



Submission from the First Mile Connectivity Consortium (FMCC)

**in response to the Call for Comments by:
The Broadcasting and Telecommunications Legislative Review Panel**

**c/o Innovation, Science and Economic Development Canada
235 Queen Street, 1st Floor
Ottawa, Ontario K1A 0H5**

Sent by email: ic.btlr-elmrt.ic@canada.ca

**From:
The First Mile Connectivity Consortium (FMCC)
Box 104, Fredericton, NB, E3B 4Y2**

info@firstmile.ca



The First Mile Connectivity Consortium (FMCC) is an incorporated independent, not-for-profit national association of First Nations Internet service providers serving First Nation communities and representing their residents. Our associate members are university and private sector researchers 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. We work to ensure that regulatory policies guarantee an even playing field for all parties working in the telecommunications sphere, including local and regional organizations, and that prices for those services are affordable for residents of these communities.

For more information, visit our website:

<http://firstmile.ca>

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Executive Summary

Our team at the First Mile Connectivity Consortium (FMCC) was invited to present to the Broadcasting and Telecommunications Legislative Review panel in Halifax on Oct 3, 2018. FMCC board members Susan O'Donnell and Brian Beaton made a presentation based on CRTC and ISED interventions, submissions and publications produced by the FMCC team over the past few years. The FMCC presentation in Halifax (see Appendix 2) was structured around the suggested format recommended by the review panel. The Halifax presentation and this submission should be considered together as the FMCC's comments and recommendations to the Review Panel.

The Review Panel also met with individual FMCC member organizations during the consultation process, and these submissions complement this FMCC presentation. All the legislative issues, challenges and concerns about telecommunications raised by these different FMCC member presentations (First Nations Technical Services Advisory Group Inc. – TSAG in Alberta, and Broadband Communications North – BCN and Clear Sky Connections in Manitoba) exist for most Indigenous communities and their regional technology intermediary organizations across Canada. These experiences were highlighted during the Internet Society international Indigenous Connectivity Summit 2018 held in Inuvik, NWT¹, where a member of the Review Panel discussed the legislative review process and heard from many other FMCC representatives.

Community development and the effective use of Information Communication Technologies (ICT) are common themes highlighted throughout this submission. We discuss and critically analyze the Review Panel questions referencing various Indigenous authors. The submission supports our position that Legislation must consider the Whole Community approach to appropriately address Indigenous telecommunication and broadcasting requirements and desires. Our publication, presented to the Panel members in Halifax, provides a summary of the Whole Community approach to community and technology development in remote and rural Indigenous communities (O'Donnell & Beaton, 2018).

The approach challenges the traditional individual / household unit used by corporations to build their business cases. The Whole Community approach replaces the consumer-driven model of infrastructure and technology development with a community-focused approach inclusive of individuals, families, local organizations, businesses, services, applications, the lands and environment working together as a whole community to address local development priorities. This technology development model is an opportunity to support local economic and social development and create local employment and innovations. Appropriate legislation and resulting programs are required to ensure the Whole Community approach to local

¹ <https://www.internetsociety.org/events/indigenous-connectivity-summit/2018/> and the final report with recommendations at https://www.internetsociety.org/wp-content/uploads/2018/01/2018-01-04_ICs-Report-final.pdf

telecommunication development is an available option for those interested and willing to undertake this type of local economic development.

This submission argues that critical theories from multiple academic fields are required to understand and appreciate the flaws and changes required to Acts of Parliament made after thousands of years of settlement and development of Turtle Island² as a geographic entity. Critical theories can assist in the design, implementation and enforcement of legislation, regulatory materials, programs and their resulting services. These theories can also guide local and regional development of technologies to meet Indigenous community needs. They challenge colonial legal and political approaches to consider and include others who live and survive outside of the comforts of urban, corporate environments created and sustained from the resources extracted from remote and rural regions of Canada.

Technological change in Indigenous communities creates economic and social opportunities and innovation (Beaton, Seibel & Thomas, 2017; Beaton & Carpenter, 2016). Societal changes also help to shape technology so it can better accommodate and respect local needs and desires. The symbiotic nature of the relationship between communities and technology helps to drive developments within each respective environment.

The relationship between communities and communication technologies is complex. Foreign technologies (technologies developed outside Indigenous communities) can often be very disruptive to traditional Indigenous understandings and ways of respecting their relationships with their environment. Indigenous relationships to their lands, waterways and all their relations, are deeply rooted and essential to community members. Communication among all the elements is part of these relationships (O'Donnell & Beaton, 2018; Ramirez, 2000; Simpson, 2014). The desire for equitable access to affordable telecommunication services is grounded in the essential need for communication with others both inside and external to communities. This need is even more pronounced in communities without access to roads and transportation systems connecting them to other services and centres.

Community members understand that they can come up with their own solutions. Community-based solutions grounded in exploring the strengths of communities and individuals are more effective and sustainable than the colonial methods of designing and delivering programs and services from far-away centres (Battiste, 2017; Beaton, McMahon, O'Donnell, Hudson, Whiteduck & Williams, 2016; Beaton & Carpenter, 2016). Recognizing and respecting traditional Indigenous practices and methods for creating and operating local political, economic, social and technological solution results in new opportunities and innovation benefiting everyone (Battiste, 2017; Simpson, 2014). Settler communities and systems gain from these developments through the collaborative and respectful exchange of knowledge and experience flowing between different environments, culture and systems (Beaton & Campbell, 2014).

² An Indigenous concept describing North America where Canada is located.

This submission examines these development opportunities by discussing the three Acts of legislation governing the construction, operation, ownership, and accessibility of telecommunications, broadcasting and radio-communications in Canada. The implications, potential and practical enforcement of these Acts are considered throughout this document, as colonial pieces of legislation benefiting corporations, lawyers and other businesses located in urban “centres of influence.” These pieces of legislation function in a regulatory and administrative environment at the financial expense of communities located outside these centres of influence.

The submission then discusses the construction, ownership and access to telecommunication, broadcasting and radio-communications in remote Indigenous communities. Demonstrating how the technologies regulated by these Acts both support development in these communities. How the communities are shaping technologies to create long-term revenue streams, job opportunities in and for the communities served, creating sustainable solutions and not being a passive consumer of services. As the convergence of the telecommunications industry with the broadcasting of digital content industry moves forward with a corporate agenda, Canadians risk having a very limited and narrow choice of services designed for the benefit of the shareholders of the corporations instead of for the public good.

Indigenous peoples in Canada have a right to telecommunications, in the form of broadband Internet service. The rush to converge these industries by multi-national and national corporate interests requires careful regulations and legislation to protect local and regional citizens and Indigenous rights. FMCC argues that Indigenous peoples and communities have a right to telecommunications services, and this right needs to be recognized and considered in any future regulation and policies related to digital technologies and telecommunications in remote communities. Three milestones related to these rights are the *Canadian Constitution Act* (1982), the federal government's adoption of the United Nations Declaration of the Rights of Indigenous Peoples (2016) and the decision in 2016 by the CRTC (Canadian Radio-television and Telecommunications Commission) that the internet is an essential service for all Canadians.

From a critical perspective the three Acts under review are rooted in colonial constructs and actions. Fortunately, Indigenous scholars have both the knowledge and insight, along with the patience, to guide future developments and legislation to help renew the nation-to-nation relationship, to be inclusive and respectful of Indigenous individuals and communities in regions and nationally.

The fact that the Acts make no mention of Indigenous territory is clear evidence of their deeply colonial nature. We argue further that the Acts in future need to explicitly reference Indigenous rights to territory and that Indigenous nations have the right to determine how telecommunications, broadcasting and radiocommunications are developed on their territories. The invisibility or marginalization of Indigenous peoples in the Acts is evidence that the Acts serve to protect the superiority and corresponding power imbalance of the Canadian state and its institution over Indigenous peoples. The Review panel, to fully understand the unique status of Indigenous peoples of Canada, must do the required work to become fully familiar with the importance of treaty and settler responsibilities in relationship to the treaties that make it possible for Canada to exist as it does today.

The reference in the Act to the need for Indigenous broadcasting in Canada is evidence that it is possible to make some headway within these regulations to have the rights of Indigenous peoples recognized. Understanding the ways Indigenous languages and cultures were repressed and forbidden is an important part of the solution to creating healthy individuals, families, communities, and a society through legislated change. Supporting requirements to regain Indigenous languages is part of the call for "trans-systemic reconciliation" (Battiste, 2017) including the reclamation of identity, ways of knowing and being, and the inclusion of Indigenous knowledge systems within and throughout all levels of the Canadian system. Recognizing in all new Canadian legislation the processes and content presented in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), requires a respectful method for consultation and informed consent to properly and effectively honour any acceptable Acts of Parliament.

