from cell phones and pagers to instant text and photo messaging, e-mail messages and connection to the web. For these services to work, systems including masts, towers, antennae and other supporting structures are required. There is a certain amount of flexibility in the placement of Telecommunication Towers constrained by some degree by: the need to achieve acceptable coverage for the service area; the availability of sites; technical limitations; and safety. Accordingly, municipalities are experiencing an increasing demand to accommodate Telecommunication Towers by balancing the location and design requirements of the Proponent with the desire to minimize the impact on the community and local surroundings.

The approval authority for Telecommunication Towers is with Industry Canada under the *Radiocommunication Act*. Their most recent release of a "Client Procedures Circular" was June 2007, which came into effect on January 1, 2008 ("CPC-2-0-03"). CPC 2-0-03 outlines the process that must be followed by Proponents seeking to install or modify a Telecommunication Tower, where a Land Use Authority ("LUA") does not have a consultation protocol. Although Industry Canada has provided a Default Public Consultation Process in CPC 2-0-03, they encourage the establishment of policies from LUA's recognizing they are best positioned to contribute to optimum siting of facilities to meet their own community needs. The Town of Markham established its own policy in June 2002 and due to Industry Canada's update and changing technology, the Town is proposing to update its policy at this time. The purpose of this policy is to provide guidance to the Town, Proponents, and the general public in considering proposals to locate Telecommunication Towers within the Town of Markham.

It is intended that by outlining the procedures to be followed for Telecommunication Tower proposals, a framework for identifying and resolving any land use conflicts at an early stage in the process will be established. The consultation process for a Telecommunication Tower will be in accordance with the Town's site plan process, as outlined in this policy. It is acknowledged that Proponents following the Town's usual site plan process are not subject to Site Plan approval in accordance with the *Planning Act*. Final approval for Telecommunication Towers is with Industry Canada. It is anticipated that Proponents will continue to pursue innovative technology that will reduce the visual impact on the community.

DEFINITIONS

Co-location means the sharing of a Telecommunication Tower by two or more Proponents.

Telecommunication Tower - means all types of towers including but not limited to: a monopole; tripole; lattice tower; guyed tower; self-support tower; pole; mast; or other structure, which are used to support one or more telecommunication antennae for the purpose of radio telecommunications and which may be located at ground level or on the roof of a building.

Proponent means a company, organization or person that is subject to Industry Canada's CPC-2-0-03, or its successors.

OBJECTIVES

The intent of this policy is:

- to balance demands for new Telecommunication Towers on both private and publicly owned property, with
 - i) a desire to preserve the natural and cultural landscape and minimize community impacts
 - ii) a view to generating a new source of non-assessment based revenue for the Town;
- to outline a general process to be followed by the Proponent and the Town for reviewing and commenting on Telecommunication Tower proposals, which are not exempt by this policy, and to provide an opportunity for public consultation;
- to provide for high calibre wireless telecommunications service, in order to promote economic development, and meet the business and safety needs of the public and community;
- To provide a process to implement Industry Canada's CPC-2-0-03 for all Proponents;
- To clarify that the Town of Markham is the designated "Land Use Authority" (LUA) for all lands within the Town of Markham municipal boundaries.

PRELIMINARY CONSULTATION

Where not exempt from the requirement to consult with the Town under this policy, preliminary consultation shall be required between Proponents and Town staff through a process outlined on Markham's web page at Markham.ca under Forms and Applications and Planning. At the pre-consultation meeting, municipal staff shall provide details outlining:

- consider the appropriateness of the proposed location and/or appropriateness of co-location opportunities
- provide preliminary comments;
- the process to be followed, including requirements for public consultation;
- any additional documents, drawings required as part of the application;
- fees for the application;
- list of agencies to be consulted; and
- location of Town owned land or facilities that may be a suitable site for a Telecommunication Tower.

Where not exempt from the requirement to consult with the public under this policy, the Proponent will be requested to consult adjacent municipalities within 120 metres or three times the height of the proposed Telecommunication Tower, whichever is greater, by circulating proposals to the Clerk and Planning Director/Commissioner of the adjacent municipality. The Proponent shall provide confirmation of this consultation to the Town.

SITE SELECTION CRITERIA

The Proponent shall make every effort to identify a location that minimizes the total number of Telecommunication Towers in the area, existing or proposed. In this regard, the Proponent shall be encouraged to co-locate on existing Telecommunication Towers, such as water towers, rooftops, existing towers, etc. wherever possible. Proponents shall consider the visual impact when proposing co-location on existing Telecommunication Towers within sensitive areas such as residential zones in consultation with Staff. Where Proponents require a new Telecommunication Tower to meet network needs, when selecting a location, the following shall be considered:

- maximizing the distance from residential zones, where possible, and minimizing any negative visual impacts;
- avoiding significant natural features (both topographic and vegetative), including hazard lands (floodplains, steep slopes);
- avoiding areas of topographical prominence, where possible, to minimize any negative visual impacts;
- ensuring that access requirements are sensitively integrated ;
- avoiding new Telecommunication Towers in Heritage Conservation Districts and Heritage Conservation Study Areas; and
- consider the use of Town owned lands and/or facilities where technically feasible and of a location and design acceptable to the Town.

DESIGN

Where co-location is not available, a Telecommunication Tower shall be located and designed to minimize visual impact and to avoid disturbance of significant natural features. The type, size, location, height, width, configuration, and colour of a Telecommunication Tower shall be selected to blend in with the surroundings to be as unobtrusive as possible, where permitted by Transport Canada and/or NAV Canada. (Landscaping or a lump sum cash payment in lieu of landscaping will be provided where appropriate, at the discretion of the Town.)

Telecommunication Towers should be designed to fit into and be compatible with the immediate context and the surrounding area. Telecommunication Tower designs that mimic other features customarily found in an area context are encouraged where appropriate. These features may include appropriately located clock towers, flag poles, church steeples etc. No signs or other material not directly related to this equipment, or other on-site land uses shall be permitted on the Telecommunication Tower unless Proponents comply with the Town's sign by-law.

Where appropriate, the Proponent shall be encouraged to consult with other telecommunication providers in an effort to co-locate or build Telecommunication Towers that can accommodate additional users, subject to compliance with Industry Canada's *CPC-2-0-17 Conditions of Licence for Mandatory Roaming and Antenna Tower and Site Sharing and to Prohibit Exclusive Site Arrangements*:

The Proponent will be encouraged to relocate the Telecommunication Tower if another more suitable location becomes available provided:

- a) the move to an alternate location is economically feasible;
- b) the alternate location is appropriate from a radio frequency engineering perspective; and
- c) that the alternate location is one on which the Proponent is permitted to locate on subject to reasonable commercial terms.

A small plaque shall be placed at the base of the Telecommunication Tower identifying the owner/operator and a contact number.

APPLICATION PROCESS

A proposal for a Telecommunication Tower and modifications to an existing Telecommunication Tower, that are not exempt from Municipal Review under this policy, shall be supported by an information package including the information required as outlined in the checklist attached as part of this policy. Each Telecommunication Tower Proponent shall follow the Town's site plan process for consultation purposes including the pre-consultation process as outlined on the Town of Markham web page and the accompanying application.

The Town, when it receives an application for a Telecommunication Tower shall:

- provide guidance to the Proponent regarding the public consultation process;
- provide direction to the Proponent regarding the format to be used for the notice for the community information session and a mailing list of parties to be notified;
- provide direction to the Proponent to determine an appropriate location for the community information session;
- make recommendations to be received by Development Services Committee when the Proponent presents the proposal, based on the public consultation process and discussions with the Proponent;

Any Telecommunication Tower proposed on Town owned lands and/or facilities will require an internal municipal review. No public consultation will be required for Telecommunication Towers on Town owned lands and/or facilities where the proposed Telecommunication Tower is otherwise exempt from the requirement to consult with the public by CPC-2-0-03 or this policy.

SITE PLAN FEES

The Proponent shall be subject to the Town's existing site plan application fee determined at the time of application. Other fees may apply if additional applications to other approval authorities, e.g. Regional Municipality of York, TRCA, etc. are required.

UNDERTAKING

The Proponent may be required to enter into an undertaking acceptable to the Town which may include such requirements as:

- the location and design of the Telecommunication Tower;
- in the case of a lease between the Town and a Proponent, the removal of all structures upon expiration of the lease;

- the provision for landscaping;
- compliance with the requirements of Industry Canada's CPC-2-0-17 *Conditions of Licence for Mandatory Roaming and Antenna Tower and Site Sharing and to Prohibit Exclusive Site Arrangements*;
- in the case of a lease between the Town and a Proponent, lease provisions acceptable to the Town Solicitor.

EXEMPTIONS TO MUNICIPAL REVIEW

The following proposals for a Telecommunication Tower will be exempt from the requirement to consult with the Town and will not require the submission of a site plan application:

- maintenance of existing radio apparatus including the antenna system, transmission line, mast, tower or other antenna-supporting structure;
- addition or modification of an antenna system (including improving the structural integrity of its integral mast to facilitate sharing), the transmission line, antenna-supporting structure or other radio apparatus to existing infrastructure, a building, water tower, etc. provided the addition or modification does not result in an overall height increase above the existing structure of 25% of the original structure's height;
- maintenance of an antenna system's painting or lighting in order to comply with Transport Canada's requirements;
- installation, for a limited duration (typically not more than 3 months), of an antenna system that is used for a special event, or one that is used to support local, provincial, territorial or national emergency operations during the emergency, and is removed within 3 months after the emergency or special event; and
- Co-location on an existing Telecommunication Tower.; and
- amateur radio Telecommunication Towers provided:
 - a. They are strictly for personal use
 - b. The antenna boom or other appurtenance attached to the antenna are more than 1 metre from any property line;
 - c. No structure is placed in a front yard; and,
 - d. The antenna and associated equipment is less than 10 metres in height;

PUBLIC CONSULTATION

The Proponent is responsible for organizing and holding a community information session. For a proposed Telecommunication Tower or alterations to an existing Telecommunication Tower that requires public consultation, the Proponent shall provide the following notices of the information session:

- give notice by regular mail to all owners of properties within a radius 120 metres or 3 times the height of the proposed Telecommunication Tower, measured from the base, whichever is greater;
 - Give notice by regular mail to area ratepayer associations;
 - For a Telecommunication Tower that is proposed to be 45 metres or more in height, place a notice in the local community paper;
-

- If a condominium development is located within the required circulation radius, notice may be given to the condominium corporation, instead of all owners assessed in respect of the condominium development; and
- Notice is to be provided to the Chairman of Development Services Committee, the Ward Councillor, Director of Planning and the Town Clerk

The notification of the information session shall include the following information:

- the proposed location of the Telecommunication Tower within the subject property;
- physical details of the Telecommunication Tower including its height, colour, type, design, including any accessory equipment;
- the time and location of the community information session;
- the name and telephone number of a contact person employed by the Proponent, as well as a Town contact person;
- information package.

The Proponent shall distribute comment cards at the public information session and prepare a record of all attendees who submitted a comment card and:

- provide a follow-up letter addressed to the Director of Planning, copied to the Chairman of Development Services Committee, the Ward Councillor, the Town Clerk and to all attendees of the community information meeting who submitted comment cards and those who made written submissions, to indicate the Proponent's formal response to any concerns or issues raised in the comment cards or from written submissions. Should any modification of the proposed structure be agreed to, then further details e.g. revised plans or drawings must be submitted to the Town as soon as possible;
- the Proponent shall also include a request to provide a presentation to the Development Services Committee.

EXEMPTIONS TO PUBLIC CONSULTATION

For a Telecommunication Tower which meets the following criteria, public consultation is not required.

- All Telecommunication Tower proposals exempt from Municipal Review;
- New antenna systems, including masts, towers or other antenna-supporting structure, with a height of less than 15 metres above ground level.
- Telecommunication Towers within industrial, institutional, and commercial zoned areas, where the Telecommunication Tower base is located a minimum of 120 metres or a distance of 3 times the height of the proposed Telecommunication Tower, whichever is greater, away from a residential zone;

(In cases where no public consultation is required, the Town shall apply its best efforts to finalize the site plan application within 2 weeks of receiving a written request from the Proponent.)

APPROVALS REQUIRED

Proponents shall undertake to get all required approvals, including but not limited to, Transport Canada, NAV Canada, Ministry of Transportation, Toronto Region Conservation Authority, and the Regional Municipality of York, if required.

CONCLUDING CONSULTATION

Where Public Consultation Is Not Required

For a Telecommunication Tower proposal that is exempt from public consultation as identified in this policy, the Director of Planning has authority to approve the site plan application. Approval of the site plan by the Director of Planning, subject to conditions if required, shall document concurrence between the Town and the Proponent.

Where Public Consultation Is Required

For Telecommunication Tower proposals requiring public consultation, the Proponent will provide a deputation to the Development Services Committee to seek approval of the site plan application from the Committee following the public information session. The Development Services Committee will either approve the application subject to conditions if required, or deny the application. The Committee Resolution will be forwarded to Industry Canada. If the Committee approves the proposal, the Proponent will be required to submit 15 copies of the site plan and elevations for final approval to the Director of Planning. Approval of the site plan by the Director of Planning, subject to conditions if required, shall document concurrence between the Town and the Proponent.

For a Telecommunication Tower located on Town owned lands and/or facilities, lease agreements will be required to be executed as a final step in the approval process, to the satisfaction of the Chief Administrator Officer and Town Solicitor

The Town will endeavor to complete the circulation of the Proposal and make its views known to the Proponent within 60 days. In all cases, the entire consultation process shall not exceed 120 days, as per Industry Canada's requirement.

