

July 7, 2014

**ONLINE SUBMISSION**

Mr. John Traversy  
Secretary General  
Canadian Radio-television and Telecommunications Commission  
Ottawa, ON K1A 0N2

**RE: Telecom Notice of Consultation 2014-44**

Dear Mr. Traversy:

Below are responses to some of the issues raised Interrogatories by the Satellite Inquiry, submitted by Professor Heather E. Hudson and Dr. Rob McMahon on behalf of the First Mile Connectivity Consortium.

Yours sincerely,

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**General Comments:**

1. We welcome the CRTC's decision to examine the satellite industry, which is particularly important for Canada's North and for Indigenous peoples living in remote and isolated communities. We believe that this first CRTC review of satellite services since 1999 is long overdue. We therefore appreciate the opportunity to participate in this Satellite Inquiry, which raises important issues on satellite communications for rural and remote areas of Canada. Below are our responses to some of the questions posed in Section 1 of the Interrogatories.

**Responses to Interrogatories:**

**2. Section 1.1. a. FSS Market Definition:**

We disagree with the proposed division of the relevant market into "customers located north of the 60th parallel north as a sub- or separate market from those located south of the 60th parallel north." We note that 128 communities of the total of 202 of the satellite-dependent communities, or 63 percent, listed in Appendix B are located south of the 60<sup>th</sup> parallel.<sup>1</sup> As we pointed out in the Northwestel Proceeding (Consultation CRTC 2012-669-1), conditions in these remote communities in the northern parts of the provinces are very similar to those in the northern territories – i.e. small, isolated, primarily Indigenous communities without road access.

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<sup>1</sup> The actual number and percentage of communities may vary slightly, as it appears that some of the satellite-dependent communities listed in Appendix B now have terrestrial service.

Therefore, we believe that all the communities dependent on FSS should be considered as one market.

**3. Section 1.1. b:** We agree that different frequency bands that deliver telecommunications services (e.g. C-band, Ka-band, Ku-band) could be considered as separate product sub-markets. We note that the frequency band is critical for the community network solution for applications such as health and education. For example, C-Band may be required for these types of critical applications to ensure adequate quality of service and that can continue to operate in bad weather. In our experience, Ku and Ka-bands can be used for some applications, but are less reliable, and not appropriate for essential services.

**4. Section 1.1.c:** It is unclear whether “future satellite technologies, such as high throughput satellites” should be considered a separate market. If they deliver FSS services (rather than direct to premises services), they may be an integral part of the FSS market.

**5. Section 1.2.b: Competition:** Our concern is that the Inquiry recognize that satellites provide a variety of important, and in many cases, essential, services to remote communities. The Inquiry needs to include a holistic review of FSS that recognizes the role of satellites in delivering this range of services to remote northern communities. The definition of the relevant market should therefore not be unduly fragmented. Competition should be addressed from the perspective of whether a new entrant could provide any or all of required services (e.g. voice, data, broadband, broadcasting; fixed, mobile) and with the required quality of service, which may vary for different services.

**6. Section 1.6. Relevant literature:** We believe that the following additional references would be useful for this Inquiry:

Assembly of First Nations. (2007). OCAP: Ownership, control, access and possession – First Nations inherent right to govern First Nations data.  
Accessible at: <http://64.26.129.156/misc/ocap.pdf>.

Alexander, C. J., Adamson, A., Daborn, G., Houston, J., and Tootoo, V. (2009). “Inuit Cyberspace: The Struggle for Access for Inuit Qaujimajatuqangit.” *Journal of Canadian Studies*, Vol. 43, No. 2, pp. 220-249. Accessible at:  
[http://muse.jhu.edu/journals/journal\\_of\\_canadian\\_studies/v043/43.2.alexander.pdf](http://muse.jhu.edu/journals/journal_of_canadian_studies/v043/43.2.alexander.pdf).

Carpenter, P. (2010). The Kuhkenah Network (K-Net). In J. P. White, J. Peters, D. Beavon, & P. Dinsdale (Eds.), *Aboriginal Policy Research VI: Learning, Technology and Traditions* (pp. 119-127). Toronto: Thompson Educational Publishing.

First Mile Connectivity Consortium. Testimony in Consultation CRTC 2012-669-1: Review of Northwestel Inc.’s Regulatory Framework, Modernization Plan, and related matters. Whitehorse, Yukon, June 2013.

Fiser, A. and Clement, A. (2009). “K-Net and Canadian Aboriginal Communities.” *IEEE Technology and Society Magazine*, Vol. 28, Issue 2, Summer 2009, pp. 23-33. Accessible at: [http://ieeexplore.ieee.org/xpls/abs\\_all.jsp?arnumber=5072379&tag=1](http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=5072379&tag=1)

Hudson, H. E. (1990). *Communications Satellites: Their Development and Impact*. New York: Free Press.

Hudson, H. E. (2006). *From Rural Village to Global Village: Telecommunications for Development in the Information Age*. New York: Routledge.

Hudson, Heather E. (2011). "Rural Broadband: Strategies and Lessons from North America." *Intermedia*, Vol. 39, Issue 2, May 2011, pp. 12-19. Accessible at: <http://www.iser.uaa.alaska.edu/Publications/IntermediaVol39No2NorthAmericabroadband.pdf>.

Hudson, H.E. (2012). "Canadian and U.S. Broadband Policies: A Comparative Analysis" in Clement, Andrew, et al. eds., *Connecting Canadians: Investigations in Community Informatics*. Edmonton, Alberta: AU Press.