FMCC member organizations look forward to future opportunities to continue these discussions to develop legislation that supports and protects local, regional and national telecommunication and broadcasting services to benefit everyone. We welcome the opportunity to work with government officials and their representatives to successfully complete this critical endeavour.

FMCC Recommendations

1. Support in all Federal legislation for digital technology adoption and its sustainable operation (infrastructure and production facilities) in remote, northern and rural First Nation communities, their organizations and regional networks.³
2. Acknowledge in policies, legislation, programs and regulations that Indigenous communities have a long history of building and using digital technologies in innovative, creative ways.⁴
3. Advocate for a "whole community approach" for sustainable digital infrastructure in rural, remote and northern communities. Change existing corporate, urban discussion from individual / household consumer-based focus to a WHOLE community driven opportunity for development and sustainable broadband networks.⁵
4. Community-based organizations must be supported in constructing and maintaining multi-purpose production and broadcasting facilities that FMCC calls local digital innovation centres. Most importantly, policy and regulation must support local Indigenous language multi-media resources produced and distributed by people living in affected communities and regions. Explore ways to identify and support strategies that enable the development of these local multimedia centres designed and sustained by community/regional production and broadcast initiatives, and thereby provide a decentralized, community-focused "first mile" model of digital infrastructure and content production that supports innovation, develops local skills, and creates employment and other participation opportunities among urban, rural, remote, Northern, and isolated communities in progress on the road to becoming a nation of innovators.
5. Support for local production and broadcasting platforms and facilities requires access to new funding mechanisms that create opportunities for Indigenous providers – not just consumers – of digital content and services. FMCC recommends a new fund be developed, tentatively identified as the Indigenous Programming Distribution Fund (IPDF).⁶
6. All legislation must respect and support Indigenous treaties, languages, cultural and traditional practices and understandings in all aspects of telecommunications.

³ "Digital Technology Adoption in Remote and Northern Indigenous Communities in Canada", FMCC Research contracted by Industry Canada/ISED, <http://firstmile.ca/report-digital-technology-adoption-in-northern-and-remote-indigenous-communities-in-canada>

⁴ "Stories from the First Mile: Digital Technologies in Remote and Rural Indigenous Communities", Published in March 2018 by FMCC and FNI, <http://firstmile.ca/new-book-stories-from-the-first-mile-digital-technologies-in-remote-and-rural-indigenous-communities/>

⁵ "A "whole-community" approach for sustainable digital infrastructure in remote and Northern First Nations", Published in October 2018 in Northern Policy Review, <http://www.northernpublicaffairs.ca/index/volume-6-special-issue-2-connectivity-in-northern-indigenous-communities/a-whole-community-approach-for-sustainable-digital-infrastructure-in-remote-and-northern-first-nations/>

⁶ FMCC's response to the Governor-in-Council's request for a report on future programming distribution models (October 12, 2017).- Broadcasting Notice of Consultation CRTC 2017-359. <http://firstmile.ca/fmcc-files-comments-to-crtc-2017-359-on-future-programming-distribution-models/>

7. Basic telecommunications services Canadians require to participate in the digital economy must be in legislation and include: a) speeds of 50 megabits per second (Mbps) download/10 Mbps upload for fixed broadband Internet access services; b) an unlimited data option for fixed broadband access services; c) the latest mobile wireless technology available not only in homes and businesses, but also along major Canadian roads; d) include appropriate funding programs to ensure the establishment and sustainability of community and regional Indigenous broadband networks focusing on underserved and unserved areas.⁷
8. Telecommunication and broadcasting funding programs require appropriate inclusive criteria; representative participation on the review panels; eligibility inclusive of profits, non-profits, band councils, partnerships; in-kind and other funding sources; training and operational costs required for remote and rural communities; equitable and affordable pricing.⁸
9. Review existing mechanisms for funding digital network infrastructure development in remote and northern regions and assess the resulting costs and benefits to Indigenous communities.
10. Ensure equity, adaptability, accessibility, scalable, affordability and sustainability for all Canadians anywhere in Canada.
11. Transition the rural and remote narrative from the current corporate “last mile” to a more inclusive and enabling “first mile” of development for regional infrastructure transport systems and local networks so communities can access the resources they require. This narrative requires a change of policies and regulations to accommodate local Ownership, Control, Access and Possession (OCAP) opportunities from the current corporate and government narrative of “we will take care of you”.
12. Document and revitalize First Nations, Inuit and Métis languages and cultural knowledge as priorities in support of well-being in Indigenous communities. Support local and regional efforts to produce digital content in Indigenous languages in all digital formats including audio, video and print.⁹
13. Support the regional community intermediary organizations that provide technical expertise with the resources required to upgrade, operate and maintain the digital infrastructure in remote and northern Indigenous communities.
14. Ensure every Indigenous community has local technical support available. Recognize the need for training, skills development and capacity-building in every community, at all levels from residents interested in skills and applications for use at home and work to community technicians.

⁷ FMCC’s response to Review of Basic Telecommunications Services (April, 2015 to December, 2016) - Telecom Notice of Consultation CRTC 2015--134. <http://firstmile.ca/first-mile-connectivity-consortium-part-of-crtc-bso-hearings/>

⁸ FMCC’s response to the Development of the Commission’s broadband funding regime (April 25, 2017) - Telecom Notice of Consultation CRTC 2017--112. <http://firstmile.ca/fmcc-file-on-crtc-broadband-fund-development/>

⁹ <http://firstmile.ca/mwc-fni-report-supporting-indigenous-language-and-cultural-resurgence-with-digital-technologies/>

15. Respect and implement all aspects of the Truth and Reconciliation Commission (TRC) and the United Nations Declaration on the Rights of Indigenous People (UNDRIP) contained in the recommendations and articles.
16. Ensure the protection and promotion of the rights of Indigenous people and their communities to access communication platforms and to have the right to choose how they use these media for cultural expression.
17. Support alternative models of distribution by recognizing and working with communities to reserve and allocate licenses and bandwidth for non-profits to provide community, First Nation, Inuit, Métis multimedia in every broadcast zone and distribution platform.
18. Assess the communication ecosystem from license to content to infrastructure to participation. This approach positions digital infrastructure, bandwidth, spectrum, production, broadcasting, platforms, technical aspects and associated capacities as community-managed resources that can be aggregated to support access to sustainable and appropriate communication solutions

1 Telecommunications and its regulation in Canada

1.1 Introduction

The technologies discussed in this submission, broadly grouped by the term "telecommunications," describe the processes, lands, air, infrastructure, software, hardware, devices, and related components required for people separated geographically to share data and information. Telecommunications in Canada is regulated under three Acts of Parliament. The main argument of this presentation is that this legislation, covering telecommunications, broadcasting and radiocommunications, is deeply rooted in a process of settler colonialism and a perspective of technological determinism. In turn, these shape how remote Indigenous communities develop technologies and how they respond to new technologies that become available.

Critical Indigenous theorists believe we are living in a colonial state and use the term "settler colonialism" to describe the ongoing struggle that has yet to be resolved (Coulthard, 2007; Palmater, 2011; Tuck & Yang, 2012). The original people and their different nations were thriving long before the arrival of Europeans more than 500 years ago. For the first 200 to 300 years of European contact that included the fur trade, Indigenous people outnumbered the settlers. But diseases brought by the newcomers, starvation from the over exploitation of the furbearing animals, wars between the European nations over the land and battles to protect their own land from encroachment decimated the Indigenous population (Royal Commission on Aboriginal Peoples, 1996). The Truth and Reconciliation Commission (2015) and the UN Special Rapporteur on the Rights of Indigenous Peoples (Anaya, 2014) have documented how the continued settler colonialism of the Canadian state and society has over the centuries violated the rights of Indigenous peoples in Canada and deprived them of their land, culture, languages, and traditional forms of governance.

According to Murphie and Potts (2003) the meanings now associated with the word "technology" emerged only in the modern era. Karl Marx did not use the word (2003, p. 3) although of course he wrote about labour and machines¹⁰. By the latter half of the 19th century, the word technology came to mean "the system of mechanical and industrial arts" (Murphie and Potts, 2003, p. 3). Over the last century, "technology" came to be seen as applying a body of knowledge or science, to production, or an overall system of machines and systems. Now technology is understood to be so ubiquitous that we are all living in a technological system.

