

January 4, 2006

Carl Seibel, Telecommunications Officer
FedNor, Industry Canada
244 Lincoln Street,
Thunder Bay, ON, P7B 5L2

Dear Carl:

RE: Keewaytinook Okimakanak and Thunder Bay Institutions Broadband Meet-Me Site Construction Proposal with FedNor

Keewaytinook Okimakanak (K-Net) and our partners want to develop a broadband meet-me site at Lakehead University (LU). Other interested partners who have been consulted about this development include the Nishnawbe Aski Nation, Northern Ontario School of Medicine (NOSM), Confederation College, Superior Wireless, Contact North, Bell Canada, Thunder Bay Regional Hospital and the Thunder Bay Public Health Unit.

There is an immediate need to upgrade the existing Nishnawbe Aski Nation Wireless Network serving the Aboriginal organizations in Thunder Bay, so their video conferencing can support Quality of Service (QOS) on the network. Working with the NOSM, the team at K-Net is proposing to re-locate this wireless network to the top of the NOSM facility at LU.

Several of the other institutional partners are already meeting at LU and getting onto the ORION Network from there. Keewaytinook Okimakanak is proposing to relocate their 100M Bell service from their Vickers Street site over to LU. This relocation will provide all the partners with a redundant feed, if it is required. As well, with this order, Bell Canada is now proposing to run their own fiber directly to LU, thus providing the university and its partners with more connectivity options. Construction of the connections to the Thunder Bay Regional Hospital and the Public Health Unit are included in this proposal as part of the work that NOSM is required to do to meet their institutional demand.

As well, a short fibre build to interconnect the Confederation College network (operating on Thunder Bay Telephone Data Network) and the Kuhkenah Network (K-Net) in Sioux Lookout will provide further redundancy for the Sioux Lookout to Thunder Bay loop. This construction is also included in this proposal.

We are requesting funding support in the amount of \$500,000 from FedNor to purchase the hardware, software and contractors required to complete the construction of this application in Thunder Bay. The meet-me site will support a much more robust and direct exchange of digital traffic (video, voice and data) that will support a variety of broadband applications and further enhance the existing network infrastructure that FedNor has been investing in over the years.

Please contact me if you have any questions about this proposal.

Sincerely,

A handwritten signature in black ink, appearing to read "Brian Beaton". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

K-Net Services Coordinator

cc: Geordi Kakepetum, Executive Director, Keewaytinook Okimakanak
Chiefs of Keewaytinook Okimakanak

Keewatinook Okimakanak and Thunder Bay Institutions Broadband Meet-Me Site Construction Proposal with FedNor

The following groups are presently co-locating at Lakehead University and would be beneficiaries of this project through additional connectivity options and being able to connect directly into different sites and communities that are on the various networks partnering together:

- Lakehead University
- Northern Ontario School of Medicine (presently sharing the LU - ORION service)
- Confederation College
- Keewatin-Patricia District Board of Education (working with Superior Wireless to reach LU and from there getting onto the ORION service)
- Contact North (presently sharing the KPDBE - ORION service)

With this construction project, the following sites will be added to this meet-me site:

- Thunder Bay Regional Hospital
- Thunder Bay Public Health Unit
- Kuhkenah Network (approximately 50 First Nations presently on the network with more being added)
- Nishnawbe Aski Wireless Network sites in Thunder Bay
 - NAN office
 - Keewatinook Okimakanak office (Northern Nishnawbe Education Council office connection at the same building)
 - Matawa First Nations Management Service
 - Fort William First Nation Alternative Learning Centre (at the Community Complex)
 - Nishnawbe Aski Development Fund
 - Nishnawbe Aski Nation Legal Services
 - Oshki-Pimache-O-Win Training Centre
 - FedNor office
 - additional sites being invited to join the network include DILICO, Anishnabe Mushkiki Health Access Centre, the Metis Nation of Ontario Thunder Bay office and the Health Canada office
- Greenstone and North Shore Boards of Education via Superior Wireless are preparing to develop their connections to LU to share in the KPDSB - ORION connection.

