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Reply comments of the First Mile Connectivity Consortium (FMCC) in:
Gazette Notice No. SLPB-004-18 — ISED Consultation on Revisions to the 3500 MHz Band to Accommodate Flexible Use and Preliminary Consultation on Changes to the 3800 MHz Band

1.As noted in our submission to this consultation on July 13, 2018, the FMCC is an incorporated independent national not-for-profit national association. Our members are First Nations internet service providers that also represent residents in remote and rural First Nation communities. Our member organizations support broadband-enabled public services such as online education and telehealth, as well as services for household consumers. The FMCC associate members are university and private sector researchers and others interested in Indigenous and community communications and telecommunication services for the public good.

2. The FMCC promotes a 'First Mile' approach to telecommunications development. Rather than start in urban centres, this perspective advocates for community-based organizations to drive their own development initiatives.

3. Having reviewed the documents of other organizations contributing to this consultation, we submit the following comments.

Broadband Availability and Pricing in Northern and Indigenous Communities

4. In our previous submission we highlighted the paradox that the regions with the highest need for broadband (due to the lack of locally available services, such as high schools, hospitals and businesses) are also those with low-speed, expensive, inadequate services, when compared to urban communities. The CRTC's *Communications Monitoring Report 2017* (CMR) provides evidence of these disparities. While the CRTC report does not disaggregate data for remote regions across Canada, it does provide data for the northern territories (Yukon, NWT, and Nunavut). Conditions in these territories are similar to those in remote regions of the provinces.

5. The CMR shows that wireless coverage in the North was lower and that the penetration rate was also lower at 64.5% (subscribers as a percentage of the covered population) than in any of the provinces. Also average monthly wireless service revenues per subscriber were $92.86, higher than in any of the provinces, and 168 percent higher than the lowest provincial ARPU.[1]

6. The CRTC states: "The number of individuals who subscribed to a data plan is a measure of the extent to which Canadians are participating in the digital economy, and provides an indication of the extent to which Canadians are adopting advanced handheld devices such as smartphones and tablets." The number of subscribers with a data plan in the North in 2016 was

[1] CRTC. *Communications Monitoring Report 2017,* Table 5.5.15.

less than 1% of the Canadian total, and the growth from the previous year was only 5.6%, the lowest of any Canadian region.[2] Northerners are clearly not able to participate fully in the digital economy.

7. We note that ISED's stated objectives for this Consultation are to:

- "foster innovation, investment and the evolution of wireless networks by enabling the development and adoption of 5G technologies;
- support sustained competition, so that consumers and businesses benefit from greater choice; and
- facilitate the deployment and timely availability of services across the country, *including rural areas*."[3](italics added)

8. As documented above and in earlier FMCC submissions, remote and Indigenous regions are already far behind urban regions in availability and affordability of both fixed and mobile broadband. We are concerned that some proposals by ISED and by some participants in this consultation will not help to achieve the goal of deployment and timely availability of wireless broadband in rural and remote regions.

Small Market and Lack of Competition in Remote and Indigenous Regions

9. As Shaw and some other participants note: "…the Big 3 continue to dominate the Canadian wireless market, as they have for decades. As of last year, these incumbents – Bell, Rogers and Telus – capture a combined 89% of Canadian mobile wireless subscribers and 91% of the industry's revenues."[4] This domination is even greater in the North. For example, The CRTC *Communications Monitoring Report* for 2017 shows that 99% of retail long distance revenues in the North were captured by the large incumbent TSPs,[5] and one large TSP had 86% of the wireless service subscriber market share in the North.[6]

10. We therefore disagree with TELUS that the Canadian wireless marketplace has benefited from "fierce competition."[7] We note that EORN argues instead that the demand exists for the 5G potential, but it is market failure that may delay its rollout to rural areas.[8]

Spectrum for Remote and Indigenous Regions

11. BCBA states: "The single most effective measure that the Government of Canada can take to promote rural broadband connectivity is to make spectrum available to small, regional, and rural service providers…. Making spectrum accessible to small companies in rural Canada will promote investment, innovation, employment, and economic development in rural Canada."[9] We

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[2] Ibid., p. 307 and Table 5.5.11.

