Telecom Notice of Consultation CRTC 2019-406

Call for comments regarding potential barriers to the deployment of broadband-capable networks in underserved areas in Canada

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Reply Comments of the First Mile Connectivity Consortium

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I. Executive Summary

E1. The First Mile Connectivity Consortium (FMCC) is an incorporated independent not-for-profit national association. Our members are First Nations Internet service providers known as "community/regional intermediary organizations" whose work focuses on digital infrastructure and services in rural and remote regions and communities across Canada.

E2. FMCC stresses that while the major telecommunications companies deliver reliable services to most urban Canadians, it is also important to recognize the essential role that Indigenous and non-profit telecom providers play in rural and remote communities. The regions in which they operate have always represented a challenging business case – there is little profit to be made by commercial telecommunications companies in small remote and rural communities.

E3. This submission responds to points raised by other parties in this proceeding regarding topics raised by the Commission in its notice, then additional barriers, and finally more general issues. We submit proposed questions for the Commission to consider in its Requests for Information to parties. We also include a copy of an FMCC Document titled "Broadband Fund Overview Document (FAQ for Community Engagement)".

Bandwidth, Reliability, Redundancy: The Lessons of Covid-19

E4. Since the Commission initiated this proceeding, Canada has experienced the impact of the coronavirus pandemic. The reliance on telecommunications for health care, education, work, and business in remote and northern regions has strained providers. FMCC's members have experienced increased bandwidth demand and note the importance of highly reliable networks and of network redundancy.

Wholesale Access to Transport Services:

A Monopoly is a Monopoly

E5. Community and Indigenous service providers generally need access to fibre transport networks provided by ILECs in cases where the cost of installing their own networks is prohibitively expensive. However, lease charges are generally very high, as regulation of wholesale fibre transport services has generally been forborne. This forbearance is based on the false assumption that all wholesale fibre facilities are potentially competitive.

E6. However, it is often prohibitively expensive (and inefficient) to duplicate backbone networks. In cases where a transport network is installed to connect an otherwise unserved community, it becomes a monopoly that should be regulated. On this issue, FMCC finds itself in agreement not only with other relatively small providers but also with large competitive broadband providers.

E7. The ILECs argue that all wholesale capacity, even in rural and remote regions, should remain unregulated because: (a) there is the potential for facilities-based competition; and (b) they could not afford to serve these regions if they had to provide wholesale access to other

providers. Surely both of these arguments cannot be true simultaneously. Moreover, we disagree with the premises underlying each of them.

E8. We also disagree with the assertions made by commercial TSPs that the Commission's wholesale policies have reduced incentives to private investment in high-cost service areas. This reliance on hypothetical facilities-based competition resulting in ongoing ILEC transport monopolies has not resulted in extending reliable and affordable broadband to many rural and remote communities.

E9. We agree with the recommendations that the CRTC should regulate wholesale transport pricing, particularly in Northern regions. We also concur with TekSavvy that transport services are essential services, and that the 2019 Policy Direction provides the necessary policy support for this approach.

Multi-Network Monopolies

E10. We also note the unusual circumstance where one ILEC operates two networks serving communities in the Mackenzie region of the NWT: the Mackenzie Valley Fibre Network (VFML) and a legacy microwave network.

E11. We note that one commercial provider has found the fibre bandwidth and pricing a significant improvement; however, we question why, according to Indigenous and regional organizations, the fibre link has not produced significant results for consumers in smaller communities, consumer packages and pricing remain unchanged, and several communities along the fibre are not yet connected.

Open Access: Need for Clarification

E12. We note that several providers agree with us about problems with unclear definitions of Open Access.

Building for Future Demand.

E13. Including dark fibre in new networks and providing access to existing dark fibre can help to allow for future demand. We agree with proposals for more comprehensive tariffs to facilitate access to dark fibre at affordable prices.

Trenching; "Dig Once"

E14. We note that some other parties echoed our call to recommend 'Dig Once' policies so that roads and other rights-of-way do not have to be repeatedly dug up to lay conduit.

Access to Support Structures:

Costs, Delays, Confusion

E15. FMCC members and numerous other providers in this proceeding have noted barriers in access to support structures owned by third parties, including varying standards, delays in obtaining access, and pricing for preparatory works, leases, and maintenance. Further, there are differences between the pricing for access to ILEC poles and for utility and municipal poles.

E16. We agree with several parties that the Commission should initiate a new proceeding to review and renew ILEC support structure tariffs.

E17. We note that timely access approvals to support structures can be a significant barrier, and agree with interveners who propose deadlines for processing applications and, where deadlines are not met, that applicants should be permitted in commence installation work.

E18. Numerous interveners note the disparities between access to ILEC-owned structures under the jurisdiction of the CRTC, and access to utility and other poles over which the Commission has no authority. Several providers point out that attachment rates are generally significantly higher for utility poles than for ILEC poles. FMCC notes that these price increases are particularly onerous for small northern providers. Varying standards between utility and telecommunications pole requirements such as pole height may also impede network installation.

E19. We think interveners can agree that the rules and procedures for access to ALL support structures, regardless of ownership, need to be simplified and harmonized. We agree that amending the *Telecommunications Act* may be optimal, but recommend that the Commission immediately investigate all plausible solutions.

Indigenous Issues

The Role of Indigenous Providers

E20. Residents of rural, remote, Northern and Indigenous communities should not be restricted to act only as consumers of infrastructure and services – they can also act as producers, owners, and operators. We note that several Indigenous organizations in addition to FMCC are participating in these proceedings, and are pleased to see support for First Nations and Indigenous telecommunications providers from several interveners.

E21. We strongly disagree with implications that small and Indigenous providers may not be capable of constructing and managing their own networks. In fact, many non-commercial service providers, including FMCC member organizations, have a long and successful history of operating in high-cost service areas.

Consultation and Engagement

E22. Providers have a duty to consult with First Nations and other Indigenous communities before undertaking work on their lands.

E23. We noted in our submission, that in the U.S., carriers providing services on Tribal land must also show that they have fulfilled a Tribal Government Engagement Obligation. Similar compliance should be required by the CRTC.

E24. As an Appendix to these Reply Comments, we submit an Information sheet that FMCC prepared including context and suggested questions that local leadership might consider when approached by telecommunications service providers regarding broadband projects in their communities. We suggest that the Commission consider including either that or a similar document with the same goals, as a resource for all consultation and public engagement activities carried out by recipients of the Broadband Fund and other public funding.

Training and Capacity Building

E25. We note the need to train Indigenous and other community residents who can then be hired for operations and maintenance in remote communities. This training would both reduce costs to providers and create jobs in the communities. Commercial providers could also contract with local organizations to provide this support.

E26. However, in the case of commercial TSPs, government should not fund training, but rather should make training and subsequent employment a condition of accessing public funding.

Funding Issues

Operational Subsidies

E27. In our submission, we stated that subsidies are required to ensure that pricing is affordable for remote communities. We noted that in Canada, unlike the U.S., there are no programs to address affordability in high cost areas or for low income customers. We are pleased that several providers agree with us that funding programs should provide subsidies for operational costs where even with capital funding, revenues will not be sufficient to cover operating costs.

Competition for Broadband Funds

E28. We recognize that the approach the Commission has chosen to select successful applicants for the Broadband Fund (sometimes called a "beauty contest") is not perfect, and requires significant time and expertise to evaluate and compare proposals. However, as explained in our submission to this proceeding, we believe that a reverse auction would not be a more appropriate model.

Lack of Diverse and Redundant High-capacity Access

E29. While incumbent providers may not engage in undue discrimination with respect to wholesale access to upstream connectivity, the incumbent's nonrecurring charges to upgrade

its facilities and the high cost of recurring service represents de facto, if not de jure, discrimination against remote area providers. In a market failure situation, as is the case in remote areas of Canada, the only feasible option is public or non-profit ownership, control and operation of upstream network facilities. Funding should therefore be available for these networks.

Eligibility for Funding

E30. We agree with several parties that the funds application process should be streamlined, and that municipalities, co-operatives, and other providers demonstrating the capability to deploy broadband infrastructure should be eligible to receive direct funding to do so.

Oversight

E31. We have emphasized in previous submissions concerning the Commission's Broadband Fund that there must be ongoing oversight of funded projects, including not only audits of expenditures, but reports by third parties (not the recipient of funds) on whether projects have been completed as specified, and on metrics including quality of service and pricing.

The Need for Accurate and Accessible Data

E32. We agree that more complete and up-to-date maps are required to show location of facilities and wireless spectrum coverage. We also agree with several parties that support is required to allow non-incumbents to identify, find and access existing infrastructure, tower-space and co-location. This should include dark fibre and conduit.

Research

E33. We **agree** with several interveners that the Commission should conduct, support and/or advocate for research activities.

Comments on Other Related Issues that involve Jurisdiction by ISED

Mobile Spectrum Allocations:

E34. We **agree** with several interveners who call for more inclusive spectrum processes and steps to make it easier for smaller providers to secure spectrum in rural and remote areas.

Spectrum Set-Asides for Indigenous Territories

E35. We agree with participants who highlight the need Indigenous access to spectrum. As noted in our submission, and by others, the FCC is making 2.5 GHz spectrum available on a priority basis for Native American Tribes and Alaska Natives in what it calls the 2.5 GHz Rural Tribal Window. We believe a similar program could be very advantageous for Canadian Indigenous communities.

