



TELUS COMMUNICATIONS INC.

Reply Comments for

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

DGSO-001-18
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Spectrum Management and Telecommunications

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1.0 Introduction

1. TELUS Communications Inc. (“TELUS”) provides its Reply in response to the consultation initiated by Innovation, Science and Economic Development (“ISED”) Canada¹ on modernizing the radio licence fee model for fixed point-to-point systems and their associated fees. The purpose of this Reply is to bring back key issues in light of the ISED’s guiding principles for spectrum fees for these licences:
 - (1) Fees reward spectral efficiency and encourage innovation
 - (2) Fees reflect the relative utility of different spectrum bands
 - (3) Fees are clear and predictable
 - (4) Fees are subject to periodic fee adjustment.
2. TELUS supports these guiding principles and they should underpin any spectrum licensing framework. Licensees should be encouraged and not penalized for efficient spectrum deployment. Licensees should also pay fees based on the relative worth of the band. Finally, licensees should have a clear understanding as to how fees are calculated and not be subject to unpredictable changes to fees over time, with periodic fee adjustment only made following a consultation. Fee certainty is critical given demands of financial markets and competition in the industry – unpredictable fees cause uncertainty and affect deployment and investment decisions about acquiring spectrum and planned use.
3. TELUS has reviewed the comments filed on the record of this proceeding. TELUS focuses its Reply on the following issues:
 - There is agreement among many parties that licence fees for rural deployment of fixed point-to-point systems should be lower than in urban areas;

¹ *Consultation on Licence Fees for Fixed Point-to-Point Radio Systems* DGSO-001-18, issued November 2018, ISED (the “Consultation”).

- Point-to-multi-point systems should be subject to the same fee regime as point-to-point systems at this time;
- ISED should not impose a fee escalator adjustment to point-to-point fees as a result of this proceeding and should complete the anticipated consultation on the application of the *Service Fees Act* to spectrum licence fees generally;
- Refunds should be given to licensees on a pro-rated basis should a licence be cancelled during an annual period.

2.0 Rural Licences Should Be Subject to Lower Fees than Urban Licences

4. Some parties, such as the CWTA,² Rogers³ and Bell,⁴ proposed that fees could be lowered even further if fees were based on administrative cost recovery of the licensing regime. Fees based on administrative cost recovery makes logical sense. Moreover, it is fully consistent and furthers ISED guiding principles, in that licensing fees themselves would not present any financial barrier to the use of spectrum, thereby incenting efficient use as well as innovation and network deployment. The proposal has merit and should be thoroughly considered.
5. Having said that, if ISED finds that it is not feasible to make licence fees based on administrative cost recovery as part of this Consultation, TELUS has already voiced its support for ISED's "consumption-based point-to-point fee model" for fixed point-to-point systems. In its Comments, TELUS agreed that the model incents licensees to use spectrum for point-to-point systems efficiently and to invest in the latest radio technology, in that licensees will be motivated to maximize capacity on a channel on the assigned spectrum, rather than licensing a new channel. TELUS added that the base rates reflect relative utility of the frequency bands and that the base rate table would have a positive effect on spectral

² Comments of CWTA, para. 7.

³ Comments of Rogers, para. 15.

⁴ Comments of Bell, para. 9.

efficiency. Other parties agreed that the consumption-based fee model proposal by ISED was consistent with its general principles.⁵

6. TELUS added that ISED could further fulfill the guiding principles by incorporating a fee structure that incents rural deployment. TELUS proposed that the fee structure could be amended such that rural systems, assessed on the geographic placement of the receiver of the system, should be subject to a lower licence fee than an urban deployment in the same frequency range.
7. TELUS focused on lower fees for rural deployment to assist in achieving ISED's desired outcomes. In the Spectrum Outlook,⁶ ISED specified the importance of wireless connectivity, including rural and remote regions of Canada, and that its objective in managing spectrum is to "maximize the economic and social benefits that Canadians derive from the use of the radio frequency spectrum."⁷ It highlighted that wireless technology "is a key component of connectivity for rural homes and businesses, particularly in areas where wireline solutions are not feasible." As such, using microwave technologies in rural areas, where fibre networks are not going to be as prevalent as in urban areas, should not only be encouraged, but expected.
8. Also, in the Spectrum Outlook, ISED noted that it could encourage rural and remote wireless connectivity by "making spectrum available at lower cost."⁸ Reduced licence fees for microwave backhaul systems in rural areas, reflecting the substantial difference in population in rural versus urban areas, would further ISED's goal that "spectrum resources are available for the various services that offer broadband connectivity to rural Canadians." It also takes into account that there is the greater potential for fibre backhaul options in

⁵ For example, see Comments of Cogeco, para. 7, where it said that the "changes to the radio licence model... will facilitate the roll-out of new networks and technologies..." Comments of Corridor, p.2, where it noted that ISED's model "would encourage efficient use of spectrum..." and Comments of SaskTel, para. 7, which claimed that ISED's "consumption-based fee model will provide incentives to deploy more spectrally efficient radio equipment and encourage spectrum users to invest in the latest radio technologies."

