



June 27, 2007

Mr. Leonard St-Aubin  
Director, General Telecommunications Policy Branch  
Industry Canada  
300 Slater Street,  
Ottawa, ON, K1A 0C8

Dear Mr. St-Aubin:

Subject: **Canada Gazette Notice No. DGTP-003-07 — *Proposed Spectrum Utilization Policy, Technical and Licensing Requirements to Introduce Dedicated Short-range Communications-based Intelligent Transportation Systems Applications in the Band 5850-5925 MHz***

The Railway Association of Canada (RAC) welcomes the opportunity to comment to Industry Canada on Gazette Notice No. DGTP-003-07 published on March 23rd, 2007. The railways are currently looking at options in order to acquire wide-band spectrum to be used for Communication Based Train Control (CBTC) systems.

### **Section 3: Dedicated Short-range Communications (DSRC)**

*Comments are sought on the proposed definition and applications.*

The RAC supports the proposed DSRC definition, as it is in line with the one adopted by the Federal Communication Commission in 1999. However, we have some reservations with respect to the standard itself and its application to railway use, which will be discussed in Section 8, *Technical Rules*.

### **Section 4: Spectrum Utilization**

*Comments are sought on the proposed transition policy outlined in Appendix A.*

The RAC supports the proposed transition policy outlined in Appendix A of DGTP-003-07.

*Comments are sought on the proposed channeling plan and whether to adopt U.S. designations for channels 172 and 184.*

The RAC generally supports the proposed plan. However, we have noticed that while some channels have been set aside for public safety applications and safety of life and property, none have been designated for rail-to-rail or rail-to-road traffic management.

**Mr. L. St-Aubin**  
**June 27, 2007**  
**Page Two**

A special designation for railway utilization of DSRC would be particularly critical in urban areas, where freight, passenger and transit rail systems could interfere with other Intelligent Transportation Systems. Railway ITS applications include:

- Locomotive event recorder downloads at speed
- Video transmissions of gates and crossing status
- Defect detectors/warning devices
- Tag readers
- Collision avoidance for track vehicles
- Border crossing clearance
- Electronic interrogation of rail switching devices
- Road/rail intersection warnings

Considering the amount of spectrum available for ITS in the 5.9 GHz band and the critical safety factor inherent to all types of rail transportation, we believe that some spectrum should be designated exclusively for rail-to-rail or rail-to-road traffic control in railway corridors.

### **Section 5: Eligibility**

*The Department seeks comments on the proposal for open eligibility.*

The RAC does not support Radiocommunication Carriers' eligibility for this spectrum. We believe that ITS management, for obvious reliability reasons, should be left to transportation infrastructure operators and managers.

### **Section 7: Licensing Issues**

*The Department seeks comment on this or any other potential method for licensing DSRC-based ITS applications in the band 5850-5925 MHz.*

The RAC considers that spectrum licenses should be issued for licensing DSRC-based ITS applications in the band 5850-5925 MHz.

*Comments are invited and should articulate the most appropriate process to determine geographical service areas for DSRC licensees.*

The RAC believes that the best geographical designation instrument to be utilized for the attribution of spectrum licenses in the 5850-5925 MHz band is the spectrum grid cell (SGC) and not the predefined four-tier service area structure. The SGC is a six-sided figure covering 25 square kilometers that would allow for a much "sharper" spectrum licensing than with the existing tier service areas. This kind of sharpness is necessary because of the nature of the band and its directional, line-of-sight applications.

**Mr. L. St-Aubin**  
**June 27, 2007**  
**Page Three**

Small service area licensing would also facilitate sharing between users, as well as simplify interference management. The implementation of an even smaller grid cell should also be considered for licensing in urban areas.

### **Section 8: Technical Rules**

*Comments are sought on the applicability of the ASTM-DSRC standard and the degree to which the equipment should be compliant.*

We noticed that the power limitations of the ASTM-DSRC standard do not take into consideration the fact that it may take up to 3000 meters for a train to come to a complete stop in case of emergency. With an estimated range of only 1000 meters, this standard may be satisfactory for automobile and truck transportation, as well as low-speed train operations in yards, but it may prove useless for railway operating in full- speed mode.

For that reason, the RAC believes that railway equipment in the 5850-5925 MHz band should be certified with a power limitation that would allow for a line of sight range of at least 4000 meters in order to provide appropriate reaction time in case of emergency.

*Comments are sought on the ASTM-DSRC standard above and its application in Canada noting that it segregates public safety applications and private use.*

*The Department retains discretion to revisit these limits at such time, as the ASTM E17.51 DSRC Standards Writing Group may determine that revisions are necessary.*

As stated above, the RAC would like the upcoming Radio Standard Specification (RSS) to take into consideration the particulars pertaining to railway operations and raise the issue of power limitations for railway equipment. Furthermore, the RAC believes that this issue should be raised by Industry Canada to the ASTM E17.51 DSRC Standards Writing Group, as they seem more focused on the Automotive Roadside Communication aspect of DSRC-ITS systems.

### **Conclusion**

Thank you again for giving us the opportunity to take part in this important consultation process. For further information, please contact Mr. Daniel Lafrenière, Manager, Radio Spectrum, at (613) 564-8102, or by e-mail at [daniell@railcan.ca](mailto:daniell@railcan.ca).

Sincerely,



Mike Lowenger, P. Eng.  
Vice-President, Operations & Regulatory Affairs

**Mr. L. St-Aubin**  
**June 27, 2007**  
**Page Four**

Cc : Mr. D. Lafreniere, RAC  
Mr. D. DiTota, RAC

Cc: Wireless Communications Committee

Mr. M. Boudreau  
Mr. E. De Benetti  
Mr. D. McGregor

Ms. M. Congdon  
Mr. R. Dupuis  
Mr. F. Miljour

Mr. W. Dabisza  
Mr. B. Levesque