Innovation, Science and Economic Development Canada

Spectrum Management and Telecommunications

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Notice No. SMSE-016-18

Consultation on the Utilization of the Bands 18.8-19.3 GHz and 28.6-29.1 GHz, and the Bands 17.3-17.7 GHz, 19.3-19.7 GHz and 29.1-29.25 GHz by the Fixed-Satellite Service

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Comments

of

Xplornet Communications Inc.

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January 21, 2019

INTRODUCTION

1. Xplornet Communications Inc. ("Xplornet") is pleased to have the opportunity to provide its comments to Innovation, Science and Economic Development Canada (ISED) with respect to the *Consultation on the Utilization of the Bands 18.8-19.3 GHz and 28.6-29.1 GHz, and the Bands 17.3-17.7 GHz, 19.3-19.7 GHz and 29.1-29.25 GHz by the Fixed-Satellite Service* (the Consultation).

2. Xplornet was founded almost 15 years ago with a simple mission: to make fast, affordable, high-speed broadband services available to rural Canadians. Since then, we have invested well over $1 billion of private capital to build our own national network. We are now serving over 350,000 rural households and businesses across every province and territory. Xplornet has used geostationary orbit ("GSO") satellites throughout its history to provide broadband services across the country.

3. Using its current five 4G high-throughput GSO satellites, Xplornet is offering rural and remote Canadians Internet packages with speeds of 25 Megabits per second ("Mbps") as well as Voice of Internet Protocol home phone services. Fixed-satellite services ("FSS") represent an essential component not only of our own network, but of Canada's telecommunications system as a whole. FSS services are the ideal solution for serving areas of the country that cannot be served with wireline networks, such as remote areas and areas with challenging physical geography. Without reliable FSS services, many Canadians would not have high-speed access to the digital world.

4. Ensuring that all Canadians – including Canadians in rural and remote parts of the country – can meaningfully participate in the digital economy has been a stated priority of the Government of Canada. In 2016, the Canadian Radio-television and Telecommunications Commission ("CRTC") formally recognized the vital role the Internet plays in the lives of Canadians. In TRP 2016-496[1], the CRTC explicitly declared broadband services to be a basic telecommunication service and established a universal service objective designed to ensure that "Canadians, in urban areas as well as in rural and remote areas, have access to voice services and broadband Internet access services, on both fixed and mobile wireless networks."[2] The CRTC described that it would consider the universal service objective to be achieved when Canadians can access speeds of at least 50 Mbps download and 10 Mbps upload.[3] ISED has supported the CRTC's universal service objective.

5. While Canadians in large urban centres generally have access to Internet services that meet or exceed the CRTC's universal service objective, many Canadians in smaller urban, rural and remote areas of the country do not yet have such services.

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[1] Telecom Regulatory Policy CRTC 2016-496, *Modern telecommunications services – The path forward for Canada's digital economy.*

[2] TRP 2016-496, paragraph 37.

[3] TRP 2016-496, paragraph 80.

FSS will play a significant role in bringing services to Canadians who remain underserved.

6. Indeed, the Government of Canada has committed substantial public resources to achieving its objective to bring broadband connectivity to all Canadians. Since 2009, ISED has undertaken three major initiatives to support broadband deployment to rural and remote areas of the country: (a) in 2009, ISED committed $225 million through its Broadband Canada program; (b) in 2014, ISED committed $305 million[4] through its Connecting Canadians program; and (c) in 2016, ISED committed an additional $500 million through its Connect to Innovate program. In 2016, the CRTC announced it would create a $750 million fund to support the deployment of broadband facilities to areas of the country without access to Internet services meeting its universal service objective. Certain of these programs have specifically recognized the importance of satellite technologies in supporting broadband and have dedicated funding to supporting satellite technologies.[5]

7. The critical role that active GSO infrastructure and current GSO technologies play in connecting Canadians to the digital economy cannot be understated.

8. FSS are continuing to expand and evolve through a period of rapid advancement. The most recent 4G high-throughput GSO satellites are capable of delivering broadband speeds in excess of 50 Mbps and the next generation of GSO satellites will have significantly higher capacity than those in orbit today. These satellites will be able to support the delivery of advanced broadband products for rural and remote consumers. At the same time, new non-geostationary ("NGSO") constellations are being built to provide new high-capacity, low-latency services. Xplornet is working closely with satellite producers to assess when new satellites will be ready to be introduced in the market and how these technologies may be leveraged for consumers.

9. Accordingly, in formalizing its spectrum licensing framework for FSS, Xplornet urges ISED to adopt a framework that:

   1) recognizes the essential role that currently deployed GSO FSS technologies are serving to connect rural and remote Canadians with basic communications services and protects these services to ensure consumers have reliable access to the digital economy; and

   2) fosters innovation and development of new technologies to allow Canadian consumers to benefit from future advances in FSS.

10. In the following paragraphs, we provide responses to the specific questions set out in the Consultation.

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[4] $65 million was later transferred to the Connect to Innovate program.

[5] For example, the Connecting Canadians program dedicated $50 million to improving service in remote, satellite-dependent communities in Nunavut and Nunavik, and the CRTC has determined that up to 10% of the total annual limit of subsidies awarded through its fund will be allocated to satellite-dependent communities for the first five years of the fund's operation.

RESPONSES TO QUESTIONS SET OUT IN THE CONSULTATION

Question 1: ISED is seeking comments on the proposal to give co-primary status to both GSO networks and NGSO systems in the FSS in the bands 18.8-19.3 GHz and 28.6-29.1 GHz.

11. Xplornet supports ISED's proposal to formalize its current practice of licensing GSO networks and NGSO systems on a co-primary basis.