⁶ See *Spectrum Outlook 2018 to 2022*, SLPB-003-18, issued June 6, 2018 (the "Spectrum Outlook") available at <https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf11403.html>.

⁷ Spectrum Outlook, para. 21.

⁸ Spectrum Outlook, para. 26.

large and medium population centres, so there are opportunities to avoid or lessen point-to-point radio fees in these areas, as opposed to in rural areas.

9. Other parties also supported lowering spectrum licence fees in rural areas for microwave systems. SaskTel recommended that “a discount be applied to the base rates for the calculation of licence fees for fixed point-to-point radio systems in rural and remote areas” to “encourage operators to provide service in rural areas and help overcome the high costs of serving rural customers.”⁹ BCBA and Canwisp asked ISED to consider lower rates for rural areas, proposing a 60% discount on spectrum fees for systems located in “uncongested areas.”¹⁰ Alliance Corporation, a Canadian distributor microwave products, also proposed discounted licence fees “outside of urban centres” to promote broadband connectivity.¹¹ While not specifically advocating for lower rural rates, Corridor noted the importance that the spectrum fees for point-to-point systems should, in general, “encourage investment to deliver better connectivity to under-served rural and remote parts of Canada.”¹²
10. The comments demonstrate that lower rural fees for point-to-point systems further both the guiding principles from the Consultation and ISED’s desired outcomes detailed in the Spectrum Outlook. As such, TELUS asks that ISED determine a fee structure that provides incentives for rural deployment.
11. In terms of how to define an urban area versus a rural area, TELUS noted ISED’s ongoing Service Areas Consultation,¹³ and pointed to ISED’s proposed Option 2 as a potential model for use to set urban versus rural rates in this Consultation. This would set base rates depending upon whether the receiver of a fixed point-to-point radio system is located in a “large,” “medium” or “other” population centre. For the purposes of this rate structure, an

⁹ Comments of SaskTel, paras. 12 and 13.

¹⁰ Comments of Canwisp, para. 5 and BCBA, para.9

¹¹ Comments of Alliance Corporation, p.2.

¹² Comments of Corridor, p.2.

¹³ *Consultation on a New Set of Service Areas for Spectrum Licensing*, DGSO-002-18, November 2018 (the “Service Areas Consultation”).

“other” population centre would qualify as a rural (or non-urban) area. A large population centre is one with a population of 100,000 or more people, as of the 2016 census. A medium population centre would have between 30,000 to 99,999 people and “other” would be all other geographic areas.

12. Other parties, such as the BCBA and Canwisp, have suggested to use Statistics Canada’s definitions census metropolitan areas (“CMA”) or census aggregation (“CA”) areas.¹⁴ BCBA and Canwisp proposed that areas outside of CMAs or CAs be deemed uncongested, and subject to a 60% discount from base rates. Quebecor suggested a 50% discount for links deployed outside CMAs.¹⁵ TELUS acknowledges that CMAs and CAs are a way to signify an urban area, but the large geographical areas covered by most CMAs make them less compelling as a useful way to delineate an urban versus rural area. TELUS’ proposal provides a more precise manner upon which ISED can differentiate a rural area versus other larger population areas.

13. TELUS also stated that the location of the system would be determined based on the location of the receiver of the system. Some parties proposed that the geographic area should be based on the link path.¹⁶ However, the location of the receiver provides a better indication of where the system is serving, given that this where the link path starts and ends, and is a more justifiable criteria for differential fees. In the case of bi-directional links where the link path spans two different serving area categories, the lowest base rate should be applied for the link. This method of gauging location is clear and requires less administrative burden for licensees and ISED to determine fees.

¹⁴ See, Comments of BCBA, para. 6, Comments of Canwisp, para. 8.

¹⁵ Comments of Quebecor, para. 14.

¹⁶ For example, see Comments of Canwisp, para. 8.