¹⁰ His essay "The Machine Versus the Worker," was reprinted in MacKenzie and Wajzman, 2002.

Individual machines and devices are also called technologies, and anything made by humans is often referred to as a technology (Murphie and Potts, 2003).

Technological determinism considers technology to be separate from social processes and human agency and therefore suggests that Indigenous communities have no choice but to accept the technology and the impact it will have on them. Mackenzie and Wajcman (2002, p. 3) note that "Technological determinism contains a partial truth: technology matters." Technological determinism "refers to the belief that technology is the agent of social change" (Murphie and Potts, 2003, p.11). The term came into use about 100 years ago however the idea is older than that and is linked to the idea of progress. The well-known Canadian communication theorist Marshall McLuhan emphasized the unique properties of mass communication technologies such as radio and television and suggested that they shape the way we interact and see the world. According to Frank Webster (1995) who analyzed theories of the "information society," other theorists whose work reflects a technological determinist perspective include Alvin Toffler, famous for his book about "future shock;" Daniel Bell, who wrote about "post-industrial society;" and Manuel Castells, a major theorist of the "network society."

However critical theories, such as the social shaping of technology, see that technology does not determine societal development but rather is shaped by factors including economics, culture and society, politics, and community. The "social shaping of technology" perspective is considered to be the opposite of, or at the other end of the spectrum from, technological determinism Mackenzie and Wajcman (2002). Social shaping of technology theorists see that technology is shaped by factors including economics, culture and society, politics, and community. Researchers using this perspective have written about how everyday technologies came into common use, illustrating the many economic, political and social events along the way that hindered and accelerated their development.

Despite being understood as opposite ends of a spectrum, technological determinism and social shaping of technology might be better understood as complementary aspects of the same process. Researchers who study the social construction of technological systems have concluded that: "All relations should be seen as both social and technical" (Law and Bijker in Bijker and Law, 1992: 291). What we understand as the social world is interwoven with technology, and similarly, technology is inextricably woven with society. In their book: *Shaping Technology, Building Society: Studies in Sociotechnical Change*, Bijker and Law (1992) suggest that a multi-disciplinary approach is required to understand technological systems. Indeed they believe that the task of understanding technologies in society is urgent.

1.2 A short critical history of telecommunications in Canada

As discussed more thoroughly in books by the authors referenced earlier, in particular Coulthard (2007, 2014), settler colonialism in Canada is a complex network of oppressive and extractive processes and power dynamics. Glenn Coulthard is known for his position that: "For Indigenous nations to survive, capitalism must die" (2014). One of these processes is neoliberalism. Discussing neoliberalism in detail is beyond the scope of this submission. In his early work, *Social Justice and the City* (1973), David Harvey, probably the most well-known

theorist of neoliberalism, proposed that cities and the process of urbanization were processes of capitalism. In *A Brief History of Neoliberalism* (2005) Harvey charts the gradual shift toward economic and social regulations, policies and practices that have increasingly centralized markets and market processes to the interests of capital. Interestingly, Harvey positions the late 1970s and early 1980s as the key era in which neoliberalism began its current position as the dominant political, social and cultural system in the western world. This same period saw the beginnings of the neoliberal system of telecommunications that we have in Canada today.

In his book, *Reconvergence: A Political Economy of Telecommunications in Canada*, Duane Winseck highlights how telecommunications is so much more than the industry's messages that attempts to convince Canadians that it is just about technology and the associated prices for its use (Winseck, 1998). He documents how the telecom industry plays a significant role in the democratic process and how power, politics and the very future of democracy is influenced by the telecommunications and broadcasting industries. Following up his earlier work with their 2007 book, *Communication and Empire: Media, Markets, and Globalization, 1860–1930*, Winseck and Pike document the rise of the global media. They analyze the connections between the development of a global communication infrastructure, the creation of national telegraph and wireless systems, and news agencies and the content they produce. They argue that economic and social factors drove the spread of global media links, including economic booms and busts, initial steps toward multilateralism and international law, and the formation of corporate cartels.

Shepherd, Taylor and Middleton (2014) in their article: *A tale of two regulators: Telecom policy participation in Canada* challenge the Canadian government to support public interest telecom advocacy. “The lack of a clearly-defined public interest has meant that federal regulators have tended to equate the public interest with the economic interest, where consumers tend to stand in for citizens” (Shepherd, Taylor & Middleton, 2014). Lack of support from government agencies and weak engagement by civil society has resulted in technological and content developments being defined with very little input from the public, community or Indigenous perspectives. The result is that new technologies are framed as “individuated media technologies” in place of the “mass forms of media” they involve. Echoing arguments by David Harvey about the growing centrality of neoliberalism over the past four decades, Shepherd, Taylor and Middleton (2014, p. 12) note that: “The shift toward viewing communications technologies as individual has been met with an attendant shift in policy practices and ideologies. Older values of social responsibility requirements, public service, and altruism have often been overtaken by economic framings of the public interest as a kind of consumer protection focused on individual as opposed to collective concerns”.

It is critical now to consider the consequences of telecommunications convergence and content broadcasting on the public and society more broadly. The telecommunications and broadcasting industries have experienced massive transformation over the past several decades (Beaton, McMahon, O'Donnell, Hudson, Whiteduck & Williams, 2016). Multi-national and national telecom corporations with their regional “branch operations” have introduced new business models into the marketplace. Media corporations are constantly expanding and exploring new opportunities through their traditional practices of mergers, acquisitions, and business alliances. These national and global operations enhance their scope by expanding

distribution channels for delivery of services and content. Media content is transformed into many different formats and sold through as many distribution channels or windows in as many geographic markets and to as many paying consumers as possible (Winseck & Pike, 2007).

The Canadian government's attempts to leave the development of the digital economy in the hands of the private sector is clearly demonstrated in their lack of a national broadband strategy or vision. Earlier attempts including the 2001 National Broadband Task Force¹¹ were quickly dismissed by the telecom industry and government. The subsequent 2005 federally-appointed telecommunications policy review panel also prepared a report¹² that was similarly put on their shelf and, for the most part, ignored. As the convergence of the telecommunications industry with the broadcasting of digital content industry moves forward with a corporate agenda, Canadians risk having a very limited and narrow choice of services that are not designed for the public good.

Winseck sees the work of the CRTC in the late 1990s as supporting "technological necessity arguments used to legitimate natural monopolies." He believes that the CRTC used the rhetoric of technological determinism to "conceal the political issues involved in drawing boundaries between communication services made universally available to citizens and those excluded from public service obligations" (Winseck, 1998: p. 32).

1.3 The right of Indigenous peoples to telecommunications

Before moving on to a critical analysis of the three Acts, we first want to establish the fact that Indigenous peoples in Canada have a right to telecommunications, in the form of broadband Internet service. The rush to converge these industries by multi-national and national corporate interests requires careful regulations and legislation to protect local and regional citizens and Indigenous rights. FMCC argues that Indigenous peoples and communities have a right to telecommunications services, and this right needs to be recognized and considered in any future regulation and policies related to digital technologies and telecommunications in remote communities. Three milestones related to these rights are the *Canadian Constitution Act* (1982), the federal government's adoption of the United Nations Declaration of the Rights of Indigenous Peoples (2016) and the decision in 2016 by the CRTC (Canadian Radio-television and Telecommunications Commission) that the Internet is an essential service for all Canadians.

Section 35 of the *Canadian Constitution Act*, 1982 provides constitutional protection to the Indigenous and treaty rights of Indigenous peoples in Canada. Legal expert Brian Slattery defines the generic rights held by all Aboriginal peoples across Canada as a result of Section 35 to include rights to the land (Aboriginal title); rights to subsistence resources and activities; right to self-determination and self-government; right to practice one's own culture and customs

¹¹ The Task Force created by Industry Canada produced the report: "The New National Dream: Networking the Nation for Broadband Access," which was quickly filed away after it was released.

<http://publications.gc.ca/collections/Collection/C2-574-2001E.pdf>

¹² <https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf10029.html>

including language and religion; and the right to enter into treaties (Slattery, 2007). The Senate of Canada published a document examining Section 35 in order to guide their perspective of how these rights must be recognized in legislation (Sanderson, 2017). They declared existing Indigenous and treaty rights of the Indigenous peoples of Canada to be recognized and affirmed.