12. As described above, active GSO networks are critical infrastructure within Canada's telecommunications system. GSO networks connect rural and remote Canadians across the country to the digital economy and support critical voice communication services that link rural and remote Canadians to 9-1-1 services. Xplornet submits that it must be a priority for ISED to ensure that the status of existing services is not compromised by any changes to its licensing framework.

13. While advances in NGSO systems have significant potential, it would be inappropriate to prioritize NGSO systems over GSO networks, as set out in ISED's alternative proposal. If the alternative proposal were adopted, ISED would harmonize spectrum use with current U.S. rules, providing NGSO systems primary status and GSO systems secondary status to spectrum.

14. NGSO technology requires further development before it can be leveraged in the consumer space. Constellations of NGSO satellites are not yet available to serve the Canadian marketplace, and beyond this, antenna equipment has not yet been developed that would allow NGSO-based services to be deployed to consumers. NGSO systems require sophisticated antenna equipment that is able to both track a satellite as it moves through its orbital path and transfer transmission between different satellites within a constellation to maintain connectivity. At present, antenna equipment with such capabilities has not yet been developed that could be offered in an affordable manner as part of consumer offerings. NGSO satellites are thus likely to be introduced mainly to support enterprise applications in the near to medium term, likely as a complement to GSO networks, and will not displace GSO satellites as the primary form of FSS in the short or medium term. In light of this, GSO satellites will continue to be a critical part of the Canadian telecommunications system and existing infrastructure should be protected.

15. Providing GSO networks and NGSO systems with co-primary status best promotes the Canadian telecommunications policy objectives as set out in section 7 of the *Telecommunications Act* ("*Telecom Act*"). Protecting existing infrastructure will ensure that rural and remote Canadians have access to reliable and affordable, high-quality services[6], responding to the economic and social requirements of Canadians[7]. Licensing spectrum on a co-primary basis will foster future innovation and deployment with respect to both GSO networks and NGSO systems, thus

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[6] *Telecom Act*, subsection 7(b).

[7] *Telecom Act*, subsection 7(h).

facilitating the orderly development of the telecommunications system[8] and stimulating research and encouraging development in the provision of telecommunications services.[9] These results will ensure that spectrum is used in a manner that maximizes the economic and social benefits for Canadians, as required by the *Spectrum Policy Framework for Canada* ("SPFC").

16. Xplornet believes that adopting ISED's alternative proposal would run against these same objectives. Providing secondary status to spectrum to the GSO networks that Canadians rely on for basic communications services would disrupt current service offerings, reducing their reliability and quality, making these services less able to meet consumers' needs. It could additionally stifle development in innovative new GSO products that have the potential to bring considerable advances to consumer broadband products in the near to medium term, while prioritizing NGSO-based services that continue to require technological advances before they can be considered for deployment in consumer applications.

17. Accordingly, Xplornet supports ISED's proposal to license GSO and NGSO uses on a co-primary basis. This best ensures continuity for existing services and fosters future innovation in all types of FSS.

Question 2: ISED is seeking comments on the proposal to use the original date of authorization for domestic systems for domestic coordination purposes.

18. As discussed above, Canadians currently rely on FSS services for access to basic communications services. As a result, ISED should ensure that existing infrastructure is given priority and afforded protection from interference from subsequent deployments.

Question 3: Is there additional information on coordination practices for GSO networks and NGSO systems in the FSS that should be considered? If so, please explain in detail.

19. Xplornet has no comments to provide at this time.

Question 4: ISED seeks comments on its view that, at this time, the existing approach to addressing domestic coordination disputes is sufficient.

20. Based on its experience, Xplornet supports ISED's view that the existing approach to addressing domestic coordination disputes is sufficient. Absent evidence to the contrary, we do not believe that additional measures are required at this time.

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[8] *Telecom Act*, subsection 7(a).

[9] *Telecom Act*, subsection 7(g).

Question 5: ISED is seeking comments on the proposed changes to the CTFA. In providing responses, include supporting arguments for or against the proposed changes.

21. Xplornet believes that the proposed changes to the Canadian Table of Frequency Allocations ("CTFA") to formalize licensing on a co-primary basis between GSO networks and NGSO systems are appropriate.

Question 6: ISED is seeking comments on the above proposed changes to the CTFA. In providing responses, include supporting arguments for or against the proposed changes.

22. ISED has proposed to provide increased access to spectrum for the purposes of FSS in various underused bands. Xplornet supports ISED's proposed changes. Enabling increased use of available spectrum will increase capacity available to FSS applications, fostering the deployment of advanced technologies and applications and maximizing the benefits provided to Canadians using this resource. This is entirely consistent with Canada's spectrum policy, as set out in the SPFC.

CONCLUSION

23. Xplornet supports ISED's proposal to formalize its current practice of licensing GSO networks and NGSO systems on a co-primary basis. Doing so best promotes the policy objectives set out in the *Telecom Act* and the SPFC. Specifically, adopting this proposal would:

    - Protect the status of active FSS infrastructure, which is relied on by rural and remote Canadians across the country for Internet access and voice communications;[10]
    - Foster the orderly development of Canada's telecommunications system;[11]
    - Stimulate and promote innovation with respect to new GSO and NGSO technologies;[12] and
    - Maximize the economic and social benefits for Canadians of spectrum resources.[13]

24. We further promote associated changes proposed by ISED to the CTFA to implement its proposed approach to license GSO and NGSO deployments on a co-primary basis, and to provide access to underused spectrum for FSS.

25. We thank ISED for the opportunity to provide these comments.

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[10] *Telecom Act*, subsections 7(b) and 7(h).

[11] *Telecom Act*, subsection 7(a).

[12] *Telecom Act*, subsection 7(g).

[13] SPFC.