

November 17, 2014

Senior Director
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Via email: spectrum.operations@ic.gc.ca

Re: *Canada Gazette*, Part 1, September 6, 2014, Notice No. DGSO-003-14 —
*Consultation on Policy Changes in the 3500 MHz Band (3475-3650 MHz) and a New
Licensing Process in Rural Areas*

Dear Sir/Madam:

The Satellite Industry Association (“SIA”) hereby submits these reply comments to comments submitted in the Notice No. DGSO-003-14, *Consultation on Policy Changes in the 3500 MHz Band (3475-3650 MHz) and a New Licensing Process in Rural Areas* (the “Consultation”). SIA continues to urge Industry Canada to fully develop the record before making any changes to the table of allocations and to carefully consider the impact of any modification to spectrum policy.¹ The record in this proceeding shows that many interested parties are deeply concerned about the proposed reallocation of the 3500 MHz band.

While some commenters support reallocation of the 3500 MHz band for mobile wireless, there remains a lack of evidence in the record of need for more mobile wireless spectrum in Canada. In addition, there is a lack of technical analysis in the record showing that sharing would be possible.² By contrast, other commenters, including SIA, have provided studies that indicate that the need for mobile wireless spectrum is overstated as well as a technical analysis that address interference concerns to other services. These studies include:

- Roland Beutler, SWR & Darko Ratkaj; EBU: *Crystal Ball, Tea Leaves or Mathematics – Forecasting Data Traffic for Mobile Service*;³
- Guy Bouchard & Sunday Nyamweno: *First look at the potential interference from mobile devices operating in the 3.5 GHz band on DVB based satellite links operating in standard C-Band*;⁴

¹ See Comments of 95 W CanSatCo, at 1. Xplornet indicates that Industry Canada has an obligation to undertake a detailed review of the spectrum needed for fixed and mobile purposes. Comments of Xplornet, at 28.

² GTI refers to “studies in China” which show that it is possible for TD-LTE and satellite to co-exist in-band. However, GTI fails to provide a citation to any studies. Comments of GTI, at 1.2.

³ Comments of CBC-Canada, at Appendix 5; Comments of Telesat, at 4.

⁴ Comments of CBC-Canada, at Appendix 2.

- Alion Science and Technology: *Follow-on Sharing Study on Effects of International Mobile Telecommunications-advanced Systems on C-Band Earth Stations*;⁵
- ITU-R CPM15.02. Director of the Radiocommunication Bureau, Draft CPM Report, Section 1/1.1/4.1.8.2 (showing Fixed Satellite Service (“FSS”) in the 3700-4200 MHz range is subject to harmful interference from the Mobile Service in adjacent band if a minimum separation distance in the range of several kilometers is not guaranteed);⁶
- ITU-R Document 4-5-6-7/584: *Sharing studies between IMT-Advanced systems and geostationary satellite networks in the fixed-satellite service in the 3 400-4 200 MHz and 4 500-4 800 MHz frequency bands in the WRC study cycle leading to WRC-15*;⁷
- LS Telcom: *Anaylsis of World-Wide Licensing and Usage of IMT Spectrum*;⁸
- LS Telcom: *Mobile Spectrum Requirement Estimates: Getting the Inputs Right*;⁹ and
- Aalok Mehta & J. Armand Musey, CFA, JD/MBA: *Overestimating Wireless Demand: Policy and Investment Implications of Upward Bias in Mobile Data Forecasts*.¹⁰

Many commenters also highlighted that mobile service (“MS”) providers have not implemented available efficient spectrum use technologies and provide evidence of the lack of a wireless spectrum shortage.¹¹

A few commenters claim that there is international consensus or support on the use of the 3500 MHz band for wireless mobile services. For example, Bell Canada, Inukshuk Wireless Partnership, and Rogers Communications Partnership (“Bell Canada”) jointly claim there is a “global technological ecosystem” emerging in the 3400-3800 MHz band.¹² RABC states that it is “foreseen” that World Radio Conference 2015 (“WRC-15”) will result in broad international

⁵ Comments of CBC-Canada, at Appendix 3.

⁶ Comments of Hispasat, at 1.

⁷ Comments of Ciel, at 4; Comments of Telesat, at 6; Comments of SIA, at 3.

⁸ Comments of SIA, at 2.

⁹ Comments of CBC-Canada, at Appendix 1.

¹⁰ Comments of CBC-Canada, at Appendix 4; Comments of Telesat, at 3; Comments of SIA, at 2.

¹¹ See Comments of ABC Communications, at 6; Comments of Can WISP, at 6; Comments of CBC – Radio Canada, at 3; Comments of CCRoute, at 9; Comments of Chatham Internet Access, at 7; Ontario Ministry of Economic Development, at 7.

¹² Comments of Bell Canada, Inukshuk Wireless Partnership, and Rogers Communications Partnership, at 5.

use of the 3500 MHz band for the MS.¹³ Such claims are not supported by facts. For example, a recent proposal by Canada to the CITEL PCC.II meeting addressing the 3500 MHz band¹⁴ did not receive support by Region 2 administrations – lack of regional support is a far cry from global support. Likewise, discussion of WRC decisions as scripture are premature because there is still a year before WRC-15 takes place. Many countries around the world are still forming their positions, making the outcome of WRC-15 unknown. Therefore, Canada should not make national spectrum decisions based on an international proceeding that has yet to conclude. Indeed, Canada should consider waiting until after WRC-15 before further taking up considering of this matter.

