

**Innovation, Science and
Economic Development Canada**

Spectrum Management and Telecommunications

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Notice No. DGSO-001-18

***Consultation on Licence Fees for
Fixed Point-to-Point Radio Systems***

Reply Comments

of

Xplornet Communications Inc.

January 25, 2019

Introduction

1. Xplornet Communications Inc. (“Xplornet”) has reviewed comments filed by interested parties in relation to the *Consultation on Licence Fees for Fixed Point-to-Point Radio Systems* (“Consultation”) and is pleased to provide its Reply Comments to Innovation, Science and Economic Development Canada (“ISED”).
2. At the outset, Xplornet notes that all interested parties have supported ISED’s initiative to modernize its radio fee model for fixed point-to-point systems to better support the deployment of advanced telecommunications services for Canadians. This review is necessary to ensure Canadians remain at the forefront of technological innovation and have the networks to support the use of advanced products and services. At present, the fee model in place with respect to fixed point-to-point services is hindering technological advancement through high prices and a fee structure that does not support high-bandwidth applications.
3. While parties support ISED’s proposal in principle, parties have recommended that certain modifications be adopted with respect to the fee model proposed in the Consultation. In particular, parties have requested the following changes:
 - 1) The basic structure of the fee model should follow the approach for fees in place in the United States (“U.S.”) and rates should be set to recover ISED’s costs of managing spectrum and not to generate revenues;
 - 2) The model should provide better support for rural deployments. If a cost-recovery fee model is not adopted, discounts should be applied for spectrum in uncongested, rural areas;
 - 3) The proposed frequency rate bands should be broken down into additional categories;
 - 4) The fee model should be modified to better support point-to-multi-point (“PTMP”) systems; and
 - 5) The implementation date for a new fee model should be advanced to April 2019.
4. Xplornet generally supports the recommendations put forward by parties with respect to these issues. However, Xplornet offers further recommendations concerning how the new fee model should support rural deployments in uncongested areas if a cost-recovery model is not adopted.
5. In particular, parties have made two proposals for how ISED should determine whether an area should be classified as congested or uncongested for the purposes of having access to reduced rates. Xplornet disagrees with both proposals put forward by parties. Xplornet submits that ISED should draw on its own maps of high and medium congestion zones set out in Annex A to CPC-2-1-25,¹ as may be updated. Any link that is located outside of a high or medium

¹ Client Procedures Circular-2-1-25, *Radio Station Licensing Procedure for Radiocommunication Service Providers – System Licensing*.

congestion zone should benefit from reduced rates to support deployments for rural Canadians.

ISED's fee model should be structured to follow the U.S. model and to promote cost-based rates

6. Having reviewed submissions filed by interested parties, Xplornet continues to recommend that ISED should modify the structure of its proposed fee model to adopt a model similar to that used in the U.S.
7. Fees for fixed point-to-point services in the U.S. are paid based on a model that requires a one-time payment for a 10-year licence period.² The fees associated with a spectrum application in the U.S. are set out in the Schedule of Application Fees³ maintained by the Federal Communications Commission ("FCC"). The cost of a spectrum application is \$305 per call sign,⁴ resulting in a fee of \$610⁵ for the use of a bi-directional link for ten years.
8. As we described in our Intervention,⁶ using the example of a typical 50 MHz link using 18 GHz spectrum, a carrier would be required to pay an annual fee of \$2,400 under ISED's proposed model. Over a 10-year period, this equates to a fee of \$24,000 (without considering any periodic increases as proposed in relation to the *Service Fees Act*). These fees are almost 40x higher than the fees that apply under the FCC's model.
9. This comparison demonstrates that the fees that ISED is proposing remain very high relative to the fees in the U.S. While this difference in the spectrum fees structure is not solely responsible for the different market conditions experienced by Canadian and U.S. consumers, it is not hard to see how paying nearly 40x more than U.S. carriers for backhaul hinders the deployment and affordability of advanced telecommunications services for Canadians.
10. We note that Alliance Corporation⁷, Bell Mobility⁸ and Rogers⁹ have all drawn comparisons to the U.S. framework managed by the FCC.

² Part 101.67 of the Title 47 of the U.S. Code of Federal Regulations provides that licenses for fixed microwave services will be issued for a period not to exceed 10 years. The standard practice of the Federal Communications Commission is to grant licenses for a 10-year period.

