The International EMF Project

19th International Advisory Committee Meeting
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Report on National Activities

Canada

1. Guidelines and Regulations

1.1 Health Canada

Health Canada is presently revising its human exposure guidelines to radiofrequency electromagnetic energy. The current version of these exposure guidelines is specified in a document entitled: *Limits of Human Exposure to Radiofrequency Electromagnetic Energy in the Frequency Range from 3 kHz to 300 GHz - Safety Code 6 (2009)*. This safety code is accompanied by the *Technical Guide for Interpretation and Compliance Assessment of Health Canada's Radiofrequency Exposure Guidelines*, to assist users in understanding and assessing the safety of electromagnetic exposures in working and living environments. A revised version of Safety Code 6 was recently reviewed by an Expert Panel of the Royal Society of Canada and a link to the Expert Panel report can be found at: http://rsc-src.ca/sites/default/files/pdf/SC6_Report_Formatted_1.pdf. After consideration of the Expert Panel comments, a revised version of Safety Code 6 (2014) was recently posted for a 60-day public consultation online at: http://www.hc-sc.gc.ca/ewh-semt/consult/_2014/safety_code_6-code_securite_6/index-eng.php. Publication of the final version of this document is scheduled for late 2014.

1.2 Industry Canada

Industry Canada, the Canadian regulator for radiocommunication and broadcasting installations as well as radiocommunication apparatus, has recently published the following technical documents related to RF exposure compliance:

Consultation on Amendments to Industry Canada's Antenna Tower Siting Procedures, February 27, 2014. Radiocommunication antenna systems, including their supporting towers, are a matter of exclusive federal jurisdiction, with the Minister of Industry being responsible for the orderly development of communication facilities. In this context, Industry Canada is proposing specific updates to the procedures for the siting of antenna systems in order to improve transparency and to address concerns that local residents and municipalities have expressed about antenna siting. The document is available online at: http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10786.html#s1.

2. Public Information

Public information in the area of electromagnetic field exposure and health has recently been updated on the Health Canada website.

3. Public Concerns

Public concern about the possibility of health risks resulting from exposure to electromagnetic fields (EMFs) emitted from various wireless devices and their infrastructure in living, working and school environments continues to be an issue in Canada. In the past year, these concerns have included the safety of installing Wi-Fi equipment in schools, the implementation of smart meter technology on homes and businesses as well as base-station siting in residential neighborhoods. These issues have received frequent media attention.

4. Research Activities

4.1 The University of Ottawa's McLaughlin Centre for Population Health Risk Assessment is participating in the MOBI-KIDS study. MOBI-KIDS is an international case-control study which aims to assess the potential associations between use of communication devices and other environmental risk factors with brain tumors in young people.

4.2 The University of Western Ontario and the Lawson Health Research Institute (LHRI) carry out research in the area of behavioural and biological effects from exposure to magnetic fields. Over the past five years, their activities have involved the investigation of 60 Hz magnetic field (MF) exposures up to 3.0 milliTesla (mT) on health impacts in humans. Their current ongoing experiments are investigating the impact of 20, 50, 60 and 100 Hz exposures of up to 50 mT on: 1) magnetophosphene perception and associated brain electrical activity in humans; 2) physiological brain activity (as measured using EEG); and 3) finger tremor. They are currently developing new protocols involving human exposures of up to 100 mT to: 1) further investigate the neurophysiological mechanisms associated with magnetophosphene perception; 2) study the human vestibular system as another candidate to acute responses to power frequency MF exposure, and 3) Explore the potential for translational applications of these exposure/stimulation levels. In addition, this group is using mathematical modeling of brain activity to propose mechanisms of action supporting their experimental results. These complex projects are attempting to establish a threshold of MF exposure that consistently produces an objective effect in humans, characterize the central nervous system structures (starting with the retina) involved in that effect, and validate the theoretical mechanisms of action that produce the effect.