Canada finally recognized and accepted the 2007 United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) in May 2016, when the minister of Indigenous and Northern Affairs (INAC) officially announced Canada's removal of its permanent objector status to UNDRIP, committing to “fully adopting this and working to implement it within the laws of Canada, which is our charter.” Previously in 2010, the Conservative government leadership UNDRIP was recognized as an “aspirational document,” but retained the government’s permanent objector of the declaration status. The commitment of the current federal government included the review and implementation of UNDRIP in Canadian legislation.

Several of the articles within UNDRIP require careful consideration as the Acts governing telecommunications, radiocommunications and broadcasting are reviewed by the Panel. UNDRIP affirms “that Indigenous peoples are equal to all other peoples, while recognizing the right of all peoples to be different, to consider themselves different, and to be respected as such” (UNDRIP, 2007). To successfully implement UNDRIP in Canada, it is essential for the Panel to include strategies for incorporating the rights of Indigenous people as described in UNDRIP into these Acts. Several UNDRIP articles speak directly to the challenges the current Acts create by completely ignoring Indigenous peoples rights in the legislation. In particular, the UNDRIP Articles requiring recognition include:

- 11.1 (practice and revitalize their cultural traditions and customs);
- 13.1 (revitalize, use, develop and transmit to future generations their histories, languages, oral traditions, philosophies, writing systems and literatures);
- 14.1 and 14.3 (establish and control their educational systems and institutions providing education in their own languages);
- 16.1 and 16.2 (establish their own media in their own languages and to have access to all forms of non-Indigenous media);
- 31.1 (maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures .. intellectual property over such cultural heritage, traditional knowledge, and traditional cultural expressions); and,
- 39. (access to financial and technical assistance from States and through international cooperation, for the enjoyment of the rights contained in this Declaration).

Finally, the third milestone was in December 2016, when the CRTC announced their long-awaited decision on Basic Telecommunications Service for all Canadians, that the Internet is an essential service for all Canadians. FMCC’s role in contributing to the CRTC deliberations that led to that decision is discussed later in this submission. After having made the case that Indigenous peoples have a right to broadband internet, we will now turn attention to a critical examination of the three Acts of Parliament under review.

1.4 A critical analysis of the Acts

As will be clear from the discussion in the remainder of this submission, from a critical perspective the three Acts under review are rooted in colonial constructs and actions that are reflected throughout their documents and activities. Fortunately, Indigenous scholars have both the knowledge and insight, along with the patience, to guide future developments and legislation to be inclusive of Indigenous individuals and communities in regions and nationally. The three theorists discussed here are all widely respected and recognized scholars. Two are Indigenous women working in Canada: Marie Battiste and Eve Tuck. The third is a scholar and practitioner in the US: John McKnight.

Marie Battiste's 2017 book *Decolonizing Education: Nourishing the Learning Spirit*, helps us understand the concepts necessary for all legislation to be decolonized and inclusive of everyone instead of the privileged few. Battiste demonstrates, through her personal journey, how each of us need to go beyond our colonial understanding of history to a more detailed deconstruction of our entrenched Eurocentric beliefs and ways of understanding. These traditional epistemologies reinforce stereotypical ways of understanding. Battiste believes the political, social and economic realities Indigenous people and communities know intimately and struggle with daily require immediate correction; these realities did not end when the last residential school closed in 1996. Battiste highlights how Indigenous people daily face "cognitive imperialism" that permeates and dominates the entire Canadian system.

Another important education theorist is Eve Tuck and her articles, "Suspending Damage: A letter to communities" (2009) and "Decolonization is not a metaphor" (with Wayne Yang, 2012). Tuck (2009) challenges everyone to move to a "desire-centred" approach. Community development, service provision, political and legal efforts need to replace their traditional "damage-centred" approaches, assumptions and biases and work with others outside of their familiar and comfortable environments. She writes to Indigenous communities in the hope they will begin to replace imposed solutions with their own priorities that they desire and require. Tuck and Yang (2012) argue that any "decolonizing" effort means the repatriation of land from settler nations to Indigenous peoples. This important work that needs to be undertaken by Canada is different from "anti-colonial" efforts and tools of colonialism such as racism, sexism, heterosexism, and militarism. Anything else, they argue would be another "move to innocence" or the ways settlers seek to insulate themselves from historical and ongoing colonization. Decolonization then cannot simply be a metaphor for resisting any and all oppression, it is about doing the work required to reconfigure and repatriate the land to its original caregivers as documented in the original treaties between the nations.

John McKnight (1995) writes about the industry of professional service providers in his book, *The Careless Society: Community and Its Counterparts*. He carefully documents how institutions including the medical and health care industry, human services, religious bodies, criminal justice system and we would add government agencies and their agents along with academic researchers all work in their own best interests. All are intent on creating structures that uphold their own privileges and support for their own families and communities instead of working with groups and communities where they live. In his subsequent book (2010), *The abundant community: Awakening the power of families and neighborhoods*, McKnight and Peter Block begin with the words:

“this book is an invitation into a new possibility for each of us to live a more satisfying life. .. It is a possibility that is both visionary and realistic. Our culture tells us that a satisfying life can only be purchased. It tells us that in the place where we live, we don’t have the resources to create a good life. It tells us that we must find the expertise from marketers and professionals” (page xiii).

Then the authors proceed to expose the ways in which the powers and principalities are crushing human “flourishing” in our western cultures and impose their own self-serving solutions on others.

The three Acts considered by the Review panel are legal and technical documents designed to protect the federal government as it attempts to regulate the telecommunication industry on behalf of Canadian citizens. Each Act is filled with legal and technical terminology and concepts requiring extensive knowledge of both Canadian law and the various technologies being used to produce and distribute information and communication services to the public.

To analyze the Acts, a content analysis for key words was conducted. Content analysis is both quantitative and qualitative, counting and then analyzing references and themes within the text (Krippendorff, 2004). Given that the keyword search came up almost empty, also analyzing invisible, or latent, content (Potter & Levine-Donnerstein, 1999). This allows for the interpretation of patterns of omitted information. Critical analysis examines the wider socio-political context of the Acts. We conducted the search on the text of the *Telecommunications Act*¹³ the *Broadcasting Act*¹⁴ and the *Radiocommunication Act*¹⁵.

Searching using the first search term, "Indigenous," had no hits (results) in any of the three acts. The second term "Aboriginal" had no hits in the *Telecommunications Act* or the *Radiocommunications Act* and two hits in the *Broadcasting Act*:

3.1 d (iii) through its programming and the employment opportunities arising out of its operations, serve the needs and interests, and reflect the circumstances and aspirations, of Canadian men, women and children, including equal rights, the linguistic duality and multicultural and multiracial nature of Canadian society and the special place of aboriginal peoples within that society

3.1 (o) programming that reflects the aboriginal cultures of Canada should be provided within the Canadian broadcasting system as resources become available for the purpose

¹³ Telecommunications Act S.C. 1993, c. 38 Current to October 3, 2018 Last amended on September 30, 2015 <https://laws-lois.justice.gc.ca/eng/Acts/T-3.4/>

¹⁴ Broadcasting Act S.C. 1991, c. 11, Current to October 3, 2018, Last amended on December 16, 2014 <https://laws-lois.justice.gc.ca/eng/Acts/B-9.01/FullText.html>

¹⁵ Radiocommunication Act R.S.C., 1985, c. R-2 Current to November 8, 2018 Last amended on September 21, 2017 <https://laws-lois.justice.gc.ca/eng/Acts/R-2/>

The third term, "language" had hits in only the *Broadcasting Act* (13 hits). The terms "English" and "French" had no hits in the *Telecommunications Act* or the *Radiocommunications Act* and 16 and 15 hits respectively in the *Broadcasting Act*. There were no references to Indigenous languages.

Finally, the last term, "community" had no hits in the *Telecommunications Act* or the *Radiocommunications Act* and 3 hits in the *Broadcasting Act*. They referred to community events, the need for community programs, and the need to provide programming in the language of both official language communities (English and French). Again, there was no reference to Indigenous languages or communities.

It is clear from this search for references to Indigenous peoples and nations that they are completely marginalized within the Acts under review. Indigenous peoples and nations are virtually invisible. The first reference, 3.1 d (iii) adds Indigenous peoples to the end of a list of groups within society that require special attention, rather than identifying that the Constitution and UNDRIP require that Indigenous peoples have specific rights.