[3] ISED, Consultation on Revisions to the 3500 MHz Band to Accommodate Flexible Use and Preliminary Consultation on Changes to the 3800 MHz Band, June 2018, para 10.

[4] Shaw [4] Shaw Communications Inc. Comments for SLPB-004-18, July 12, 2018, para 9.

3. Ibid., Table 5.2.11.

[6] Ibid., Table 5.5.8.

[7] TELUS Communications Inc. Comments for SLPB-004-18, July 12, 2018, para 11.

[8] Comments by the Eastern Ontario Wardens' Caucus (EOWC) and the Eastern Ontario Regional Network (EORN), July 12, 2018, para 11.

[9] BCBA Comments for SLPB-004-18, July 12, 2018, para 6.

believe that this approach could also enable community and Indigenous providers to offer broadband wireless services.

12. We agree with BCBA and others that the allocation of spectrum should be governed by a framework that enables small, rural, and regional operators to invest in networks that support 50 Mbps services in rural communities, in order to achieve the universal service standard specified in CRTC decision 2016-496.

13. We also note that in many small rural communities, spectrum held by incumbent national providers is underutilized or unused. We agree with Shaw that policies should not reward "spectrum warehousing,"[10] and with Cogeco that spectrum should be assigned to persons willing and able to use it, and that spectrum should then be used or, failing that, reclaimed and reassigned.[11] We propose that any policy to allocate additional spectrum for mobile wireless should require that the spectrum be used within a specified period (not more than three years) or be forfeited.

14. We note that the large TSPs favour auctions. Some participants suggest that some of the funds generated from auctions be used to expand service in rural areas. EORN proposes that the policy and auction process designed to facilitate competition in the market, including the options for smaller carriers to participate. However, we concur with Canwisp, BCBA and some others that small and community providers may not be able to compete in auctions for 5G spectrum or to provide 5G services in the timeframe proposed by large TSPs. As BCBA notes: "By discouraging competitors in small regional markets, auctions have served urban Canadians at the expense of rural communities."[12]

15. We therefore oppose auctions as a means to award spectrum to providers for 5G wireless.

Variety of Technological Solutions

16. We recognize that there are a variety of technologies that can be used to extend wireless broadband in remote regions, and strategies that may facilitate preservation of existing networks. Several participants endorse flexible use of 3500 MHz spectrum. Canwisp and some others have proposed innovative strategies to make efficient use of spectrum. Canwisp proposes a dynamic spectrum allocation model that would allow multiple operators to share spectrum on an 'as needed' or 'spectrum as a service' basis.[13]

17. Others propose flexible use of this band to foster ISED's goals in the Consultation Paper, including "enabling new technology and innovations to evolve, allowing existing services to continue, and supporting the growing demand for new services such as 5G services."[14]

18. We concur, as long as there is recognition of, and accommodation for, conditions in remote and Indigenous regions and technologies currently deployed and likely to remain in use for broadband services in these regions.

[10] Shaw Communications Inc. Comments for SLPB-004-18, July 12, 2018, para 20.
[11] Cogeco Communications, Comments for SLPB-004-18, July 12, 2018 para 21.
[12] BCBA Comments for SLPB-004-18, July 12, 2018, para 43.
[13] Canwisp's Comments for SLPB-004-18, June 2018, p. 3.
[14] See, for example, PIAC , Comments for SLPB-004-18, July 2018, para 12.