Satellite Licensing Conditions

E36. We recognize that new technologies, including new generations of satellites, may help to close broadband gaps in remote regions. We **agree** that regulatory processes must not restrict the availability of these services and technologies to Canadians in remote communities.

E37. We reiterate our position that LEO licensees should provide public benefit. In the past, Indigenous non-profit telecommunications providers serving rural and remote communities have been able to access 'Public Benefit' satellite capacity as a condition of the orbital licenses required to launch satellites.

The Need for Collaboration

E38. We agree with several parties who have pointed to the need for a more collaborative approach to providing broadband in rural and remote regions. The "thriving ILECs" have typically only installed or upgraded networks in rural and remote regions if their costs were subsidized by public funds.

E39. We need to move away from the adversarial divide between for-profit and not for profit providers. If the objective of Universal Basic Service was to lift large portions of the population out of poverty, this objective will happen a lot faster when Indigenous ISP's are supported in a manner that recognizes their uniqueness. It is time to invest in networks that the communities own, manage, and control.

II. General Comments, Summary and Introduction

1. The First Mile Connectivity Consortium (FMCC) is an incorporated independent not-for-profit national association. Our members are First Nations Internet service providers known as "community/regional intermediary organizations." Our associate members are university and private sector researchers and others interested in Indigenous and community communications and telecommunication services for the public good. Our work focuses on innovative solutions to digital infrastructure and services with and in rural and remote regions and communities across Canada. More detail about our members and activities is available at: http://firstmile.ca

2. As noted in our Intervention, FMCC stresses that while the major telecommunications companies deliver reliable services to most urban Canadians, it is also important to recognize the essential role that Indigenous and non-profit telecom providers play in rural and remote communities. The regions in which they operate have always represented a challenging business case – there is little profit to be made by commercial telecommunications companies in small remote and rural communities.

3. This submission responds to points raised by other parties in this proceeding on potential barriers to the deployment of broadband-capable networks in underserved areas in Canada

(CRTC 2019-406). We first address specific topics raised by the Commission in its notice, then additional barriers, and finally more general issues that should be addressed if affordable and reliable broadband is to be available to all Canadians, as specified in the Commission's *Telecom Regulatory Policy CRTC 2016-496: Modern telecommunications services – The path forward for Canada's digital economy*. We also submit the FMCC Document titled "*Broadband Fund Overview Document (FAQ for Community Engagement)*" in Appendix 2.

III. Bandwidth, Reliability, Redundancy: The Lessons of Covid-19

4. We have emphasized the importance of broadband for rural and Indigenous development in our submission for *CRTC 2019-406* and in several previous CRTC proceedings, including *CRTC 2012-699*, *CRTC 2015-134*, and *CRTC 2017-112*. We note that several other interveners in this proceeding have also emphasized the importance of broadband for rural economic and social development.

5. Since the Commission initiated this proceeding, Canada has experienced the impact of the corona virus pandemic, as health care providers strive to treat people with COVID-19, and efforts to isolate endangered populations and shelter in place increase reliance on telecommunications for health care, education, work, and business. The reliance on telecommunications in remote and northern regions has strained providers to offer sufficient bandwidth for telemedicine to connect remote clinics with hospitals and specialized expertise, to enable students to continue their education at home as schools closed, to enable employees and entrepreneurs to work from home, and to allow residents to stay in touch with friends and relatives who can no longer travel, to order supplies online, and to seek entertainment during long periods of confinement in often crowded households.

6. During the pandemic, FMCC's members have experienced increased bandwidth demand for these and other online services, many of which require symmetrical bandwidth for videoconferences and interactive learning and online health care. They also recognize the importance of highly reliable networks and of network redundancy for critical health care and first responder applications -- services that are not available in many remote locations.

7. Many of the issues discussed below constitute barriers to meeting these requirements, which are now more important than ever in remote and Indigenous communities.

IV. Wholesale Access to Transport Services:

A Monopoly is a Monopoly

8. Community and Indigenous service providers generally need access to fibre transport networks provided by ILECs in cases where the cost of installing their own networks is prohibitively expensive. However, lease charges are generally very high, as regulation of wholesale fibre transport services has generally been forborne since 2011.[1] This forbearance

[1] This forbearance applies across the territories of the large ILECs, with the exception of Northwestel. Northwestel offers a Wholesale Connect service pursuant to tariff.

is based on the false assumption that all wholesale fibre facilities are potentially competitive. This makes no sense – particularly in rural and remote regions, it is often prohibitively expensive (and inefficient) to duplicate backbone networks. In cases where a transport network is installed to connect an otherwise unserved community, it becomes a monopoly that should be regulated.

9. FMCC finds itself in agreement not only with other relatively small providers but also with large competitive broadband providers. For example, Shaw states: "…where a service provider is attempting to negotiate access to wholesale transport services in a monopolistic wholesale market, negotiations may result in access being granted to the competing service provider, but only at monopolistic rates that negatively impact the service provider's ability to compete effectively in the region" (para 48).

10. FMCC member organizations have confronted similarly high rates. For example, FMCC member Western James Bay Telecommunications Network (WJBTN) states that it paid $9.33 per MB to Bell Canada in 2010 and $15.35 per MB (for 2 GB service) to Bell/Ontera in 2020. Whereas the price of wholesale bandwidth has decreased dramatically elsewhere, it increased significantly in that region. At the same time, demand has increased substantially, especially since the COVID-19 pandemic, such that WJBTN now needs 10 GB circuits.

11. The ILECs argue that all wholesale capacity, even in rural and remote regions, should remain unregulated because: (a) there is the potential for facilities-based competition; and (b) they could not afford to serve these regions if they had to provide wholesale access to other providers. Surely both of these arguments cannot be true simultaneously. Moreover, we **disagree** with the premises underlying each of them.

12. We also **disagree** with the assertions made by commercial providers including Bell Canada, Northwestel, TELUS and Cogeco that the Commission's wholesale policies have reduced incentives to private investment in high-cost service areas. Bell Canada states that: "By far the most significant regulatory barrier to network deployment is the Commission's wholesale regime, which substantially reduces incentives to invest" (para 17). Later, the company argues that: "In our view, the Commission's most obvious and powerful regulatory tool to maximize the positive impact on the Broadband Fund is to restore the incentives to private investment that its mandated wholesale (wireline and wireless) regime has progressively eroded" (para 23).

13. We also disagree with TELUS, which echoes this sentiment: "Mandating below market transport rates in a competitive environment will hurt this already challenging business case and will keep broadband-capable infrastructure from being built in areas that need it most" (para 47).

14. We emphasize that this reliance on hypothetical facilities-based competition resulting in ongoing ILEC transport monopolies has NOT resulted in extending reliable and affordable broadband to many rural and remote communities.

15. Concerning forbearance of regulation of fibre-based transport, we disagree with Bell Canada's assertion that: "There is no evidence that would support a reversal of the Commission's decisions to forbear from fibre-based transport services" (para 30). The company goes on to state that: "In our experience, transport services terminating in rural and remote areas is a vigorously competitive segment… (para 44).

16. We also reject Bell Canada's spurious argument that "where no transport exists today (for instance the last transport leg to a remote community), there is no one to regulate" (para 31). The issue is not regulation of non-existent capacity, but provision in an equitable and affordable manner of *access to existing capacity.*

17. We **agree** with the recommendations of IRC, Cybera Inc. and others that the CRTC should regulate wholesale transport pricing, particularly in Northern regions. As SSi Micro notes: "It is not appropriate for ILECs in underserved areas to benefit from a presumption that the ILEC should be able to set terms and conditions for competitor access to backbone facilities, gateways and other transport services they offer, without regulatory supervision, because of rulings established by the Commission in very different circumstances and geography" (para 53).

18. The Commission's forbearance decision was upheld in 2015 when it found that "the transport component of wholesale HSA services remains generally duplicable in all incumbent carrier serving regions from an economic, technical, and implementation perspective".[2] However, Beanfield notes an important footnote in that decision:

> "[W]hile the transport facilities that support a disaggregated wholesale HSA service model were previously forborne from price regulation on a national basis, *there is a risk that, in specific geographic markets, there may be limited availability of such facilities*...."[3] (para 4) *(italics added).*

19. We agree with Beanfield that "…the relevant indicator is the presence of *actually-existing competition*" (para 6, *emphasis added*) and SSi Micro which states: "In underserved markets "… the standard should be that facilities must be offered on a just and reasonable wholesale basis. The Commission should consider forbearance only if the transport facilities in question have actually been duplicated by competitors" (para 43).

20. We also concur with TekSavvy that transport services are essential services, and therefore that the "Commission [should] order the ILECs, who are the only ubiquitous suppliers of transport services, to provide transport services on a mandated basis and subject to tariffed terms and conditions, including regulated rates" (para 22).

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[2] Review of wholesale wireline services and associated policies, Telecom Regulatory Policy CRTC 2015-326, 22 July 2015, paragraph 135.

[3] Note 4: Telecom Regulatory Policy CRTC 2015-326, footnote 3, paragraph 149.