The following work is being proposed for this project (the proposed budget follows):

1. Upgrade of the existing Nishnawbe Aski Nation Wireless Network

- 8 - 20M radio transmitter sites in Thunder Bay presently all terminate at the antennas located on the roof of the Keewatinook Okimakanak office located at King's Stereo where a 100M radio connection over to the Bell Canada Vickers Street location to access the 100M LAN Extension service;

- these radios need to be upgraded so they can carry managed traffic over their own VLANs so video conferencing can have Quality of Service (QOS);
- this upgrade will then also support the ability to have IP telephone services available at these sites;
- existing radios can be reused in another First Nation but in the interim they will be used as an overlay to carry the data traffic until the new network is fully operational and as a back up to the new wireless service;
- additional Aboriginal sites are now being identified and require additional radios, for example Dilico is hosting a NOSM intern and they have other sites along the North Shore and along Highway 11, Anishnabe Mushkiki Health Access Centre, the Metis Nation of Ontario Thunder Bay, Health Canada office needs a radio to connect to their 10 video conferencing sites from Nipissing to Kenora - these additional sites will be subject to negotiations with the NAN network;
- new sites joining the Thunder Bay NAN network will require video conferencing units and managed switches
- as with other new sites, FedNor dollars have been used to support a limited time bandwidth subsidy and capacity building opportunities
- with the 100M connection order to LU that K-Net placed with Bell Canada, the decision has been made by Bell Canada to run their own fiber cable directly over to Lakehead University, thus making this connection a simple change order for the present 100M service at the Bell site on Vickers Street over to Lakehead University.

2. Northern Ontario School of Medicine Network Requirements

In discussions with Kevin Pashuk, IT Director at NOSM, his program requirements have now grown to the point where they need to have a direct network link between their two campuses at Lakehead and Laurentian Universities. To achieve this they have worked with both universities to come up with a design that would involve NOSM establishing their own connection to the ORANO network through the purchase and set up of their own routers and network equipment that would also be interconnected into each of the universities. This NOSM network development is estimated to cost approximately \$359,500 in total. As a partner in this project, we are proposing that a portion of these costs be covered within this project budget. In exchange, NOSM is proposing to provide the racks and space required to develop this meet-me site at Lakehead University within their operations and space agreement with the LU Computer Centre. This would include access to the roof of their building with the appropriate connections in place for all the partner networks to interconnect.

3. Other Sites To Complete the Interconnections

With these interconnections, all the partners will be able to exchange IP space whenever required to be able to access the First Nation communities and the Aboriginal organizations on the Kuhkenah Network. For example, if Lakehead University wanted to offer a video conferencing course in several First Nations, they would request access to a VLAN for a period of time so they could have a level of service required for this course. They would then compensate the community networks through K-Net for the use of this bandwidth. Similar arrangements will be

made with NOSM, Contact North and Confederation College for accessing the community networks.

- the construction costs to connect the Thunder Bay Regional Hospital via fiber will be included
- Confederation College requires an interconnect from the K-Net Network to the T.Bay Tel wireless network in Sioux Lookout to serve their Sioux Lookout campus and their connections into the north
- Thunder Bay District Health unit requires a fibre connection either into the Bell network or directly over to the College from where they can ride on the college fibre to the LU meet-me site.

Budget Requirements for the Thunder Bay Meet-Me Site Development				
	Price per unit	# of units	Subtotal	Totals
Nishnawbe Aski Nation Thunder Bay Wireless Network				
Aperto radios (sectorized design from 1 location with 4 to 6 sectors, may require two sites, with each sector delivering at least 6 Meg of bandwidth full duplex with QOS) @ \$10k per sector installed	\$	6	\$	
Aperto client units (8 existing sites with potential to move to 6 additional sites) @ \$1000	\$	14	\$	
Fiber cable from Bell to LU and then within LU	\$	1	\$	
Licence frequency for 3.5 Mhz signal (annual fee)	\$	1	\$	
Tower structure for roof (2 locations)	\$	2	\$	
Managed switches at sites	\$	14	\$	
Contract Services for installation and project management	\$	1	\$	
5 Polycom Video Conferencing units (monitor and stand)	\$	5	\$	
Northern Ontario School of Medicine Network				
Cisco Routers	\$	2	\$	
Meet-Me site requirements (racks, cabling, etc)	\$	1	\$	
Other Site Construction Costs				
Thunder Bay Regional Hospital fiber connection to LU	\$	1	\$	
Thunder Bay Public Health Unit fiber connection to Confederation College	\$	1	\$	
Sioux Lookout fiber connection between T.Bay Tel site and K-Net site at the water tower	\$	1	\$	

OPERATIONAL COSTS				
Contractor - Training and Operations	\$	1	\$	
100 M Bell - K-Net Connection at Lakehead U	\$	12	\$	
Project Administration @ 4%			\$	
TOTAL PROJECT COSTS				\$