CHECKLIST FOR TELECOMMUNICATION TOWERS

1. Site Plan Application (including all standard submission requirements)
 2. A site selection/justification report outlining the location of non-tower and co-location options which have been considered, and why the Proponent's proposal is the preferred option. This report shall include details with respect to the coverage and capacity of the existing facilities in the surrounding area, and confirm the need for a new tower at the proposed location with this context.
 Yes No
 3. Map/inventory of all towers within the Proponent's search area.
 Yes No
 4. PIN printout/survey
 Yes No
 5. Colour images with support structure superimposed (simulated).
 Yes No
 6. Information required as per municipal building permit process (if required)
 Yes No
 7. Information required as per Conservation Authority permit process (if required)
 Yes No
 8. Environmental impact statement, if required under the existing land use designation.
 Yes No
 9. Confirmation of appropriate utility locates, such as gas companies and hydro providers, have been consulted.
 Yes No
 10. Confirmation that Transport Canada has been consulted.
 Yes No
-

1.40

11. Copy of Standard Town Telecommunications Lease, if required.

Yes

No

12. Sign-off from/circulation to other Proponents

Yes

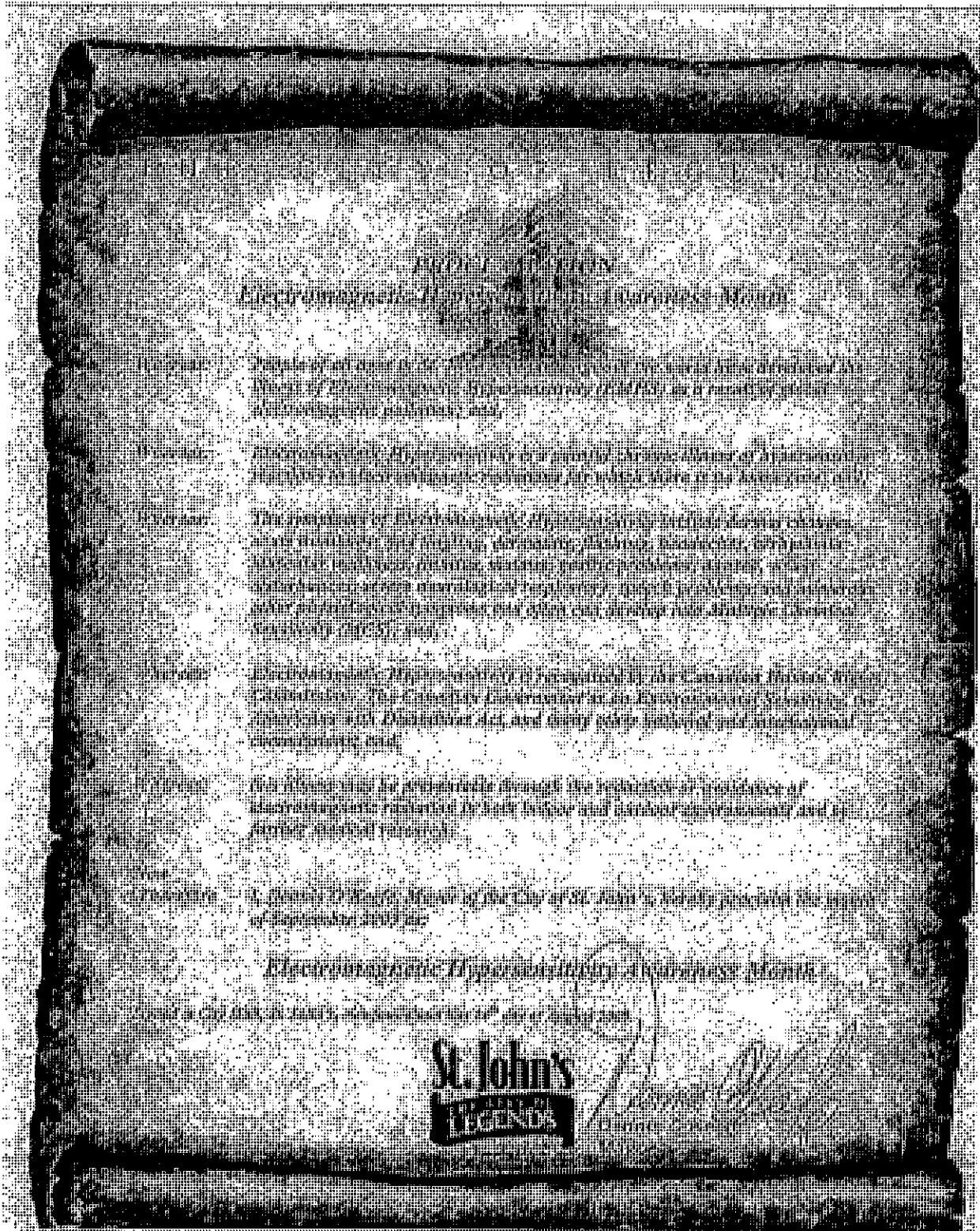
No



1.41



1.43



1.44

ADDITIONAL INFORMATION

WEB SITES:

<http://www.magdahavas.com/>

<http://www.weepinitiative.org/index.html>

<http://citizensforsafetechnology.org>

VIDEOS:

<http://video.google.ca/videoplay?docid=6284020723745580379#>

<http://www.youtube.com/watch?v=a6wLFelrCtU>

<http://www.youtube.com/user/BurbankACTION>

MEDIA:

<http://www.cbc.ca/video/news/audioplayer.html?clipid=1771412182>

CELL TOWER MAPS:

<http://loxcel.com/celltower>

C4
145
EW - February 1111
Items 4, 5, 6, 7

**City of Vaughan Committee of the Whole Meeting
Feb 1, 2011**

Deputation by Tina Catalano in Regards to Cellular Installations (Agenda Items 4, 5, 6 and 7)

I put forth this deputation today on Feb. 1, 2011, as I believe that the City of Vaughan needs to step in and put protocols in place for Telecommunications Sitings adopting a Prudent Avoidance type policy as we will be inevitably faced with a Health Crisis. The advent and pervasiveness of cellular and wireless transmissions over the past decade has reached a level where vast areas of the Canadian urban environment are flooded by radio frequency (RF) radiation. This technology has become embedded in our lifestyles both at work and at home thereby resulting in the infiltration of telecommunication structures into our neighborhoods and in most instances these structures appear without any public consultation, as it is not required.

One of the biggest issues that our cities face is the fact that the siting of these cell towers is under federal jurisdiction and essentially controlled by Industry Canada. We very well know, and if you don't know, well its name should tell you: Industry Canada does not serve the general public it serves industry and in this case the Telecommunications industry. It is documented that Industry Canada auctions "Spectrum Licences" to the communications companies for multi-million dollar bids, thus Industry Canada has a vested financial interest in selling as many licenses as possible. This is a billion dollar industry as are the financial gains by Industry Canada.

Industry Canada is the only federal body monitoring the existing standards that the telecommunication companies have to meet, meaning that there is virtually no current legislation controlling where and how many cell towers can go up in a given residential area. There also seems to be a disconnect as Health Canada states that Industry Canada sets the standards for the telecommunications industry and Industry Canada states that the standards are based on Health Canada's standards "Safety Code 6."

Which brings me to the next issue: Health Canada's Safety Code 6, last revised in 1999. This is highly scrutinized in the scientific community as being lax, for lack of a better term. Its standards are based on acute effects and on the prevention of thermal effects (heating of the body) and do not take into account non-thermal effects which result in altered biological responses. Several studies have determined that danger to humans occur at levels at least 10,000 times lower than current "Safety Code 6" standards, and yet this country has not commissioned its own study of the effects of radiofrequency (RF) radiation on the human body. This leaves us relying on sources from both the US and Europe for our science. In minutes dated December 2010 from Canada's Standing Committee of Health which subsidized a meeting in April 2010 at the House of Commons in Ottawa: An Examination of the Potential Health Impacts of Radiofrequency Electromagnetic Radiation, the Standing Committee of Health finally recommended that the Government of Canada consider funding to the Canadian Institutes of Health Research in support of long-term studies examining the potential health impacts of exposure to radiofrequency and electromagnetic radiation, acknowledging that there is no university funded research (i.e. independent research) in Canada on this topic because the Canadian government has not made any funding available. Despite the fact that Canada is behind on the science, several key studies throughout the world such as Israel (Wolf 2004), Germany (Eger 2004), Spain (Oberfeld

1.46

2004), and France (Santini 2001), and the 610 page advisory "Bioinitiative Report" (www.bioinitiative.org) published by an international team of scientists who reviewed more than 2000 scientific documents, partly contributed to by the European Union Environmental Agency and published on August 31, 2007, have demonstrated the consequences of long term exposure to low levels of RF radiation, specifically the greater risk in the development of cancer in populations situated in close proximity to telecommunications towers/antennas. Thus, it is difficult to comprehend why our government and in particular Health Canada, has not severely upgraded the RF standards for non-thermal long-term radiation exposure. How many more studies of adverse health effects have to be documented that include cancers, reproductive problems and EHS (extreme hyper-sensitivity) symptoms, before the Ministry is willing to act? What is inconclusive seems to be quite subjective and a term loosely used by the federal government and Health Canada. Why would this scientific evidence be inconclusive for Canadian standards and be interpreted quite differently by the rest of the world? The advisory coming from various parts of the world are that any one individual should not be exposed to a power density beyond 0.1 micro-watts per square centimetre in their outside environments and lower still in an indoor environment. In essence, what this means is that Health Canada's "Safety Code 6" is significantly less stringent than this advisory. These standards that have been set by Health Canada (Safety Code 6) for safe levels of public exposure fall at least 100 times higher (**meaning 100 times more exposure**) than those set by most European countries. Many Canadians now living within 500 metres of cellular transmission devices are currently being subjected to tens and hundreds of times more radiation than recommended for long term daily exposure. What several fail to realize is that the microwaves that are emitted from these towers are known to be carcinogenic, and linked to leukemia, infertility, Alzheimer's, autism, and various other insidious health issues. Short term exposure is known to cause *headaches, nausea, tinnitus, sleep disturbances, skin rashes, disorientation, vertigo, changes in vision, and can affect the cardiovascular and nervous system. Exposure causes DNA damage and has been linked to various cancers. We are currently being exposed to levels of radio and microwave frequency that have never been experienced in human history.* The most comprehensive compilation of research on cell tower emissions, the Bioinitiative Report, briefly presented above, has described current exposure limits in various parts of the world, including Canada, as "*insufficiently protective of public health*"..."*The entire basis for safety standards is called into question, and it is not unreasonable to question the safety of RF at any level.*" This report can be found at www.bioinitiative.org.

In addition to lack of protection by Safety Code 6, another issue that we currently face is Environment Canada's exemption of cell towers and other transmission devices from environmental assessments, thereby utilizing "Safety Code 6", as an effective "free reign" for siting cellular transmission devices on any willing host private property in Canada regardless of the effective incursion on the rights of their neighbours or on the local land use authority. This has been done, over the past decade or so, in the interest of the efficient construction of competing wireless networks to effect nearly 100% coverage on the streets and in the homes of Canada. As a result of the lack of protection emanating from Health Canada and Environment Canada, the amendment to the Auditor General Act of 1995 for "Sustainable Development", under the auspices of the Minister of Justice and Attorney General for Canada, is not being adhered to thereby effectively infringing on the democratic rights of Canadians. The Auditor General Act, Section 21.1, which reads in part, that sustainable development is a "*continually evolving concept based on the integration of social, economic and environmental concerns, and*

may be achieved by, among other things: (a) the integration of the environment and the economy; (b) protecting the health of Canadians; (g) preventing pollution", is being violated by Health Canada, Industry Canada and Environment Canada.

As wireless communication has become pervasive in our cities over the past 10 years or so, the standard by which all RF devices are set in Canada has not kept pace with the cumulative amounts of radiation exposure both near and within our homes, hospitals, schools, daycares, other continually inhabited areas, and the absorbed by our bodies via transmission and receiving devices. Our cities have already become bubbles of dangerous radiation fields far beyond safe levels as defined by pre-eminent scientists and doctors from around the world.

The federal government needs to make changes in the current legislation to control and monitor our exposure to radio frequency and implement stronger regulations for the Telecommunications Industry before we are faced with a national Health Crisis. Scientists, doctors and governmental agencies worldwide have issued warnings, restrictions and resolutions urging limiting exposure to EMF/RF. Due to the numbers of people suffering from symptoms of EHS. Medical doctors and scientists have issued resolutions stating that there is a more sensitive population to RFR and that antennas should not be sited near homes, schools and hospitals. These run from the Vienna Resolution in 1998 through to the Porto Alegre Resolution in 2009.

In 2009 three U.S. Governors, of Florida, Connecticut and Colorado, declared Electrohypersensitivity Awareness months.

In May, 2009 the LA Unified School District, which restricts cell towers on school property passed a resolution attempting to restrict antennas near school property and in April, 2009, the EU Parliament adopted, by 559 votes to 22, with 8 abstentions, a resolution on health concerns associated with electromagnetic fields (EMFs) which includes criteria for setting up [Cell Towers] and high-voltage power lines. They state: "In this context, it is important to ensure at least that schools, crèches [nursery schools], retirement homes, and health care institutions are kept clear, within a specific distance determined by scientific criteria, of facilities of this type."

The Vancouver School Board (VSB) passed a resolution in January 2005 that prohibits construction of cellular antennas within 1000 feet (305 m) from school property.

Palm Beach County, Florida, the city and county of Los Angeles, California, and New Zealand have all prohibited cell phone base stations and antennas near schools due to safety concerns. The decision not to place cell antennas near schools is based on the likelihood that children are more susceptible to this form of radiation.

In January 2008, the National Research Council (NRC), an arm of the National Academy of Sciences and the National Academy of Engineering, issued a report saying that we simply do not know enough about the potential health risks of long-term exposure to RF energy from cell phones themselves, cell towers, television towers, and other components of our communications system. The scientists who prepared the report emphasized, in particular, the unknown risks to the health of children, pregnant women, and fetuses as well as of workers whose jobs entail high exposure to RF (radiofrequency) energy. The report called for long-term safety studies on all wireless devices including cell phones, computers, and cell phone towers.

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This being said, the City of Vaughan should be working with our MP Honorable Julian Fantino to address this same issue. Furthermore, our city should do something in the interim to protect its citizens.

I want to motion that the City puts in place protocols that will protect its citizens from exposure to RF radiation. I would encourage the City of Vaughan to look at the City of Toronto's proposed Prudent Avoidance Policy on Siting Telecommunication Towers and Antennas, together with its affiliated Medical Report by Dr. David McKeown, Medical Officer of Health: *Update and Review of Research on Radiofrequencies: Implications for a Prudent Avoidance Policy in Toronto Technical Report (Nov 2007)*. In brief, this policy recommends that general public exposure limits be set to 100 X lower to Health Canada's Safety Code 6 (0.10 W/m²), such that these levels that are in line with exposure limits set throughout the world. For example, Italy, Switzerland, China, Russia and Paris have exposure limits set to 0.10 W/m², and Salzburg has levels of exposure set to 0.001 W/m².

I ask that the city to review all of the information and the facts that are out there with an open mind, consider what the rest of the world is doing outside of North America, consider why the rest of the world has lower exposure limits in place, and put protocols in place for the siting of telecommunications towers and antennas so that Vaughan's citizens can be properly protected without a compromise on their health and invasion of their human rights.

I present to council the following recommendations:

- Ban all new antennas, base stations, and transmitters to be installed within 500 meters of any residence, school, community centre, hospital or any place where people spend a good part of their day, and reduce the frequency of pre-existing antennas to adhere to the precautionary principle as suggested in the *BioInitiative Report* of 2007; ban installations of antennas on the roofs of apartment building or any residential dwellings;
- Consult all residents within a 500 meter radius well in advance to any installation of cell towers, base stations, antennas and transmitters so they can be informed of the biological health effects and have a say on the long-term implications of these devices in their immediate neighborhood and quality of life.
- I would also ask that a petition/resolution be set forth by the City of Vaughan to the Federal government so that local councils are allowed to make their own decisions about the tower sites without being overruled.

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Let's not wait to have protocols in place and let us stay abreast of the reality of the dangers that this long term exposure to electromagnetic radiation poses on us. Look outside of North America to the rest of the world and realize that a precautionary approach is needed to keep our residents safe and to prevent a Health Crisis. Electro hypersensitivity disorder is already being recognized as a disease emanating from this electro smog and Women's College has a clinic in place that deals with environmentally sensitive individuals. This should tell us something. As a city, Vaughan has to protect these individuals who do not currently have a say when these antennas and towers appear in their backyard. In addition the City of Vaughan should protect our most vulnerable, our children. City of Vaughan you have to step in NOW!