14. TELUS proposed the following rates to apply in large, medium and other population centres.

| Frequency Range | Large Population Centre | Medium Population Centre | Other |
|------------------------|-------------------------|--------------------------|------------|
| ≤ 890 MHz | \$4,125.00 | \$2,750.00 | \$1,237.50 |
| >890 and ≤ 960 MHz | \$207.00 | \$138.00 | \$62.10 |
| > 960 and ≤ 4200 MHz | \$67.50 | \$45.00 | \$20.25 |
| > 4.2 and ≤ 10.55 GHz | \$51.00 | \$34.00 | \$15.30 |
| > 10.55 and ≤ 19.7 GHz | \$36.00 | \$24.00 | \$10.80 |
| > 19.7 and ≤ 60 GHz | \$24.00 | \$16.00 | \$7.20 |
| > 60 GHz | \$1.00 | \$0.67 | \$0.30 |

15. TELUS derived these rates by applying a simple ratio to ISED’s proposed base rates as the rates for a medium population centre. As an example, the base rates could be increased by 50% for large population centres. For other population centres, TELUS proposes that 30% of the large population centre rate be charged, given that other population centres are for areas up to 30,000 people. Notably, the 60% discount proposed by Canwisp and BCBA and the 50% discount proposed by Quebecor for a rural licence fee is similar to TELUS’ proposed discount of 55% to ISED’s proposed set of base rates.

16. For the ultra-wide bands above 60 GHz range, given that development of technologies for these frequencies is maturing and the possible use cases are still not fully explored, the fees for these bands should be set low to promote innovation. TELUS proposes that ISED maintain its proposed \$1/MHz rate for the large population centres. Maintaining that rate for large population centres also takes into account that licensees in these frequency bands must share the spectrum with other licensees and are expected cooperate to identify and resolve possible interference themselves. Given the shared nature of the band, they should not face additional licence fees for urban placement of a system. TELUS proposes that the medium population centre rate for this range be set at \$0.67/MHz, consistent with TELUS’

overall proposal that large population centres be charged at 50% above the medium population centres. For other population centres in this frequency range, licensees would be charged \$0.30/MHz, consistent with the proposal of 30% of the large population centre rate.

17. The rationale for TELUS' proposed fee structure is that urban spectrum is more valuable, and that value should be reflected in base rates to promote efficient use. Also, there are options in urban areas to extend fibre facilities through aerial strands or conduit that could deliver substantive bandwidth and connectivity necessary for next generation networks such as 5G. For these reasons, TELUS opposes the position of Shaw, which claims that urban fees should be reduced in densely-populated urban centres.¹⁷ Shaw itself admits that "multiple transport mechanisms...such as fibre are generally available." Having low fees for urban point-to-point radio systems, especially in scarce microwave bands that lack the ultra-wide bandwidth of higher mmWave bands, would have the effect of delaying critical fibre investment for 5G. Network investment with wireless backhaul would be sub-optimal for 5G and limit the spectrum for other lower bandwidth services or dynamic link applications.
18. TELUS also opposes the false statement of Rogers where it alleges that fibre infrastructure installed by TELUS was built in a period "without any competition and with guaranteed returns."¹⁸ Setting aside the irrelevance of this statement, Rogers willfully ignores that TELUS' fibre-to-the-premises build in its ILEC territories has happened largely after the CRTC decisions on transport and local access forbearance, meaning that the CRTC had already found that there was competition in these marketplaces sufficient to protect the interests of users.¹⁹

¹⁷ Comments of Shaw, para. 9.

¹⁸ Comments of Rogers, para. 12.

¹⁹ The CRTC's forbearance powers are from section 34 of the *Telecommunications Act*. Section 34(2) of the *Telecommunications Act* requires the Commission to forbear from rate regulation of a telecommunications services when it finds that the provision of the service "is or will be subject to competition sufficient to protect the interests of users."

19. The fact that Rogers itself might be behind in its own fibre build does not obligate ISED to give Rogers or any other party a regulatory licence fee subsidy for point-to-point systems in urban areas, where spectrum should be more highly valued in comparison to rural areas. The guiding principles demand a licence fee regime that incents spectrum efficiency and network deployment and reflects value of spectrum. It is not to give the largest wireless carrier in Canada a leg-up because it purports to be at some disadvantage.

3.0 Point-to-Multi-Point Systems Should Be Subject to the Same Fee Structure as Point-to-Point Systems at this Time

20. Some parties have noted that point-to-multi-point (“PTMP”) systems would be subject to separate licence fees for each link within the system. They argue that such a fee regime would be unfair to licensees using such systems, and ask for the systems to be treated as a single link for licence purposes²⁰ or for each frequency pair in a system to be subject to a licence fee.²¹

21. TELUS does not agree that the proposed licence regime should be amended for PTMP systems. If licensees choose to use a PTMP system, they are using point-to-point links in a manner that requires licenses under this regime. PTMP systems utilize the spectrum resources over a broader geography when compared to a single link despite it being on a common channel. Whether the system comprises several links or are part of the same PTMP system, the efficiency is not equivalent to a single link, and the proposed fee regime reflects the spectrum resource utilization accordingly.