³ See the Appendix to Amendment of the Schedule of Application Fees Set Forth In Sections 1.1102 through 1.1109 of the Commission's Rules, GEN Docket No. 86-285, adopted July 6, 2018, available online at: <https://docs.fcc.gov/public/attachments/FCC-18-90A1.pdf>

⁴ See service 12a (New application for Common Carrier Microwave (point-to-point, local TV transmission and millimeter wave service)) in the Schedule of Application Fees.

⁵ We note that an additional regulatory fee of \$250 per call sign is also charged in relation to an FCC application. However, the purpose of the FCC's regulatory fees is to recover the FCC's internal costs associated with processing an application and thus regulatory fees are not associated with use of the spectrum.

⁶ Xplornet, Intervention, paragraphs 20 to 22.

⁷ Alliance Corporation, Intervention, page 1.

⁸ Bell Mobility, Intervention, paragraph 9.

⁹ Rogers, Intervention, paragraphs 15-19.

11. Parties have specifically noted that, instead of generating revenues through spectrum fees, the U.S. framework relies on a cost-recovery model to ensure maximum benefits from spectrum resources. As explained by Rogers:

“Moving to an administrative cost-recovery spectrum fee regime is the optimal outcome for Canada and Canadian consumers and businesses. [ISED’s] costs for managing the spectrum would be covered, potential interference would still be properly managed for exclusive licence holders to ensure quality of service, and facilities-based operators would have more capital available to invest in expanding network coverage and increasing speeds and capacity, as well as investing in new innovative technologies. With even greater access to advanced communications services for consumers and businesses, externalities will contribute to a virtuous cycle driving Canadian economic growth. It is truly a win-win-win outcome.”¹⁰

12. Xplornet fully agrees with Rogers that a cost-recovery model will generate greater overall benefits for Canadians than a revenue-generating model. We further note the substantial support for the implementation of a cost-recovery model included on the proceeding record. In addition to Rogers, Bell Mobility¹¹ and the Canadian Wireless Telecommunications Association¹² (“CWTA”) have also supported such an approach.

13. Accordingly, Xplornet continues to recommend that a fee model structure similar to that managed by the FCC should be adopted by ISED. Under this model, fees would be charged on a one-time basis to provide access to spectrum for a 10-year period. Fees charged in association with a spectrum application would be set to recover ISED’s costs of managing the spectrum and not to generate revenues. Such a model would ensure that maximum benefits are derived from spectrum resources across all regions of the country. Licensing for a 10-year period, instead of annual licensing, would equally address concerns arising from the *Service Fees Act*.

14. To this end, Xplornet continues to refrain from providing its comments on matters related to the *Service Fees Act* until ISED’s upcoming proceeding to consider this topic in depth. Xplornet submits that any determinations with respect to the *Service Fees Act* in relation to the fee model for fixed point-to-point systems should be made as part of this upcoming proceeding.

Alternatively, if ISED does not modify the structure of its fee model, it must ensure that its fee model does not disadvantage rural Canadians

15. Xplornet expressed its concerns in its Intervention that ISED’s proposed fee structure perpetuates the high rates for fixed point-to-point services for providers relying on the 10.55-19.7 GHz band for service.¹³

¹⁰ Rogers, Intervention, paragraph 20.

¹¹ Bell Mobility, Intervention, paragraph 9.

¹² CWTA, Intervention, paragraphs 4 to 7.

¹³ Xplornet, Intervention, paragraphs 13 to 17.

16. Under ISED's proposed new fee structure, ISED has created a sliding fee schedule that uses the 10.55-19.7 GHz band as its "reference band". This band has been identified as a reference band because it is the band most frequently assigned for point-to-point systems. ISED has assigned a cost for the use of this band at \$24/MHz. This rate has been calculated to align with the average annual fee currently paid by licensees on a per MHz basis. The assigned values given by ISED fall dramatically for higher spectrum bands, with the 19-60 GHz frequencies having a rate of \$16/MHz and frequencies over 60 GHz having a rate of only \$1/GHz.
17. By this design, the proposed fee model provides limited to no benefits to providers who require 10.55-19.7 GHz spectrum to reach rural Canadians. Rural providers cannot reasonably use higher frequencies for rural transport to benefit from the associated cost savings. The propagation characteristics of higher frequencies make higher frequencies unsuitable for long distance applications. Higher frequencies simply cannot span the distances required for efficient rural deployments. The benefits associated with ISED's new fee model will be experienced in urban environments, where high frequencies can be leveraged in high capacity transmission lines to facilitate 5G deployments. The result of this unequal distribution of benefits will be to disadvantage rural Canadians, stimulating urban 5G deployments, but providing no similar stimulus for rural applications.
18. In order to ensure that rural Canadians receive benefits from a new fee model, if a cost-recovery model is not adopted, ISED should revise the proposed rates to provide discounts for spectrum used to serve uncongested areas.
19. Discounts for uncongested areas are entirely consistent with ISED's radio licence fee guiding principles. As noted in the Consultation, ISED is seeking to implement a new fee model that:

"...reflects the relative utility of different spectrum bands (utility in the context of this consultation refers to the frequency band's usefulness and overall amount of available spectrum, that is abundance or scarcity)." ¹⁴
20. Indeed, the relative abundance or scarcity of spectrum varies dramatically between urban and rural areas of the country. While urban centres may be experiencing congestion, congestion is not generally a concern in rural Canada.
21. There is widespread support for providing rate reductions in uncongested areas of the country amongst parties. Alliance Corporation,¹⁵ Bell Mobility¹⁶, the British Columbia Broadband Association¹⁷ ("BCBA"), the Canadian Electricity Association

¹⁴ Consultation, paragraph 23.

¹⁵ Alliance Corporation, Intervention, page 2.

¹⁶ Bell Mobility, Intervention, paragraph 23.

¹⁷ BCBA, Intervention, paragraph 4.

(“CEA”),¹⁸ CanWISP,¹⁹ CWTA,²⁰ Ecotel,²¹ Quebecor,²² the Radio Advisory Board of Canada²³ (“RABC”), Rogers²⁴, Sasktel,²⁵ Seaside Wireless,²⁶ Telus,²⁷ and TeraGo Networks²⁸ have all voiced supported for reduced fees for uncongested areas. No party has opposed such a proposition.

22. While there is consensus around the concept that uncongested areas should be provided with reduced fees, there is some discussion around how to define areas that are uncongested, and concerning the quantum of the discount that should be applied.

23. There have been two main proposals put forward by parties for how ISED could define uncongested areas. Both proposals define uncongested areas by carving out “congested” areas. Xplornet disagrees with the adoption of either of these proposals.

24. In the first main proposal,²⁹ Census Metropolitan Areas (“CMAs”) and “Census Agglomerations” as defined by Statistics Canada would be considered to be congested areas that would not benefit from reduced fees. Any link that is within (partially or fully) a CMA or CA would be charged at regular rates.

25. A second proposal was put forward by Telus³⁰ based on ISED’s proposed Option 2 for creating a new tier 5 service area for spectrum licensing in the *Consultation on a New Set of Service Areas for Spectrum Licensing*³¹ (“Tier 5 Consultation”). Option 2 of the Tier 5 Consultation delineates population centres as either large (100,000+ people), medium (30,000 to 99,999 people), small (2,000 to 29,999 people), and other (less than 1,999 people). Telus proposes that only population centres that are small or other would be considered uncongested to benefit from reduced rates.

26. It is inappropriate to adopt either of these proposals as a proxy for defining uncongested vs congested areas. ISED already maintains a document that defines areas of the country that are “high congestion zones” and “medium congestion zones”. These zones are specifically defined with the purpose of identifying areas based on the level of frequency utilization and are clearly set out in Annex A to CPC-2-1-25. Given that ISED is seeking to adopt a fee model that accounts for the

¹⁸ CEA, Intervention, page 4.

¹⁹ CanWISP, Intervention, paragraph 7.

²⁰ CWTA, Intervention, paragraph 8.

²¹ Ecotel, Intervention, paragraph 16.

²² Quebecor, Intervention, paragraph 14.

²³ RABC, Intervention, paragraph 35.

²⁴ Rogers, Intervention, paragraph 22.

²⁵ Sasktel, Intervention, paragraph 12.

²⁶ Seaside Wireless, Intervention, paragraph 9.

²⁷ Telus, Intervention, paragraph 17.

²⁸ TeraGo Networks, Intervention, paragraph 5.

²⁹ See, CanWISP, Intervention, paragraph 7; Quebecor, Intervention, paragraph 14, RABC, Intervention, paragraph 37; Sasktel, Intervention, paragraph 17; Seaside Wireless, Intervention, paragraph 11; TeraGo Networks, Intervention, paragraph 6.

³⁰ Telus, Intervention, paragraphs 20 to 23.

³¹ DGSO-002-18, November 2018, paragraphs 47 to 51.

amount of available spectrum in a given area, it would be most appropriate to use the tables in Annex A to CPC-2-1-25, as may be updated, to define areas that are not subject to congestion and which should benefit from reduced rates.