Thank you,

Tina Catalano Feb 1, 2011

Tina Catalano



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G4
Items #4, 5, 6 & 7
Report No. 7 CW
COUNCIL - FEB. 15, 2011

Stephen J. D'Agostino
416-868-3126
sdagostino@thomsonrogers.com

February 9, 2011

VIA E-MAIL ONLY

Mayor & Members of Council
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

Dear Sirs/Mesdames:

Rogers Wireless Telecommunications Sites
Site Development File DA.10.061
Site Development File DA.10.070
Site Development File DA.10.080. 088
Site Development File DA.10.089
Council Agenda - February 15, 2011
Our File No. 050682

We are the solicitors for Rogers Communications Inc. ("Rogers") in connection with the above-captioned wireless telecommunication proposals. You will recall that these four Rogers wireless telecommunication facilities came before Committee of the Whole on February 1, 2011. At that time, Staff recommended that Council grant concurrence for the construction of these facilities in accordance with the City of Vaughan's wireless telecommunication protocol. As a result of misinformation presented by a deputant, the Committee of the Whole did not recommend concurrence. **To be clear, all of the proposed wireless facilities meet Industry Canada's requirements and will operate significantly below Health Canada's Safety Code 6.**

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We are writing to Council to provide additional information with respect to matters raised during the discussion of these items at Committee of the Whole and to request that:

1. Council give its concurrence with respect to the four above-captioned proposals as contemplated by the City's protocol.
2. In the alternative, should Council require further information as a result of the discussion at Committee of the Whole, we request that Council defer this matter for two Council cycles so that additional material concerning the issues raised at Committee of the Whole can be placed before Council. Specifically, we request that:
 - (a) Council request the Region of York Medical Officer of Health to update his review of Safety Code 6 presented to the Town of Richmond Hill dated January 9, 2009; and
 - (b) Council request Rogers provide a seminar for Council and interested members of City Staff concerning the operation of a wireless network and the siting constraints facing the wireless companies.

It is our belief that this additional information will allow Council to grant its concurrence to the above-captioned wireless telecommunication facilities in accordance with the Staff recommendation.

1. Wireless Communications is Important to Vaughan

The success of Rogers wireless communication network is important to the citizens of Canada and the City of Vaughan. The ongoing revolution in telecommunications, marked by the rapid development of wireless technology, offers many benefits to Canadians. More than 24 million Canadians rely on wireless voice and data communications to enhance their personal security and safety, to access emergency road services, and to make more productive use of their personal and professional time.

Governments and public sector emergency response agencies such as police departments, fire and ambulance services also rely on wireless telecommunications to meet the critical response times they are mandated to achieve in the public interest. In our view, wireless telecommunications have become an essential service in cities such as Vaughan, and are an important contributor to Vaughan's economic success.

The wireless industry needs to and is mandated to build and provide the infrastructure necessary to satisfy the enormous demand for high quality, reliable wireless service. Rogers recognizes that government officials are trying to make policy decisions that protect the public interest in the provision of wireless services without undue land-use impacts, while balancing the need for technological innovation and economic growth. Ultimately, close co-operation among wireless service providers, government officials at all levels and the general public is needed to ensure that the benefits of wireless communications are fully realized.

Rogers is committed to meaningful consultation with the City, within the framework of Industry Canada's Safety Code 6 and Vaughan's Protocol.

2. The Regulation of Wireless Facilities

Wireless telecommunication facilities are subject to the exclusive jurisdiction of the federal government. It is long established law that no municipality has jurisdiction to impose processes or requirements on wireless telecommunication facilities that rely on provincial land use planning legislation. Council may be aware, that recently the courts ruled, in relation to a site plan control by-law passed by the City of Toronto, that Toronto did not have jurisdiction to regulate wireless telecommunication facilities.

In recognition of its exclusive jurisdiction, and in an attempt to promote balance, Industry Canada requires that applicants for telecommunication facilities consult with land use authorities such as the City of Vaughan as part of their licensing process. The requirement to consult and Industry Canada's expectations can be found in CPC-2-0-03, Issue 4. We have attached for your convenience as Appendix 1 a brief summary of the law with respect to the federal government's exclusive jurisdiction. As well, we have attached as Appendix 2 a copy of CPC-2-0-03.

Note that it is a condition of Rogers' license that it comply with CPC-2-0-03. It is a requirement of CPC-2-0-03 that all of Rogers' facilities comply (on an ongoing basis) with Health Canada's Safety Code 6. This requirement includes cumulative effects.¹ In order to ensure that its sites are working in compliance with all relevant requirements, Rogers dedicates a specific technician to each of its sites to perform regular and ongoing preventative maintenance.

¹ CPC-2-0-03, page 10, Section 7.1



It is our view that municipal governments lack the jurisdiction to impose electro magnetic emission standards on wireless carriers. That responsibility falls exclusively on the federal government.

3. Ms. Catalano's Deputation

We have reviewed the written submission given to the Committee of the Whole by Ms. Catalano which urges Council to ban all new radio antennas within 500 metres of any residence or other place where people spend a large amount of their time and that antennas be required to adhere to a power level well below that permitted by Safety Code 6. Based on our review, we note that the submission makes several important errors and omissions and as a result, we urge Council not to adopt the request.

Canada is a participant in the World Health Organization's ongoing study concerning the possible effects related to cell phones and the wireless base stations [the generic name for wireless facilities such as those proposed by Rogers in this instance] which power their networks. The World Health Organization concluded in its study concerning base station and wireless technologies issued in May of 2006, that "from all evidence accumulated so far, no adverse short-or long term health effects have been shown to occur from RF signals produced by base stations". Similarly, in its Fact Sheet published in May of 2006 titled "Electromagnetic Fields and Public Health – Base Stations and Wireless Technologies", the World Health Organization reports that "there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects." A copy of the World Health Organization Fact Sheet is attached as Appendix 3.

Safety Code 6 has been the subject of several recent independent reviews including two studies by the Royal Society of Canada in 1999 and 2003. The Royal Society of Canada is an independent national body composed of scholars and scientists selected by their peers for outstanding contributions to the sciences. Neither of these studies took issue with Safety Code 6's standards. Furthermore and contrary to Ms. Catalano's deputation, Safety Code 6 was the subject of a complete review and update by Health Canada just two years ago and as such, represents a modern health standard.

The foregoing is consistent with advice given by many Medical Officers of Health. York Region's Medical Officer of Health has considered the appropriateness of Safety Code 6. In a letter to the Commissioner of Planning for the Town of Richmond Hill dated January 4, 2009, Dr. Kurji reported that "the weight of evidence has not identified that Safety Code 6 is inappropriate, in protecting the public from exposure to RF fields". A copy of Dr. Kurji's letter is attached as Appendix 4. This opinion is consistent with the opinions of the



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Medical Officers of Health in Vancouver and Hamilton. Their opinions have been attached behind Dr. Kurji's letter for your convenience. Should Council have concerns with the appropriateness of Safety Code 6, we request that it consult with the Region of York's Medical Officer of Health to determine whether or not the opinion expressed to Richmond Hill remains valid today. To be clear, we are not aware of any circumstance that would change the Medical Officer of Health's opinion.

In recognition of the low outputs associated with wireless telecommunication facilities and the requirement that a wireless carrier comply with Safety Code 6 on an ongoing basis, CPC-2-0-03 states that concerns with the appropriateness of Safety Code 6 are not relevant to a wireless carrier's obligation to consult. As a result, in correspondence directed to the City of Toronto, Industry Canada recently wrote, "Industry Canada will continue to utilize Safety Code 6 as part of its licensing process, and where issues are raised and it can be confirmed that Safety Code 6 is being met, then Industry Canada will consider the requirement to have been fully satisfied and will not withhold any radio authorizations". A copy of Industry Canada's correspondence to the City of Toronto is attached as Appendix 5. In separate correspondence directed to the City of Toronto, Industry Canada stated that radio frequency exposure limits should not vary based on the opinions of local land use authorities. A copy of this correspondence is attached as Appendix 6.

4. Summary of the Wireless Telecommunication Proposals

There were four proposals before the Committee of the Whole last week. As discussed above, the City does not have jurisdiction to approve or prohibit these facilities. However, Industry Canada requires the proponents of wireless towers to consult with municipal governments and if possible, obtain their concurrence. All of the proposals were reviewed by City Staff and are recommended for concurrence. All of the proposals will operate well below Health Canada's Safety Code 6. The proposals can be summarized as follows.

(A) **Site Development File DA.10.070**
Replacement Tower At Palladini Community Centre, 9201 Islington Avenue

For the past 20 years, Rogers has maintained a 46 metre tower at this location without complaint or incident. As a result of negotiations with City Staff related to a further term, Rogers agreed to reduce the height of the tower to 40 metres and relocate it away from existing residential development. As a result, the separation distance from the rear lots of the adjacent residential properties will be increased from 22.5 metres to 150 metres. The existing tower satisfies Health Canada's Safety Code 6 requirements. At the new location



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compared to the closest residential lot the facility will operate hundreds of times below the level allowable under Safety Code 6.

We note that City Staff recommended approval of the proposal.

(B) Site Development File DA.10.061
7500 Keele Street .

Rogers proposes to construct a 40 metre tall monopole at this location. The proposed monopole is located between the existing industrial building and the Highway 407 road allowance. The monopole is more than 380 metres away from the closest residential property line. At that distance, compared to the closest residential use, the facilities will operate at a level hundreds of times below that allowable under Safety Code 6.

City Staff recommended approval of the facility subject to a condition requiring permission from MTO given its proximity to Highway 407.

(C) Site Development File DA.10.088
60 & 80 Innovation Drive

Rogers proposes to construct a 30 metre monopole at the rear of an industrial building. The area between the proposed monopole and the nearest residential uses to the east are industrial and commercial uses and Regional Road 27. As proposed, the monopole is located approximately 230 metres from the closest residential property. At this distance, compared to the closest residential, the facility will operate at a level hundreds of times below that allowable under Safety Code 6.

City Staff recommended approval of the proposal on this site.

(D) Site Development File DA.10.089
221 Racco Parkway

Rogers proposes to construct a 35 metre monopole at the rear of the existing industrial building. The area between the proposed monopole and the nearest residential uses to the south is a major hydro utility corridor. The proposed monopole is located approximately 260 metres from the closest residential property line. At this distance, compared to the closest residential use, the facility will operate hundreds of times below that allowable under Safety Code 6.



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City Staff recommended approval of the proposal on this site.

5. Conclusions

Based on the foregoing, it is clear that Rogers' facilities meet the spirit and requirements of Vaughan's Council approved wireless telecommunication protocol with respect to location and process. The proposals meet with all of Industry Canada's technical requirements including compliance with Health Canada's Safety Code 6. Vaughan's planning staff have recommended each of these proposals to Council for its concurrence. Even though Industry Canada permits facilities to operate at the limit of Safety Code 6, these particular sites produce energy levels well below (hundreds of times) those authorized by Safety Code 6 at the closest residential property. Planning Staff have reported that proposed new protocol policies will not have an effect on the sites. We therefore respectfully request that Council give its concurrence to the development of these sites to avoid Industry Canada's intervention in this matter.

Accordingly, we request that Council give its concurrence with respect to the four proposals as contemplated by the City's protocol. In the alternative, should Council require further information as a result of its recent discussions at the Committee of the Whole, we request that the matter be adjourned for two Council cycles so that additional material can be placed before Council. Specifically, we request that:

- (a) Council request the Region of York Medical Officer of Health to update his review of Safety Code 6 presented to the Town of Richmond Hill dated January 9, 2009; and,
- (b) Council request Rogers to prepare a seminar for Council and interested members of City Staff concerning the operation of a wireless network and the siting constraints facing the wireless companies.

Rogers was an active participant in the development of the Region of York Protocol in 2002 and the City of Vaughan's Protocol in 2003. I have been instructed by Rogers to give you every assurance of their co-operation and assistance in the development of a new protocol. However, there is no reason why these sites need to wait for the new protocol's approval.



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We would be pleased to discuss this matter with your staff or answer any questions that may arise.

Yours very truly,

A handwritten signature in black ink, appearing to read "S. D'Agostino".

Stephen J. D'Agostino

SJD/pgf
Enclosures

- c. Mr. Clayton Harris, City Manager
- c. Mr. Jeffrey A. Abrams, City Clerk
- c. Mr. John Zipay, Commissioner of Planning
- c. Mr. Micahel Lang, Industry Canada

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Appendix 1

Summary of Law Re: Federal Government's Exclusive Jurisdiction

Appendix 1

Jurisdictional Framework

The Federal Government's exclusive jurisdiction in radiocommunications goes back to 1932. At that time, the Privy Council determined in *Re Regulation and Control of Radiocommunications in Canada*¹ that the Parliament of Canada has exclusive jurisdiction to regulate and control radiocommunications.

Since then and notwithstanding section 92(13) of the *Constitution Act, 1867* which grants the provinces power over civil and property rights (which is the basis for the land use controls delegated to municipal governments), the Courts have been clear that affected Federal undertakings, such as telecommunication towers, are immune from otherwise valid provincial land-use legislation. As a result, municipal land use planning controls such as Zoning By-laws and Development Permits² are rendered inoperative to the extent that they affect the siting, physical location, design, construction and operation of the federal undertaking. In other words, these cases suggest that requiring zoning compliance or development permits for a wireless telecommunication facility would be *ultra vires* the authority of a land-use authority because of their potential impact on the operation of the Wireless Carriers' network.

This is a similar result to the law affecting airports. As a result of the Federal Government's exclusive jurisdiction in aviation matters which has the same basis as radiocommunications, the latest redevelopment of Toronto's Pearson Airport including the parking garages and infrastructure, were constructed without the need for a building permit, development permit or the payment of development levies by order of Ontario's Court of Appeal. In the case of rooftop landing areas for helicopters, the Federal government has assumed jurisdiction. The National Building Code of Canada sets out in Division B, Section 4.1.5.14 that helicopter landing areas are to be constructed in

¹ *Re Regulation and Control of Radiocommunications of Canada* [1932] A.C. 304 (Privy Council)

conformance with the requirements of the Canadian Aviation Regulations rather than local codes. Similar federal requirements exist for wireless communications facilities.

The Courts in Ontario have recently confirmed our analysis in a case involving TELUS and the City of Toronto. That case ruled that Toronto's development permit process may not be used to regulate wireless facilities. We note that the Court ruling contemplates roof top installations. As well, the Court continues earlier rulings to the effect that the municipal requirement need not prohibit wireless telecommunications in order to be constitutionally offensive, they must merely have the potential to affect the Federal aspect³.

The Toronto decision is consistent with the 1981 Decision of The Supreme Court of Ontario involving a Rogers' broadcast tower in the Town of Grimsby. In that case the Court ruled that broadcast towers did not have to comply with municipal zoning by-laws because of the Federal government's exclusive jurisdiction in radiocommunications matters.

As well, the Toronto decision is consistent with the City of Calgary's and City of Winnipeg's position set out on their website where it states that cell towers do not require development permits as a result of their federal status. Similarly, it is consistent with the position of the City of Surrey in a settlement reached between Surrey and Bell Mobility in 2006 wherein it was agreed that Development Variance Permits were being submitted

² The Province of Ontario has issued a legal opinion to the effect that the Ontario Building Code does not apply to towers. http://www.obc.mah.gov.on.ca/userfiles/HTML/nts_4_9079_1.html

³ *Canadian Western Bank v Alberta* [2007] S.C.J. No. 22 and *British Columbia (Attorney General) v Lafarge Canada Inc.* [2007] S.C.J. No.23 deal with the issues of interjurisdictional immunity and federal paramountcy. These cases post-date TELUS v Toronto, however, in our view, the law has not changed since the Court continues to recognize the appropriateness of the interjurisdictional immunity test for matters falling under exclusive heads of federal authority such as aviation and communications. The Privy Council's reasons in *RE: Regulation and Control of Radiocommunications in Canada*, rely explicitly on the same analysis as the aviation cases.

solely for the purpose of consultation and did not represent acquiescence to the City's jurisdiction. Many other municipalities have come to a similar conclusion.