21. We also agree with ITPA that the 2019 Policy Direction provides the necessary policy support for this approach, since it includes the goal to:

> "(iv) reduce barriers to entry into the market and to competition for telecommunications service providers that are new, regional or smaller than the incumbent national service providers" (para 26).[4]

Multi-Network Monopolies

22. We also note the unusual circumstance where the ILEC (Northwestel) operates two networks serving communities in the Mackenzie region of the NWT. As the Inuvialuit Regional Corporation (IRC) explains, the Mackenzie Valley Fibre Link (MVFL) was funded by the Government of the Northwest Territories (GNWT), is owned by the GNWT, and is operated by Northern Lights General Partnership (NLGP), a consortium of which Northwestel, the incumbent regional carrier, is a major partner. A microwave network owned and operated by Northwestel also serves the Mackenzie Valley.

23. Iristel has found that capacity and pricing are significantly improved on the MVFL presumably for bandwidth to backhaul their mobile traffic, compared to Northwestel's microwave network which offers regulated Wholesale Connect pricing.

24. However, IRC states that the MVFL pricing structure for wholesale prevents competition and restricts smaller providers. Furthermore, they point out that the CRTC does not regulate MVFL wholesale transport pricing. IRC has found that MVFL has "not produced significant results for consumers in smaller communities", and that service packages and prices are identical in Inuvialiut communities connected to MVFL and to the microwave network (para 7). The NWT Association of Communities adds that "Communities along the Mackenzie Valley Fibre Line need to be connected. We are unsure why this has not already occurred" (para 7).

25. Northwestel states that the company's Wholesale Connect – a mandated transport service, "allows competitor access to all our transport facilities… at prescribed rates, terms, and conditions" (para 23). It goes on to note that "this tariff service means that competitors automatically benefit from improvements we make to our transport network" (para 24). However, it appears that Northwestel has managed to control retail pricing and access to additional bandwidth on both the MVFL fibre network and its microwave network.

Open Access: Need for Clarification

26. In our intervention, we pointed to problematic and unclear definitions of 'Open Access'. We note that other parties also highlight this challenge. We agree with Beanfield's call for clarification and specificity of open access obligations:

[4] Direction to the CRTC on Implementing the Canadian Telecommunications Policy Objectives to Promote Competition, Affordability, Consumer Interests and Innovation P.C. 2019-803, SOR/2019-227.

"We note that various funding programs impose open-access requirements on grantee networks, yet *no standardized model for the network layers at which such access is to be granted exist*. Nor, particularly in the case of network subsidized by third-party government and commercial funders, is there any recurring means for imposing these requirements, short of cumbersome contractual means, exist. In our view, the Commission could add certainty and reduce administrative burden involved in these programs by (a) specifying at which layers (ducts, support structures, etc.) such access is to be granted, and (b) establishing a regulatory category for such publicly-funded networks, on which it would then have the ability to impose such open access obligations as are appropriate pursuant to section 24 of the Telecommunications Act" (para 8, *emphasis added*).

Building for Future Demand

27. Existing backbone networks in the North have typically been built without enough additional capacity for growth in demand. Even fibre networks may have insufficient capacity. For example, in northern Ontario Bell's backbone engineering of a fibre backbone did not anticipate residential and anchor institution demand. Accordingly, five years after lighting up the backbone, its electronics are end-of-life. "The store," as one Telco representative put it, "is empty." [5]

28. Inclusion of dark fibre in new networks and access to existing dark fibre can help to prepare for future demand. We also **agree** with BC Broadband Association's call for the Commission to consider a more comprehensive tariff mechanism for access to layer-2 or dark fibre at affordable prices.

"Dig Once"

29. We agree with Cybera, which echoed our call to recommend 'Dig Once' policies so that roads and other rights-of-way do not have to be repeatedly dug up to lay conduit for communications networks and public utilities.

V. Access to Support Structures:

Costs, Delays, Confusion

30. Numerous participants in this proceeding have noted barriers in access to support structures owned by third parties, including varying standards, delays in obtaining access, and pricing for preparatory works, leases, and maintenance. Further, there are differences between the pricing for access to ILEC poles and for utility and municipal poles, the latter of which are typically set by provinces or local bodies. FMCC members have also experienced these difficulties.

[5] Ibid, p. 2.

31. We **agree** with interveners who state that support structures should be considered an essential public good, and can be considered a natural monopoly. For example, according to ITPA: "Optimal use of ILEC support structures such as telephone poles is an important public interest issue. Such optimal use ensures that the need for the installation of parallel pole lines is greatly diminished" (para 33).

32. Shaw states: "The fact is, broadband networks and the vital services they enable are simply not possible without the physical infrastructure that supports the cables, wires, antennas and other equipment that propagate the RF and digital signals across the country and around the world. This is why the Commission has deemed support structures a "public good" – their role, going back to the earliest days of telecommunication service in this country, has been integral to the development of the economic and social fabric of Canada" (para 8).[6]

33. Cogeco comments that "Indispensable and indivisible as they are, poles and conduits collectively form a natural monopoly. Consequently, to increase the supply of universal service objective-level services in all areas of Canada, and to reduce the costs associated with extending broadband networks, primarily in underserved regions, poles and conduits must be shared between competitors, and *access must be given to non-owner users on the same terms and conditions as the incumbents*" (para 43, *emphasis added*).

Timeliness of Information and Access Approvals

34. We **agree** with Shaw's characterization of the importance of timely access approvals to support structures:

> "The most significant barrier to accessing support structures is timeliness of access….Five key shortcomings in the current support structure tariffs facilitate these delays: mandated permit application response times are subject to abuse and gamesmanship, some applications for support structure access are exempt from mandated response times, there exists a lack of timelines surrounding make-ready work, a lack of accountability for capacity-based access denials, and dispute resolution mechanisms that are ineffective and lack oversight" (para 10).

35. We **agree** with Cogeco's proposal that "a reasonable maximum delay of six months could be imposed on ILECs for processing access permit applications" (para 52).

36. We also **agree** with ITPA's proposal that "if the ILECs do not meet the tariffed timelines for pole permits, the Applicant should be permitted to commence installation work on the poles for which it has requested permits" (para 36).

37. Concerning pricing for access to utility poles, several providers note that attachment rates are generally significantly higher for provincial utility poles than ILEC poles. This pricing disparity is a major barrier in Ontario, where prices to access Hydro One poles are set by the

[6] Telecom Decision 2008-17, Revised regulatory framework for wholesale services and definition of essential service, paragraph 90: "Services in the public good category are those that the Commission has determined provide an important social benefit and are, therefore, mandated."

Ontario Energy Board. These price increases are particularly onerous for small northern providers. FMCC member WJBTN notes that Hydro One prices have increased from $22.35 in fall 2018 per annum per pole attachment to $43.63 per pole. Several other providers in this proceeding serving Ontario have cited the impact of this increase to more than $43. However, for WJBTN, "the issue isn't whether we can access the poles…it's whether we can afford the 100 percent increase in attachment fees." The implications are significant, as now WJBTN faces the necessity of increasing its proposed broadband rates to its customers in remote low income communities.

38. Other small and competitive providers in Ontario **agree** with FMCC. ITPA comments: "Hydro One's pole rental rate has quickly and perversely doubled in the past few years. This rate increase has resulted in a material blow to the operating expenses of all carriers that use Hydro One's poles, with the notable exception of Bell Canada. Bell Canada has an exclusive pole rental agreement with Hydro One" (para 4). Rogers specifies that "the current annual rate to attach to a pole in Ontario owned by Bell Canada is $12.48; the annual rate payable by a competing carrier to attach to an identical pole owned by an electrical utility is $44.50" (para 25).

39. We **agree** with ITPA that: "The Commission should … determine whether Bell Canada is giving itself and/or Hydro One or Hydro-Québec an undue or unreasonable advantage over third parties wishing to obtain access to Bell Canada telephone poles. These agreements should be placed on the public record" (para 40).

40. We **agree** with TBayTel that "access to support structures in a cost effective and timely manner is fundamental to the efficient construction of fibre based broadband facilities in rural areas in Northern Ontario" (para 14). TBayTel elaborates: … "In Ontario, the final costs for pole replacement costs are not typically known at the time of a funding application or at the time of the execution of the contribution agreements…. Unless carriers commit funds and initiate detailed engineering estimates before projects are approved (and cannot recover a portion as an eligible cost), there is an inherent risk associated with the contracted project cost and financing structure at the project inception" (para 11).

41. Xplornet also notes the high charges for utility pole access set by Ontario Energy Board and states that time to access utility poles is 6 to 8 times longer than to gain access to ILEC poles" (para 40).

42. In northern Manitoba, in part due to the uncertainty and potentially high cost of installing fibre on poles, FMCC member Clear Sky Connections decided to bury its fibre network. Manitoba Hydro Telecom Communications (MHTC) requires any new attachments to a pole to meet the current codes for height and spacing. The typical cost to replace a pole and move the existing attachments is approximate $25,000 per pole. Clear Sky has found that even to replace one pole per km, it is often cheaper to install fibre underground. For example, an estimate for an 8 km span in Split Lake amounted to $356,280 plus materials, working out to roughly $55 per metre, including materials and splicing. Clear Sky's fibre project scheduled for completion in 2020 of about a 75km buried fibre run from Thompson to Nelson House,

will cost about $32 per metre, including materials and splicing, with no ongoing pole attachment fees.

