# Bureaucracy 'killing' cadets program

Former commanding officer goes public with why he quit



Sahtu MLA Norman Yakeleya, left, and Gwich'in Tribal Council vice-president Norman Snowshoe at the Mackenzie Valley Fibre Line construction site.

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### Fibre line construction starts





The opportunity to celebrate the start of the Mackenzie Valley Fibre Line draws a large crowd from Inuvik, the rest of the territory, and some guests from Ottawa and Texas.



Gwich'in elder Winston Moses offers a blessing before the ribbon cutting on the Mackenzie Valley Fibre Line project.



The start of the Mackenzie Valley Fibre Line near Campbell Creek, off the Demoster Highway.

#### Northern News Services

More than 30 local and territorial politicians, aboriginal leaders and business representatives from Ottawa and as far away as Texas donned hard hats and safety gear for a viewing of the Mackenzie Valley Fibre Line groundbreaking.

"We have come a long way and what we have now is tremendous," said Nellie Cornoyea, chair and CEO of the Inuvialnit Regional Corporation, at the dinner reception celebrating the important project.

Cornoyea shared the history of communication including the use of trapper radios and Morse code, travelling by dog team to Aklavik to pick up mail and the provision of FM radios in communities.

"We're there now and thank you to the Government of the Northwest Territories as a whole because without their backing and support, we wouldn't be here today," Cornoyea said.

The \$80-million project is slated for completion in 2016 and will see more than 1,000 km of fibre-optic cable laid into the ground from Fort Simpson to Inuvik.
Following the completion of the Dempster

Highway extension, the line will be built up as far as Tuktoyaktuk.

Small sections of the black cable containing 48 fibre strands were handed out at the ceremony by Scott Lyons, COO of Ledcor, which has undertaken the major construction

project.

The heads of both companies that will play pivotal roles in bringing the project to fruition

spoke at the reception.

Northwestel will act as operator of the

Northwester will act as operator of the fibre line as soon as it is completed.

With more money already being invested in the North, Paul Flaherty, president and CEO of Northwestel, said the fibre-optic line would allow the company to offer more services to Northern communities.

Telehealth and education are two areas Finance Minister Michael Miltenberger said would be impacted by the project, which was spurred in the interest of developing Inuvik's satellite receiver station back when he was serving as finance minister in 2009.

"It was clear to me that this is a must-do project," said Miltenberger.

'It's a game changer, it's a territorially sig-

It's a game changer, it's a certificant project."

Thanking some of the people who have had key roles throughout the project's development, Miltenberger said, once in place, it will easier with some of the contourie uncertainty. assist with some of the economic uncertainty in the North.

This is a territory building piece of work," said Miltenberger.

"This project and what it's going to bring to Inuvik is going to level out the peaks and valleys that we struggle with."



Gwich'in Tribal Council vice-president Norman Snowshoe, left, Finance Minister Michael Miltenberger, Ledcor COO Scott Lyons, Ledcor president Jimmy Byrd and Inuvialuit Regional Corporation chair and CEO Nellie Cornoyea take part in the ribbon cutting for the Mackenzie Valley Fibre Line.

### Swedish Space Corporation news release SSC expands at the Inuvik Satellite Station Facility, 28 Jan 2015

The Swedish Space Corporation (SSC) is increasing its capacity at the Inuvik Satellite Station Facility in Inuvik, Canada, with the addition of a new multi-mission antenna. The expansion is driven by increasing customer demand for communication with polar-orbiting satellites, normally used for Earth observation and atmospheric monitoring.

Inuvik's strategic location in the Northwest Territories is ideal for frequent tracking of satellites in polar orbits and for receiving real-time data from them. When used in combination with SSC's station at Esrange in northern Sweden, the Inuvik Satellite Station Facility provides unmatched coverage in the northern hemisphere. Both stations are also important nodes in SSC's global network of ground stations, PrioraNet.

"With increased capacity at Inuvik, we will not only be able to maintain the high level of services for our current customers", said Leif Österbo, President of SSC's Satellite Management Services Division, "but we will also be able to offer our services to new customers while still ensuring back-up capacity is readily available whenever it is needed."

"The Inuvik Satellite Station Facility, the most northern major Canadian facility to receive Earth observation data, boosts Canada's ability to monitor our Arctic region while supporting economic development in the North," said the Honourable Greg Rickford, Canada's Minister of Natural Resources. "Our Government is expanding the facility's capacity to provide real-time information on Canada's landmass and the world, and we are pleased to see the new antenna being installed by the Swedish Space Corporation."

The new 13-metre antenna will be fully operational in late 2015. Like SSC's existing antenna at Inuvik, it will support multiple frequency bands, including S-band and X-band.