It is clear that a Provincial land use regime and the municipal regulatory powers which rely on them are inapplicable to wireless telecommunication facilities⁴ that have the potential to impair their telecommunications activities through restrictions on siting, physical location, height, design, construction and operation and as a result the proponents of antennae support structures are not required to comply with them.

The law we have summarized is also consistent with the Federal government's regulations issued under the Canada Labour Code (Canada Occupational Health and Safety Regulations – SOR/86-304) which requires that the design and construction of every tower, antenna and supporting structure meet the requirements of CSA standard, CAN/CSA-S37-94 rather than local building codes. Both the Building Code of British Columbia, and the Electrical Safety Regulation clearly exempt wireless towers from the need to obtain building permits in recognition of their federal status. The Ontario Government has issued a Building Code Opinion to the same effect.

⁴Mississauga (City) v Greater Toronto Airports Authority, [2000] O.J. No. 4086 at paragraph 52, the Court stated:

"The recent *Home Builders'* case in the Supreme Court of Canada confirms that the subject matter of the *Building Code Act* and the *Development Charges Act* is land development: *Ontario Home Builders' Assn. v York Region Board of Education*, [1996] 2 S.C.R. 929, 137 D.L.R. (4th) 449. Iacobucci J. wrote at p. 966 that the *Planning Act*, including the scheme of education development charges imposed under the *Development Charges Act*, "is one component of a comprehensive regulatory scheme governing land development in Ontario, comprised of at least nine different statutes". One of these statutes is the *Building Code Act*. Therefore, the *Building Code Act* and the *Development Charges Act* stand on the same constitutional footing as provincial planning and zoning legislation. None of this legislation applies to the construction of airport buildings."

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Appendix 2

CPC-2-0-03

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Industry
Canada

Industrie
Canada

CPC-2-0-03
Issue 4
June 2007

Spectrum Management and Telecommunications

Client Procedures Circular

Radiocommunication and Broadcasting Antenna Systems

(Formerly CPC-2-0-03 - Environmental Process, Radiofrequency Fields and
Land-Use Consultation)

Aussi disponible en français - CPC-2-0-03

Canada

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Comments and suggestions may be directed to the following address:

Industry Canada
Radiocommunications and
Broadcasting Regulatory Branch
300 Slater Street
Ottawa, Ontario
K1A 0C8

Attention: DOSP

Via e-mail: spectrum_pubs@ic.gc.ca

All Spectrum Management and Telecommunications publications are available on the following website at: <http://strategis.gc.ca/spectrum>.

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Package 15**

1. Introduction

Radiocommunication and broadcasting services are important for all Canadians and are used daily by the public, safety and security organizations, government, wireless service providers, broadcasters, utilities and businesses. In order for radiocommunication and broadcasting services to work, antenna systems including masts, towers, and other supporting structures are required. There is a certain measure of flexibility in the placement of antenna systems which is constrained to some degree by: the need to achieve acceptable coverage for the service area; the availability of sites; technical limitations; and safety. In exercising its mandate, Industry Canada believes that it is important that antenna systems be deployed in a manner that considers the local surroundings.

1.1 Mandate

Section 5 of the *Radiocommunication Act* states that the Minister may, taking into account all matters the Minister considers relevant for ensuring the orderly development and efficient operation of radiocommunication in Canada, issue radio authorizations and approve each site on which radio apparatus, including antenna systems, may be located. Further, the Minister may approve the erection of all masts, towers and other antenna-supporting structures. Accordingly, proponents must follow the process outlined in this document when installing or modifying an antenna system. Also, the installation of an antenna system or the operation of a currently existing antenna system that is not in accordance with this process may result in its alteration or removal and other sanctions against the operator in accordance with the *Radiocommunication Act*.

1.2 Application

The requirements of this document apply to anyone (referred to in this document as the proponent) who is planning to install or modify an antenna system regardless of the type of installation or service. This includes, amongst others, Personal Communications Services (PCS) and cellular, fixed wireless, broadcasting, land-mobile, licence-exempt and amateur radio operators. As well, parts of this process contain obligations that apply to existing antenna system operators.

1.3 Process Overview

This document outlines the process that must be followed by proponents seeking to install or modify antenna systems. The broad elements of the process are as follows:

1. Investigating sharing or using existing infrastructure before proposing new antenna-supporting structures.
2. Contacting the land-use authority (LUA) to determine local requirements regarding antenna systems.
3. Undertaking public notification and addressing relevant concerns, whether by following local LUA requirements or Industry Canada's default process, as is required and appropriate.
4. Satisfying Industry Canada's general and technical requirements.

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It is Industry Canada's expectation that steps (2) to (4) will normally be completed within *120 days*. Some proposals may be excluded from certain elements of the process (see Section 6). It is Industry Canada's expectation that all parties will carry out their roles and responsibilities in good faith and in a manner that respects the spirit of this document.

2. Industry Canada Engagement

There are a number of points in the processes outlined in this document where parties must contact Industry Canada to proceed. Further, anyone with any question regarding the process may contact the local Industry Canada office¹ for guidance. Based on a query by an interested party, Industry Canada may request parties to provide relevant records and/or may provide direction to one or more parties to undertake certain actions to help move the process forward.

3. Use of Existing Infrastructure (Sharing)

This section outlines the roles of proponents and owners/operators of existing antenna systems. In all cases, parties should retain records (such as analyses, correspondence and engineering reports) relating to this section.

Before building a new antenna-supporting structure, Industry Canada requires that proponents first explore the following options:

- consider sharing an existing antenna system, modifying or replacing a structure if necessary;
- locate, analyze and attempt to use any feasible existing infrastructure such as rooftops, water towers etc.

Proponents are not normally expected to build new antenna-supporting structures where it is feasible to locate their antenna on an existing structure, unless a new structure is preferred by land-use authorities.

Owners and operators of existing antenna systems are to respond to a request to share in a timely fashion and to negotiate in good faith to facilitate sharing where feasible. It is anticipated that 30 days is reasonable time for existing antenna system owners/operators to reply to a request by a proponent in writing with either:

- a proposed set of reasonable terms to govern the sharing of the antenna system; or
- a detailed explanation of why sharing is not possible.

¹ Please refer to Radiocommunication Information Circular 66 (RIC-66) for a list of addresses and telephone numbers for Industry Canada's regional and district offices. RIC-66 is available via the Internet at: <http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/en/sf01742e.html>.

4. Land-use Authority and Public Consultation

Contacting the Land-use Authority

Proponents must always contact the applicable land-use authorities to determine the local consultation requirements unless their proposal falls within the exclusion criteria outlined in Section 6. If the land-use authority has designated an official to deal with antenna systems, then proponents are to engage the authority through that person. If not, proponents must submit their plans directly to the council, elected local official or executive. Proponents are expected to establish initial formal contact with the land-use authority in writing in order to mark the official commencement of the *120-day* consultation process.

Proponents should note that there may be more than one land-use authority with an interest in the proposal. Where no established agreement exists between such land-use authorities, proponents must, as a minimum, contact the land-use authority(ies) and/or neighbouring land-use authorities located within a radius of three times the tower height, measured from the tower base or the outside perimeter of the supporting structure, whichever is greater. As well, in cases where proponents are aware that a potential Aboriginal or treaty right or land claim may be affected by the proposed installation, they must contact Industry Canada in order to ensure that the requirements for consultation are met.

Following the Land-use Authority Process

Proponents must follow the land-use consultation process for the siting of antenna systems, established by the land-use authority, where one exists. In the event that a land-use authority's existing process has no public consultation requirement, proponents must then fulfill the public consultation requirements contained in Industry Canada's Default Public Consultation Process (see Section 4.2). Proponents are not required to follow this requirement if the LUA's established process explicitly excludes their type of proposal from consultation or it is excluded by Industry Canada's criteria. Where proponents believe the local consultation requirements are unreasonable, they may contact the local Industry Canada office in writing for guidance.

Broadcasting Undertakings

Applicants for broadcasting undertakings are subject to Canadian Radio-television and Telecommunications (CRTC) licensing processes in addition to Industry Canada requirements. Although Industry Canada encourages applicants to consult as early as practical in the application process, in some cases it may not be prudent for the applicants to initiate public and municipal/land-use consultation before receiving CRTC approval, as application denial by the CRTC would result in unnecessary work for all parties involved. Therefore, assuming that the proposal is not otherwise excluded, broadcasting applicants may opt to commence land-use consultation after having received CRTC approval. However, broadcasting applicants choosing this option are required, at the time of the CRTC application, to notify the land-use authority with a Letter of Intent outlining a commitment to conduct consultation after receiving CRTC approval. If the land-use authority raises concerns with the proposal as described in the Letter of Intent, applicants are encouraged to engage in discussions with the land-use authority regarding their concerns and attempt to resolve any issues. See Broadcasting Procedures and Rules, Part 1 (BPR-1), for further details.

4.1 Land-use Authority Consultation

Industry Canada believes that any concerns or suggestions expressed by land-use authorities are important elements to be considered by proponents regarding proposals to install, or make changes to, antenna systems. As part of their community planning processes, land-use authorities should facilitate the implementation of local radiocommunication services by establishing consultation processes for the siting of antenna systems.

Unless the proposal meets the exclusion criteria outlined in Section 6, proponents must consult with the local land-use authority(ies) on any proposed antenna system prior to any construction with the aim of:

- discussing site options;
- ensuring that local processes related to antenna systems are respected;
- addressing reasonable and relevant concerns (see Section 4.2) from both the land-use authority and the community they represent; and
- obtaining land-use authority concurrence in writing.

Land-use authorities are encouraged to establish reasonable, relevant, and predictable consultation processes² specific to antenna systems that consider such things as:

- the designation of suitable contacts or responsible officials;
- proposal submission requirements;
- public consultation;
- documentation of the concurrence process; and
- the establishment of milestones to ensure consultation process completion within *120 days*.

Where they have specific concerns regarding a proposed antenna system, land-use authorities are expected to discuss reasonable alternatives and/or mitigation measures with proponents.

Under their processes, land-use authorities may exclude from consultation any antenna system installation in addition to those identified by Industry Canada's own consultation exclusion criteria (Section 6). For example, an authority may wish to exclude from public consultation those installations located within industrial areas removed from residential areas, low visual impact installations, or certain types of structures located within residential areas.

² Industry Canada is available to assist land-use authorities in the development of local processes. In addition, land-use authorities may wish to consult Industry Canada's guide for the development of local consultation processes.

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4.2 Industry Canada's Default Public Consultation Process

Proponents must follow Industry Canada's Default Public Consultation Process where the local land-use authority does not have an established and documented public consultation process applicable to antenna siting. Proponents are not required to follow Industry Canada's Default Public Consultation Process if the land-use authority's established process explicitly excludes their type of proposal from public consultation or it is excluded by Industry Canada's criteria (see Section 6). Industry Canada's default process has three steps whereby the proponent:

1. provides written notification to the public, the land-use authority and Industry Canada of the proposed antenna system installation or modification (i.e. *public notification*);
2. engages the public and the land-use authority in order to address relevant questions, comments and concerns regarding the proposal (i.e. *responding to the public*); and
3. provides an opportunity to the public and the land-use authority to formally respond in writing to the proponent regarding measures taken to address reasonable and relevant concerns (i.e. *public reply comment*).

Public Notification

1. Proponents must ensure that the local public, the land-use authority and Industry Canada are notified of the proposed antenna system. As a minimum, proponents must provide a notification package (see Appendix 2) to the local public (including nearby residences, community gathering areas, public institutions, schools, etc.), neighbouring land-use authorities, businesses, and property owners, etc. located within a radius of three times the tower height, measured from the tower base or the outside perimeter of the supporting structure, whichever is greater. For the purpose of this requirement, the outside perimeter begins at the furthest point of the supporting mechanism, be it the outermost guy line, building edge, face of the self-supporting tower, etc.
2. It is the proponent's responsibility to ensure that the notification provides at least *30 days* for written public comment.
3. In addition to the minimum notification distance noted above, in areas of seasonal residence, the proponent, in consultation with the land-use authority, is responsible for determining the best manner to notify such residents to ensure their engagement.
4. In addition to the public notification requirements noted above, proponents of antenna-supporting structures that are proposed to be 30 metres or more in height must place a notice in a local community newspaper circulating in the proposed area.³

³ The notice must be synchronized with the distribution of the public notification package. It must be legible and placed in the public notice section of the newspaper. The notice must include: a description of the proposed installation; its location and street address; proponent contact information and mailing address; and an invitation to provide public comments to the proponent within *30 days* of the notice. In areas without a local newspaper, other effective means of public notification must be implemented. Proponents may contact the local Industry Canada office for guidance.

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Responding to the Public

Proponents are to address all reasonable and relevant concerns, make all reasonable efforts to resolve them in a mutually acceptable manner and must keep a record of all associated communications. If the local public or land-use authority raises a question, comment or concern relating to the antenna system as a result of the public notification process, then the proponent is required to:

1. respond to the party in writing within *14 days* acknowledging receipt of the question, comment or concern and keep a record of the communication;
2. address in writing all reasonable and relevant concerns within *60 days* of receipt or explain why the question, comment or concern is not, in the view of the proponent, reasonable or relevant; and
3. in the written communication referred to in the preceding point, clearly indicate that the party has *21 days* from the date of the correspondence to reply to the proponent's response. The proponent must provide a copy of all public reply comments to the local Industry Canada office.

Responding to reasonable and relevant concerns may include contacting a party by telephone, engaging in a community meeting or having an informal, personal discussion. Between steps 1 and 2 above, the proponent is expected to engage the public in a manner it deems most appropriate. Therefore, the letter at step 2 above may be a record of how the proponent and the other party addressed the concern at hand.

Public Reply Comments

As indicated in step 3 above, the proponent must clearly indicate that the party has *21 days* from the date of the correspondence to reply to the response. The proponent must also keep a record of all correspondence/discussions that occurred within the *21-day* public reply comment period. This includes records of any agreements that may have been reached and/or any concerns that remain outstanding.

The factors that will determine whether a concern is reasonable or relevant according to this process will vary but will generally be considered if they relate to the requirements of this document and to the particular amenities or important characteristics of the area surrounding the proposed antenna system. Examples of concerns that proponents are to address may include:

- Why is the use of an existing antenna system or structure not possible?
- Why is an alternate site not possible?
- What is the proponent doing to ensure that the antenna system is not accessible to the general public?
- How is the proponent trying to integrate the antenna into the local surroundings?
- What options are available to satisfy aeronautical obstruction marking requirements at this site?
- What are the steps the proponent took to ensure compliance with the general requirements of this document including the *Canadian Environmental Assessment Act (CEAA)*, Safety Code 6, etc.?

Concerns that are not relevant include:

- disputes with members of the public relating to the proponent's service, but unrelated to antenna installations;
- potential effects that a proposed antenna system will have on property values or municipal taxes;
- questions whether the *Radiocommunication Act*, this document, Safety Code 6, locally established by-laws, other legislation, procedures or processes are valid or should be reformed in some manner.

4.3 Concluding Consultation

The proponent may only commence installation/modification of an antenna system after the consultation process has been completed by the land-use authority, or Industry Canada confirms concurrence with the consultation portion of this process, and after all other requirements under this process have been met. Consultation responsibilities will normally be considered complete when the proponent has:

1. concluded consultation requirements (Section 4.1) with the land-use authority;
2. carried out public consultation either through the process established by the land-use authority or the Industry Canada's Default Public Consultation Process where required; and
3. addressed all reasonable and relevant concerns.