Most notably, Indigenous peoples have rights to land and territory, a fact completely omitted in all three Acts. Telecommunications, broadcasting and radiocommunications across Canada require land - for the infrastructure to work it needs physical spaces for towers, cables, and other equipment as well as air space for radio waves, and all this necessarily involves Indigenous traditional territories. The fact that the Acts make no mention of Indigenous territory is clear evidence of their deeply colonial nature. We argue further that the Acts in future need to explicitly reference Indigenous rights to territory and that Indigenous nations have the right to determine how telecommunications, broadcasting and radiocommunications are developed on their territories. Until then, the Acts are tools of settler colonialism that will continue to support corporate exploitation of Indigenous peoples, nations and territories (Tuck and Yang, 2012).

Marie Battiste has identified the cognitive imperialism that grounds settler legislation, policies and directives. The invisibility or marginalization of Indigenous peoples in the Acts is evidence that the Acts serve to protect the superiority and corresponding power imbalance of the Canadian state and its institution over Indigenous peoples. The Review panel, to fully understand the unique status of Indigenous peoples of Canada, must do the required work to become fully familiar with the importance of treaty and settler responsibilities in relationship to the treaties that make it possible for Canada to exist as it does today. Any institutional barriers that still remain are artifacts of our colonial past and Eurocentric ways of thinking or acting. The three Acts being reviewed by the Panel must be considered in this manner. These Acts exist entirely as product of a colonial and capitalist institutional and political response to the economic and social realities and misbehavior of corporate and industrial enterprises determined to own and control telecommunications infrastructure and broadcasting capabilities across Canada.

The second reference, 3.1 (o) is the legislative basis for television and digital producer, the Aboriginal Peoples Television Network (APTN). Lorna Roth in her 2005 book about the history and development of APTN described the many decades of work required for Indigenous peoples in the north of Canada to create a broadcast channel that would allow them to control their own images and representations. Roth highlights the struggle of Indigenous peoples to

attain recognition in legislation. It was through their efforts that Indigenous peoples in Canada, through APTN, now have the most advanced broadcasting network in the world run by Indigenous peoples. The fact that there is a reference in the Act to the need for Indigenous broadcasting in Canada is evidence that it is possible to make some headway within these regulations to have the rights of Indigenous peoples recognized.

In her chapter entitled “Recommendation for Constitutional Reconciliation of Education,” which could equally apply to any discipline including law, Battiste builds a balance between different worldviews and creating a pathway towards decolonization. Battiste’s writings challenge everyone within every sector of society: “our responsibility is making a commitment to both unlearn and learn — to unlearn racism and superiority in all its manifestations, while examining our own social constructions in our judgements and learn new ways of knowing, valuing others, accepting diversity, and making equity and inclusion foundations for all learners” (p. 166). Battiste advocates to eliminate the cognitive imperialism of Eurocentrism, which she explains is based on racism. She describes cognitive imperialism as “a form of manipulation used in Eurocentric educational systems” that is “built on damaging assumptions and imperialist knowledge” (p. 161). Battiste provides important clarity and context to the assimilatory nature of the Canadian system, while also offering practical recommendations for constitutional reconciliation and possibilities for required systemic changes. Canada and the Panel now have an important opportunity with the review of these Acts to begin this important work of reconciliation and decolonization.

As documented throughout Battiste’s book, understanding the ways Indigenous languages were repressed and forbidden is an important part of the solution to creating healthy communities and society through legislated change. Supporting requirements to regain Indigenous languages is part of Battiste’s call for “trans-systemic reconciliation” including the reclamation of identity, ways of knowing and being, and the inclusion of Indigenous knowledge systems within and throughout all levels of the Canadian system. In her chapter “Creating the Indigenous Renaissance,” Battiste grounds the Indigenous renaissance within the UNDRIP and draws attention to the work that is being done globally to advance Indigenous knowledge systems within global societies.

Too often, folks living and working in far-away centres of power and influence assume they understand what is best for others and develop solutions, programs, legislation and services for people and communities based on their own way of understanding and worldview. A “desire-centred” approach to any development ensures the participation and effective communication with others in every form of impact on their communities, regions and the country. Recognizing in all new Canadian legislation the processes and content presented in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP), requires a respectful method for consultation and informed consent to properly and effectively honour any acceptable Acts of Parliament.

John McKnight (1995) has shown that from the perspective of remote communities, national regulators and their institutions based in large cities are foreign systems with self-serving institutional approaches to development. Too often these institutions end up creating the barriers preventing communities from acting in their own best interests. Multi-national and

national corporations including those involved in telecommunications systems and broadcasting, with the aid of their government benefactors are equally implicated in this conspiracy to “take care of” everyone outside of their particular areas of expertise and interest for their own financial and political gain. The impact of this orientation on the day-to-day experience of people is to move everyone from being ‘citizens’ to becoming their ‘clients’ or ‘customer.’ Clients or customers are those who seek well-being and satisfaction through products and services sold by the corporate sectors. Citizens, on the other hand, are those who take responsibility for the people and places that are within their realm providing their friendship, nurturance for children, safety, food security, health, stewardship for the land, an enterprising economy, and care for those who require it. When communities become clients, they give away the power of citizenship and become incapable of providing for themselves (McKnight, 1995).

2 How Indigenous communities support policy development: the FMCC

The First Mile Connectivity Consortium (FMCC) was incorporated in 2014 as a national not-for-profit association. FMCC members include 10 community or regional intermediary organizations¹⁶ across the country. FMCC member organizations have little time and few resources available to support meaningful research, participation and preparation of submissions to the CRTC and ISED related to the communities they serve. With the assistance of community-minded academic researchers, the Indigenous technology intermediary organizations quickly learned how to collaborate and partner with these individuals and their research projects to begin addressing this gap to ensure our needs and desires are understood by the people who are developing policies, programs, services and legislation.

FMCC members are organizations directed by their member First Nation leaders to support the provision of internet services in their communities, in addition to their other responsibilities. FMCC was established by the leaders of its member Indigenous organizations to provide services to its members, including: advisory services, research and writing services, digital and multimedia production, networking activities, organizing events, promotion and outreach services, training and capacity-building, and other services as decided upon by members (FMCC, 2014). FMCC associate members are university and private sector researchers and others interested in Indigenous and community communications and telecommunication services for the public good. FMCC members support and share innovative solutions to digital infrastructure and services with and in rural and remote regions and communities across Canada.¹⁷

¹⁶ FMCC member Indigenous community/regional intermediary organizations include non-profit First Nations and Inuit broadband organizations and non-profit telecommunications Associations serving remote areas (and their supporters) (FMCC articles of incorporation)

¹⁷ More details about our members and activities is available: <http://firstmile.ca>

Currently FMCC's major work is preparing submissions with its member organizations to the various CRTC telecommunications and broadcasting hearings. FMCC work also includes responding to ISED's calls for consultation on topics ranging from the allocation of spectrum to their "let's talk TV" consultations. Having such a diverse group of Indigenous technology intermediary organizations working together provides a wide-ranging discussion with many varying viewpoints to consider and include in these presentations. Besides an ongoing online exchange, the team meets virtually as required to prepare, review and contribute to their documentation concerning the different issues raised by the CRTC and ISED. These policy and regulatory issues have been examined by the team in reports over the years (McMahon, Gurstein, Beaton, O'Donnell & Whiteduck, 2014; McMahon, Whiteduck, Beaton, 2013; McMahon, O'Donnell, Smith, Walmark, Beaton & Simmonds, 2011; McMahon, O'Donnell, Smith, Simmonds & Walmark, 2010). (See a complete list of FMCC submissions in Appendix 1.)

An example of FMCC's work and influence is the CRTC consultation on the Basic Service Objective (BSO) to establish if internet is a basic service for all Canadians and what the parameters of the service should be. FMCC began preparing for the CRTC hearing in the summer of 2014, well before the Telecom Notice of Consultation CRTC 2015-134 Review of basic telecommunications services was released. The CRTC announced its intentions to conduct these hearings in their Report on Plans and Priorities 2014-2015¹⁸. In the many reports and analyses that FMCC submitted throughout the BSO hearings, the team insisted that the CRTC must recognize the right to access broadband as a basic telecommunication service for all Canadians. FMCC was very pleased when the CRTC announced "that broadband access to Internet service is now considered a basic telecommunications service for all Canadians." In the press release that accompanied the CRTC report, Jean-Pierre Blais, CRTC Chairman and CEO, went a step further by declaring that "High quality and reliable digital connectivity is essential for the quality of life of Canadians and Canada's economic prosperity."¹⁹

The FMCC submissions have been well-received and their impact recognized by the CRTC and ISED in a number of ways. For example, a number of telecom providers challenged invoices submitted by FMCC to the CRTC for work completed during the BSO hearings. The CRTC conducted a review of the FMCC's work and ruled: "the FMCC represented the interests of Indigenous community members in remote areas who subscribe to telecommunications services," and that "FMCC submissions assisted the Commission in developing a better understanding of the matters that were considered. The FMCC provided focused and structured evidence in areas where it had direct experience and expertise."²⁰ As well, ISED regularly invites FMCC and its partners to contribute to their consultations, including the Panel reviewing the Acts. FMCC has made several presentations in Ottawa to policy-makers in ISED as well as INAC.