27. Defining uncongested areas by carving out CMAs and CAs is not appropriate, as using these census divisions to exclude areas from reduced rates would disadvantage many rural Canadians in uncongested areas.
28. Excluding CAs from the benefits of reduced rates would be unfair to Canadians in many rural and uncongested areas of the country. Statistics Canada’s CAs include many rural communities that are not experiencing congestion with respect to spectrum. Using this definition, small communities across the country would not receive the benefits of reduced rates, despite the fact that these are the exact types of uncongested rural environments that the reduced rates would be meant to support.
29. For example, the following communities, set out in Table 1 below, are all examples uncongested, rural CAs that would be excluded from the benefits of reduced rates:

Table 1: Rural areas that would be considered as congested by reference to CAs

Census Agglomeration	Province	Population (2016)
Yellowknife	Northwest Territories	19,569
Whitehorse	Yukon Territory	28,225
Fort St. John (Peace River C)	British Columbia	28,396
Brooks (Newell County)	Alberta	24,662
Estevan (Estevan No. 5)	Saskatchewan	13,615
Portage la Prairie	Manitoba	13,304
Thompson	Manitoba	13,678
Elliot Lake	Ontario	10,741
Kenora	Ontario	15,096
Val-d’Or	Quebec	33,871
Bathurst (Beresford Parish, Bathurst Parish, Beresford)	New Brunswick	31,110
Summerside	Prince Edward Island	16,587
New Glasgow (Pictou, Subd C. & B, Stellarton, Westville)	Nova Scotia	34,487
Gander	Newfoundland and Labrador	13,234

30. Xplornet notes that Quebecor has proposed that only CMAs should be used to define congested areas.³² Even defining uncongested areas by excluding only CMAs would continue to inappropriately disadvantage rural Canadians.

³² Quebecor, Intervention, paragraph 14

31. CMAAs equally do not represent an appropriate proxy for areas of frequency congestion. Figure 1, below, is a comparison between the CMA of Halifax, Nova Scotia, with the congestion zone for Halifax set out in CPC-2-1-25, Annex A.

Figure 1: Census division boundaries do not align with areas experiencing frequency congestion:

Google Earth image of CMA for Halifax, Nova Scotia (yellow) vs. ISED congestion zone (red)



32. It can be easily observed that the CMA of Halifax encompasses a large amount of rural Nova Scotia that is not subject to frequency congestion. The way that Statistics Canada has drawn the boundaries for its census divisions makes them inappropriate proxies for areas of the country that are subject to congestion. Indeed, by removing the CMA of Halifax from the benefits or reduced rates, small communities falling within the CMA, like Sheet Harbour, would be clearly disadvantaged. Accordingly, CMAAs should not be used to define uncongested areas. ISED's own data defining areas of congestion is the most relevant means to define uncongested areas that should benefit from reduced rates.
33. For similar reasons, Xplornet equally does not support Telus' proposal to define uncongested areas using the boundaries set out in Option 2 of the Tier 5 Consultation. These boundaries do not form an appropriate proxy for areas of Canada that are subject to frequency congestion. Adopting this proposal would continue to exclude many rural Canadians from the benefits of reduced rates, particularly if large and medium population centres are carved out as congested areas. Like with CAs, above, frequency congestion is generally not present for medium centres. Accordingly, Telus' proposal should not be adopted as a means to define uncongested areas.

34. Xplornet also notes that Telus has proposed that large urban centres should be subject to higher rates than those proposed in the Consultation. Xplornet does not support the imposition of higher rates in urban areas.
35. With respect to the quantum of the discount that would be extended to fixed point-to-point links in uncongested areas, we note that that parties have proposed discounts ranging from 33%³³ to 50%³⁴ to 55%³⁵ to 60%.³⁶ Xplornet submits that these proposals represent the minimum discounts necessary to ensure that rural Canadians are not disadvantaged as part of a new fee model.
36. Accordingly, it is Xplornet's recommendation that links in uncongested areas – defined by excluding areas of high and medium congestion set out in Annex A to CPC-2-1-25 – should benefit from a rate reduction of a minimum of 33-60%.

Revisions to the categorization of frequency rate bands

37. Xplornet notes that the RABC and Rogers have proposed that the rate bands proposed by ISED should be broken down to create a greater number of frequency rate bands.³⁷ RABC and Rogers have proposed this further breakdown to divide spectrum into categories that better reflect spectrum propagation characteristics and, for higher frequencies, represent how the spectrum is potentially to be made available in Canada in the coming years.³⁸
38. Xplornet does not believe that the frequency rate bands set out in the Consultation are inappropriate. However, if a further breakdown is to be adopted, Xplornet supports the proposal of the RABC and agrees that the 10 – 15.35 GHz band should be considered as the “reference band”.³⁹ Rates for all other bands should be set with reference to this band. Reductions for links located in uncongested areas should continue to apply, as described above.