Concluding Land-use Authority Consultation

Industry Canada expects that land-use consultation will be completed within *120 days* from the proponent's initial formal contact with the local land-use authority. Where unavoidable delays may be encountered, the land-use authority is expected to indicate when the proponent can expect a response to the proposal. If the authority is not responsive, the proponent may contact Industry Canada. Depending on individual circumstances, Industry Canada may support additional time or consider the land-use authority consultation process concluded.

Depending on the land-use authority's own process, conclusion of local consultation may include such steps as obtaining final concurrence for the proposal via the relevant committee, a letter or report acknowledging that the relevant municipal process or other requirements have been satisfied, or other valid indication, such as the minutes of a town council meeting indicating LUA approval. Compliance with informal city staff procedures, or grants of approval strictly related to zoning, construction, etc. will not normally be sufficient.

Industry Canada recognizes that approvals for construction (e.g. building permits) are used by some land-use authorities as evidence of consultation being concluded. Proponents should note that Industry Canada does not consider the fact a permit was issued as confirmation of concurrence, as different land-use authorities have different approaches. As such, Industry Canada will only consider such approvals as valid when the proponent can demonstrate that the LUA's process was followed and that the LUA's preferred method of concluding LUA consultation is through such an approval.

Concluding Industry Canada's Default Public Consultation Process

Industry Canada's Default Public Consultation Process will be considered concluded when the proponent has either:

- received no written questions, comments or concerns to the formal notification within the *30-day* public comment period; or
- if written questions, comments or concerns were received, the proponent has addressed and resolved all reasonable and relevant concerns and the public has not provided further comment within the *21-day* reply comment period.

In the case where the public responds within the *21-day* reply comment period, the proponent has the option of making further attempts to address the concern on its own, or can request Industry Canada engagement. If a request for engagement is made at this stage, Industry Canada will review the relevant material, request any further information it deems pertinent from any party and may then decide that:

- the proponent has met the consultation requirements of this process and that Industry Canada concurs that installation or modification may proceed; or
- the parties should participate in further attempts to mitigate or resolve any outstanding concern.

5. Dispute Resolution Process

The dispute resolution process is a formal process intended to bring about the timely resolution where the parties have reached an impasse.

Upon receipt of a written request, from a stakeholder other than the general public, asking for Departmental intervention concerning a reasonable and relevant concern, the Department may request that all involved parties provide and share all relevant information. The Department may also gather or obtain other relevant information and request that parties provide any further submissions if applicable. The Department will, based on the information provided, either:

- make a final decision on the issue(s) in question, and advise the parties of its decision; or
- suggest the parties enter into an alternate dispute resolution process in order to come to a final decision. Should the parties be unable to reach a mutually agreeable solution, either party may request that the Department make a final decision.

Upon resolution of the issue under dispute, the proponent is to continue with the process contained within this document as required.

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6. Exclusions

For the following types of installations, proponents are excluded from the requirement to consult with the LUA and the public, but must still fulfill the General Requirements outlined in Section 7:

- maintenance of existing radio apparatus including the antenna system, transmission line, mast, tower or other antenna-supporting structure;
- addition or modification of an antenna system (including improving the structural integrity of its integral mast to facilitate sharing), the transmission line, antenna-supporting structure or other radio apparatus to existing infrastructure, a building, water tower, etc. provided the addition or modification does not result in an overall height increase above the existing structure of 25% of the original structure's height;
- maintenance of an antenna system's painting or lighting in order to comply with Transport Canada's requirements;
- installation, for a limited duration (typically not more than 3 months), of an antenna system that is used for a special event, or one that is used to support local, provincial, territorial or national emergency operations during the emergency, and is removed within 3 months after the emergency or special event; and
- new antenna systems, including masts, towers or other antenna-supporting structure, with a height of less than 15 metres above ground level.

Individual circumstances vary with each antenna system installation and modification, and the exclusion criteria above should be applied in consideration of local circumstances. Consequently, it may be prudent for the proponents to consult the LUA and the public even though the proposal meets an exclusion noted above. Therefore, when applying the criteria for exclusion, proponents should consider such things as:

- the antenna system's physical dimensions, including the antenna, mast, and tower, compared to the local surroundings;
- the location of the proposed antenna system on the property and its proximity to neighbouring residents;
- the likelihood of an area being a community-sensitive location; and
- Transport Canada marking and lighting requirements for the proposed structure.

Proponents who are not certain if their proposed structure is excluded, or whether consultation may still be prudent, are advised to contact the land-use authority and/or Industry Canada for guidance.

7. General Requirements

In addition to roles and responsibilities for site sharing, land-use consultation and public consultation, proponents must also fulfill other important obligations including: compliance with Health Canada's Safety Code 6 guideline for the protection of the general public; compliance with radio frequency immunity criteria; notification of nearby broadcasting stations; environmental considerations; and Transport Canada/NAV CANADA aeronautical safety responsibilities.

7.1 Radio Frequency Exposure Limits

Health Canada has established safety guidelines for exposure to radio frequency fields, in its Safety Code 6 publication, entitled: *Limits of Human Exposure to Radiofrequency Electromagnetic fields in the Frequency Range from 3 kHz to 300 GHz*.⁴ While the responsibility for developing Safety Code 6 rests with Health Canada, Industry Canada has adopted this guideline for the purpose of protecting the general public. Current biomedical studies in Canada and other countries indicate that there is no scientific or medical evidence that a person will experience adverse health effects from exposure to radio frequency fields, provided that the installation complies with Safety Code 6.

It is the responsibility of proponents and operators of installations to ensure that all radiocommunication and broadcasting installations comply with Safety Code 6 at all times, including the consideration of combined effects of nearby installations within the local radio environment.

For all proponents following Industry Canada's Default Public Consultation Process, the proponent's notification package must provide a written attestation that there will be compliance with Safety Code 6 for the protection of the general public, including consideration of nearby radiocommunication systems. The notification package must also indicate any Safety Code 6 related signage and access control mechanisms that may be used.

Compliance with Safety Code 6 is an ongoing obligation. At any time, antenna system operators may be required, as directed by Industry Canada, to demonstrate compliance with Safety Code 6 by (i) providing detailed calculations, and/or (ii) conducting site surveys and, where necessary, by implementing corrective measures. Proponents and operators of existing antenna systems must retain copies of all information related to Safety Code 6 compliance such as analyses and measurements.

7.2 Radio Frequency Immunity

All radiocommunication and broadcasting proponents and existing spectrum users are to ensure that their installations are designed and operated in accordance with Industry Canada's immunity criteria as outlined in EMCAB-2⁵ in order to minimize the malfunctioning of electronic equipment in the local surroundings. Broadcasting proponents and existing undertakings should refer to Broadcasting

⁴ Safety Code 6 can be found on Health Canada's website at: http://www.hc-sc.gc.ca/ewh-semt/pubs/radiation/99ehd-dhm237/index_e.html.

⁵ For more information see EMCAB-2, entitled: *Criteria for Resolution of Immunity Complaints Involving Fundamental Emissions of Radiocommunications Transmitters* available on Industry Canada's Spectrum Management and Telecommunications website at: www.strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/cn/sf01005e.html.

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Procedures and Rules - Part 1, *General Rules* (BPR-1) for additional information and requirements⁶ on this matter.

Proponents are advised to consider the potential effect that their proposal may have on nearby electronic equipment. In this way, they will be better prepared to respond to any questions that may arise during the public and land-use consultation processes, or after the system has been installed.

Land-use authorities should be prepared to advise proponents and owners of broadcasting undertakings of plans for the expansion or development of nearby residential and/or industrial areas. Such expansion or development generally results in the introduction of more electronic equipment in the area and therefore an increased potential for electronic equipment to malfunction. By keeping broadcasters aware of planned developments and changes to adjacent land-use, they will be better able to work with the community. Equally, land-use authorities have a responsibility to ensure that those moving into these areas, whether prospective residents or industry, are aware of the potential for their electronic equipment to malfunction when located in proximity to an existing broadcasting installation. For example, the LUA could ensure that clear notification be provided to future prospective purchasers.

7.3 Proximity of Proposed Structure to Broadcasting Undertakings

Where the proposal would result in a structure that exceeds 30 metres above ground level, the proponent is to notify operators of AM, FM and TV undertakings within 2 kilometres, due to the potential impact the physical structure may have on these broadcasting undertakings. Metallic structures close to an AM directional antenna array may change the antenna pattern of the AM broadcasting undertaking. These proposed structures can also reflect nearby FM and TV signals, causing 'ghosting' interference to FM/TV receivers used by the general public.

7.4 Canadian Environmental Assessment Act

Industry Canada requires that the installation and modification of antenna systems be done in a manner that complies with appropriate environmental legislation. This includes the CEAA and local environmental assessment requirements where required by the CEAA.

Proponents will ensure that the environmental assessment process is applied as early as is practical in the planning stages. This will enable proponents and other stakeholders to consider environmental factors in any decisions that may be made. As part of their environmental assessment, proponents are to give due consideration to potential environmental impacts including cumulative effects.

Proponents are advised to view the current CEAA exclusion list⁷ to see if their proposed installation meets the requirements to be excluded from assessment under the CEAA.

⁶ BPR-1 - Part I: General Rules can be found on the Spectrum Management and Telecommunications website at: <http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/en/sf01326e.html>.

⁷ The CEAA exclusion list can be found at <http://laws.justice.gc.ca/en/C-15.2/SOR-94-639/index.html>.

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If not excluded, the proponent must first notify the local Industry Canada office which will direct the proponent on how to proceed with an environmental assessment. At this point, the proponent must not proceed with any construction related to the proposal.

Where the proposal requires assessment under the CEAA, the proponent must either:

- abandon the proposal; or
- participate in the environmental assessment process as established under the CEAA.

Should the environmental assessment identify that there is the potential for an adverse environmental effect, the proponent will be required to describe the effect and propose mitigation measures. Through an environmental assessment, careful consideration may be given to potential adverse environmental effects during the planning stages. This makes it possible to introduce measures which permit the project to proceed while protecting the environment.

Should any significant adverse environmental effect become apparent at any time during the installation, all construction must be stopped, regardless of whether the installation was excluded from environmental assessment.

For all proponents following Industry Canada's Default Public Consultation Process, the proponent's notification package must provide written confirmation of the project's status under the *Canadian Environmental Assessment Act*.

In those situations where an environmental assessment is required, Industry Canada will post a notification of the commencement of the assessment on the Canadian Environmental Assessment Registry website.⁸ This will help to ensure that all interested parties, including the general public, are aware of an assessment from the outset. The notification will include the name, location and a summary description of the project, and identify the project proponent(s) and federal department(s) directly involved in the assessment. Other pertinent documents will be placed on the Internet site as the assessment proceeds, including all public notices, decisions and information about follow-up programs. Should mitigation measures be identified further to the assessment, Industry Canada will ensure that the project does not proceed unless these measures are adequately addressed.

In addition, proponents are responsible to ensure that antenna systems are installed and operated in a manner that respects the local environment and complies with other statutory requirements such as the *Canadian Environmental Protection Act*, the *Migratory Birds Convention Act* and the *Species at Risk Act*, where applicable.

⁸ The Canadian Environmental Assessment Registry website can be found at: http://www.ceaa-acee.gc.ca/050/index_e.cfm.

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7.5 Aeronautical Safety

Proponents must ensure their proposals for any antenna system are first reviewed by Transport Canada and NAV CANADA.

Transport Canada will perform an assessment of the proposal with respect to the potential hazard to air navigation and will notify proponents of any painting and/or lighting requirements for the antenna system. NAV CANADA will comment on whether the proposal has an impact on the provision of their national air navigation system, facilities and other services located off-airport.

As required, the proponent must:

1. submit an Aeronautical Obstruction Clearance form to Transport Canada;
2. submit a Land-use Proposal Submission form to NAV CANADA;
3. include Transport Canada marking requirements in the public notification package;
4. install and maintain the antenna system in a manner that is not a hazard to aeronautical safety; and
5. retain all correspondence.

For those antenna systems subject to Industry Canada's Default Public Consultation Process, the proponent will inform the community of any marking requirements. Where options are possible, proponents are expected to work with the local community and Transport Canada to implement the best and safest marking options. Proponents should be aware that Transport Canada does not advise Industry Canada of marking requirements for proposed structures. Proponents are reminded that the addition of, or modification to, obstruction markings may result in community concern and so any change is to be done in consultation with the local public, land-use authority and/or Transport Canada, as appropriate.

References and Details

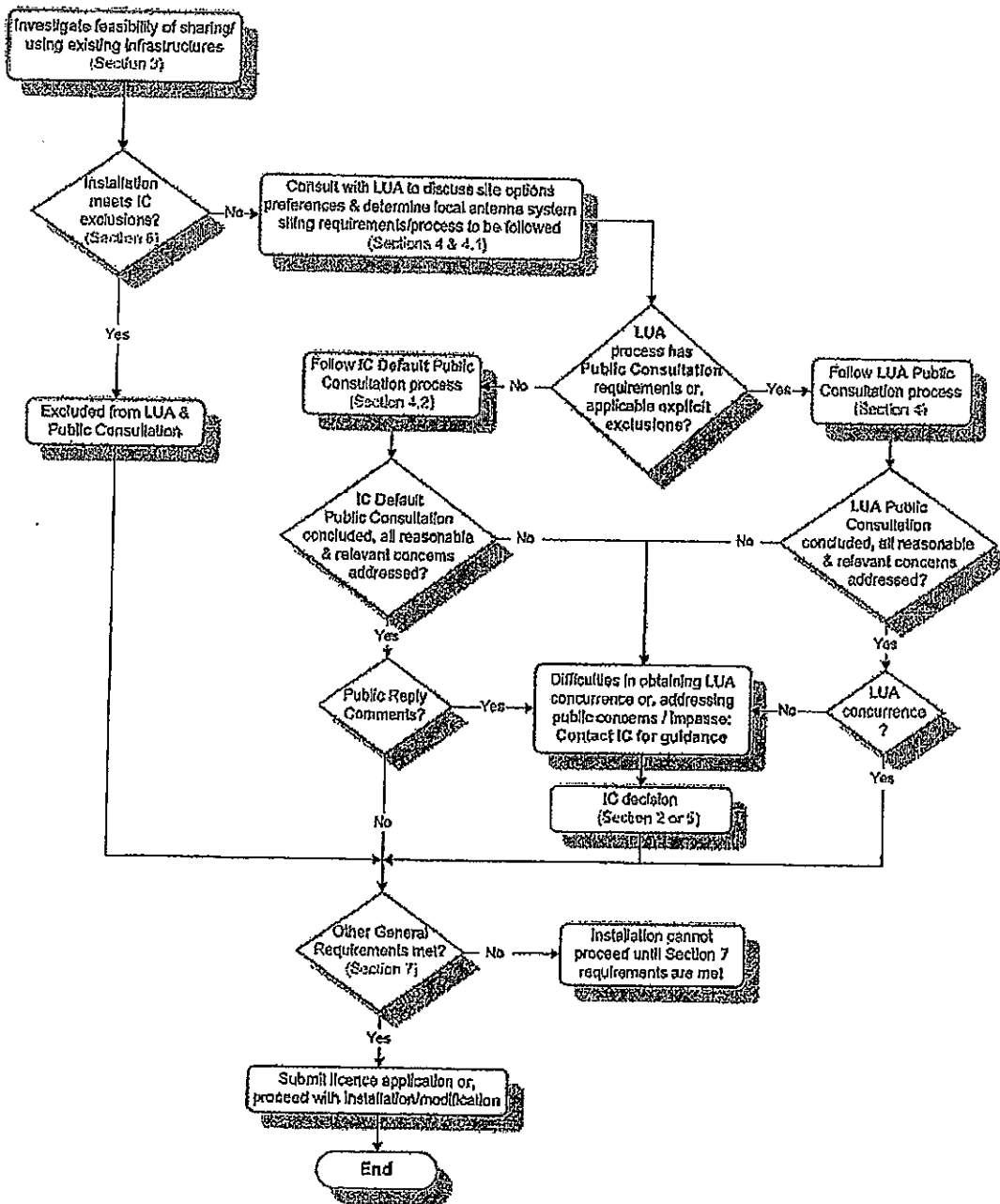
Aeronautical Obstruction Clearance forms are available from any Transport Canada Aviation Group Office. Both the Aeronautical Obstruction Clearance form (#26-0427) and a list of Transport Canada Aviation Group regional offices are available on the Transport Canada website.⁹ Completed forms are to be submitted directly to the nearest Transport Canada Aviation Group office. (Refer to Canadian Aviation Regulations, Standard 621.19, Standards Obstruction Markings).