43. Varying standards between utility and telecommunications pole requirements such as pole height may also impede network installation. In order to run fibre, phone and hydro lines, the poles in the community must be at a certain height. We note that in some communities in the James Bay region, the poles are below regulation height so that fibre cannot be strung aerially unless the poles can be replaced, and replacement costs are significant. Nor can fibre be buried because of frost heaves. In this terrain, fibre must be buried below the frost line, at a depth of about fifteen feet.

44. Other interveners raised similar challenges. For example, CCSA requested the "simplification of support structure attachment rules where safety considerations do not apply (e.g. attachment of fibre to existing strand)" (para 8). The Eeyou Communication Network (ECN) referenced the "lengthy and often opaque support structure permit processes" (para 2).

45. Concerning utility poles, Rogers argues that "competitive carriers do not have the benefit of the pole-sharing arrangements enjoyed by the ILECs and therefore have very little power when it comes to negotiating pole attachment agreements with the electrical utilities. These agreements, which are, for the most part, standard across the industry, are presented with a "'take it or leave it' proposition, leaving the carriers with no choice if they want to use the poles. They are very one-sided and have onerous provisions (in addition to annual fees)" (para 27).

46. Numerous interveners note the disparities between access to ILEC-owned structures under the jurisdiction of the CRTC, and access to utility and other poles over which the Commission has no authority. TELUS, an ILEC, claims that "By applying the support structure access regime only to ILECs, the Commission bestows an undue preference on all carriers who are not ILECs and subjects ILECs to a corresponding unjust discrimination" (para 64). We **disagree**.

47. However, Shaw, which is not an ILEC, argues the opposite: "these [ILEC] tariffs established a paternalistic regime that, in Shaw's view, sees ILECs act as gatekeepers of support structure access that creates barriers for the deployment of broadband networks by licensees on a timely and affordable basis" (para 15). We **agree** with Shaw.

48. We also **agree** with Cogeco's related argument that "ILECs cannot only have rights, while [competitive] carriers only have obligations" (para 63).

49. We **agree** with Cybera Inc. and Shaw that the Commission should initiate a new proceeding to review and renew ILEC support structure tariffs (see Shaw, para 72), particularly since the last review of such rates was determined through *Telecom Decision 2010-900* – released 10 years ago.

50. We **agree** with TELUS that "The Commission should work with provinces to harmonize support structure attachment rates" (section 4.1). TELUS states that it supports the recommendation of the Broadcasting and Telecommunications Legislative Review Panel that the *Telecommunications Act* "be amended to empower the CRTC to review and vary the terms and conditions of access to the support structures of provincially regulated utilities, to ensure non-discriminatory arrangements"[7] (para 59).

51. We **agree** with Rogers that: "While the Commission does not currently have jurisdiction to address the terms and conditions of support structure access imposed by electrical utilities, the Commission can and should take immediate steps to address current barriers to timely and cost-effective access to ILEC poles" (para 39). As Cogeco concludes: "ILECs cannot only have rights, while [competitive] carriers only have obligations" (para 63).

52. In addition, **we think all can agree** that the rules and procedures for access to ALL support structures, regardless of ownership, need to be simplified and harmonized. We recognize that the solution may not be straight forward; nevertheless, several interveners have proposed various steps to accomplish this goal. Shaw, Rogers, TELUS and others propose legislative solutions to amend the *Telecommunications Act*. ITPA, Cogeco, and others propose co-ordination between the Commission and other authorities. Cogeco proposes that: "The Commission should collaborate with provincial public utility tribunals and municipal utility owners in order to develop and put in place an inter-jurisdictional regulatory framework" (para 82).

53. ECN proposes that "the Commission create a sub-committee that reviews the end-to-end process for access to key infrastructure such as poles and towers, as well as the conditions of access ILECs determine such as preparatory works" (para 16).

54. We **agree** that amending the *Telecommunications Act* may be the optimal solution, but urge the Commission to immediately investigate all plausible solutions to coordinate between federal, provincial and municipal jurisdictions.

VI. Indigenous Considerations

The Role of Indigenous Providers

55. Residents of rural, remote, Northern and Indigenous communities should not be restricted to act only as consumers of infrastructure and services – they can also act as producers, owners, and operators. FMCC believes that these populations must have opportunities to utilize digital communications infrastructure and services not just as an enabler of economic development in other industries and services, but also as a locally-owned and managed resource in and of itself.

[7] *Canada's communications future: Time to act*, Innovation, Science and Economic Development Canada, recommendations 36 and 37; online: https://www.ic.gc.ca/eic/site/110.nsf/eng/00012.html.

56. We note that several Indigenous organizations in addition to FMCC are participating in these proceedings, including Eeyou Communication Network, Inuvialuit Regional Corporation, and Robinson Huron Treaty Litigation Fund. We are also pleased to see support for First Nations and Indigenous telecommunications providers from various interveners in these proceedings. For example, the Canadian Electricity Association (CEA) submitted that: "CEA recommends that the Commission continue providing financial support for new Telecom entrants, especially First Nations, who will build in remote and rural areas" (para 23). Other parties who supported the efforts of Indigenous service providers included PSBN Innovation Alliance & Halton Regional Police Service, Cybera Inc., and the Internet Society.

57. Given the successful initiatives of Indigenous and other small providers in extending and upgrading services to remote communities, we strongly **disagree** with Bell's assertions:

> "We have also witnessed instances where prospective providers in remote areas have run into difficulties that may be, at least in part, of their own design. In one case, we are aware of a prospective broadband deployer that appears to have built an overly optimistic business case in terms of customer penetration and operational costs. In another, we have had discussions with a small broadband operator who, having won deployment funding, felt overwhelmed by the actual operations of a network and the provision of customer service…. we simply wish to stress that deploying and running a broadband network requires engineering and business know-how" (para 15).

58. In fact, as Bell Canada is well aware, many non-commercial service providers, including FMCC member organizations, have a long and successful history of operating in high-cost service areas. They have demonstrated both technical and business acumen that is reflected in the complex network infrastructures and telecommunications services that they provide in some of the most challenging terrain in Canada.

59. Also, by enabling and supporting the delivery of infrastructure and services by non-profit providers in rural/remote regions, Bell and other commercial TSPs gain several benefits, including:

- Reducing costs through training and employing local residents;
- Contributing to local and regional economies, which in turn create additional demand for their services;
- Improving infrastructure through partnerships to increase redundancy and path diversity in local access and regional backhaul networks; and
- Demonstrating their corporate social responsibility through tangible benefits to affected communities.

Consultation and Engagement

60. We believe that providers have a "duty to consult" with respect to project proposals that impact Indigenous territories and on reserve lands. As ECN states:

> "All communities should not only be made aware of any proposed projects in their communities, but should be part of the decision-making process. They should have the opportunity to participate in the determination of who gets funded for broadband development or upgrade so that their specific needs are met, as well as provide an opportunity for counter proposals to be made" (para 22).

61. We also **agree** with ECN's recommendation that: "Any application to a federal funding program such as Connect to Innovate or the CRTC Broadband Fund should be both published and made publicly accessible. It should involve a duty to consult for any project in Indigenous territories and on reserve lands" (para 20).

62. We **agree** with the Internet Society's statements with respect to consultation, partnerships and engagement, namely its suggestions that:
    - thorough and meaningful consultation be done on community-by-community basis;
    - the Commission establish an Indigenous affairs bureau at the CRTC (similar to the FCC's Office of Native Affairs and Policy - ONAP); and
    - the Commission improve and enforce accountability standards.

63. We note that consultation can also help to resolve issues concerning access to facilities on Indigenous lands. For example, the Economic Development Officer of Wunnumin Lake First Nation in Northern Ontario stated: "These poles are on our land, in our community. We have the authority to use them. Why do we have to ask Hydro for permission to string a cable on them?" (p.59).[8]

64. We note that the Robinson Huron Treaty Litigation Fund submits that greater education and outreach is required for the benefit of Lake Huron First Nations communities.

65. In our submission, we pointed out that in the U.S., carriers providing services on Tribal land must also show that they have fulfilled a Tribal Government Engagement Obligation. They must demonstrate that they have coordinated with the Tribal government and provide a report documenting the following:

    - Needs assessment and deployment planning with a focus on Tribal community anchor institutions;
    - Feasibility and sustainability planning;
    - Marketing services in a culturally sensitive manner;
    - Compliance with Rights of way processes;
    - Compliance with Land Use permitting requirements;
    - Compliance with Facilities Siting rules;
    - Compliance with Environmental Review processes;
    - Compliance with Cultural Preservation review processes; and

[8] Rowlandson, John. (2020) "Getting up to Speed in 19 Sioux Lookout Area First Nations." Unpublished report, p. 59. March.

- Compliance with Tribal Business and Licensing requirements (p. 7).

We believe that similar compliance should be required by the CRTC.