For more information please contact Tom Pirrone, VP Global Business Development, Satellite Management Services Division, SSC, tel +1 215 416 0894, tom.pirrone@sscspace.com

# Science & Technology — May 27, 2013 at 7:31 PM From Inuvik Inuvik targeted as international satellite hotspotEuropean space agencies want Inuvik to become hub for remote sensingby Meagan Wohlberg

Photo: DLR German Aerospace Center

The NWT delegation meets with officials of the German Space Agency in Munich in May. Space agencies in Europe are pushing for construction of the proposed NWT fibre-optic link in order to transform Inuvik into an international hotspot for satellite remote sensing technology.

Representatives from the territorial government along with potential partners in the fibre-optic line project, including representatives from the Inuvialuit, Gwich'in and Sahtu regions, recently returned from a visit to Kiruna, Sweden and Munich, Germany where they met with various groups involved with remote sensing in the High Arctic.

"We met with all the people who run the space agencies...and there is enormous interest in Inuvik, but it's all predicated on the fibre-optic line being put in because they need to have near time access to that information – near time being within 15 minutes," Environment and Natural Resources Minister Michael Miltenberger told The Journal.

Remote sensing allows satellites and aircraft to acquire images and information about the surface of the earth, the atmosphere and oceans through electromagnetic signals. The technology is considered crucial for everything from air traffic control to national defence, atmospheric science, topographic mapping and environmental management.

Both the Swedish Space Corp. and German Space Corp. have satellite dishes installed in Inuvik, but because there's no fibre-optic infrastructure, information downloaded from satellites must be put on discs and sent through the mail, a process that can take weeks.

"Now, with the new level of technology, the new expectation is that they want to be able to download the information and be able to ship it by fibre-optic line, by internet, to wherever it has to go so it can get there literally within minutes," Miltenberger said. "A lot of it's very topical, it's very important, and they can't wait weeks to get the information that they need."

Miltenberger said Inuvik is the coveted hotspot for remote sensing technologies because of its political and geographic location. Though Europe was contemplating setting up a station in Prudhoe Bay, Alaska, space agencies are reticent because of American laws that allow the US government to access information and turn off equipment if deemed to be in the national interest.

Inuvik is also considered to be "geographically gifted," Miltenberger said.

"They've looked all around in the North, the high altitude places...and Inuvik is almost in the middle (of the area of interest). It's a high altitude, it has good plane access, it has road access and with fibre-optic, it will have the best cutting-edge communications technology in the world," he said.

"If the fibre-optic line goes in, then Inuvik will be the ground station for remote sensing in North America," Miltenberger said he was told in Munich. "They're very keen to see Inuvik go ahead."

#### Stabilizing economic benefits

Miltenberger said community government officials in Kiruna reported close to 500 new jobs in the city of 18,000, created over the last 50 years by the knowledge-based industry of remote sensing.

He said the community of Inuvik could similarly benefit from an economic driver that does not rely on resource extraction. Like Inuvik, Kiruna is a resource town. Its iron ore mine – one of the biggest in the world – is a major source of jobs in the area, but economically unstable.

"They started very small, and as the technology improved in terms of satellites and remote sensing and all that type of thing, they've grown over time, whereas they were very concerned about the mine there, the ups and downs of the resource sector," Miltenberger said.

"It's the same in Inuvik with the oil and gas: they've been through those major downturns and recovery and concerns that the recovery may not last. So they've been focusing a lot on the mine, but the reality is the same thing we're anticipating in Inuvik. They have all that remote sensing industry there, and the whole community is set up so that it provides an enormously levelling and stabilizing effect on the economy."

#### 'Full speed ahead'

Miltenberger said the territorial government is now moving "full speed ahead" on the fibre-optic line project, not only to spark economic growth in Inuvik, but to open up the whole Mackenzie Valley to better government services, educational opportunities and industrial development.

"The trip was an eye-opener for myself, for sure, and all the folks that were on the trip representing us from the Inuvialuit, Gwich'in and Sahtu are of the same mind that this has enormous potential," he said, noting that the industry could generate \$100-150 million a year in the NWT.

"Inuvik will have an opportunity to, over time, grow into the same type of operation that they have in Kiruna, if not exceed it."

## Industry — August 11, 2014 at 8:12 PM From Inuvik, Northern Journal Inuvik thrilled with movement on fibre line. Improved technology to bolster satellite business: mayor.

by Meagan Wohlberg

Photo: Terry Halifax

The Mackenzie Valley Fibre Line is expected to grow Inuvik's existing satellite facility.