Importance of C-band Satellite Services for Remote Regions

19. We recognize the importance of C-band satellite facilities for remote and northern regions as noted by SSi, Telesat, Intelsat, and the CBC. Some other submissions suggest that other frequencies such as Ku-band and Ka-band will suffice for for satellite transmissions. However, as SSi points out, weather conditions in the North make C-band FSS far more reliable as the basis of telecommunications networks. The CBC and SaskTel also point to their continued reliance on C-band satellite services for remote regions. Telesat notes that "demand for C-band satellite services is strong and growing, driven by the explosion in broadband demand and the characteristics of the spectrum, and is supported by a huge investment in space and ground infrastructure."[15]

20. We disagree with submissions of Nokia and Ericsson that generalize from decline of C-band utilization and demand in the U.S., concluding that "…this decline in use, and the availability of alternative transmission options for FSS systems, make the band a great candidate for re-allocation for terrestrial 5G use" (Nokia)[16] and that "the entire 3700-4200 MHz [should be] cleared for licensed flexible mobile 5G service as early as possible" (Ericsson).[17] We also disagree with Bell's recommendation that: "Ultimately … the Department should plan to require FSS systems to relocate and be compressed into a smaller portion of the band with the objective of eventually vacating the band altogether."[18]

21. We agree with SSi Micro that "for the foreseeable future any sharing ISED could consider in this frequency band must make certain to protect existing FSS users."[19]

The Relevant Parameters are not Timelines, but Availability and Affordability

22. Several participants have commented on the specifics of ISED's proposals of longer timelines for notification of withdrawal of 3500 MHz fixed services and frequencies in rural regions than for urban areas. However, we reiterate that our concern is not with timelines, but with *available and affordable alternatives* to provide high quality broadband service in these regions and communities.

23. As SSi points out, in addition to the question of whether 5G equipment is *available* at certain times, it is also relevant to consider whether the deployment of 5G equipment will be *feasible in Canada's North,* both economically and in terms of meeting implementation challenges posed by distance and climate, in similar timeframes.[20]

24. Therefore, we reiterate that services and frequencies for internet and broadband in the 3500 MHz band using fixed wireless and satellites should not be withdrawn in rural, remote and Indigenous regions and communities until reliable and affordable wireless broadband of at least 50 Mbps download and 10 Mbps upload is available using alternative technologies.

[15] Comments of Telesat Canada for SLPB-004-18, July 12, 2018, para 4.
[16] Comments of Nokia for SLPB-004-18, July 12, 2018, p. 13. and submission of Ericsson.
[17] Comments of Ericsson Canada Inc. for SLPB-004-18, July 12, 2018, p. 6.
[18] Comments of Bell Mobility Inc. for SLPB-004-18, July 12, 2018 , para 6.
[19] Comments of SSi Micro Ltd. for SLPB-004-18, July 12, 2018, para 43.
[20] Ibid, para 16.

Conclusion:

25. We conclude that:

a. The limited availability and high prices for broadband in remote and Indigenous communities limit opportunities for their residents to participate in the digital economy.

b. The allocation of spectrum should be governed by a framework that enables small, rural, and regional operators to invest in networks that support 50 Mbps services in rural communities.

c. Any policy to allocate additional spectrum for mobile wireless should require that the spectrum be used within a specified period (not more than three years) or be forfeited.

d. We oppose the use of auctions to award the spectrum addressed in this consultation to providers for the reasons explained above.

e. We concur with some flexible use of this spectrum as long as there is recognition of, and accommodation for, conditions in remote and Indigenous regions and technologies currently deployed and likely to remain in use for broadband services in these regions.

f. C-band satellite services remain important for broadband access in remote regions, and therefore policies affecting this frequency band must protect existing FSS users.

g. Services and frequencies for internet and broadband using the 3500 MHz band (e.g. fixed wireless and satellite services) should not be withdrawn in rural, remote and Indigenous regions and communities until reliable and affordable broadband of at least 50 Mbps download and 10 Mbps upload is available using alternative technologies.

26. We appreciate the opportunity to participate in this consultation, and would be pleased to provide additional information. Our email contact is **info@firstmile.ca.**

***** End of submission *****