66. As proposed in our intervention, we believe that a specific definition of "Duty to consult" should be developed in this context. As an example of issues to be addressed, we submit in Appendix 2 an Information sheet prepared by FMCC that includes context and suggested questions that local leadership might consider when approached by telecommunications service providers regarding broadband projects in their communities. We submit this as a resource for the Commission and other interveners for review and comment. We suggest that the Commission should include this, or a document with similar goals, as a resource for all consultation and public engagement activities carried out by recipients of the Broadband Fund and other public funding. The purpose is to ensure that Indigenous and other communities in rural and remote regions are aware of the potential impacts and opportunities of publicly-funding broadband infrastructure projects affecting them.

Training and Capacity Building

67. In past interventions we have strongly advocated for capacity development for local technicians. Training local technicians and developing local capacity is required on an ongoing basis and must be considered an essential requirement for every project. The COVID pandemic highlights the need for immediate responses to local network and infrastructure issues especially in remote and rural communities where telecom providers have been unable to dispatch repair people due to lockdowns.

68. We **agree** with ECN's recognition of the need to support ongoing training:

> "The Broadband fund presently stipulates the funding may be used for only one year of training personnel. While ECN appreciates the gesture, one year is rarely sufficient in regard to training technicians and other staff, particularly in regions that are far from urban centres. Not only do many communities lack the necessary resources for training programs, workshops and courses, thus requiring people to travel south for training, but staff retention can also be a challenge. To ensure long-term and viable Internet operations, a commitment to develop local expertise and capacity is crucial" (para 25).

69. As well, we propose that the Commission require recipients of public funds to provide an annual report on the progress and number of trained local employees as a condition of funding.

70. We **agree** with Rogers on this issue:

> "It is also difficult for service providers to provide the necessary ongoing operational support to remote communities once they are connected. … One possible solution to this problem is for service providers to enter into arrangements with local partners (e.g., a local indigenous community, nearby ISP, other local entity) whereby the local entity could be contracted to provide the required operational support. In support of such

arrangements, public funding could be provided for training local entities to fulfill this role. An ancillary benefit of this approach is the creation of new jobs in communities with limited economic opportunities" (para 16).

71. However – we wish to state a caveat with respect to Rogers' proposal. If the approach put forward by Rogers would save money as well as create jobs, we recommend that, in the case of commercial TSPs, government should make training and subsequent employment a condition of accessing public funding.

72. More generally, we **agree** with CCSA's suggestion for a "review of human resource requirements related to a multiplicity of new network construction projects throughout Canada and implementation of a training and resource development plan geared to meeting those requirements" (para 8). We believe any such review should pay particular attention to strategies for training and employment of residents of Indigenous communities.

VII. Funding Issues

Operational Subsidies

73. As stated in our submission (paras 133-139), we believe that subsidies are required to ensure that pricing is affordable for remote communities. In Canada, unlike the US, there are no programs to address affordability in high cost areas or for low income customers. PIAC proposes targeted subsidies (para 129), such as the FCC's Lifeline program, which subsidizes low income residents for access to voice and broadband services. The FCC also authorizes operational subsidies for carriers serving high cost regions.

74. We are pleased that several parties (including Rogers, the British Columbia Broadband Association (BCBA), CCSA, and Cybera Inc) agree with us that the Broadband Fund should support operational funding in High-Cost Service Areas. For example, **agree** with Rogers' statement that funding programs should provide subsidies for operational costs where it is demonstrated that, even with capital funding, revenues will not be sufficient to cover operating costs. Sasktel similarly proposes operational subsidies where needed:

> "it may be prudent to establish a high-cost serving area regulatory bargain with an obligation to serve and on-going technology upgrade and maintenance and operations cost recovery subsidy to ensure these customers receive service. In this regard, the CRTC may wish to look at other jurisdictions such as Europe for best practices in broadband program design to ensure that Canadians in these areas do not continue to be left behind" (para 18).

75. As pointed out in our submission, targeted subsidies for institutional users, such as the FCC's E-rate program for schools and libraries, also improve affordability for these important institutions that provide access to children and community residents. In Alaska, these subsidies also provide a major revenue source for carriers so that they can provide connectivity for isolated villages.

76. Such subsidy programs are critical to enable providers to offer affordable broadband to remote communities. We urge the Commission to propose both targeted user subsidies and operational carrier subsidies as mechanisms to enable providers to operate and maintain their networks reliably while providing affordable broadband services.

Funding for Diverse and Redundant High-Capacity Access

77. FMCC urges the Commission to invest in public and nonprofit cooperatively owned upstream networks to major Interexchange points, as well as providing funding to support interconnection of small rural ISPs in remote and rural areas to these upstream networks to allow for aggregation of demand and economies of scale for all remote providers.

78. For example, in Ontario's remote Far North, competitive wireline options for affordable and reliable high-capacity connections to major Internet Interexchange Points are unavailable. Requests to the incumbent provider have been met with notifications that capacity was unavailable, and costly upgrades to existing network facilities would be required. Upgrade costs have ranged in the millions for wireline connectivity, requiring over a year to complete. Where a temporary microwave solution could be made available, upgrade costs were in the half-million dollar range and required months to complete. Assuming that a customer could pay the nonrecurring upgrade costs, recurring costs for 1-Gigabit service have ranged from approximately $75,000 to $175,000 per year. Without funding support in the form of grants and subsidies, these costs must be spread across a limited subscriber base of remote communities, raising the monthly cost of retail Internet service to a level that may be unaffordable for many residents.

Competition for Broadband Funds

79. We **disagree** with PIAC's proposal for a Reverse Auction process. We recognize that the approach the Commission has chosen to select successful applicants for the Broadband Fund (sometimes called a "beauty contest") is not perfect, and requires significant time and expertise to evaluate and compare proposals. However, as explained in our submission to this proceeding, we believe that a reverse auction would not be a more appropriate model. We note that several other interveners in these proceedings similarly reject a reverse auction.

80. FMCC has previously noted that in Alaska, the FCC's reverse auctions for mobile and broadband services in remote and Tribal regions resulted almost exclusively in bids from only a single incumbent provider. There was no competition, and no participation from small or Indigenous providers. Thus the "auctions" did not result in minimizing the subsidies to serve those regions, nor in encouraging new entrants to provide services.

81. The procedural rules and reverse auction bidding algorithms are multilayered and complicated. The carriers who have the most money to retain advice are more likely to prevail. Other requirements may also discourage small and Indigenous providers. The reverse auction subsidy payment method – monthly over a ten-year period – and the high cost of a required letter of credit to guarantee deployment during the timeline allowed, heavily favour the largest carriers that are able to provide internal funds for deployment and working capital.

82. While reverse auctions have been used in other countries to provide incentives to serve rural or other high cost regions, bidders have typically been large national or multinational operators rather than small or nonprofit entities.

83. Further, reverse auctions may encourage bidders to underestimate costs or cut corners to prevail. As the U.S. National Telephone Cooperative Association (NTCA) and other U.S. rural providers have stated: "A bidder who offers to provide broadband service at the lowest cost will be tempted to cut costs to the bare minimum by, among other things, skimping on investment and limiting service quality. Such a "race to the bottom" encourages sub-standard service and may not keep consumers' best interests foremost in the business plan." They add that reverse auctions may leave " rural consumers dependent on whether the lowest bidder's business case turns out sound enough to sustain, expand, and upgrade its operations."[9]

Eligibility for Funding

84. We **agree** with several parties, including Rural Municipalities of Alberta, Winnipeg Metropolitan Region, and Cybera Inc. that municipalities, co-operatives, and other providers demonstrating the capability to deploy broadband infrastructure should be eligible to receive direct funding to do so.

85. We agree with the Internet Society's statements with respect to challenges related to funding and funding criteria, namely the need to:

- Streamline application processes;
- Allow for new community networks and encourage partnerships; and
- Make payments of the majority of payments from the Broadband Fund upfront rather on a reimbursable basis (also noted by Cybera).

86. This point was also made by CCSA, which recommended the "implementation of an extremely simplified application and monitoring process for grants for small network building projects" (para 8).

87. We also agree with British Columbia Broadband Association's (BCBA) call to urge the Government of Canada to direct publicly-controlled lending institutions to support rural broadband projects proposed by small- to medium-sized carriers.

Oversight

88. We have emphasized in previous submissions concerning the Commission's Broadband Fund that there must be ongoing oversight of funded projects, including not only audits of

[9] NTCA et al. "Reverse Auctions: A Bad Deal for Rural America." http://w-t-a.org/wp-content/uploads/2010/07/Reverse_Auctions_011011.pdf

expenditures, but reports by third parties (not the recipient of funds) on whether projects have been completed as specified, and on metrics including quality of service and pricing.

89. Too often the major TSPs fail to deliver their proposed projects. For example, "The Bell Canada/Nishnawbe Aski Nation (NAN) partnership was unable to complete the he Northwestern Ontario Broadband Expansion Initiative (NWOBEI) build to five Matawa First Nations. As a result, four of these five communities – Eabametoong, Marten Falls, Neskantaga, and Webequie – are still served with satellite bandwidth. Unprecedented demand for broadband services in these communities necessitates an upgrade. Telesat has confirmed that it can deliver 105 Mbps, but prices a one-year contract at $146,652."[10]

VIII. The Need for Accurate and Accessible Data

90. We emphasize the need for timely and meaningful methods for updating data as it is reported by providers. Federal resources convey detailed information about broadband infrastructure by providing access to summative geo-spatial data using on-line platforms. The CRTC's current fixed broadband and transport and broadband in-reserve mapping tools highlight service development requirements for achieving universal service objective levels and outline community-based LTE, 5 Mbps and 50 Mbps availability. For example, in Northwest Ontario: "When consulting these resources about the NWOBEI build regional and community-level information was found to be out-of-date and incorrect."[11]

91. We **agree** with parties including Winnipeg Metropolitan Region and ECN that support is required to allow non-incumbents to identify, find and access existing infrastructure, tower-space and co-location. As noted by Cybera Inc., this should include dark fibre and conduit.