Land-use Proposal Submission forms are available from NAV CANADA¹⁰ and completed forms are to be sent to the appropriate NAV CANADA General Manager Airport Operations (GMAO) office, East or West.

⁹ The Transport Canada website can be found at: <http://www.tc.gc.ca>.

¹⁰ Search keywords "Land-use Proposal" on the NAV CANADA website at: <http://www.navcanada.ca>.

Appendix 1 - Consultation Flow Chart



Appendix 2 - Industry Canada's Default Public Consultation Process - Public Notification Package (See Section 4.2)

The proponent must ensure that at least *30 days* are provided for public comment. Notification must provide all information on how to submit comments to the proponent in writing. The proponent must also provide a copy of the notification package to the land-use authority and the local Industry Canada office at the same time as the package is provided to the public.

Notification must include, but need not be limited to:

- (1) the proposed antenna system's purpose, the reasons why existing antenna systems or other infrastructure cannot be used, a list of other structures that were considered unsuitable and future sharing possibilities for the proposal;
- (2) the proposed location within the community, the geographic co-ordinates and the specific property or rooftop;
- (3) an attestation¹ that the general public will be protected in compliance with Health Canada's Safety Code 6 including combined effects within the local radio environment at all times;
- (4) identification of areas accessible to the general public and the access/demarcation measures to control public access;
- (5) the project's status under the *Canadian Environmental Assessment Act*²;
- (6) a description of the proposed antenna system including its height and dimensions, a description of any antenna that may be mounted on the supporting structure and simulated images of the proposal;
- (7) Transport Canada's aeronautical obstruction marking requirements (whether painting, lighting or both) if available; if not available, the proponent's expectation of Transport Canada's requirements together with an undertaking to provide Transport Canada's requirements once they become available;
- (8) an attestation that the installation will respect good engineering practices including structural adequacy;
- (9) reference to any applicable local land-use requirements such as local processes, protocols, etc.;

¹ Example: I, (name of individual or representative of company) attest that the radio installation described in this notification package will be installed and operated on an ongoing basis so as to comply with Health Canada's Safety Code 6, as may be amended from time to time, for the protection of the general public including any combined effects of nearby installations within the local radio environment.

² Example: I, (name of individual or representative of company) attest that the radio antenna system described in this notification package is excluded from environmental assessment under the *Canadian Environmental Assessment Act*.

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- (10) notice that general information relating to antenna systems is available on Industry Canada's Spectrum Management and Telecommunications website (<http://strategis.ic.gc.ca/antenna>);
- (11) contact information for the proponent, land-use authorities and the local Industry Canada office; and
- (12) closing date for submission of written public comments (not less than *30 days* from receipt of notification).

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Appendix 3

World Health Organization Fact Sheet



Media centre

Electromagnetic fields and public health

Base stations and wireless technologies

Fact sheet N°304

May 2006

Mobile telephony is now commonplace around the world. This wireless technology relies upon an extensive network of fixed antennas, or base stations, relaying information with radiofrequency (RF) signals. Over 1.4 million base stations exist worldwide and the number is increasing significantly with the introduction of third generation technology.

Other wireless networks that allow high-speed internet access and services, such as wireless local area networks (WLANs), are also increasingly common in homes, offices, and many public areas (airports, schools, residential and urban areas). As the number of base stations and local wireless networks increases, so does the RF exposure of the population. Recent surveys have shown that the RF exposures from base stations range from 0.002% to 2% of the levels of international exposure guidelines, depending on a variety of factors such as the proximity to the antenna and the surrounding environment. This is lower or comparable to RF exposures from radio or television broadcast transmitters.

There has been concern about possible health consequences from exposure to the RF fields produced by wireless technologies. This fact sheet reviews the scientific evidence on the health effects from continuous low-level human exposure to base stations and other local wireless networks.

Health concerns

A common concern about base station and local wireless network antennas relates to the possible long-term health effects that whole-body exposure to the RF signals may have. To date, the only health effect from RF fields identified in scientific reviews has been related to an increase in body temperature ($> 1\text{ }^{\circ}\text{C}$) from exposure at very high field intensity found only in certain industrial facilities, such as RF heaters. The levels of RF exposure from base stations and wireless networks are so low that the temperature increases are insignificant and do not affect human health.

The strength of RF fields is greatest at its source, and diminishes quickly with distance. Access near base station antennas is restricted where RF signals may exceed international exposure limits. Recent surveys have indicated that RF exposures from base stations and wireless technologies in publicly accessible areas (including schools and hospitals) are normally thousands of times below international standards.

In fact, due to their lower frequency, at similar RF exposure levels, the body absorbs up to five times more of the signal from FM radio and television than from base stations. This is because the frequencies used in FM radio (around 100 MHz) and in TV broadcasting (around 300 to 400 MHz) are lower than those employed in mobile telephony (900 MHz and 1800 MHz) and because a person's height makes the body an efficient receiving antenna. Further, radio and television broadcast stations have been in operation for the past 50 or more years without any adverse health consequence being established.

While most radio technologies have used analog signals, modern wireless telecommunications are using digital transmissions. Detailed reviews conducted so far have not revealed any hazard specific to different RF modulations.

Cancer: Media or anecdotal reports of cancer clusters around mobile phone base stations have heightened public concern. It should be noted that geographically, cancers are unevenly distributed among any population. Given the widespread presence of base stations in the environment, it is expected that possible cancer clusters will occur near base stations merely by chance. Moreover, the reported cancers in these clusters are often a collection of different types of cancer with no common characteristics and hence unlikely to have a common cause.

Scientific evidence on the distribution of cancer in the population can be obtained through carefully planned and executed epidemiological studies. Over the past 15 years, studies examining a potential relationship between RF transmitters and cancer have been published. These studies have not provided evidence that RF exposure from the transmitters increases the risk of cancer. Likewise, long-term animal studies have not established an increased risk of cancer from exposure to RF fields, even at levels that are much higher than produced by base stations and wireless networks.

Other effects: Few studies have investigated general health effects in individuals exposed to RF fields from base stations. This is because of the difficulty in distinguishing possible health effects from the very low signals emitted by base stations from other higher strength RF signals in the environment. Most studies have focused on the RF exposures of mobile phone users. Human and animal studies examining brain wave patterns, cognition and behaviour after exposure to RF fields, such as those generated by mobile phones, have not identified adverse effects. RF exposures used in these studies were about 1000 times higher than those associated with general public exposure from base stations or wireless networks. No consistent evidence of altered sleep or cardiovascular function has been reported.

Some individuals have reported that they experience non-specific symptoms upon exposure to RF fields emitted from base stations and other EMF devices. As recognized in a recent WHO fact sheet "Electromagnetic Hypersensitivity", EMF has not been shown to cause such symptoms. Nonetheless, it is important to recognize the plight of people suffering from these symptoms.

From all evidence accumulated so far, no adverse short- or long-term health effects have been shown to occur from the RF signals produced by base stations. Since wireless networks produce generally lower RF signals

than base stations, no adverse health effects are expected from exposure to them.

Protection standards

International exposure guidelines have been developed to provide protection against established effects from RF fields by the International Commission on Non-Ionizing Radiation Protection (ICNIRP, 1998) and the Institute of Electrical and Electronic Engineers (IEEE, 2005).

National authorities should adopt international standards to protect their citizens against adverse levels of RF fields. They should restrict access to areas where exposure limits may be exceeded.

Public perception of risk

Some people perceive risks from RF exposure as likely and even possibly severe. Several reasons for public fear include media announcements of new and unconfirmed scientific studies, leading to a feeling of uncertainty and a perception that there may be unknown or undiscovered hazards. Other factors are aesthetic concerns and a feeling of a lack of control or input to the process of determining the location of new base stations. Experience shows that education programmes as well as effective communications and involvement of the public and other stakeholders at appropriate stages of the decision process before installing RF sources can enhance public confidence and acceptability.

Conclusions

Considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects.

WHO Initiatives

WHO, through the International EMF Project, has established a programme to monitor the EMF scientific literature, to evaluate the health effects from exposure to EMF in the range from 0 to 300 GHz, to provide advice about possible EMF hazards and to identify suitable mitigation measures. Following extensive international reviews, the International EMF Project has promoted research to fill gaps in knowledge. In response national governments and research institutes have funded over \$250 million on EMF research over the past 10 years.

While no health effects are expected from exposure to RF fields from base stations and wireless networks, research is still being promoted by WHO to determine whether there are any health consequences from the higher RF exposures from mobile phones.

The International Agency for Research on Cancer (IARC), a WHO specialized agency, is expected to conduct a review of cancer risk from RF fields in 2006-2007 and the International EMF Project will then undertake an overall health risk assessment for RF fields in 2007-2008.

Further Reading

ICNIRP (1998) www.icnirp.org/documents/emfgdl.pdf

IEEE (2002) IEEE C95.1-2005 IEEE Standard for Safety Levels with

Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3
kHz to 300 GHz"

Related links

Base stations & wireless networks: Exposures & health consequences

Fact sheet: Electromagnetic fields and public health: Electromagnetic
Hypersensitivity

WHO handbook on "Establishing a Dialogue on Risks from
Electromagnetic Fields"

2006 WHO Research Agenda for Radio Frequency Fields
pdf, 100kb

For more information contact:

WHO Media centre

Telephone: +41 22 791 2222

E-mail: mediainquiries@who.int

1.87

-12-

Appendix 4

Correspondence from Dr. Kurji dated January 9, 2009
City of Hamilton Information Report dated June 10, 2008
Vancouver Coastal Health opinion dated June 20, 2005

1.88

Council Attachment 2



Health Services Department
Public Health

January 9, 2009

Ms. Ana Bassios
Commissioner of Planning and Development
The Town of Richmond Hill
P.O. Box 300, 225 East Beaver Creek Road
Richmond Hill, ON L4C 4Y5

Dear Ms. Bassios:

Re: Request for Comments from the Medical Officer of Health on Safety Code 6 - Radio Frequency Exposure Standard

Thank you for your letter dated November 18, 2008 requesting a written response regarding the health impacts of cellular telecommunication facilities on the general public, and the federal exposure standard for radio frequency electromagnetic fields (RF EMFs).

As you are aware, the setting of standards and guidelines on RF EMFs as well as the regulation of siting and installation of cell towers are matters of federal jurisdiction:

- Health Canada is responsible for setting RF exposure guidelines, known as Safety Code 6, to protect exposed workers and the general public from short term, high exposure effects of RFs. Health Canada's Safety Code 6 is based on the International Commission for Non-Ionizing Radiation Protection guidelines for public exposure limits. These guidelines are based on the well understood heating effects of RFs -- addressing the short-term, high exposure effects.
- Industry Canada has the regulatory authority for approving the siting and installation of telecommunication towers and antennas. Industry Canada requires that operators of cell towers and other RF emitting devices ensure that the RF fields produced by their installation do not exceed the maximum level contained in Health Canada's Safety Code 6. Industry Canada encourages cell phone carriers to consult with local land use authorities to determine the most suitable sites for installation.

RF EMF types of non-ionizing radiation have been researched extensively to identify potential health risks from exposure to these forms of radiation. As a local public health unit, we rely on the federal level jurisdiction with the necessary scientific and evaluative expertise -- Health Canada, to provide direction and advice based on current science. Nevertheless, as part of our due diligence, York Region Public Health Branch staff have reviewed RF EMFs research from agencies such as the World Health Organization, Health Canada, Industry Canada and have also reviewed a number of recent, peer-reviewed, scientific journal articles.

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The position and advice of Health Canada and the World Health Organization (WHO) relating to RF exposures suggests that typical levels of RF in the community are unlikely to cause adverse health effects:

- Research from Health Canada suggests that worst-case exposure levels of RFs are typically thousands of times below the recommended exposure limits in Health Canada's Safety Code 6 (Bradley, R., Director, Consumer and Radiation Protection, Health Canada, personal communication).
- The WHO reported that current scientific evidence indicates that exposure to RF fields, such as those emitted by mobile phones and their base stations, is unlikely to induce or promote cancers (WHO, 2000).
- The WHO released a report in 2006 stating that, "research on potential health effects from base station RF fields was deemed of low priority since studies of cancer risk related to such exposure are unlikely to be feasible and informative" (WHO, 2006).

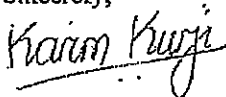
Although the Safety Code 6 was established in 1999, the guidelines have been subsequently evaluated by the Royal Society of Canada Expert Panel (Krewski 2001, Krewski et al 2007 and Prato, Personal Communications 2008). The Panel concluded that there is no clear evidence of adverse health effects associated with RF fields. Other research studies also acknowledge that the studies done to date give no consistent or convincing evidence of a causal relationship between RFs and any adverse health effects. However, the Royal Society of Canada Expert Panel, Toronto Public Health and other researchers have stated that further studies are warranted to clarify biological (i.e. non-thermal) and long term effects of exposure to RF fields on human health.

In conclusion, based on the review by the York Region Public Health Branch, the weight of evidence has not identified that Safety Code 6 is inappropriate, in protecting the public from exposure to RF fields. While my staff continue to communicate with Health Canada, and other agencies researching this issue, it is recommended that the Town of Richmond Hill continue to liaise with Industry Canada regarding the siting and installation of telecommunication towers and antennas within your jurisdiction.

Please do not hesitate to call me if you have any questions.

Thank you.

Sincerely,



Dr. Karim Kurji, MBBS, MSc, MRCGP, FFPHM, FRCPC
Medical Officer of Health

KK/pf

Copy to: Bryan Tuckey, Commissioner, Planning and Development Services
Joann Simons, Commissioner, Community and Health Services

1.90



Hamilton

INFORMATION REPORT

CITY WIDE
IMPLICATIONS

To:	Mayor and Members Board of Health		
From:	Elizabeth Richardson, MD, MHSc, FRCPC Medical Officer of Health Public Health Services	Telephone: Facsimile: E-mail:	(905) 546-2424 x3501 (905) 546-4075 erichard@hamilton.ca
Date:	June 10, 2008		
Re:	Health Risk Associated with Cell Phone Towers - BOH08013 (City Wide)		

Council Direction:

That Public Health Services staff be directed to report back to the Board of Health on the potential health impacts that cell phone towers may pose to the public.