SIA supports Ciel’s position that any proposal to reallocate the 3500 MHz band to include MS must include a full evaluation that shows that incumbent services in adjacent bands can be protected from harmful interference.¹⁵ As Can WISP has stated, FSS use is prevalent in the 3600-3800 MHz band and use of this spectrum for fixed-wireless access (“FWA”) often requires coordination with FSS licensees.¹⁶ There are also concerns of adjacent band interference.¹⁷ If a reallocation of the 3500 MHz band is adopted, Industry Canada will need to establish protection zones to prevent both in-band and adjacent-band interference to FSS earth stations. ITU-R studies have indicated that the necessary separation distances will need to be several kilometers.¹⁸ The Consultation does not explore protection of existing FSS operations, and SIA concurs with Ciel that to be consistent with department policy, Industry Canada must develop FSS protection criteria before changing the 3500 MHz allocation.¹⁹

Bell Canada and YourLink also claims that distinction between mobile and fixed is irrelevant because the underlying technology will be the same.²⁰ However, mobile and fixed allocations are not interchangeable and introducing the former constitutes a “fundamental

¹³ Comments of RABC/CCCR, at 6.

¹⁴ See CCP.II-RADIO/doc. 3642/14. The Canadian proposal addressed the bands 3400-3500 MHz and 3500-3700 MHz and claimed that, in order to promote globally harmonized spectrum for IMT, thereby enabling economies of scale and encouraging efficient use of spectrum, it was necessary to propose an MS allocation in the range 3400-3500 MHz and IMT identification in the range 3500-3700 MHz.

¹⁵ Comments of Ciel, at 2, 4.

¹⁶ Comments of Can WISP, at 13.

¹⁷ Comments of SIA, at 3. *See also* Comments of Hispasat, at 1.

¹⁸ ITU-R Document 4-5-6-7/584, “Sharing studies between IMT-Advanced systems and geostationary satellite networks in the fixed-satellite service in the 3 400-4 200 MHz and 4 500-4 800 MHz frequency bands in the WRC study cycle leading to WRC-15.” *See also* Comments of Hispasat, at 1.

¹⁹ Comments of Ciel, at 5.

²⁰ Comments of Bell Canada, Inukshuk Wireless Partnership, and Rogers Communications Partnership, at 11; Comments of YourLink, at 7.

reallocation”²¹ that will affect others services in and adjacent to the 3500 MHz band in different manners. CBC explains that, although it has managed interference from FWA by utilizing filters, interference from the MS would be more difficult to manage.²² SIA notes that additional filters on satellite earth stations is not a feasible solution to protect FSS earth stations from adjacent-band interference because receive filters are designed to only reject energy outside of the wanted FSS receive band.²³

The digital divide,²⁴ the 3700-4200 MHz band’s critical role in the Canadian telecom infrastructure including public safety,²⁵ and efficient spectrum use²⁶ were all addressed by various commenters in response to the Consultation. These public interest concerns should be carefully considered by Industry Canada, and SIA agrees with Xplornet that the needs of all Canadians should be considered in this proceeding. Policy should not be driven solely by a goal of expanding mobile wireless services.²⁷ SIA recognizes that the digital divide, particularly in rural vs. urban Canadian areas, is a concerning matter. Degradation of satellite services will only further the service divide between rural and urban areas and harm consumers by potentially disconnecting rural consumers.²⁸

The 3700-4200 MHz band, which would be harmed by adjacent band interference, is widely used by the FSS for critical services in Canada, and is the most ubiquitous and reliable means of providing access to telephony and broadband services in communities with no access to other services.²⁹ Both Pelmorex and Telesat also call attention to the use of the 3700-4200 MHz band to provide vital public safety messages to the public.³⁰ In addition, the University of Alberta’s comments indicate that proposals within the Consultation may be inconsistent with the

²¹ Comments of Bell Canada, Inukshuk Wireless Partnership, and Rogers Communications Partnership, at 21.

²² Comments of CBC – Radio Canada, at 4.

²³ Comments of the Satellite Industry Association, Federal Communications Docket 12-354, at 15 (July 14, 2014), available at <http://apps.fcc.gov/ecfs/document/view?id=7521384256>.

²⁴ Comments of Bell Canada, Inukshuk Wireless Partnership, and Rogers Communications Partnership, at 21.

²⁵ Comments of CBC – Radio Canada, at 4.

²⁶ Comments of Canadian Network Operators Consortium, Inc., at 18.

²⁷ Comments of Xplornet, at 31.

²⁸ *C.f.* Comments of CBC – Radio Canada, at 4 (discussing the service provided to Canadian citizens); Comments of Telesat, at 5 (discussing the critical role satellite service plays in the Canadian telecommunications infrastructure).

²⁹ Comments of Telesat, at 2.

³⁰ Comments of Pelmorex, at 4; Telesat, at 2.

Connecting Canadians program.³¹ SIA believes Industry Canada should carefully review the public interest and legal implications of the Consultation.

Finally, SIA would like to note that the suggestions of 400525 Ontario Ltd., NetSet Communications/I-NetLink, and Xplornet³² to move FWA into the 3700-3800 MHz band and freezing FSS are clearly outside the scope of this proceeding and, therefore, should not be considered.

Respectfully submitted,

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³¹ Comments of University of Alberta, at 9.

³² Comments of 400525 Ontario Ltd., at 4; Comments of NetSet Communications/I-NetLink, at 5; Comments of Xplornet, at 12.