

September 7, 2005

Mr. Fernand Léger
Director, Spectrum and Radio Policy
Telecommunications Policy Branch
Industry Canada
Room 1604A
300 Slater Street
Ottawa, ON, K1A 0C8

Dear Mr. Léger,

Re: Canada Gazette Notice No. DGTP-001-05 – *Consultation on a Renewed Spectrum Policy Framework for Canada and Continued Advancements in Spectrum Management*

Mobile Satellite Ventures (Canada) Inc. (“MSV Canada”) is pleased to submit these comments in response to Industry Canada’s consultation document *Canada Gazette*, Part I, Notice No. DGTP-001-05 – *Consultation on a Renewed Spectrum Policy Framework for Canada and Continued Advancements in Spectrum Management* (the “Notice”), published May 2, 2005.

MSV Canada provides a wide range of mobile satellite services (MSS) in Canada using the MSAT-1 satellite in conjunction with radiocommunication spectrum in the L-band. The MSAT-1 satellite provides coverage of all of North America, as well as Central America and the northern part of the South American continent. MSV Canada is currently developing a next generation mobile satellite system with its U.S. joint venture partner, MSV LP, which is scheduled for launch in 2010.

MSV Canada’s comments in this proceeding are, for the most part, confined to MSS issues as they relate to the proposals contained in the Department’s Notice. MSV Canada notes that the Notice is evolutionary with respect to spectrum management practices in Canada. This approach will allow Canada to take advantage of and implement new radiocommunication technologies. However, MSV Canada agrees that periodic reviews such as this one are warranted given the rapid pace of change in the state of technological advancements and market pressures.

Policy Guideline 6 – Facilitating the Use of Spectrum
Policy Guideline 10 – Facilitating Advances in Technology
Policy Guideline 12 – Increasing Spectrum Utilization

MSV Canada notes with approval that in May 2004, the Department issued a new spectrum licensing policy which allows for the licensing of ancillary terrestrial component (“ATC”) systems in conjunction with MSS.¹ In rendering this decision, Industry Canada approved the use of terrestrial network “fill-in” base stations as a means of enhancing the reliability of MSS in urban areas where MSS signal paths are often blocked by buildings and other obstructions. Satellite/ATC systems dynamically allocate the MSS frequency band between satellite spot beams and ATC cells within those spot beams such that there will be no interference between the satellite and ATC signals. This allocation methodology allows the multiple reuse of the same frequencies over the coverage area of the satellite, promoting efficient and effective use of scarce spectrum.

In MSV Canada’s view, the Department’s Policy is a telling example of how flexible use of spectrum can provide net benefits for all stakeholders by enhancing the efficiency of spectrum allocated to a service provider. Indeed, MSS technology, especially when supplemented with ATC, is a prime example of the type of spectrum efficiency and innovation that the Department’s policies should promote. With ATC, MSS operators can reuse for terrestrial services in urban areas the exact same spectrum that they use to provide satellite services to customers in other unobstructed areas without diminishing capacity for satellite service.

MSS supplemented with ATC represents the height of spectrum efficiency because it makes use of otherwise unusable spectrum in urban environments while at the same time ensuring that rural and underserved areas receive robust and reliable mobile satellite service. By promoting the further development of MSS and ATC, the Department is demonstrating how it can promote the proposed Policy Guidelines of Facilitating the Use of Spectrum (Policy Guideline 6), Facilitating Advances in Technology (Policy Guideline 10), and Increasing Spectrum Utilization (Policy Guideline 12).

MSV Canada would be concerned, however, if in the interests of flexibility incompatible and unlicensed applications were granted access to spectrum. In particular, MSV Canada notes that it participated in the Canadian Satellite and Space Industry Forum (“CSSIF”) and Radio Advisory Board of Canada (“RABC”) submissions in the Department’s proceeding earlier this year concerning its consultation paper on Ultra Wide Band.² In that proposal, the Department would allow unlicensed devices to operate across a broad range of spectrum which, at an aggregate level involving potentially thousands of simultaneously-operating consumer devices, could result in a harmful cumulative level of interference to satellite networks. Therefore, MSV Canada urges the Department to

¹ *Spectrum and Licensing Policy to Permit Ancillary Terrestrial Mobile Services as Part of Mobile-Satellite Service Offerings*, RP-023, May 2004.

² *Consultation Paper on the Introduction of Wireless Systems Using Ultra-wideband Technology*, SMSE-002-05, February 2005.

continue to review requests for alternate uses of spectrum on a case-by-case basis to ensure that licensed services are protected.