22. While some parties have asked that these systems should be subject to a single link licence, they would, in effect, be obtaining a subsidy for the fee of the spectrum usage over a geographic area. An area-based licence regime would be sensible for bands that have the short propagation characteristics, sufficiently wide bands and PTMP applications. TELUS notes that 5G mmWave bands in many ways fit these characteristics by its nature of being

²⁰ See, for example, Comments of CEA, p.3, Comments of Canwisp, para. 15, comments of CWTA, para. 11, comments of Rogers, 63. Rogers proposed at para. 64 of its Comments that, in the alternative, an “area spectrum licence could cover all end points in a small geographically-contained PTMP system.”

²¹ Comments of Bell, para. 18.

at a higher frequency. Higher frequency radio waves have substantially more path loss, contain inherently more bandwidth, and enable massive MIMO antenna systems that substantially improve efficient use of spectrum and directed radio energy to deliver broadband connections to multiple end-points, in other words next-generation PTMP. These characteristics are not exclusive to 5G bands, but are likely available to many emerging and some existing Fixed Service (“FS”) bands. ISED should issue a public consultation on the licensing mechanism for these particular bands to promote efficient use and innovation. It would be in that consultation that ISED could explore whether area-licences or point-to-point radio licences make sense.

4.0 ISED Should Await the Decision on the Service Fees Act Consultation Prior to Applying Any Fee Escalator to Point-to-Point Licence Fees

23. In its Comments, TELUS noted that it had received correspondence from ISED sent on December 11, 2018 that indicates an imminent future consultation on the application of the *Service Fees Act* to spectrum generally. Given this pending consultation, ISED should defer any decision on how the *Service Fees Act* applies to licence fees for fixed point-to-point radio systems until a decision has been made in that future consultation, to ensure that the *Service Fees Act* is considered fully in one consultation. Bell²² and Quebecor²³ each made this same point.
24. It is paramount that ISED give full consideration of this issue, because of the importance of spectrum deployment for wireless networks for Canadians. Automatically increasing licence fees year over year will simply take monies away that were otherwise available for network investment and innovation.
25. It is true that some parties, such as SaskTel and Shaw, have asked for fee certainty and the application of a particular factor, such as inflation, to be used as the service fee escalator amount. These comments should not persuade ISED to make any fee escalator decision on point-to-point licence fees. Some of these parties might have been unaware of the

²² Comments of Bell, para. 20.

²³ Comments of Quebecor, para. 17.

pending consultation on the *Service Fees Act*. Moreover, some of the parties might have just assumed automatic application of the *Service Fees Act* to spectrum fees, a notion that has yet to be confirmed. Finally, the concept of an inflation factor such as CPI automatically applying to spectrum fees only makes sense in the context of fees being charged solely to recover licensing administration costs. If fees are charged that are not based solely on administrative cost recovery, the application of an inflation factor is an arbitrary increase that is not connected at all to any increase in administrative costs for ISED.

26. As such, TELUS reiterates that ISED should resist making any decision about the application of the *Service Fees Act* and the application of any fee escalator in this consultation. The first application of a fee escalator provision to spectrum used for fixed point-to-point systems would take place for fees payable on March 31, 2020. This means that ISED can complete its contemplated future review of the *Service Fees Act* and have that decision apply to the spectrum at issue here. This allows for a consistent approach, rather than hastening a decision to be made on this issue in this Consultation.

5.0 Licensees Should Receive a Pro-Rated Refund Should a Licence Be Cancelled During the Annual Licence Term

27. In its Comments, TELUS supported ISED's proposals about prorated fees and short-duration licence fees. TELUS also supports the Bell proposal²⁴ of refunds for prepaid annual licence fees should a licensee decided to cancel a licence during the licence term.

28. A prorated refund of licence fees is consistent with ISED's principle of spectral efficiency. In particular, a licensee that would obtain a refund for a cancelled licence would have incentive to shut down systems immediately that are no longer necessary for its operations, freeing up the use of that frequency. In addition, if no refunds were given, licensees could keep systems up for the full year period, instead of seeking efficiencies as soon as possible. Therefore, refunds further ISED's guiding principles, with particular reference to incenting

²⁴ See Comments of Bell, para. 22.

spectral efficiency and enhancing fee certainty for licensees. For these reasons, ISED should include prorated refunds for cancelled licences as part of the licensing regime for point-to-point radio systems.

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