Communities up and down the Mackenzie Valley are excited at the prospect of being hooked up to a new high-speed telecommunications line, but perhaps none more than Inuvik, where the promise of greater bandwidth could open the door to major economic opportunities for the town's satellite facility.

International companies are actively eyeing the Northern community as the globe's next major satellite hotspot, even more so now that a contract has been awarded for the construction of a fibre-optic line that would grant the existing Inuvik satellite station the bandwidth needed to take off in the sectors of remote sensing, national defence and global communication.

"Our satellite operations right now are maxed out under existing technologies," said Inuvik Mayor Floyd Roland. Currently, information has to be downloaded from the satellites and then mailed to the owners on discs, which is time consuming and burdensome.

"As the international community looks to us to add more satellite receiver stations, the one question that comes up is, 'do you have fibre?' We make people aware that that's in the process and construction will start soon," Roland said. "Now that the contract has been issued...they're now taking their next steps."

The government of the Northwest Territories recently selected the proponent that will design, construct, finance, operate and maintain the new Mackenzie Valley Fibre Link (MVFL) stretching between Fort Simpson and Tuktoyaktuk.

Northern Lights Fibre Consortium, a joint venture between Northwestel, Ledcor Developments Ltd., and LTS Infrastructure Services Ltd., was awarded the contract to take on the project, estimated to cost \$70 million and expected to be operational by summer 2016.

Construction is slated to begin in January, starting with the section along the winter road system between Wrigley and Fort Good Hope, followed by summer construction between Wrigley and McGill Lake, located south of Fort Simpson. The remaining stretch between Fort Good Hope and Inuvik will be done the following winter, and the last piece to Tuktoyaktuk will be laid once the highway is completed.

Sean Craig, financial policy analyst for the GNWT, said the publicly-owned piece of infrastructure will pay for itself over the next 20 years, improving telecommunications in communities up and down the valley, specifically by bolstering the knowledge-based economy in Inuvik.

"There's a lot of international and national interest in growing that (satellite) facility, and that is certainly really good news for Inuvik, and it's really good news for this project as well as far as understanding that

the user base along the valley isn't that large and it would take an awful long time for a territory of 40,000 to come back with the money to pay that off, I would think," Craig said.

As part of the application process, proponents were required to identify ways in which local people and companies could benefit through employment from the project in the construction, operation and maintenance phases.

"That was a pretty important part for us," Craig said. "We've been doing the consultation part for pretty close to two years, and the main thing we've heard along the Mackenzie Valley is 'we want our people to have work."

According to Craig, Northern Lights has been in communication with all the different communities about possibilities for work, and as part of the GNWT's monitoring of the project, the consortium will have to show it is continuing local involvement throughout the installation and operation of the line.

While Inuvik businesses could potentially benefit from construction opportunities, Roland said it is more likely the community will reap the project's rewards once it is operational.

Major satellite companies, long interested in Inuvik based on its near-perfect global positioning, are now looking at the town with greater interest and beginning to draw their own concrete plans for how they will get involved once the fibre is laid.

"We've had a community visit for the last few days by one of the companies who's very large in the industry talking about, well let's see if this is a community that can work for us," Roland said last Thursday. "So they're preparing to get information ready to see if we'll make the list."

Roland is also hoping to host a science conference in the winter to potentially get more players thinking about setting up shop in Inuvik.

Apart from attracting international business, Roland said the community is also working to ensure training opportunities will be made available to locals to be employed in the maintenance and operation of the technology.

"We've been in constant contact with the federal government when it comes to their satellite operation...and talking to them about the need to communicate now with our education boards and councils, as well as the Aurora College board, to see where they can adapt or set up programs for people to streamline into them and be ready for some of the work that will come our way," he said.

Additionally, as the research community grows in Inuvik, so will shoot-off business and knowledge opportunities for the rest of Inuvik's residents, the mayor said.

"This can change the direction of our economics, in a sense. Right now, we've been very reliant on oil and gas, when it's boom or bust. We've bust again," Roland said. "So this will change that substantially. Instead of going into a boom or bust cycle, we will be able to operate these facilities year-round; they'll need people to maintain them; and as more countries get involved and businesses get established, that'll be another thing."

#### Big potential for new technology in the North New antenna at Inuvik Satellite Station Facility could mean big opportunities for Inuvik

Laura Busch Northern News Services Published Thursday, April 19, 2012 INUVIK

The inauguration of a second active satellite antenna at the Inuvik Satellite Station Facility could mean a few more jobs and much better Internet connectivity for people living here.