Policy Guideline 1 - Allocation of Frequency Bands to Radio Services
Policy Guideline 2 - Designation of Spectrum to Usage; and
Policy Guideline 16 - Advancing Canadian Interests Internationally

MSV Canada concurs with the Department that, while spectrum management must address domestic Canadian requirements, harmonization of spectrum uses across international boundaries is highly desirable. Nowhere is this more valid than in the satellite industry where satellite beams cover multiple countries, where increasing demands for scarce spectrum have resulted in ever-tighter spacing of orbital positions, and where the 36,000 kilometer altitude of a geostationary satellite makes it susceptible to interference from errant transmitters located over a large area of the Earth's surface. Quite simply, the orderly workings of the satellite industry would not be possible if satellite service bands were not harmonized internationally to avoid harmful interference. MSV Canada encourages the Department to continue in its efforts to harmonize spectrum uses across international boundaries, especially with respect to the use of radio spectrum by satellite services.

Policy Guideline 8 – Priority Communication Services

In the Notice, the Department makes reference to the importance of radiocommunication systems to the enhancement of sovereignty, security and safety services. In particular, section 11.9 of the Notice discusses the issues involved with the effectiveness of the current systems in use, such as spectrum constraints and limited interoperability between the systems used by public safety forces.

MSV Canada does not take issue with the measures proposed in questions 21 to 23 (*i.e.*, licensing over broader geographical areas, developing interoperability standards, and identifying spectrum which can be harmonized with the United States). MSV Canada notes, however, that satellites in general, and MSS systems supplemented by ATC systems in particular, are ideally suited for providing critical communications capabilities to public safety and other priority service agencies.

Among the unique advantages of MSS technology supplemented with ATC for serving the needs of the public safety and emergency services communities are the following:

- providing truly ubiquitous coverage, from the densest urban cores to the most rural and remote areas;
- the ability to continue to operate when events occur on the ground, such as power outages and natural disasters, because satellites are located thousands of kilometres above the earth and are thus virtually immune from such disasters;

- the ability to offer a full range of voice and data services to small and inexpensive handsets;
- facilitating interoperable communications networks resulting from ubiquitous coverage; and
- the ability to dynamically reassign spectrum resources to those geographic areas most in need of communications capabilities.

Events in recent years underscore the need for local, provincial, national and international public safety and emergency response agencies to communicate with each other on an instantaneous basis. They also underscore the important role that mobile satellite services, especially those supplemented by ATC, can play in meeting this policy guideline and objective. Indeed, events such as the Y2K coordination among power utilities, the forest fires in British Columbia, the floods in Manitoba, and the August 2003 Ontario-northeastern U.S. blackout illustrate the suitability of MSS/ATC systems for addressing the very real issues of achieving both local and national geographic coverage and interoperability.

The relief effort in response to Hurricane Katrina drives home even more directly the benefits of MSS, and in the future, ATC. Specifically, capacity on the MSAT satellites is being used to provide critical communications services to federal and state emergency organizations in the United States, including the Federal Emergency Management Agency, relief organizations, such as the Red Cross, private companies, including energy and telecommunications company, all responding to the devastation that has occurred in Louisiana, Mississippi and Alabama. In most cases, the only form of communication that is available in these areas is mobile satellite service. Today, these services are being provided using large, expensive terminals. However, with the introduction of hybrid MSS/ATC systems in the MSV network, these terminals will be replaced by low cost handsets and chipsets which will ensure that the satellite capacity is immediately available to its users. For example, if police officers in New Orleans had land mobile radios with MSS/ATC chip sets that enable hybrid terrestrial satellite communications, they would have seamless access to the satellite component of the network if the wireless terrestrial network were to be rendered unusable.

Moreover, because advances in both technology and software allow these systems to be used in a secure/protected manner using equipment that is no different in look and feel to basic PCS and cellular telephone handsets, public safety and emergency service agencies will benefit from the scale economies that can be realized by a widely deployed service which can dramatically increase the affordability of user equipment.

In summary, MSS/ATC technology provides a very attractive and realistic option for public safety agencies to achieve their critical communications objectives. While MSV Canada recognizes that specific spectrum has been set aside for public safety purposes, it also believes that the Department should take steps to promote the use of spectrum that has been assigned for commercial use for public safety applications. Unlike some of the public safety systems that are being planned, the technology for MSS/ATC systems will be implemented within the next few years, and MSV Canada believes that this

technology addresses some of the key requirements for a public safety networks and users, including: ubiquitous access, reliability, interoperability, configurability and security.

MSV Canada hopes that these comments will be of assistance to the Department in its deliberations on these specific issues identified in the Notice. We would be pleased to provide any further information should the Department so request.

Yours truly,

A handwritten signature in black ink, appearing to read "R. Power".

Robert Power
Vice-President, Regulatory Matters