Environment Canada | Environnement Canada

Meteorological Service of Canada | Service météorologique du Canada

4th Floor, North Tower
Les Terrasses de la Chaudière
10 Wellington Street
Gatineau, Quebec
K1A 0H3

APR 2 7 2005

Dr. McCaughern
Director General, Spectrum Engineering Branch
Industry Canada,
300 Slater Street
Ottawa, Ontario
K1A 0C8

Re: The Meteorological Service of Canada Response to Canada Gazette Notice, SMSE-002-05, dated 2005-05-04: Consultation Paper on the Introduction of Wireless Systems Using Ultra-wideband Technology

Dear Dr. McCaughern:

The Meteorological Service of Canada (of Environment Canada) commends Industry Canada (the Department) for this very important public consultation (Canada Gazette notice SMSE-002-05). However, the Meteorological Service of Canada is especially concerned that, while Ultra-wideband (UWB) device transmission characteristics are not well known, appropriate measurement methodologies are not yet established, and socio-economic impacts on licensed radiocommunication services have not been studied, some Administrations are already regulating and deploying UWB devices. Consequently, the Meteorological Service of Canada regards the present Consultation as a preliminary consultation only, and recommends that no changes be considered by the Department to RSS-210, the Department's specification for licence-exempt devices, or any other regulatory instrument, as a result of the present consultation. Such changes should only be considered at a further consultation that would include specific proposals.

Environment Canada's mission is to make sustainable development a reality in Canada by helping Canadians live and prosper in an environment that needs to be respected, protected and conserved. The Meteorological Service of Canada's ability to fulfill its contribution to this mission depends significantly on its capacity to adequately observe the earth and its atmosphere at global, regional, national, and local scales.

In preparing its response, the Meteorological Service of Canada has reviewed existing technical studies concerning the impact of UWB device emissions on existing radiocommunication services that are used to fulfil its mandated responsibilities. Some of the technical studies related to the services of interest to Environment Canada exist within ITU-R TG 1/8 and ECC TG 3.

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The Meteorological Service of Canada also consulted with EUMETNET and the World Meteorological Organization (WMO), and reviewed relevant parts of ECC Report 64. However, the Meteorological Service of Canada was not able to initiate new studies on its own and notes that the work of ITU-R TG 1/8 is not yet complete. There are some services and frequency bands for which no technical studies yet exist in ITU-R, in ECC or in Canada.

The concerns of the Meteorological Service of Canada mainly relate to the interference generated by UWB direct and out-of-band emissions into the following licensed services:

- METSAT Earth Stations, METAIDS and RADIOLOCATION (wind profilers) below 1 GHz;
- EESS passive satellite remote sensing in the 1-10.6 GHz band;
- EESS (active), METSAT Earth Stations and METAIDS in the 1-10.6 GHz band;
- Operational C-band meteorological radars and research S-, X-, Ka-, and W-band radars;
- EESS passive satellite remote sensing above 10.6 GHz.

Based on the results of its review of the existing technical studies, the Meteorological Service of Canada has significant concerns regarding the potential for unacceptable radio-frequency interference and passive signal degradation on monitoring of the earth environment that will be generated from the introduction of UWB devices.

The Meteorological Service of Canada firmly believes that, if mass-distributed UWB devices are deployed in the 5.6 GHz band of the Canadian meteorological radar network and in the passive bands of the EESS service, the corresponding degradation of the capacity to observe the earth and its atmosphere will result in a reduced ability to fulfill its public safety mandate to detect the development of high impact weather events and issue appropriate timely warnings to the Canadian public and weather-sensitive industry. Consequently, The Meteorological Service of Canada makes the following recommendations to the Department:

- That UWB consumer, communications and measurement devices be restricted to 6-10.6 GHz;
- That UWB vehicular radars be restricted to the band 77-81 GHz;
- That no exception be made to ITU-R RR footnote 5.340 stating that no emission is permitted in bands allocated to EESS passive.

The Meteorological Service of Canada supports the Department's view that licensing is the most appropriate approach to authorizing ground penetrating radar, wall imaging, and through-wall imaging devices that use UWB technology, and to limit the use of these devices to specialized user groups and limited area(s) of operation.

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Concerning UWB devices that will be mass distributed, the Meteorological Service of Canada considers that it is premature for the Department to decide on a regulatory option as the development of proper regulations would first require good knowledge of UWB device transmission and victim device reception characteristics, as well as the establishment of appropriate measurement methodologies.

The attachment to this letter contains the detailed responses of the Meteorological Service of Canada to the specific questions numbered Q1 through Q6 in the Consultation Paper, Canada Gazette Notice, SMSE-002-05. The rationales for the recommendations of the Meteorological Service of Canada to the Department are provided in the attachment. An electronic copy of this letter and the attachment has also been e-mailed to dgse-uwb@ic.gc.ca.

Yours sincerely,

M.D. Everell
Assistant Deputy Minister