A fibre-optic link from the south up the Mackenzie Valley would connect the Inuvik satellite facility – and people who live along the Mackenzie Valley – to the world. - Laura Busch/NNSL photo

Monday evening, an international delegation, including representatives from the GNWT, the Canadian Department of National Defence, the Swedish Space Corporation (SSC), the Centre National D'Etudes Spatiale (the French space agency) and more gathered in Inuvik to celebrate a ground station built in Inuvik, by the SSC, becoming active.

This is the second receiver of this kind at the site. The German space corporation, DLR, has been operating a similar dish in Inuvik for the past two years since its inauguration in August, 2010.

The SCC, and much of the international space community, is interested in Inuvik as a site for a world-class observation facility because of its latitude.

"We like to say that we're geographically gifted," said Mayor Denny Rodgers at the ribbon-cutting ceremony Monday night. "Because of our location, when these satellites come over our polar orbit, our antennas can grab them and we keep them longer than anybody else ... in Canada."

The SCC is specifically interested in expanding the Inuvik station to work as a sister station to its site in Kiruna, Sweden, which is at approximately the same latitude – 68 degrees.

"Local contractors will get work out here. I mean, we have the potential for 20 to 25 of these here," said Rodgers. "What we're missing right now is a fibre-optic link. Right now, the data comes in and is basically canned and shipped out."

The Inuvik ground station downloads data from low-orbit remote sensing satellites.

These satellites have a limited capacity for data storage, hence the need to create multiple ground stations along their route to download the information.

These kinds of satellites "pretty much all run north to south over the poles," said Tom Zubko, president of New North Networks in Inuvik.

This means, because of the curvature of the Earth, most satellites come into range of the Inuvik ground station on their trip around the planet.

The ability to not only download but to transmit this information quickly would enable the Inuvik ground station to assist in tasks like emergency response.

"Lack of communication severely limits the type of missions that could be operated out of here," said Zubko.

According to the GNWT, as it is now, the station collects information that is used for environmental monitoring, security and surveillance, resource development and global warming projects.

Expanding the Inuvik Ground Station Facility justifies the need for a fibre-optic cable link up the Mackenzie Valley to Inuvik, said Zubko.

"That would not be very easily justified on the basis of the population of the area," said Zubko. "But if it was in, it would do two things: it would very likely cause a substantial growth in the next few years of the satellite site ... and a byproduct would definitely be to bring our part of the North into the real world when it comes to the Internet."

Premier Bob McLeod agreed that one of the major benefits to people living in Inuvik from having a satellite ground station here will be the fibre-optic link, and what that will mean for communications technologies everywhere along the Mackenzie Valley.

"I think that one of the benefits (to Inuvik) will be the fibre-optic link," said McLeod at the ribbon cutting. "It will benefit not only Inuvik, but all the communities up and down the Mackenzie Valley."

The Mackenzie Valley Fibre Link project is expected to cost about \$65 million, said McLeod. This project is currently still in the planning stages, and the territorial government has pitched it to the federal government. The GNWT is also exploring the possibility of a public-private sector partnership to get the fibre-optic cable installed.

Currently, most of Inuvik's Internet connection is bounced along radio towers from here to Whitehorse, which results in slow speeds and low bandwidth.

"Right now we have a very substantial shortage of bandwidth into this area," said Zubko.

### Inuvik business owner welcomes Mackenzie Valley fibre optic link Politicians, aboriginal leaders and business owners attended groundbreaking Wednesday (CBC)

A business owner in Inuvik, N.W.T., is welcoming the start of construction of the Mackenzie Valley Fibre Optic Line.

N.W.T. Finance Minister Michael Miltenberger, aboriginal leaders and five MLAs attended a ground-breaking ceremony in the town on Wednesday.

The cable — which is about as thick as a magic marker — would be buried in a small trench. Vegetation would be allowed to re grow over it once installation is complete. (David Thurton/CBC)

Ledcor, a construction company based in Vancouver, will build the fibre line running from Fort Simpson to Wrigley, Tulita, Norman Wells, Fort Good Hope and Inuvik. It's expected to measure between 1,100 and 1,200 kilometres.

Fibre lines have more carrying capacity for telecommunications and high bandwidth applications such as internet than the microwave relay towers currently used to transmit telecommunications along the Mackenzie Valley.

Once construction of the line to Inuvik is finished, Northwestel will operate and maintain it for 20 years.

Bernie MacNeil owns Arctic Digital Ltd., a computer and server support company. He is optimistic the project will bring more contracts for local businesses.

Bernie MacNeil of Arctic Digital Ltd., hopes the fibre optic line will bring more contracts for local businesses. (CBC)

"We certainly hope it does. We definitely would like to see some of the builders and proponents of it use some of our expertise and service and support."

The project is estimated to cost \$82 million and be completed by mid-2016.