92. As Teksavvy notes: "Efficient network planning is impeded by lack of timely access to support structure information, including maps and drawings" (para E17).

93. We note the intervention from NOWLC-NET Cooperative Limited, which provides one model for such a database. It describes how France's regulator, ARCEP, maintains a detailed map of FTTH deployments. Operators provide ARCEP with detailed data on their deployment of fibre optic networks. All of the underlying data is part of the government's Open Data initiative and is available for download.

94. We **agree** with FCM's suggestion that:

> "the Commission … utilize the Request for Information (RFI) process as a first step to building a public national database of existing transport structures controlled by large service providers and provincial utilities. This will help the Commission better

[10] Rowlandson, John. (2020) "Getting up to Speed in 19 Sioux Lookout Area First Nations." Unpublished report, p.3. March. https://knet.ca/sites/default/files/Download%20Final%20Report%20on%20Northern%20Broadband%20Services%20March%202020.pdf

[11] Ibid, p.19.

understand regional differences, and will assist governments in assessing local conditions and the capacity of existing infrastructure assets. More transparency with respect to existing assets and services will assist all levels of government with information they need for evidence-based decision making at national, regional, and local levels" (para 13).

IX. Research

95. We **agree** with the Internet Society's recommendations that the Commission should conduct, support and/or advocate for research activities that would:

    - Create an inventory of communications technologies resources and services to share experiences, best practices and lessons learned.
    - Gather reliable statistics and non-anecdotal data on Internet usage in underserved areas.
    - Examine the state of connectivity in Indigenous communities to identify successes and areas for improvement.
    - Provide open access to data from telecommunications companies on things like fibre nodes that could help inspire connectivity solutions.

96. We similarly **agree** with the Canadian Rural Revitalization Foundation and Rural Policy Learning Commons comment that Canada lacks critical information, research, and evaluation performed and provided regarding the availability and adoption of broadband services. To address this requirement, we **agree** with their recommendation that the Commission:

    "Allocate a specific portion of the Broadband Fund to support longitudinal data collection and analysis, research, and evaluation – and work with all orders of government to ensure that any other funding initiatives related to telecommunications services include allocated funds for the same" (p. 10).

X. Comments on Other Related Issues that involve Jurisdiction by ISED

Mobile Spectrum Allocations:

97. We **agree** with several interveners, including the Inuvialuit Regional Corporation (IRC), CCSA, ECN, and Cybera Inc., that called for more inclusive spectrum processes and make it easier for smaller providers to secure spectrum in rural and remote areas.

98. IRC stated that the existing spectrum management regime imposes onerous, impractical conditions for sub licensing unused spectrum. We **agree** with IRC's recommendation that the CRTC (working in collaboration with ISED) should require spectrum licensees to sublicense unused spectrum at reasonable terms.

99. We also **agree** with the BC Broadband Association's call to ensure small carriers can access low- and mid-band spectrum. This point was also made by CCSA, which recommends the:

> "development and implementation of a spectrum plan to support quick and affordable access to spectrum needed, on a localized basis, to support extension of existing rural networks with fixed wireless facilities" (para 8).

Spectrum Set-Asides for Indigenous Territories

100. We **agree** with statements from parties including Cybera Inc., the Internet Society, and Robinson Huron Treaty Litigation Fund with respect to Indigenous access to spectrum. For example, ISOC suggests that the Commission should:

- Work with ISED to ensure Indigenous governments / entities have first rights to spectrum over their lands;
- Reallocate unused spectrum for Indigenous use; and
- Make spectrum easier to access for community networks.

101. As noted in our submission, and referenced by others including ISOC, Cybera, and Robinson, the FCC is making 2.5 GHz spectrum available on a priority basis for Native American tribes and Alaska Natives in what it calls the 2.5 GHz Rural Tribal Window:

> "This window is a unique opportunity for Tribes in rural areas to directly access unassigned spectrum over their Tribal lands, subject to buildout requirements. The 2.5 GHz band is suitable for both mobile coverage and fixed point-to-point uses, and is currently used to provide broadband service by legacy educational licensees and commercial providers that lease the spectrum…."[12]

102. We note that as of July 7, 2020, **70 Native American applicants** have filed applications, demonstrating strong interest in this program.[13] We believe a similar program could be very advantageous for Canadian Indigenous communities.

103. Concerning the need for more accurate spectrum coverage maps for Indigenous regions, we note the errors and omissions pointed out by Robinson which states, for example: "At present, the most basic information is missing as illustrated by the spectrum block in the western part of the Lake Huron First Nations treaty territory in and around Sault Ste. Marie" (para 26). We **agree** with their recommendation:

> "In light of the similar experience of tribal governments in the United States of America, we recommend that the CRTC examine more closely the data maps presented by the Federal Communications Commission that illustrate some of the transparency measures described herein. Within the FCC "tribal priority" platform, a wide range of information can be quickly gathered…." (para 27).

[12] Source: https://www.fcc.gov/25-ghz-rural-tribal-window

[13] See: https://www.fcc.gov/25-ghz-rural-tribal-window-submitted-applications

Satellite Licensing Conditions

104. We recognize that new technologies, including new generations of satellites, may help to close broadband gaps in remote regions. We **agree** with IRC that the Commission should ensure that its regulatory processes do not restrict "the availability of these services and technologies to Canadians in remote communities, including those services provided by non-Canadian companies, beyond what restrictions are necessary to ensure, safe, secure, and affordable communications in Canada" (para 17).

105. We also note Iristel's critique of LEO satellites:

> "Telesat has announced a project to provide connectivity through a network of LEO satellites by as early as 2022. However, the technology remains untested. It remains to be seen if Telesat's LEO constellation will have sufficient capacity and throughput to provide the bandwidth need for residential broadband Internet service at 50Mbs/10Mbs with no download cap….It also remains to be seen whether the service will be priced in such a way as to make this type of service financially feasible...."

106. We reiterate our position that LEO licensees should provide public benefit (FMCC paras 157-170) – a statement also supported by Cybera Inc. In the past, Indigenous non-profit telecommunications providers serving rural and remote communities have been able to access 'Public Benefit' satellite capacity as a condition of the orbital licenses required to launch satellites. For example, Telesat's two Anik F-series satellites occupied two of Canada's four orbital positions, and a group of Indigenous organizations (K-Net in Ontario, Broadband Communications North in Manitoba, and the Kativik Regional Government in Quebec) formed the Northern Indigenous Community Satellite Network (NICSN) to leverage the public benefit obligations associated with their licenses to support their cooperative satellite network.

107. Concerning limitations of current satellite capacity, while we generally endorse the CIRA Internet Performance Test, we point out that some FMCC member organizations report that some satellite-served communities cannot even load the test, due to limited satellite bandwidth.

XII. Concluding Comments: The Need for Collaboration

108. We **agree** with several parties who have pointed to the need for a more collaborative approach to providing broadband in rural and remote regions. For example, the Federation of Canadian Municipalities (FCM) writes:

> "Although policies that aim to promote facilities-based competition may remain relevant for urban markets, those that promote cooperation and risk sharing through efficient use and deployment of infrastructure will be increasingly important" (para 6).

109. The PSBN Innovation Alliance & Halton Regional Police Service proposes a Community Safety Broadband Investment Model (CSBRIM) that "fosters First Nations participation in telecom services … [the] CSBRIM models also provide a framework for First Nations P3 collaboration with Public Safety and utilities, rail and Critical Infrastructure in a common telecom investment and spectrum ownership strategy – to help foster First Nations led service providers in rural and remote regions" (para 15). We look forward to learning more about this innovative collaborative model.

110. We also **agree** with Rogers about the need for collaboration among stakeholders:

> "The challenge of broadband connectivity in rural and remote areas cannot be solved by any one entity, sector, technology, or program. Streamlining processes and greater collaboration among stakeholders is required. Rogers believes that 'Network BC', the broadband funding program used by the government of British Columbia, is an effective alternative model that should be considered for use in other federal and provincial programs. Unlike more conventional funding programs that use an onerous application process and allocate funds to the lowest bidder, Network BC uses a more streamlined application process. It also acts as an extremely helpful resource for understanding the existing connectivity landscape and it is open to consultation on proposed projects. Network BC promotes the development of broadband deployment solutions through collaboration between government and service providers, an approach that is lacking in other programs" (para 49).

111. We note that some parties have proposed a complete re-examination of assumptions underlying current policies and regulations for rural and remote broadband. PIAC concludes that: "The present incremental, collective approach will be costly, but provide only marginal improvement." (para 33).