¹⁸ <https://crtc.gc.ca/eng/publications/reports/rpps/rpp2014/rpp2014.htm>

¹⁹ <http://www.crtc.gc.ca/eng/archive/2016/2016-496.htm>

²⁰ CRTC rulings 2015-441: <https://crtc.gc.ca/eng/archive/2015/2015-441.htm>; 2017-164: <https://crtc.gc.ca/eng/archive/2017/2017-164.htm>; and 2018-349: <https://crtc.gc.ca/eng/archive/2018/2018-349.htm>

Before its incorporation, several of the current members of the FMCC team worked together as research partners with the SSHRC-funded First Nations Innovation initiative based at the University of New Brunswick in Fredericton. This multi-year (beginning in 2005) research project successfully concluded its work in April 2018 with the publication of “*Stories from the First Mile: Digital Technologies in Remote and Rural Indigenous Communities*” (Beaton, 2018; FMCC, 2018). The book celebrates the stories and experiences of Indigenous telecommunication developments and innovation across Canada over the years²¹. It also contains the lists of all the various publications and their abstract prepared, presented and published throughout the fourteen years the research project existed. The FMCC submissions and interventions are also listed in the book, providing an important link to the work being undertaken by this group of volunteers. The book can be downloaded from the <http://firstmile.ca> website.

As another example of our FMCC work, recently the current director of KNET, located in Northern Ontario, who is her organization's representative on FMCC, received an invitation to present to the Panel reviewing the Acts. Given that the hearing was in Halifax, she wrote to two other members of the FMCC team requesting that we prepare and deliver the presentation on behalf of FMCC (see Appendix 2: Powerpoint Presentation to Review Panel members, Halifax, October, 2018), since they are located closer to Halifax. During the Halifax presentation, we emphasized the desire of the FMCC member organizations to have the Panel visit and learn about their operations and challenges with the current legislation. We also shared the challenges of being able to do any meaningful consultation or engagement working within very short timelines. It is greatly appreciated that the Review Panel members travelled and met with some FMCC partner organizations across the country and that the Panel extended the timelines for the consultation process by two months.

3. Telecommunications in remote Indigenous communities

3.1 How telecommunications support remote Indigenous communities

Communication technologies are an integral component in all remote and rural communities. The Bell Canada telephone service was installed with provincial funding in many of the remote First Nations across Northern Ontario in the late 1970's and early 1980's (Ramirez, 2000). At the time Indigenous trappers were using trail radios supplied and maintained by Wawatay Native Communications Society to communicate with families and others while out on the land. Working with Wawatay, First Nation radio stations began broadcasting by the late 1970's in the remote First Nations across Northwestern Ontario.²² Remote First Nations

²¹ Available in both hard-copy (published by FMCC partner the Manitoba First Nations Education Resource Centre, Inc) and online for download at <http://firstmile.ca>

²² <http://www.wawataynews.ca/about-us>

embraced communication technologies to support their links with family members in other communities and children who left to attend school in other centres. They share stories and teachings with each other, announce and promote events, share information and ensure the safety and well-being of individuals and the overall environment.

Since the early 1980s, FMCC members were involved in introducing and supporting the operation of computers and digital communication networks and services in Indigenous environments across Northern Ontario. This work included developing and operating Indigenous computer skills training centres established in urban Friendship Centres (Benkovic, 1997; Brown, 1992; Nadijiwon-Johnson, 1992); supporting Indigenous communities across Northern Ontario with Contact North and Wahsa to establishing distance education centres using various digital communication technologies (Anderson, 1991, 1992; Davis, 2000; Fiddler, 1992); and developing and supporting the operation of the Kuhkenah Network (KNET).

During early community consultation meetings, elders spoke about the need for better communication systems and supported the development of First Nation owned and managed regional organizations. One story told by elder and former chief of Sandy Lake, Thomas Fiddler at assemblies would speak about the need to learn to use and own the technologies of the settlers because they would be coming into the communities either under Indigenous management or from the settlers.²³

The Government of Canada under their treaty obligations is still responsible for providing the Indigenous funding required for the provision of community-managed health care, education, infrastructure, and security, in First Nations across Canada. Some of the more remote and isolated First Nation communities still have federally-operated Nursing Stations, but most are being transferred to the First Nations and their regional organizations. The remote First Nations still experience few scheduled flights; electrical, phone or communication disruptions; and, no roads in or out of the community, except for a short period of time in the winter when ice roads are constructed to haul fuel and other supplies into the isolated communities.

Throughout the development of the FMCC member networks, we were always engaged in working with government policies and legislation at both the provincial and federal levels. From registering, with the government of Ontario, the Keewaytinook Internet High School as a private high school, to dealing with the CRTC, to influencing the understanding of various bureaucracies about our challenges and their decisions concerning telecommunications and broadcasting, we were constantly forced to work with different governments to be able to effectively operate and grow the desired services. This work was only possible because the First Nation leaders and community members wanted to create new opportunities in their communities to access equitable, quality services such as health, education, legal, administration, social, justice, and public works. The desire for these different services in the First Nations helped their First Nation organizations and staff to work with different government programs to support the different technological developments in the communities.

²³ <http://www.wawataynews.ca/30-editions-30-years/bernier-understood-need-work-together>

The following quote and story from a remote community member best describes the early days (i.e. 1990-91) in the communities in the far north, published in a book chapter by Margaret Fiddler, Education Director at Keewaytinook Okimakanak.

"I'm way behind on my assignments, but please, please, don't drop me from the course. I went to the Band Office today and said I was quitting my job so that I could get caught up, and they said, 'you can't, we need you'. It is even harder here than in the other Wahsa communities. We have only one phone, and it is connected directly to the wall [in the Band Office], so that we can not have a convenor to speak with you over the air. We have no airstrip, and freeze-up is coming, and we will not be able to get materials in and out to you for a month. I am the only one taking this course, and my friend who supports me flew out yesterday with her sick baby. We have no hydro, and so we are using kerosene lamps; this makes reading difficult. And the calculators that you sent us are solar operated, and I am standing here with a flashlight over it to make it work."

We sent another calculator! And she is still enrolled in the course!
(Fiddler, 1992, p121-122)

A second story from the same book chapter concerning the community Wahsa Learning facilities highlights many of the early challenges everyone attempted to address as these new learning opportunities were being developed.

Wahsa is a community-based program. The acquisition, furnishing, and maintenance of the local Learning Centre has become a community initiative. ... First Nations interested in the Wahsa program designated a building for the Adult Learning Centre. The easiest building to obtain and renovate is an old house. The living room becomes the radio/convenor room; bedrooms become small group session areas and individual study carrels. The support and desire for Wahsa programming has become most evident through the community efforts in creating an Adult Learning Centre that is warm, attractive, and inviting. Education is beginning to be recognized as a priority. The Learning Centre has become a focal point for the new thrust on lifelong learning. (Fiddler, 1992, p114)

These particular stories detail the challenges Indigenous students and their communities experienced during the first few years of the new Wahsa Distance Education Centre²⁴. Everyone learned from our shared experiences, and new technologies and teaching strategies were introduced over the years to improve the learning and teaching experiences for everyone. Wahsa is still operating, and through Wahsa, students in the remote communities are still graduating with their Ontario Secondary School Diploma each year. Today community members are able to watch the graduation ceremonies via a live web-stream each year.

²⁴ <http://www.nnec.on.ca/index.php/wahsa-distance-education/>

Many other changes occurred in each of the remote First Nations in Northern Ontario over the past thirty years. The First Nation described in the first passage above could have been any number of the communities visited in the far north 20 years ago. Today the community in the first student's story can be reached by an all-season road. The community pays for a Bell Canada fibre transport connection to deliver broadband services to the community's locally-owned and operated cable network. Their cable network connects all the homes and buildings and delivers IP telephony, telemedicine, e-learning, and remote water-plant monitoring, among other services.