Hudson, H.E. (2013). "Beyond Infrastructure: Broadband for Development in Remote and Indigenous Regions." *Journal of Rural and Community Development*, Vol. 8, no. 2.

Imaituk Inc. (2011) *A Matter of Survival: Arctic Communications Infrastructure in the 21st Century*. Arctic Communications Infrastructure Assessment (ACIA) Report. Prepared for the Northern Communications and Information Systems Working Group, April 30, 2011. Canadian Northern Economic Development Agency (CanNor). Accessible at: [www.aciareport.ca](http://www.aciareport.ca)

Kakekaspan, M., O'Donnell, S., Beaton, B., Walmark, B., and Gibson, K. (2014). "The First Mile Approach to Community Services in Fort Severn First Nation," *Journal of Community Informatics* 10(2).

McMahon, R. (2013). "Digital self-determination: Aboriginal peoples and the network society in Canada." Doctoral dissertation, Simon Fraser University, 2013. <http://summit.sfu.ca/item/13532>.

McMahon, R. (2014). "From Digital Divides to the First Mile: Indigenous Peoples and the Network Society in Canada," *International Journal of Communication*, 8 (1-20).

McMahon, R., Gurstein, M., Beaton, B., O'Donnell, S., & Whiteduck, T. (2014). Making Information Technologies Work at the End of the Road. *Journal of Information Policy* 4: 250-269.

McMahon, R. and Mangiok, T. (2014). From the First Mile to Outer Space: Tamaani Satellite Internet in Northern Quebec. *Journal of Community Informatics* 10(2).

Philpot, D., Beaton, B. and Whiteduck, T. (2014). First mile challenges to last mile rhetoric: Exploring the discourse between remote and rural First Nations and the telecom industry. *Journal of Community Informatics*, 10(2).

Walmart, B. (2010). Digital Education in Remote Aboriginal Communities. in White, J.P., Peters, J., Beavon, D., Dinsdale, P. (eds). *Aboriginal Policy Research VI: Learning, Technology and Traditions* (pp. 148-157). Toronto: Thompson Educational Publishing.

Whiteduck, J. (2010). Building the First Nation e-community. In J. P. White, J. Peters, D. Beavon, & P. Dinsdale (Eds.), *Aboriginal Policy Research VI: Learning, Technology and Traditions* (pp. 95-103). Toronto: Thompson Educational Publishing.

Williams, D. (2010). Telehealth/Telemedicine Services in Remote First Nations in Northern Ontario. in White, J.P., Peters, J., Beavon, D., Dinsdale, P. (eds). *Aboriginal Policy Research VI: Learning, Technology and Traditions* ( pp. 148-157). Toronto: Thompson Educational Publishing.

Warf, B. (2011) "Contours, Contrasts, and Contradictions of the Arctic Internet." *Polar Geography*, Vol. 34, Issue 3, September 2011, pp. 193-208. Accessible at: <http://www.tandfonline.com/doi/abs/10.1080/1088937X.2011.589012>

Windeyer, C. "Nunavut Internet Users lag far behind Canada." *Nunatsiaq Online* news update, first published online November 18, 2010. Accessible at: [http://www.nunatsiaqonline.ca/stories/article/87678\\_nunavut\\_internet\\_users\\_lag\\_far\\_behind\\_canada/](http://www.nunatsiaqonline.ca/stories/article/87678_nunavut_internet_users_lag_far_behind_canada/)

**7. Section 1.7: Communities Served by FSS:** We wish to point out that the vast majority of these communities are Aboriginal or First Nations communities, or communities with a high percentage of Aboriginal/First Nations residents. Therefore, this Inquiry is extremely important to these Indigenous populations because of the impact of satellite services on the availability, quality of service, and pricing on Internet and broadband that are critical for ehealth, distance education, ecommerce, egovernment, and other communication services contributing to their social, cultural, and economic development. Some of these communities and their partners have also demonstrated how satellite services can be leveraged by communications organizations to develop and provide services themselves in a sustainable manner.

#### **Additional Comments:**

8. The First Mile Connectivity Consortium partnership includes representatives who are working with the Northern Indigenous Community Satellite Network (NICSN) as referenced in our intervention during the Northwestel hearings. First Nations are seeking strategies that support their Ownership, Control, Access and Possession (OCAP) of both the transport and the local network to properly address local needs and priorities at affordable rates as demonstrated by the NICSN partnership.

9. We note that purchase of FSS capacity has been a successful model that supports and addresses community connectivity requirements. For example, the NICSN partnership worked with the satellite provider (Telesat) to purchase their C-Band transponders as a one-time fixed cost for a specified amount of time (i.e. 2 transponders for 11 years for approximately \$21 million). This approach treats the transport as infrastructure analogous to a community paying for the construction of a physical bridge that connects two places, and enables the communities to plan and operate their own community network in a sustainable manner that meets local and regional development objectives. It also enables the public sector (federal and regional governments) to contribute their portion of the one-time infrastructure costs.

10. We request that we and all other parties have an opportunity to review and comment upon the responses to interrogatories submitted by the July 7 deadline. We believe that the Satellite Inquiry would benefit from analysis of these responses by representatives of Indigenous and other rural and remote residents dependent on FSS services.

11. We would be pleased to provide additional information on the topics addressed above.

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