Information:

Wireless Communication Technology

Cell phones and personal communications service (PCS) devices, (eg. a Blackberry unit) rely on a network of fixed antennas, or cell towers, to relay information between users. The rapid proliferation of wireless communication technologies over the past decade has led to questions being raised about the potential health impacts of ubiquitous energy fields associated with these technologies. There are approximately 8,000 cell towers in all of Canada, where 40% of towers are located on existing structures (eg. buildings) and 60% are located on purpose-built towers. There are approximately 140 locations with cell towers in the City of Hamilton. It is expected that as new generation technology becomes available, the demand for service coverage will only increase as public reliance on wireless communications increases.

Exposure to Radiofrequency Fields

Wireless communication devices use radio frequency (RF) energy to transmit data. RF energy is a form of non-ionizing energy, meaning that it is below visible light on the electromagnetic energy spectrum and is generally considered to be not harmful to humans. Ionizing forms of energy such as ultraviolet radiation and gamma and x-rays

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SUBJECT: Health Risk Associated with Cell Phone Towers -- BOH08013
(City Wide) **Page 2 of 6**

are above visible light on the electromagnetic spectrum and are known to be harmful to humans.

It is important to recognize that in the City of Hamilton, the public is exposed to RF fields from a variety of sources. In addition to cellular communication towers, television, radio, emergency responders (police, fire, EMS), taxi companies, pager services, couriers, wireless local area networks (WLANs), all utilize RF energy to allow communication to occur. The World Health Organization points out that due to their lower frequency, at similar RF exposure levels, the body absorbs up to five times more of the signal from FM radio and television than from cell towers. Further, radio and television broadcast stations have been in operation for the past 50 or more years without any adverse health consequence being established.

RF energy is strongest at its source, and rapidly diminishes with distance. Recent surveys have indicated that RF exposures from cell towers and wireless technologies in publicly accessible areas (including schools and hospitals) are normally thousands of times below current safety standards. In 2002, Industry Canada conducted a study examining the level of RF energy in the City of Toronto, where the highest concentration of radio systems exists in Canada. The study took measurements at over 60 locations and found that on average, RF levels were 705 times less than Canadian federal safety standards (Safety Code 6) allow. The site with the highest radio frequency level was located between Metro Hall and Roy Thompson Hall and was still found to be 16 times less than the Safety Code 6 limit. Further analysis of the data determined that the ten sites classified as residential, were on average 7194 times less than the Safety Code 6 limit.

Health concerns

A common concern about cell towers relates to the possible long-term health effects that whole-body exposure to RF signals may have. The World Health Organization reports that to date, the only health effect from RF fields identified in scientific reviews has been related to an increase in body temperature from exposure at very high field intensity found only in certain industrial facilities. The levels of RF exposure from cell towers and wireless networks are so low that the temperature increases are insignificant and do not affect human health.

It is not disputed that electromagnetic fields above certain levels can trigger biological effects. A biological effect occurs when a change can be measured in a biological system after an introduction of some type of stimuli (e.g. RF energy). However, the observation of a biological effect does not necessarily suggest the existence of a health effect. A biological effect only becomes a health hazard when it causes detectable impairment of health. Experiments with healthy volunteers indicate that short-term exposure to electromagnetic fields at the levels present in the environment or in the home do not cause any apparent detrimental effects. Exposures to higher levels that might be harmful are restricted by national and international guidelines. The current debate is centred on whether long-term low level exposure can evoke biological responses and influence people's well being.

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SUBJECT: Health Risk Associated with Cell Phone Towers -- BOH08013
(City Wide) Page 3 of 6

Media or anecdotal reports of cancer clusters around cell towers have at times heightened public concern. It should be noted that geographically, cancers are unevenly distributed among any population. Given the widespread presence of cell towers in the environment, it is expected that possible cancer clusters will occur near cell towers merely by chance. Moreover, the reported cancers in these clusters are often a collection of different types of cancer with no common characteristics and hence unlikely to have a common cause. Scientific evidence on the distribution of cancer in the population can be obtained through carefully planned and executed epidemiological studies. Over the past 15 years, studies examining a potential relationship between RF transmitters and cancer have been published. These studies have not provided evidence that RF exposure from the transmitters increases the risk of cancer. Likewise, long-term animal studies have not established an increased risk of cancer from exposure to RF fields, even at levels that are much higher than produced by cell towers and wireless networks.

Some individuals have reported experiencing non-specific symptoms upon exposure to RF fields emitted from cell towers and other electromagnetic field devices. The World Health Organization describes these individuals as possessing "Electromagnetic Hypersensitivity" (EHS). Electromagnetic hypersensitivity (EHS) is characterized by a variety of non-specific symptoms that differ among individuals. Symptoms most commonly experienced include dermatological symptoms (redness, tingling, and burning sensations) as well as fatigue, tiredness, concentration difficulties, dizziness, nausea, heart palpitation, and digestive disturbances. The collection of symptoms is not part of any recognized syndrome. Although electromagnetic fields have not been shown to cause such symptoms, the symptoms are certainly real and can vary widely in their severity. Whatever its cause, EHS can be a disabling problem for the affected individual. EHS has no clear diagnostic criteria and there is no scientific basis to link EHS symptoms to electromagnetic field exposure. Further, EHS is not a medical diagnosis, nor is it clear that it represents any medical problem.

From all evidence accumulated so far, no adverse short or long-term health effects have been shown to occur from the RF signals produced by cell towers. Since wireless networks (WLAN's) produce generally lower RF signals than cell towers, no adverse health effects are expected from exposure to them.

Canadian Safety Standards

The legislative authority to regulate the siting and installation of cell towers is a matter of federal jurisdiction. Industry Canada is the federal agency responsible for regulating radio communication in Canada, which includes authorizing the installation of cell towers. Health Canada has developed a series of standards and guidelines regarding the operation and use of devices that emit electromagnetic fields. The guideline that applies to mobile phones, cell towers and all other RF transmitters is Safety Code 6 - *Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 KHZ to 300 GHZ.*

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**SUBJECT: Health Risk Associated with Cell Phone Towers – BOH08013
(City Wide) Page 4 of 6**

The limits specified in Safety Code 6 were established from the results of hundreds of studies over the past several decades where the effects of RF energy on biological organisms were examined, including peer-reviewed literature from reputable scientific journals, whose peer-review panels are experts in this subject area. Information published in non peer-reviewed journals or anecdotal reports posted on the internet carry much less weight because it is difficult to evaluate the quality of the work.

The limits established in Safety Code 6 are based on the lowest exposure level at which potential harmful effects to humans could occur. Safety factors were then incorporated to arrive at recommended exposure levels for protection of the general public and personnel working in the RF environment. These limits are similar to other national and international standards that are based on established effects, including the International Commission for Non-Ionizing Radiation Protection (ICNIRP).

Other Jurisdictions

In November 2007, Toronto Public Health recommended a "prudent avoidance policy that RF waves from telecommunication towers and antennas be 100 times below Safety Code 6 in areas where people normally spend time". The recommendation goes on to confirm that Industry Canada monitoring data shows that this safety level is readily met. Toronto Public Health cites concerns that current guidelines (Safety Code 6) may not be health protective for lifetime, continuous exposure, and that other jurisdictions, such as Italy and Switzerland, have adopted stricter limits than those defined by Safety Code 6.

Dr. Art Thansandote of Health Canada's Consumer and Clinical Radiation Protection Bureau informed Hamilton Public Health Services staff that with respect to cellular tower emissions, precautionary steps to limit one's exposure would appear to be unnecessary, given that worst case exposure levels are typically thousands of times below the Safety Code 6 limits as well as the common European standard (ICNIRP). These exposure levels would also be lower than a number of precautionary limits such as the one proposed by the Toronto Board of Health, Switzerland's Installation Limit Value and the Italian Attention and Quality Goals.

Not all standards throughout the world have the same recommended exposure limits; some are more stringent than others. The variation between recommended limits may be attributed to differences in the philosophy, the methodology and the interpretation of scientific data used for standard development. However, recognized exposure standards that are based on established effects should be distinguished from some municipal and/or regional guidelines that are based on socio-political considerations.

There is no scientific basis to support a conclusion that individuals living in communities with more stringent exposure standards, than those in Safety Code 6, receive a greater level of protection.

Future Research

Health Canada has been taking part in the International Electromagnetic Fields Project, coordinated by the World Health Organization. The goals of this project are to verify

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**SUBJECT: Health Risk Associated with Cell Phone Towers – BOH08013
(City Wide) Page 5 of 6**

reported biological effects from electromagnetic fields and to characterize any associated health risks to humans. The International EMF project recognizes the gaps in knowledge that exist surrounding health effects related to RF field exposure and has promoted research to fill these gaps. The International Agency for Research on Cancer (IARC) is expected to conduct a review of cancer risk from RF fields in 2006-2007 and the International EMF Project will then undertake an overall health risk assessment for RF fields in 2007-2008.

Planning and Economic Development Considerations

Radiocommunication facilities are exclusively governed by Federal legislation and administered by Industry Canada. Provincial legislation such as the Ontario Building Code Act and the Planning Act including zoning by-laws and site plan control do not apply to these facilities.

Since amalgamation, the City of Hamilton has relied on an informal protocol with the three major wireless telecommunication service providers namely Bell Mobility, Telus and Roger's whereby they have all voluntarily agreed to follow the City's site plan approvals process and to obtain Building Permits. While the site plan control process is not subject to public notification or consultation, copies of all applications are circulated to the respective Ward Councilor for their review and identification of potential controversial sites.

Until now, staff has historically evaluated these facilities from a land use compatibility perspective and to minimize the potential visual impacts these facilities will have on abutting and future developments. At the same time, staff recognizes the need to balance the land use compatibility issue with the increasing public demand for consistent, reliable service and uniform coverage within our community. Inevitably, an increased number of installations are required to ensure that there is sufficient capacity in the network to meet this demand.

Last June, Industry Canada released a new procedure for the siting and approval of new Radiocommunication and Broadcasting Antenna Systems. These procedures came into effect on January 1, 2008. The new procedures were aimed at ensuring greater public consultation in the determination of new telecommunication systems across Canada. The main change involves a clearer process for public notification and consultation which was not part of the licensing process under the previous procedures. While the inclusion of a public consultation process affords the City with an opportunity to influence the location of telecommunication facilities, it does not give the municipality the right to regulate these installations.

Before a license is issued, proponents must now contact the municipality unless their proposal is exempted under certain criteria. If not, the proponent must follow the municipality's public consultation process if one exists. If not, the proponent must follow the new process under Industry Canada's Default Public Consultation Process. Since the City of Hamilton does not have an established and documented public consultation process for telecommunication facilities, the default process would apply.

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**SUBJECT: Health Risk Associated with Cell Phone Towers – BOH08013
(City Wide) Page 6 of 6**

While Industry Canada's process incorporates some key elements of Hamilton's Public Participation Policy, it does not adequately ensure that the proponents adhere to our site plan process, including the payment of processing fees, obtaining Building Permits and specifically excludes matters related to public safety (Safety Code 6), impact on property taxes or questions concerning the validity of Industry Canada's Default Process. Beyond these concerns, Industry Canada also expects all land use consultation will be completed within 120 days from the proponent's initial formal contact with the municipality.

Regardless of which public consultation process is followed, all decisions may be appealed to Industry Canada and they will determine an appropriate course of action.

Staff from Planning and Economic Development has informed PHS staff that a detailed report regarding public consultation process options and the siting of radio-communication structures will be submitted to the Economic Development and Planning Committee in the future.

Elizabeth Richardson, MD, MHS, FRCPC
Medical Officer of Health
Public Health Services

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#800 – 601 West Broadway
Vancouver, B.C. Canada V5Z 4C2
Telephone: 604-736-2866
Facsimile: 604-736-8651

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) 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."

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#800 – 601 West Broadway
Vancouver, B.C. Canada V5Z 4C2
Telephone: 604-736-2866
Facsimile: 604-736-8651

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. He 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


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Appendix 5

Correspondence from Industry Canada dated April 10, 2008

1.99

 Industry Canada
Spectrum, Information Technologies,
& Telecommunications
151 Yonge Street
3rd Floor
Toronto, Ontario
M5C 2W7

April 10, 2008

Candy Davidovits
Secretary,
Board of Health
City Hall, 10th Floor, West
100 Queen Street West
Toronto, Ontario
M5H 2N2

Dear Candy Davidovits:

On behalf of the Honourable Jim Prentice, Minister of Industry, thank you for your letter of March 20, 2008 regarding motions adopted by Toronto City Council on March 3, 4 and 5, 2008 related to Toronto's Prudent Avoidance Policy which recommends a standard 100 times more stringent than the current Safety Code 6.

Industry Canada manages the radio frequency spectrum which includes authorizing radio systems, antennas and supporting structures. These are an important and integral part of radiocommunication systems. The Department has instituted antenna siting procedures as outlined in our document, Client Procedures Circular CPC-2-0-03, "*Environmental Process, Radio-frequency Fields and Land-Use Consultation*" which is available on Industry Canada's website: <http://strategis.ic.gc.ca/epic/site/smt-gst.nsf/en/sf01031e.html>.

As part of its processes, Industry Canada requires that all radiocommunication installations respect Health Canada's Safety Code 6 Guideline, "*Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 KHz to 300 GHz*".

I would like to confirm that Industry Canada will continue to utilize Safety Code 6 as part of its licensing process, and where issues are raised and it can be confirmed that Safety Code 6 is being met, then Industry Canada will consider that requirement to have been fully satisfied and will not be withholding any radio authorizations.

For more information on radio frequency fields and the protection of the general public, I have included below a web link that includes commonly asked questions and answers to these questions. This document can be found at:

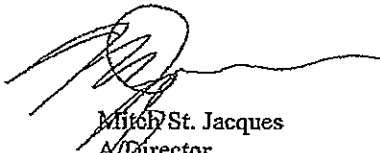
<http://www.ic.gc.ca/epic/site/smt-gst.nsf/en/sf08792e.html>

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If you have any questions regarding this matter, please feel free to contact Joe Doria, Acting Director of the Toronto District office at (905) 713-2671 or by e-mail at doria.joe@ic.gc.ca

Sincerely,



Mitch St. Jacques
A/Director,
Spectrum, Information Technologies &
Telecommunications
Ontario Region


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Appendix 6

Correspondence from Industry Canada dated July 4, 2008

1.102

 Industry Canada
Spectrum, Information
Technologies and Telecommunications
151 Yonge Street, 3rd Floor
Toronto, ON M5C 2W7

Industrie Canada
Spectre, technologie de
l'information et télécommunications
151 rue Yonge, 3^e étage
Toronto, ON M5C 2W7

July 4, 2008

Ms Ulli S. Watkiss
City Clerk
City of Toronto
City Hall, 12th Floor West
100 Queen Street West
Toronto, ON M5H 2N2

I am responding to your letter of April 21, 2008 in which you provided Industry Canada with the City of Toronto's Telecommunication Tower and Antenna Protocol adopted by City Council - March 3, 4 and 5, 2008.

We have reviewed this document and wish to provide the City of Toronto with specific comments regarding sections of the protocol and their implications.

Industry Canada manages the radio frequency spectrum which includes authorizing radio systems, antennas and supporting structures. These are an important and integral part of radiocommunication systems. The Department has instituted antenna siting procedures outlined in Client Procedures Circular CPC-2-0-03 (Issue 4), "*Radiocommunication and Broadcasting Antenna Systems*" which is available on Industry Canada's website:

<http://www.ic.gc.ca/epic/site/smt-gst.nsf/en/sf08777e.html>

We have also produced a guide to assist the local land use authorities develop protocols which is available at:

<http://www.ic.gc.ca/epic/site/smt-gst.nsf/en/sf08839e.html>

As the City of Toronto developed its new protocol, Industry Canada staff worked closely with city staff to ensure that it followed the intent and spirit of CPC-2-0-03. The final protocol, as amended by City Council at its March 3, 4, and 5, 2008 meetings, included some significant amendments while providing no opportunity for comment from the various stakeholders and Industry Canada.