As communication technologies evolve, community members' desires and digital application requirements also change and grow. When the regional telemedicine network was being developed, the primary objective involved ensuring that two-way symmetrical bandwidth capable of supporting videoconferencing capabilities was available on-demand. Attending physicians wanted to ensure all clinical appointments resembled a face-to-face experience as much as possible. The regional Indigenous networks and the First Nations were able to use this requirement to help frame the need for adequate bandwidth in the communities capable to supporting these applications. In the case of KNET, they also created the online software to schedule the required bandwidth for the videoconference technology to ensure there was the necessary quality of service for clinical sessions (Gibson et al., 2011a, 2011b; McKelvey & O'Donnell, 2009; McMahan et al., 2011, 2010; O'Donnell et al., 2013, 2010).

The technology also supported the development of computer communications in the First Nations over the years. As the local networks migrated from point-to-point wireless devices to community-wide co-axial cable systems to fibre cable systems to broadband mobile, the use of different devices and communication tools also evolved. The first KNET Bulletin Board System (BBS) supported many lively conversations in different conference sections. This dial-up service transformed with local internet connections in the homes to an online discussion that prepared community members for the introduction to their own personal web sites on another KNET developed service called MyKNET.org (Bell, Budka & Fiser, 2012; Budka, 2007, 2015, 2017; Budka, et. al., 2009). Women, elders and their families were identified as strategic online champions of these communication services as they shared their stories and experiences about their life experiences in the First Nations (Carpenter et al., 2013; Gibson et al, 2012; Perley, 2009).

Videoconferencing technology made it possible for the First Nations to define the required telecommunications infrastructure to support its effective use in their communities (Gurstein, 2003; McKelvey & O'Donnell, 2009; O'Donnell et al., 2013). Videos became easier to produce with the digital cameras, recorders, laptop cameras and now with smartphones. The subsequent higher bandwidth requirements to share user-created videos, both live and stored sessions, pressured the local computer networks to continually increase their available bandwidth for users. Now, with the demand for Netflix and similar online video services along with digital television services, this demand for bandwidth has few limits. FMCC member networks are in a continual state of development as these demands for increased bandwidth become more urgent (Beaton, 2004, 1998; Carpenter, 2010; Fiser et al., 2005; Fiser and Clement, 2009).

3.2 How Indigenous communities support digital technology development

Throughout these years and experiences, many common themes and guides were identified to make this work successful and possible. Michael Gurstein's article, "Effective use: A community informatics strategy beyond the digital divide" (2003) discussed how "the Internet is not simply a source of information, but also a fundamental tool in the new digital economy." Using a community informatics framework, Gurstein outlined the considerations required to effectively design and implement technology in any community, from infrastructure planning to sustainable financing and operation of the service. Gurstein believed the approach most supportive of local "effective use" would be "participatory design" or "participatory action research" done with the full participation of the users and local community (Gurstein, 2003).

With these guideposts for designing, building and operating FMCC member networks, the team carefully identified and worked with other organizations, resource people and businesses who shared similar perspectives. The principles of OCAP, Ownership, Control, Access and Possession, introduced by the National Aboriginal Health Organization (Assembly of First Nations, 2007) provided another set of goals to develop these FMCC telecom networks and the digital applications serving the desires and needs of the partner First Nations.

A wealth of publications exists that document various aspects of the development of the First Nations, their Indigenous technology intermediary organizations and their associated partners over the years. These publications were produced within mutually beneficial partnerships over the years that continue to this day. In particular, the relationship with universities, their different research initiatives and their graduate students supported the wide dissemination of many aspects of the KNET story across Canada and worldwide. These publications along with the knowledge mobilization work of the researchers and FMCC partner organizations are still influencing both policy and legislative development as the material is referenced and used to guide government and legislative officials.

Each publication and research initiative provides a wealth of data about the communities and their use of the different digital technologies being examined in the research. The communities and their organizations benefited from each of these research experiences with the different articles produced and published by the researchers in national and international journals. The communities contributed considerable work to this research. Some of these researchers are now in government, academic positions and consulting companies, writing and contributing to government policies and legislation as it supports the communities in their efforts to further develop and access their local digital services.

The development of KNET cellular / mobile services, called KMobile, launched in 2007 is a good example of how First Nations helped define the technology they required to address their unique needs. The communities required local base-stations that would continue operating even if the digital transport (fibre or satellite) connecting the community to the outside world was disconnected. As well, the technology had to be affordable, scalable, and capable of interconnecting with other cellular service providers. Two publications, including the chapter, *Keewaytinook mobile: An Indigenous community-owned mobile phone service in northern Canada* (Beaton, Burnard, Linden & O'Donnell, 2016) share the First Nations' experience in developing this service in their communities. The article, *A New Remote Community-Owned Wireless Communication Service: Fort Severn First Nation Builds Their Local Cellular System*

with *Keewaytinook Mobile (KMobile)* (O'Donnell, Kakekaspan, Beaton, Walmark, Mason, Mak, 2011) provided a strong community perspective on both the development and the operation of the community owned and operated service.

The Keewaytinook Internet High School (KIHS) in 1999 was developed by the KO communities as a direct response to the violent deaths of First Nation youth who were attending high school in urban centres, far away from their homes and families in the far north (Potter, 2010; Walmark, 2010). KIHS began delivering its first courses in the fall of 2000 after its successful pilot course earlier in that year. KIHS went through several delivery platforms, including a locally developed and maintained e-learning management system, before settling on a heavily customized version of Moodle, an open-source e-learning platform. The KNET team supported the development of the different e-learning platform software over the years and the different communication technologies used in the delivery of these programs.

Similarly, the Keewaytinook Okimakanak Telemedicine (KOTM) service is a direct response to the desire of the First Nations to access improved health services in their communities. The Keewaytinook Okimakanak Research Institute (KORI) is another example of how the First Nations developed their own institute to ensure they are able to own the information and direct the production of publications to address and benefit their communities. KORi ensured that most articles and publications about the KO First Nations and the work they are doing with communication technologies included at least one co-author from the community included in the article as well as other co-author staff with the First Nation organization. Each of these community-driven and community-owned initiatives continues to operate despite challenges finding champions and support within the government departments involved. KiHS and KOTM have been researched and documented in numerous publications that are referenced in the submissions by the First Mile Connectivity Consortium (FMCC) to the CRTC and ISED as evidence for policy development.

In Manitoba, the First Nation Health and Social Secretariat of Manitoba in the effort to access improved health services for and with the support of communities completed a Feasibility Study and create a gateway to economic development opportunities. The study was on providing a sustainable First Nation owned and operated network that supplies Industrial Grade, (Ultra-High-Speed-Network) bandwidth to all Manitoba First Nation communities. The study highlighted how a carefully planned and managed Fibre Optic Network can create long-term revenue streams and job opportunities in and for the communities served. With funding for the initial infrastructure costs, there is a strong business case to self-sustain the network and leverage the network as an asset. Documentation from the study was shared with ISED for guideline development of the Connect to Innovate Program.

3.3 How FMCC members might do things differently in hindsight

FMCC is one of the many outcomes from the First Nations Innovation (FNI) research initiative at the University of New Brunswick. The FNI research produced many publications created in partnership with the First Nation organizations and their member First Nations. The research project grew from the initial work with KNET to include the Atlantic First Nations Helpdesk, Mi'kmaw Kina'matnewey, serving all the First Nations across the four Atlantic

provinces and then it grew again to include the First Nations Education Council in Quebec. Over the fourteen years this research team worked together, many lessons were learned.

The development of acceptable Indigenous research policies and practices created midway through the FNI project proved to be essential to the project's success. The two important policies involved including Indigenous authors as co-producers of all papers, presentations, publications or articles. The second FNI policy ensured every First Nation included in the FNI research required an agreement acknowledging, respecting and recognizing their ownership and control of any data, information or products produced throughout the research process. These two policies helped with the engagement of both the individuals and the community leadership as co-researchers in the production of research that was important and understood by the communities involved. The challenge for the academic researchers is the amount of time and resources it takes to facilitate and obtain this type of local and regional engagement with the different groups involved (FMCC, 2018).

When the First Nation Education Council in Quebec became part of the FNI research project, the need for investing time and resources into the translation of the material into French became obvious to everyone. The inclusion and support for the French language raised the challenge of how much the different Indigenous languages also required attention as well. The constraints and limits of a group of researchers and staff from FNI partner organizations who spoke only English or French working in Indigenous communities where local languages are still spoken in the homes and organizations became very apparent to everyone.