112. ECN and SSi Micro challenge the ILEC-based model. ECN requests that "the Commission acknowledge that the traditional ILEC-based model for Canadian telecommunications has not served rural and remote regions well, and that the consideration of alternative models for service provision be considered, including the development of policy and funding mechanisms that require publicly funded projects offer fair and open access to their facilities, without undue delays or obstacles to access" (para 4).

113. SSi Micro similarly argues that the Commission should "recognize that the standard ILEC-based model for Canadian telecommunications will not extend service in the future any better than it has in the past", and that to address this, should "commit to supplementing necessary investments with policies that require open access, providing incentives for the construction of open access facilities" (para 3). SSi Micro explains that:

> "In our view, the core problem is one of mindset. The Commission's current regulatory approach is rooted in the belief that a single operator with a protected source of revenues is the approach to follow in serving remote areas. This is, to be clear, an approach that denies innovation, investment, choice and competition…

This belief is evident in regulatory decisions that perpetuate the following presumptions:

- First, the application of the ILEC business model, adopted when ILECs had a protected monopoly and then adapted to ensure that the ILECs continue to thrive even as competition enters into some of their service and geographic markets, as the standard approach to offering telecommunications services in this country; and

- Second, the presumption that it is appropriate to permit an ILEC serving in a high-cost area to pursue that same model, shifted from the previous "ILEC protected monopoly" to the more recent "ILEC will always thrive" model, adapted only by making allowances for the extra cost of operating in a more challenging environment" (para 15-16).

114. We **agree** with these analyses. The "thriving ILECs" have typically only installed or upgraded facilities in rural and remote regions if their costs were subsidized by public funds. For example, TELUS notes that: "In 2019 alone, TELUS made a $95 million investment, which includes a financial contribution of $25.7 million from the federal Connect to Innovate and provincial Québec Branché programs" (para 12). Thus more than one-quarter (27 percent) of this funding came from government sources. A contribution from public funds should not be framed as an "investment" by a private-sector company.

115. ILECs continue to ask for protection from regulation as monopoly providers (discussed above) and to more public funds. For example, TELUS states that: "the cost to close the digital divide, by the Commission's own estimates, is at least $8 billion. The funding gap will need to be made up by more funding from the general revenues of federal, provincial, territorial, and municipal governments and other organizations" (para 14).

116. We propose that commercial TSPs should collaborate – rather than compete – with the public and non-profit providers. Rather than competing for the same public funds, commercial providers should support the efforts of non-profit providers that are not required to make a profit, but rather can operate on a 'break-even' basis.

117. We conclude with the remarks of FMCC member WJBTN about the need to eliminate an "adversarial divide" between these parties:

> "The adversarial divide arises from the regulations governing the two very different business models … regulations adhered to by for-profit corporations and those adhered to by not for profit corporations.
>
> For decades, the for-profit telecom companies have not invested in remote communities because the return on investment is not fast enough to warrant it. They have a responsibility to their shareholders to make money. To fill the service gap, not -for- profit telcos have entered the sector in recent decades to offer services for their people….
>
> When the CRTC brought in the idea of Universal Basic Service …what was the objective? I think this is the question we all need to go back to. That means

everybody…the big telcos, government, you, me, corporations, not for profits, all citizens. We need to move away from the adversarial divide between for-profit and not for profit telecommunications providers. If the objective of Universal Basic Service (UBS) was to lift large portions of the population out of poverty…this objective will happen a lot faster when Indigenous ISP's are supported in a manner that recognizes their uniqueness.

This means changing the guidelines which restrict our ability to participate in the funding that is available. We are not asking for the bar to be lowered…we want our own bar, period. Why should we have to compete with a multi-million dollar for profit corporation for funds? Why are we even on the same playing field?"

118. In a market failure situation, as is the case in remote areas of Canada where investment in facility upgrades by private sector incumbent carriers will not meet internal rate of return thresholds compared to other more attractive investment opportunities -- effectively rendering access by area ISPs to competitively priced service non-existent -- the only feasible option is public or nonprofit ownership, control and operation of upstream network facilities. Public and nonprofit systems are not driven by short-term gains and high internal rates of return. They exist to fill gaps and serve the public benefit, requiring only that system operations can break even and fund reserves for renewal and repair. Funding these types of networks benefits the federal and provincial governments and taxpayers because the systems cost less.

119. We believe that continuing to fund commercial telecommunications companies to deliver the required infrastructure and broadband connections in these communities is futile. The major telcos have received billions in public funding since the 2001 release of the *National Broadband Task Force Report* where they claimed they could connect every community in Canada in four years. Twenty years later, there are still unserved and underserved communities across Canada. FMCC members and other Indigenous and northern providers are ready to do this work It is time to begin investing in local and regional networks that the communities own, manage and maintain.

XIII. Conclusion

127. We thank the Commission for the opportunity to contribute to this consultation and request the opportunity to participate in any associated follow-on proceedings.

Appendix 2: FMCC Document – FAQ from Community Broadband

First Mile Connectivity Consortium
PO Box 104
Fredericton, NB E3B 4Y2
http://www.firstmile.ca
Phone toll-free: 1-877-737-5638 X 4522

Broadband Fund Overview Document (FAQ for Community Engagement)

This document is designed as a resource for Indigenous communities in Canada. It provides information about Broadband Development – internet connectivity – with a focus on key issues that Indigenous leadership should be aware of when approached by organizations proposing government-funded broadband (internet) projects.

Recent government funding programs require community engagement and consultation for Broadband Projects – including ensuring that Aboriginal and treaty rights are considered.
Since the earliest days of the internet, Indigenous peoples have pointed out its importance in areas such as self-determination and cultural/language revitalization. Over the years Indigenous groups have also successfully advocated for policies to introduce new technologies and services in their communities. Along with providing adequate, affordable access to the internet, these efforts have argued for Indigenous ownership and control over digital services – with the result that Indigenous internet service providers have emerged across Canada.

This document was developed by a national association of these First Nations technology organizations. The **First Mile Connectivity Consortium** (FMCC) is an incorporated independent not-for-profit national association. Our members represent First Nation communities, and are responsible to community leadership in their region. In total, they represent the interests of more than 200 First Nation communities in rural and remote areas across Canada.

FMCC member organizations provide and support the delivery of broadband-enabled public services such as online education and telehealth, as well as entertainment services for household consumers. We have testified in CRTC hearings concerning broadband for rural, remote, and Indigenous regions, and conducted research on broadband uses and requirements in remote Indigenous communities. For details about our members and activities, visit: http://firstmile.ca

To ensure access to reliable and affordable broadband, the FMCC is seeking solutions that involve residents of rural, remote, isolated, northern, and Indigenous communities. We argue for "first mile" solutions in the design, development, and operations of telecommunication infrastructure and services – that is, those which invest in affected communities and regions.

A "first mile" solution contrasts "last mile" initiatives that focus on upgrades to urban infrastructures in the hope that they will eventually serve the remote and rural regions. Despite billions of public dollars invested in corporate telecom "last mile" solutions, many Indigenous communities still lack adequate access. The First Mile approach aims to address this problem.

Broadband Funding in Indigenous Communities

In recent years, the need for digital content and connectivity in Indigenous communities across Canada has received increasing attention. Numerous studies, research reports, and testimony in regulatory proceedings have pointed out the importance of broadband for individuals, families, organizations and businesses.

After years of advocacy by Indigenous and public interest groups, in 2016 the Canadian Television and Telecommunications Commission (CRTC) designated broadband as an 'essential telecommunications service' to be available to all Canadians, and established minimum speeds and optional unlimited data caps.

High-Speed Access for All: Canada's Connectivity Strategy
https://www.ic.gc.ca/eic/site/139.nsf/eng/h_00002.html
In summer 2019, *Canada's Connectivity Strategy* was released. The *Strategy* highlights four funding programs that organizations can access to build broadband networks in rural, remote, Northern and Indigenous parts of the country. Importantly, **many have specific consultation requirements** that community leaders should be aware of.

1) Universal Broadband Fund
https://www.budget.gc.ca/2019/docs/nrc/infrastructure-infrastructures-internet-en.pdf
"The design and eligibility criteria will ensure projects will best meet local needs and demonstrate strong local engagement. Consultations will take place during the first phase to ensure that community needs are met by the Fund and to maximize the impact of public investments. The second phase in 2020 will invite applicants to provide solutions to connectivity gaps in unserved and underserved rural and remote areas." (p.17)

2) CRTC's Broadband Fund
https://crtc.gc.ca/eng/internet/internet.htm
"On June 3, 2019, the CRTC launched its $750 million Broadband Fund. This Fund is accepting applications for projects that include Canada's territories and satellite-dependent communities, where there is a great need for improved broadband and mobile wireless networks. A second call for applications will launch in fall 2019 to support all project types in underserved rural and remote areas throughout Canada."

3) Infrastructure Canada's Rural and Northern stream
https://www.infrastructure.gc.ca/rural/index-eng.html
"Infrastructure Canada's Investing in Canada Plan includes a Rural and Northern stream, which provides up to $2 billion to support various infrastructure projects that improve the quality of life in rural and northern communities. The Rural and Northern stream addresses these communities' specific infrastructure needs, including improved broadband connectivity."