The following specific areas of the Toronto "protocol" are of interest to Industry Canada and will provide guidance in terms of their applicability as part of the local consultation process as intended in CPC-2-0-03.

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Prudent Avoidance

While Toronto's "protocol" itself does not contain a specific reference to the Toronto Prudent Avoidance Policy, Industry Canada is aware of Council's companion resolution where Council endorsed the Prudent Avoidance Policy (100 times less than Safety Code 6) and directed City staff to evaluate all cell tower applications based on this policy and to oppose all those which do not meet it.

The limits prescribed in Health Canada's Safety Code 6 are used by Industry Canada as a national standard to determine whether a proposal complies with CPC-2-0-03 radiofrequency exposure limits. Industry Canada is of the position that this standard should not vary based on the opinions of local land use authorities. Industry Canada will continue to approve proposals provided that they strictly comply with Safety Code 6.

Public Consultation - Notification distances

The notification distances of Section 11.B of the "protocol" were also amended at the March 3, 4, and 5 Council meetings. While notification distances, especially those that are based on local historical, geographical or development considerations can be useful, the modifications seem to be blanket provisions that may have the effect of hindering the development of radiocommunications by not considering those radiocommunications installations that would be deemed insignificant.

The revised protocol requires that a notice be sent to all property owners "within 25 metres of a proposed antenna". Industry Canada would like to clarify that we require proponents to initiate public consultation and notification only where the proposal has not been exempted from land-use authorities or public consultation as contained in CPC 2-0-03 section 6 Exclusions. As such, Industry Canada is interpreting the above requirement to only apply to those stations not already meeting Industry Canada's Exclusions as per Section 6 of CPC 2-0-03.

With respect to the protocol's requirement that a notice be sent to all property owners within "400 metres of a proposed Telecommunication Tower", Industry Canada's view is that this requirement goes beyond the intent of the requirements set out in CPC 2-0-03.

In the protocol development guide for land-use authorities, the Department is recommending that the radius of consultation for non-exempted systems be proportional to the size of the proposed structure and its potential direct impact on the local surroundings. In the interim, Industry Canada will be advising the proponents that it will consider the intent of CPC 2-0-03 to have been met if the proponents provide notification to residents within a radius of three times the tower height.

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We encourage the City of Toronto to prescribe a notification distance which balances the need for community involvement while also encouraging the proponents to install smaller and less obtrusive towers. One of the tools to achieve this is with a reasonable and proportional notification distance.

Conclusion

In closing, I trust this letter will provide specific guidance to the City of Toronto with respect to the new Toronto "protocol". Please note that Industry Canada staff are available at any time to facilitate a meeting between all stakeholders in this matter.

If you have any questions regarding this matter, please feel free to contact Joe Doria, Senior Engineer of the Toronto District office at (905) 713-2671 or by e-mail at doria.joe@ic.gc.ca

Sincerely,

John Baggio
Regional Director
Spectrum, Information Technologies
& Telecommunication
Ontario Region

cc David Oikawa, Manager Community Planning
TELUS Mobility, Rogers Wireless, Bell Mobility



1.105

memorandum

DATE: February 15, 2011
TO: Mayor and Members of Council
FROM: Claudia Storto
Solicitor
RE: Telecommunication Towers/Antenna Facilities

C5
Items #4, 5, 6 & 7
Report No. 7 CW
COUNCIL – FEB. 15, 2011

Pursuant to the request at the Committee of the Whole meeting on February 1, 2011, the following is provided to clarify the issue of jurisdiction relating to the installation of telecommunication towers/antenna facilities.

REGULATION

Antenna systems and telecommunication towers are within the sole jurisdiction of the federal government, specifically Industry Canada. The Ontario *Building Code Act* and the *Planning Act* (including zoning by-laws and site plan control) do not apply. Industry Canada provides oversight of matters such as siting, installation, modification, compliance with Health Canada safety guidelines, the *Canadian Environmental Assessment Act* and Transport Canada requirements (re: aeronautical safety responsibilities).

Proponents of an antenna system or telecommunication tower must follow a process set out in the *Radiocommunication Act*.

Requirements for the installation of antenna systems can be found in Industry Canada's circular entitled "Radiocommunication and Broadcasting Antenna Systems", CPC-2-0-03, Issue 4, January 1, 2008. The information provided below is based on this publication.

PROCESS OVERVIEW

Proponents seeking to install or modify an antenna system must follow a process, broadly outlined as follows:

1. Investigating sharing or using existing infrastructure before proposing new antenna-supporting structures.
2. Contacting the land-use authority to determine local requirements regarding antenna systems.
3. Undertaking public notification and addressing relevant concerns, whether by following local land-use authority requirements or Industry Canada's default process, as is required and appropriate.
4. Satisfying Industry Canada's general and technical requirements.

Industry Canada expects that steps 2 to 4, above, will normally be completed within 120 days.

USE OF EXISTING INFRASTRUCTURE (SHARING)

Before building a new antenna-supporting structure, Industry Canada requires that proponents first explore options that include sharing an existing antenna system or modifying or replacing a structure if necessary; or locating, analyzing and attempting to use any feasible existing infrastructure such as rooftops, water towers, etc.

Proponents are not normally expected to build new antenna-supporting structures where it is feasible to locate their antenna on an existing structure, unless a new structure is preferred by land-use authorities.

PUBLIC CONSULTATION REQUIRED BY FEDERAL GOVERNMENT

Industry Canada requires telecommunication companies to consult with local authorities and provide public notification in specific circumstances. Telecommunication companies have voluntarily submitted planning applications and related fees to local authorities as part of proceeding through the consultation process. Where a local authority does not have a public notification and consultation protocol, Industry Canada provides a Default Consultation Process that must be followed. The City of Vaughan established a protocol for telecommunication facilities, which includes requirements for public notification, on June 23, 2003. This protocol is currently being reviewed in light of Industry Canada's updated (2007) public notification and consultation process. Both Industry Canada's public notification process and the City's protocol provide for exemptions to the public notification process, such as antenna facilities/telecommunication towers that are below a specific height.

Industry Canada's consultation process allows local authorities to consider land use compatibility and discuss siting options, as well as raise questions, concerns or suggestions regarding proposals to install or make changes to antenna systems. The consultation process is intended to ensure that proponents address reasonable and relevant concerns of the community. This may include contacting a party by telephone, engaging in a community meeting or having an informal, personal discussion.

Where there are specific concerns regarding a proposed antenna system, local authorities are expected to discuss reasonable alternatives and/or mitigation measures with proponents.

Industry Canada's circular CPC-2-0-03 identifies examples of concerns that proponents may be required to address. They include:

- Why is the use of an existing antenna system or structure not possible?
- Why is an alternate site not possible?
- What is the proponent doing to ensure that the antenna system is not accessible to the general public?
- How is the proponent trying to integrate the antenna into the local surroundings?
- What options are available to satisfy aeronautical obstruction marking requirements at this site?
- What are the steps the proponent took to ensure compliance with the general requirements of CPC-2-0-03, including the *Canadian Environmental Assessment Act*, Safety Code 6, etc?

Examples of concerns that are not relevant include:

- Questions whether the *Radiocommunication Act*, CPC-2-0-03, Safety Code 6, locally established by-laws, other legislation, procedures or processes are valid or should be reformed in some manner;
- Disputes with members of the public relating to the proponent's service, but unrelated to antenna installations;
- Potential effects that a proposed antenna will have on property values or municipal taxes.

Once consultation requirements are concluded and all reasonable and relevant concerns are addressed, Industry Canada considers the consultation responsibilities complete.



VAUGHAN

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memorandum

Industry Canada requires written concurrence from the local authority confirming that the relevant process has been satisfied. A letter or report acknowledging that the local authority's process has been satisfied, or Council meeting minutes is required. In many municipalities this is dealt with at the administrative level, however, this can only occur where site plan approval has been delegated to staff.

Industry Canada provides a formal dispute resolution process intended to bring about a timely resolution where the parties have reached an impasse. This process does not apply to the general public but to general stakeholders, such as the proponent or local authority. Where a mutually agreeable solution cannot be found, Industry Canada will make a final decision.

NO MUNICIPAL AUTHORITY TO IMPOSE MORE STRINGENT REQUIREMENTS

In 2008, the City of Toronto adopted its own Policy purporting to establish more stringent health and safety requirements and more extensive public notification requirements on telecommunication tower proponents. Industry Canada advised that it would continue to approve proposals which met the federally imposed standards, refusing to defer to a more stringent locally imposed requirement.

Claudia Storto per/bw

Claudia A. Storto
Solicitor

c.: Clayton Harris
City Manager

Janice Atwood-Petkovski
Commissioner of Legal & Administrative Services/City Solicitor

John Zipay
Commissioner of Planning

1.108



THE WEST WOODBRIDGE
HOMEOWNERS ASSOCIATION INC.
"Informed citizens organized for constructive action!"

February 15, 2011

VIA E-MAIL ONLY

Mayor & Members of Council
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, ON L6A 1T1

Stephen J. D'Agostino
Thomson Rogers
Suite 3100, 390 Bay Street
Toronto, ON M5H 1W2

RE: Rogers Wireless Telecommunication Sites

Site Development File DA.10.061
Site Development File DA.10.070
Site Development File DA.10.088
Site Development File DA.10.089

Council Agenda – February 15, 2011

Communications from Thomason Rogers

C11
Items # 4, 5, 6 & 7
Report No. 7 CW
COUNCIL – FEB. 15, 2011

Further to our deputation at the Committee of Whole Meeting of February 1st, 2011 in connection with the above-mentioned telecommunication proposals and in response to Communications for the February 15, 2011 Council Meeting from Mr. D'Agostino on behalf of Thomson Rogers dated February 9, 2011, the solicitor for Rogers Communications Inc.

We are writing to Council to request that

1. Council not give its concurrence with respect to the four above-mentioned proposals.
2. Council defer this matter for three Council cycles so that we will have the opportunity to have a Public Meeting with guest speakers in order for us to provide you and the residents with additional material concerning the issues raised at Committee of the Whole Meeting.

In addition, we ask request that Council direct staff to initiate a telecommunication towers siting master plan. We are aware that such an undertaking is not an easy task; however, staff can work with telecommunication companies, such as Rogers and representatives from ratepayers/homeowners associations and members of the community. The implementation of a telecommunication towers siting master plan will assist the city in avoiding telecommunication towers build-outs and dealing with tower growth in an ad hoc manner. The end result is a planning tool that offers numerous benefits to city staff and citizens, as well as the telecommunication companies who participate.

Rogers Telecommunications Inc. states on their website that they are dedicated to strengthening the health, safety and wellness of members of our community. Therefore, we request that Rogers work with Council, city staff and City of Vaughan ratepayers/homeowners associations in order to ensure and strengthen the health, safety and wellness of the citizens of Vaughan.

We look forward to working with Council, city staff and Rogers Telecommunications Inc. In the meantime, if you require any further information and/or would like to meet to discuss this further please do not hesitate to contact us at wwha@wwha.ca.

Respectfully yours,

J Fedele

Josie Fedele

2nd Vice President

The West Woodbridge Homeowners Association Inc.

cc: Mr. Clayton Harris, City Manager
cc: Mr. Jeffrey A. Abrams, City Clerk
cc: Mr. John Zipay, Commissioner of Planning

Hardychuk, Gloria

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Subject: 050682 URGENT Response To West Woodbridge Homeowners Association - Rogers Wireless
Telecommunications Council Meeting Feb 15, 2011

C12
Items # 4, 5, 6 & 7
Report No. 7 CW

COUNCIL - FEB 15, 2011

From: sdagostino@thomsonrogers.com [mailto:sdagostino@thomsonrogers.com]

Sent: Tuesday, February 15, 2011 12:09 PM

To: Shefman, Alan; Schulte, Deb; Rosati, Gino; Iafrate, Marilyn; Bevilacqua, DeFrancesca, Rosanna; Sandra Racco <"sandra.racco"@vaughan.ca>; Tony Carella <"tony.carella"@vaughan.ca>

Cc: The WWHA, Inc. <wwha@wwha.ca>; Harris, Clayton; Abrams, Jeffrey; Zipay, John; LRoscoe@thomsonrogers.com <LRoscoe@thomsonrogers.com>

Subject: 050682 URGENT Response To West Woodbridge Homeowners Association - Rogers Wireless
Telecommunications Council Meeting Feb 15, 2011

To the Mayor and Members of Council,

As you know from our previous correspondence we are the solicitors for Rogers Communications Inc. ("Rogers") in connection with the wireless telecommunication facilities on today's Council agenda.

We have just read correspondence directed to you from Josie Fedel on the letterhead of the West Woodbridge Homeowners Association (the "Letter"). We note that only one of the four sites before Council are located within the geographic responsibility of this Association. As with the earlier deputation, this letter is full of significant misinformation. We respond as follows:

As we noted in our correspondence and as agreed to by your legal staff, the regulation of wireless telecommunications including matters related to potential health effects are within the exclusive jurisdiction of the federal government. In that respect the federal government has put in place its requirements which have been the subject of review by Canada's distinguished scientific community represented by the Royal Society of Canada. Rogers is required by its regulator to comply with Safety Code 6. In fact, these sites operate well below Safety Code 6.

The studies held out by the Letter are not reliable or authoritative. For example, the Bioinitiative Report has been considered by the World Health Organization on several occasions but has not been deemed significant enough to amend the recommendations we quoted in our correspondence to you. In fact, in its June 2009 report to the World Health Organization, Canada put the BioInitiative Report (http://www.who.int/peh-emf/project/mapnatreps/CANADA_national_report_JAC_2009.pdf) into dubious light stating:

"These concerns appear to arise from periodic media reports and dubious Internet websites which contain inaccurate, unsubstantiated, controversial or contradictory statements regarding EMF-health issues. Also, several outspoken advocates are demanding the application of precautionary measures to EMF exposure. In this regard, the BioInitiative Report and news articles on the Internet (e.g. Next-up news) are often cited by concerned individuals. The concerns result in widespread public opposition to the proposed construction of high-voltage power lines and cellular base stations. Opposition to such proposals is often influenced by factors other than health issues (e.g. aesthetics and property devaluation)."

The National Research Council article identified in the Letter was criticized by Health Canada for not providing any new data. As well, Health Canada stated that the conclusions in the report were made without a full examination of the scientific evidence. We note that its primary author was a journalist not a scientist. A recent media report on the subject can be found at:

<http://www.montrealgazette.com/technology/data+exposure+study+Health+Canada+says/3823410/story.html>

The reference to a cell tower being relocated in Simcoe Ontario in 2007 is also not true. The facility in question is

2/15/2011

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a Rogers facility located on a municipal water tower. The facility has never been moved and continues to operate at its original location today.

We respectfully request that Council disregard the Letter and give concurrence to the four sites on today's agenda in accordance with the staff recommendation. In the alternative, should Council require further information on Safety Code 6, then we request that you turn to the Region of York Medical Officer of Health to update his recent report to Richmond Hill which is attached to our original correspondence to you.

Rogers is committed to working with the city on the development of a new protocol. There is no reason why these sites should be held in abeyance while that process continues.

Stephen D'Agostino
Thomson Rogers
Stephen J D'Agostino Law Professional Corporation
Barristers and Solicitors
Suite 3100, 390 Bay St.,
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