Our efforts to include both the local languages and the cultural traditions were meaningful but in reflection, many years later, they were also superficial in our race to complete one technological project after another. When we were engaged in competing for the funding for the multi-year, multi-million dollar Aboriginal Smart Demonstration project, KNET showcased and celebrated their online Oji-Cree and Ojibway dictionary and the multi-media Iyash story (Beaton, Fiddler & Rowlandson, 2004). In the rush to do the other infrastructure work detailed in the proposal, the work to protect and celebrate the Indigenous languages got less attention. Even writing this today, makes it sound like excuses being made for moving aside the importance of the Indigenous languages to the people, who they are and their historical and contemporary relationship to their lands and communities.

KNET locating the best-paying employment opportunities in the small, rural, urban-like centres such as Sioux Lookout across Northern Ontario is another challenge that we inadequately addressed. These jobs were located in these small urban centres as technical and administrative support were developing and we were constructing the digital infrastructure and the network services. In contrast, the remote First Nations need new employment and economic opportunities but almost no of the new technical jobs were located in the communities. We made efforts to create new jobs and careers in the remote communities but still too often management and support services are located far-away in the rural-urban environments.

Too often, we base technological designs on traditional corporate models of building from the centre outwards. These designs result in using most of the project resources to support the development and expansion of the central operations in urban centres, leaving few resources

and opportunities for those at the “termination” points of these designs. These remote communities at the termination points are often referred to as the “last mile” by government and corporate officials. The “first mile” concept helps to alter the narrative and the design so the planning and opportunities exist in the small, remote First Nations as the starting point in any development. Unfortunately, these concepts are often difficult to apply from our comfortable positions located in large, well-resourced urban environments.

Privileging Indigenous voices in all aspects of the work of building and sustaining the First Nations, their infrastructure, their organizations and all aspects of their existence is also a challenge for settlers. The settlers' experiences, upbringings, teachings and backgrounds influence everything, including the thinking about others and the world. The neoliberal indoctrination process everyone in Canada undergoes in the school system then goes on to dominate most policies, programs, services and discussions. These personal and societal challenges too often interfere with the ability to listen and learn from others, often leaving everyone unhappy. As more Indigenous academics and leaders take their rightful place to write, research and move their issues into these places of influence, it is imperative to respectfully make the space available by getting out of the way. Indigenous, feminist and colonial critical theory is helping to document the oral history, articulate, and choose the rights words to further the understanding of existing local knowledge, and the importance of sharing information about experiences of these complex issues with others.

Identifying strategies for moving our work forward with our Indigenous research partners with FMCC and the First Nations continues to challenge each of us. We continue to reflect and ponder this reality as we do the FMCC work to present and question policy issues with the First Nation partners. The main tools we continually depend upon to help us move forward with this work, are the teachings the elders share. Bridging the gap between the different ways of understanding and viewing the world will require considerable work and the inclusion of many different voices. Each of us involved in this work has roles and responsibilities to learn and understand. It will take time, patience and determination to help others without similar experiences and understandings to learn and appreciate the important historical and contemporary roles First Nations and Indigenous people have in shaping and protecting Canada and all its multitude of complex relationships. This work will be necessary to support Indigenous people to use technologies effectively to support the kind of communities they want to build moving forward.

4. Conclusion

Our submission attempts to answer the questions raised by the Telecommunications and Broadcasting Acts Review Panel. We describe how this legislation impacts remote Indigenous communities, and how the legislation might be changed to address the unique communications opportunities and challenges in these Indigenous communities.

In the first section of the submission, Telecommunications and its regulation in Canada, we introduce the concepts of settler colonialism and technological determinism as they apply to the telecommunications industry and its related Acts. A short history of telecommunications in

Canada provides further background about how telecommunications and broadcasting corporations gained control of these industries. The impacts of these developments on remote communities, government legislation, policies and programs and their regulatory bodies sets the stage for a consumer-based, last mile approach to the development of telecommunications in Canada. A closer examination of these Acts highlights how they have become the legal and political tools for corporations to operate their businesses to be continually developing and expanding their capital infrastructure, networks and services across Canada at the expense of local and regional community development.

The technological implications and details about the legal rights of Indigenous peoples are presented in reference to the treaties, the Canadian Constitution, UNDRIP and the TRC recommendations. These legal and fiduciary obligations and responsibilities of the Federal government and their agents should - but do not - support the fair and equitable provision of accessible telecommunication infrastructure and services. The result is that remote Indigenous communities are severely challenged to use telecommunications for their economic and social development. A critical analysis of the Acts using Indigenous theorists details the challenges the Panel members need to consider as they prepare their report and recommendations concerning the Acts and the revisions required.

The submission's second section introduces the work of the First Mile Connectivity Consortium and its member Indigenous technology intermediary organizations. It highlights how Indigenous communities can influence telecommunications policies and regulations. Reflecting on our work with these remote Indigenous communities and their intermediary organizations provides an opportunity for us to think critically about our shared experiences. This reflection also allows us to consider the work yet to be completed in these communities as it relates to both technological and community development initiatives.

The third section of the presentation presents evidence of remote Indigenous communities using and developing their own communication technologies to support local economic and social development. The discussion describing how telecommunications is supporting remote Indigenous communities provides a short history of regional technology developments in the challenging environments particularly in Northern Ontario but which applicable in most remote and rural Indigenous communities across Canada. The examples highlight the innovative strategies used by remote Indigenous communities to address local and regional desires and priorities.

The Panel, the government and Indigenous communities have considerable work ahead to create a strong, healthy, mutually respectful relationship that will support both meaningful and effective community and technology development. Removing the deep-rooted colonial processes and urban, corporate bias from all aspects of policies and legislation will continue to be a huge challenge for everyone involved in this work. Federal government and CRTC programs and commitments for technology infrastructure and development too often are structured in such a way that only projects near urban population centres are able to easily access the funds. Remote and rural communities across Canada find themselves challenged to successfully accommodate their realities within these structures so they are able to create the systems and services they desire. The enormous telecommunication infrastructure needs and high initial construction costs

existing across the North will only be properly addressed with adequate and respectful consultation and engagement between people and organizations who understand and respect these environments. Assessing and supporting effective policies, programs and legislation that will be appropriate for these northern environments will require an appreciation for the real costs of investment in the North.

The discussion in this submission has focused on our experiences and stories that can be found across Canada. All levels of government, the private sector, experts, and interest groups in the North have come together many times over the years to establish and present their collective visions for telecommunications development and requirements. These gathering resulted in many reports covering the different regions across Canada's North. In October 2018, FMCC members attended such a gathering in Inuvik, NWT hosted by the Internet Society. There, we heard many of the same stories from the community members and leaders that we heard shared at similar gatherings across Canada over the years.

After the recent investment of multi-millions of dollars in the construction of the fibre network along the Mackenzie River and the Dawson Highways in NWT, many remote communities in the region are still lacking the telecommunication service they desire. The corporate, urban-based regional telecom corporation that has the responsibly to design and plan these publicly-funded fibre networks has left the communities out of the plan. The story remains the same: corporations building their networks and communities remaining underserved.

Local and regional groups in the NWT are now searching for project-based funding opportunities to properly address their community connectivity needs to best use and sustain this fibre infrastructure. Enabling communities to take a leadership role in designing their infrastructure needs and implementing local infrastructure projects is a critical ingredient for any communication project's success. Communities are doing similar work with the local water, wastewater, electrical and road networks. Adding telecommunications to this menu of services along with adequate support resources will result in new economic and employment opportunities in every community.

The Canadian government's review of the Acts provides an excellent opportunity to recommend consultation strategies inclusive of the different regions, cultural sectors, and environments that make Canada a unique opportunity for economic and social innovation. Legislation, policies, and programs need to support public interest advocacy to ensure the effective engagement and inclusion of civil society, academic researchers and technology intermediary organizations. Inclusive engagement will result in more inclusive Acts that are reflective of this diverse and multi-faceted country. Public interests, citizens and communities want to be respected and understood instead of being treated simply as consumers. Policy and legislation must be looking forward. Topics such as net neutrality, intellectual property and copyright, spectrum and wireless communication, and distribution / broadcasting platforms must include a strong public interest perspective. The distribution systems that remote Indigenous will be using are changing. The discussions about these changes will need to include everyone.

We are aware that it will be a huge challenge to shift away from the traditional models of producing legislation. The corporate and privileged interests that have controlled

telecommunications in Canada for many decades will not want to relinquish their established economic benefits. They will continue their influence on both the political and legal environments. It will no doubt be a struggle. The FMCC members trust that the wisdom and knowledge inherent in remote Indigenous communities and their organizations will eventually find a way to overcome the corporate capture of government to build and maintain the digital networks they will need for their future survival.

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