4) Canada Infrastructure Bank
https://cib-bic.ca/en/
"The Canada Infrastructure Bank can support connectivity projects by investing up to $1 billion through funding tools including loans, equity and loan guarantees. These investments can further

leverage at least $2 billion in private investment, making the impact of publicly funded projects and dollars go further."

Consultation and Engagement Requirements

By engaging with applicants to these funding programs, Indigenous communities have opportunities to contribute to decisions about broadband development in their territories. Leaders and administrators can participate in strategic planning regarding how digital connectivity is built, set up, owned, paid for, distributed, managed and used. This process can help internet service providers make decisions on how infrastructure and bandwidth deliver essential services such as e-health and e-learning, as well as residential internet. It can also contribute to long-term economic and community development benefits for residents of Indigenous Nations.

Engagement takes a variety of forms, including surveys, focus groups, community meetings and planning circles. We note some concerns with respect to the community consultation requirements set out in the Broadband Funds described above. Our position is that applicants to these funds should:

- Provide clear information about proposed projects to affected communities.
- Include examples of specific evidence of consultation activities.
- Use "meaningful consultation and informed consent" as the standard in consultations.
- Recognize that a "market study" is not adequate evidence of consultation, since it could be done without any interaction with the community.

Consultation and engagement must provide substantive support for community development. It must be treated as an ongoing relationship between equal stakeholders.

The Government of Canada uses the following definition of consultation, as outlined in "Guiding Principle No. 4" in *Aboriginal Consultation and Accommodation - Updated Guidelines for Federal Officials to Fulfill the Duty to Consult* (March 2011):

> "Consultation and accommodation will be carried out in a manner that seeks to balance Aboriginal interests with other societal interests, relationships and positive outcomes for all partners. A meaningful consultation process is one which is:
>
> - carried out in a timely, efficient and responsive manner;
> - transparent and predictable;
> - accessible, reasonable, flexible and fair;
> - founded in the principles of good faith, respect and reciprocal responsibility;
> - respectful of the uniqueness of First Nation, Métis and Inuit communities; and,
> - includes accommodation (e.g. changing of timelines, project parameters), where appropriate."

We also note the calls to action issued by the Truth and Reconciliation Commission of Canada (TRC). We highlight #92 on "Business and Reconciliation":

> "92. We call upon the corporate sector in Canada to adopt the United Nations Declaration on the Rights of Indigenous Peoples as a reconciliation framework and to apply its

principles, norms, and standards to corporate policy and core operational activities involving Indigenous peoples and their lands and resources. This would include, but not be limited to, the following:

i. Commit to **meaningful consultation**, building respectful relationships, and obtaining the free, prior, and informed consent of Indigenous peoples before proceeding with economic development projects.

ii. Ensure that Aboriginal peoples have **equitable access to jobs, training, and education opportunities** in the corporate sector, and that Aboriginal communities **gain long-term sustainable benefits** from economic development projects (**Emphasis added**).

Topics for Consideration During Community Engagement Activities

To demonstrate mutually beneficial consultation and engagement about Broadband Projects, we recommend that funding proposals require support letters provided by community leadership.

To secure a support letter from community leadership, telecommunications companies should provide the following documents for review:

1) Written Broadband Project proposal
2) Plans for and record of Community Engagement activities

1) Written Broadband Project Proposal

Telecommunications companies should include clear and plain language definitions and explanation of the division of roles and responsibilities of project applications, including details on ownership, operations, and the requirement for meaningful consent with Indigenous communities. We suggest that written proposals include the following information:

- Adequate notice of consultation, including clear timeline
- Summary of proposed project and its impact on the community
- Information to help community representatives prepare for consultation
- Reference to consultation requirements for funding, including Aboriginal and treaty rights, and demonstrate how they have been addressed by the project
- Terms and conditions of any proposed partnership, joint venture or consortium
- Identify which entity will: retain ownership of network assets; be responsible for building network; be responsible for network operation

2) Community Engagement Activities

During community engagement activities, we suggest that Indigenous leaders review and discuss the following topics and questions with telecommunications companies:

Speed: A Moving Target. Requirements for high speed connectivity are evolving rapidly as applications, services and demands of users evolve. Any specific speed targets must be adequate

for online activities currently conducted by individuals, families, and institutions today. They must also be regularly updated to meet changing requirements. For example, cloud-based applications and streaming content (for education and training as well as entertainment) need more bandwidth and more uploading capability than were envisioned a few years ago.

- What download speeds will your project offer?
- What upload speeds will your project offer?
- Will speeds be affected by the number of users in a household? (e.g. people connecting to Wi-Fi to use different devices such as tablets, computers and phones)
- Is it possible for speeds to increase to meet future demand?
- What, if any, cost is involved if speeds increase?

Availability. It is important to ensure that broadband services are made available to everyone in a community – all houses, organizations and businesses, not just those that are easiest to serve. In some cases, services are provided in areas of dense population (e.g. 'downtown'), which leaves people and organizations located outside of such centres disconnected.

- Will service be provided to everyone in a community, or just certain areas, such as areas of dense populations (e.g. 'downtown')?
- What is your plan to connect people in densely-populated areas (e.g. 'downtown')?
- What is your plan to connect people in outlying areas?

Affordability. Broadband projects are of limited value if customers (households, organizations and businesses) cannot afford to use them. Broadband plans must include prices for each community for five (5) years following installation, and a cost structure for any increases in prices afterwards. Retail prices for both households and organizations should be specified.

- What will it cost to install service? (for residential users / for organizations)
- What will it cost for monthly service? (for residential users / for organizations)
- Are there any data caps? If so, what are the limits? What is the cost when a data cap is exceeded?
- Will users be provided with a warning / will service be shut off after data caps are exceeded?
- How are prices determined?

Scalability. Broadband networks should be built so that they can scale up to accommodate more users and/or more bandwidth-intensive uses. To address these needs, companies should state whether they are installing new infrastructure technologies – fibre optics where feasible. In some northern regions, populations are increasing rapidly (although absolute numbers remain small); also, more individuals within households may become subscribers.

- What kind of infrastructure will the project install? (fibre optic / satellite / DSL-copper lines / cable / wireless)
- How long will the infrastructure last?
- Can the infrastructure be updated to meet increasing speed and/or capacity requirements?
- What happens to the broadband system when more people join? Will it slow down or become less reliable?

Quality of service (QoS). Broadband plans must include speed and reliability targets and demonstrate how reliability of networks would be monitored, including data collected at the community level. The CRTC heard cases, as in Northern Manitoba, where broken systems took weeks to fix.

- What are your Quality of Service (QoS) targets?
- How will QoS be monitored?
- How often will QoS be monitored?
- What are the response times for repairs? (e.g. hours, days, weeks)
- Will there be a local technician to support repairs?

Sustainable Community and Economic Development Benefits. There are a number of benefits that communities can receive from Broadband Projects – it is not enough just to gain access to service. Remember that communities are customers for telecommunications companies. These companies are not providing anyone with any favours by accessing public funds to subsidize these connections them, but rather setting up systems to make money.

- Are there any options for community ownership and control of local broadband infrastructure?
- Once the project is completed, what will the community own?
- Will the project lease any community assets?
- Will the project use environmentally-friendly practices and local materials?
- Will the project provide any compensation for use of local rights-of-way?
- What community benefits will the project provide?

In too many cases, residents of rural, remote, Northern and Indigenous communities face little choice in their selection of broadband services. A lack of competition in rural areas is not an inherent characteristic of the broadband technology. Competition should be encouraged if a business case for multiple providers is feasible. Backbone or transport infrastructure constructed with public subsidies should be required to be open access, so that any provider can obtain access at wholesale rates.

- Does the project support local competition?
- Can local providers access infrastructure owned by the Broadband Project?
- Is the infrastructure ‘open access’? Define ‘open access’.
- What is the cost to access infrastructure, if a local provider wants to resell it?

Sustainable Local Employment and Training. Broadband projects should employ local people in both construction and operation/maintenance of facilities and services, and provide training where necessary. These details about employment and training should be included :

- Provide the following details for each employment position:
    - Number of community members to be employed
    - Titles of each position
    - Minimum and maximum duration of employment for each position
    - Salary scale for each position

    - Training to be offered, if required
- The CRTC's Broadband Fund will support up to 1 year of training for technicians in remote communities. Will the project provide any training to local residents?
- Will any short-term jobs (e.g. construction) be created by the project?
- Will any ongoing jobs (e.g. local technician, administrator, marketing) be created by the project?

Written Summary of the Consultation and Commitments. Community leaders should require that the telecommunication companies provide a written summary of the consultation, information provided, issues raised, and any items that required follow-up. Companies should also provide information about how any concerns raised were addressed. Any verbal commitments by the providers should also be documented in writing and provided to community leadership for review and approval.

Opportunities for Negotiation. Communities may want to propose or specify that certain conditions be met before they will provide written support for the project, such as terms for access to land or rights-of-way, provision of facilities for community access, hiring and training of local people for short term and long term jobs.

FOR MORE INFORMATION:

Links to the announcements of projects and calls for applications are given above.

Communities that want assistance in reviewing these opportunities or requirements can contact the First Mile Connectivity Consortium:

Email: info@firstmile.ca

Phone: 1-877-737-5638 X 4522

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