The application of the fee model to PTMP systems

39. Xplornet notes that a number of parties have recommended that the proposal set out in the Consultation be adapted to better support PTMP systems.⁴⁰
40. Specifically, parties have identified that the proposed fee model will result in higher licence fee payments for some licensees. As proposed, in applying the fee model to PTMP systems, the total fee would be the total of the point-to-point fees for each

³³ Sasktel, Intervention, paragraph 15; Xplornet, Intervention, paragraph 29.

³⁴ Quebecor, Intervention, paragraph 14;

³⁵ Telus, Intervention, paragraph 24;

³⁶ BCBA, Intervention, paragraph 5; CanWISP, Intervention, paragraph 9; Seaside Wireless, Intervention, paragraph 16; TeraGo Networks, Intervention, paragraph 7

³⁷ RABC, Intervention, paragraphs 2 to 5; Rogers, Intervention, paragraphs 27 to 31.

³⁸ RABC, Intervention, paragraphs 3 to 4; Rogers, Intervention, paragraphs 28 to 29.

³⁹ RABC, Intervention, paragraphs 11 to 13.

⁴⁰ Bell Mobility paragraphs 15 to 19; CanWISP, Intervention, paragraphs 10 to 16; CEA, Intervention, page 2; CWTA, Intervention, paragraphs 9 to 11; Quebecor, Intervention, paragraphs 11 to 12; RABC, Intervention, paragraphs 28 to 34; Masroor Ahmed Rehan, Intervention; Rogers, Intervention, paragraphs 58 to 65; Sasktel, Intervention, paragraphs 29 to 31; TeraGo Networks, paragraph 8.

individual link within the system. This means that licensees will be charged multiple times for the use of the same frequency pair, resulting in fees that are higher than experienced today in some contexts. Applying fees in this manner penalizes licensees who use PTMP configurations, which promote the efficient use of spectrum. This goes against ISED's stated radio licence fee guiding principle to "[encourage] innovation and [reward] spectral efficiency."⁴¹

41. Parties have thus recommended that, in relation to PTMP systems, ISED should apply its fee model so that a frequency pair deployed in a PTMP configuration is only charged once.

42. Xplornet supports this recommendation.

The new fee model should be implemented as soon as possible

43. Finally, Xplornet supports Shaw's recommendation that the new fee model should be implemented starting in April 2019, and not in April 2020, as set out in the Consultation.⁴²

44. The new fee model is being designed to support the delivery of advanced services to Canadians. Implementing the new fee model for April 2019 will better promote these objectives and avoid any unnecessary delay.

Conclusion

45. Xplornet supports ISED in undertaking this important initiative. This review is necessary to ensure Canadians remain at the forefront of technological innovation and have the networks to support the use of advanced products and services. At present, the fee model in place with respect to fixed point-to-point services is hindering technological advancement through high prices and a fee structure that does not support high-bandwidth applications.

46. Having review comments filed by interested parties, Xplornet remains of the view that a new fee model for fixed point-to-point services should draw on the U.S. system managed by the FCC. Specifically, licenses should be issued for a 10-year period with the payment of one-time application fee. The quantum of the application fee should be set to recover ISED's costs of managing the spectrum, and not to generate revenue. This would promote the most efficient use of spectrum resources and extend the greatest benefits to Canadians.

47. If a cost-recovery model is not to be adopted, then ISED should revise its proposed fees to ensure rural Canadians are not disadvantaged by the fee model. A discount of at least 33-60% should be applied with respect to links located in rural, uncongested areas of the country. Links in uncongested areas of the country

⁴¹ Consultation, paragraph 23.

⁴² Shaw, Intervention, paragraph 6.

should be determined as any link that is not within an area of high or medium congestion as defined by ISED in Annex A to CPC-2-1-25, as may be updated.

48. In order to best promote the intended benefits of a new fee model, Xplornet additionally supports party proposals to modify how the fee model applies to PTMP networks and the implementation date for the new model. To best promote innovation in spectrally efficiency PTMP architectures, where a frequency pair is deployed in a PTMP configuration, the licensee should only be charged once for the use of the spectrum. Advancing the implementation date for the new fee model to April 2019 from the proposed date of April 2020 will best ensure that the benefits of the new fees will be extended to Canadians in a timely manner.

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

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