

## NOTES FROM TELECONFERENCE June 16, 2008: PANGNIRTUNG EMERGENCY

Time: 10:00 AM Eastern Time

Present:

- |                        |      |
|------------------------|------|
| 1. Ken Klassson        | H&SS |
| 2. Amy Liu             | DFO  |
| 3. David Hohnstein     | NWB  |
| 4. Dionne Filiatreault | NWB  |
| 5. Ed Zebedee          | CGS  |
| 6. Glenn Higgins       | CGS  |
| 7. Malli Aulakh        | CGS  |
| 8. Johnathan Palluq    | CGS  |
| 9. Tom Livingston      | CGS  |

### Ed Zebedee gave the following report:

- Ed and team finally arrived (after delays due to weather) in Pangnirtung on Friday morning (June 13) and met with SAO, Mayor, and Council
- The **old bridge** is “toast” (David Parker). We will probably lose it in a day or so. What this collapse will do to the way the river flows (and erodes) is anyone’s guess at this point. We need a plan to remove it safely.
- The **new bridge** is still OK for foot traffic, but not for vehicles. Erosion still threatened the foundations. Jivko Jivkov, the bridge engineer, was in Pangnirtung on Saturday, June 14, and assessed the situation: the bridge must come down.
- For medical emergencies they have a car stationed on the other side of the river. If someone needs transport to the Health Centre (or medivac) they can be brought by the car to the other end of the bridge and then can be wheeled across or must walk.
- One temporary bridge option would be an ARCO bridge
- The **heavy equipment** currently available in the hamlet is a D-6 Cat and two excavators and loaders
- The main electrical service in the water treatment plant shorted out on Friday 13<sup>th</sup>, but is repaired by now.
- **Fire fighting:** There is an gas powered fire pump on the opposite side of the river and water storage tanks that are filled so fires will at least not spread
- It is possible to ferry people via the fiord around the river, but must wait for a 4 hour window every high tide
- **Sewage:** They have two 3,000 gal. closed bladders coming up from Florida, plus 2 sewage trash pumps and 1,000 m of hose (4” suction end, 6” discharge end). They intend to pump the sewage into the bladders and then from there pump into the mechanical sewage treatment plant
- The hamlet water and sewage crews are still working 18 hr days. They are training assistants so that the routes and water and sewer access ports are known. Bringing in outside help has been discussed, but at the moment it is thought that it would take too long to train.
- The amount of sewage generation is estimated to be approx. 2/3 less [sewage truck operators’ estimates] than normal due primarily to rationing of water (see below)

- They have run a hose far into the river channel so that the raw sewage is dissipated and diluted readily.
- One obstacle to bringing equipment and material in is the airport runway, which is only 2,900 ft. long. Thus it might take approx. 10 trips to get just the sewage materials and equipment in
- They are bringing in a special aircraft, but its maximum cargo capacity is only 5,500 lbs
- **Potable water** is now being rationed to 500 L per household. They want to start pumping water across the new bridge (hopefully it will not collapse)
- The morale is good in the community
- **Solid waste** is currently being stored in a quansat building, but there is room for only about 10 days of waste generation before it is full. Until it can be moved across the river, it is going to be stored soon in a lined, fenced and secure area on the “hamlet side” of the river. The concern about fires is the reason for the security. Land on that side of the river is so limited that there is no safe place for open burning.
- The **river** has changed channels and has disappeared underground. There is underground degradation and the ground is dropping in spots. Thus any temporary access is also in danger of eroding. A team of engineers, permafrost experts, and geotechs found through the IPY Program and NRCan are still assessing best options.
- Next step is to see about a new river crossing somewhere. Apparently, the river disappears above the bridge, reappearing somewhat down-stream. We will need a short-term solution. Problems are the timing of the sea lift and the fact that ice is a problem for temporary structures in winter. [Ed added in an e-mail on June 17: “Most of the crevassing is not we believed due to degradation of permafrost but to ground ice that is trapped between the cobble which has melted from the warm weather we have been having over the last few years. This combined with a sudden melt has allowed the river to force into the cobble and further melt the ground ice. Again this will allow new channels for the flow to open and break down the cohesion between the cobble which in turn is allowing the settlement.”]
- They have consulted an NRCan-supplied permafrost expert named Scott Lamoureux. He says that based on aerial photos, the whole area where Pangnirtung sits is an ancient drainage basin. Thousands of years ago it was a drainage area, and the river is now finding its old channels approx. 20 ft down.
- They are seeing cracks about 50 to 75 metres from the river (in direction of the main part of town), and it is continuing to head for the housing.
- At present no one has any idea where the massive amount of water is coming from: is the glacier melting but changing its route? If so, why? Normally in the summer the water level is so low in the river that they have to dig a catch basin in mid-channel just to get enough water to fill their reservoir.
- We are looking for any geological or hydrological information we can get.

**Ken Klassen’s comments:**

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- As long as there is residual chlorine at the other end of the hose the water will be free from pathogens. Continual testing with a Hache colorimeter is necessary.
- Ken will work on a letter for Dr. Sobel to sign for a further seven days extension for sewage dumping.
- Ken can also run environmental samples for coliforms from the river at a place where the plume is dispersed somewhat

### **Amy Liu's comments:**

- Once a plan of action is decided on, DFO needs a plan with a sketch. Amy promises a quick turnaround in approval time. [Ed's subsequent clarification: "Site has been located and confirmed by engineers. Material is being stockpiled and we hope to have the site plan in to DFO June 17<sup>th</sup>."]

### **Doinne Filiatreault's comments:**

- The NWB deadline is June 23. Authorization is flexible. [Further clarified by Dionne in an e-mail on June 17: "The NWB was advised verbally last Friday that HSS would be issuing another 5 day extension to the 2 days already provided. This second letter authorizing the additional 5 days has not been received. As for the NWB the Boards authorization leaves the discretion in the hands of the CMO and HSS (item 1 of the NWB authorization). The June 23 dates of the NWB authorization is the reporting requirements from the Hamlet for next steps, this also was left open somewhat in that if additional time is needed the NWB will not be required to go back to the Minister in this emergency situation they can make a decision at the request of the Hamlet."]
- [Ed's response on April 17: "Thank you for your quick response. We will hopefully get an extension from HSS soon but do not expect it to go the additional 7 days requested. If the weather gods had not conspired against us we would have the majority of the equipment in by tomorrow. Currently the fog is rolled in and its 0-0 for visibility.  
Again I thank everyone for their patience and understanding during this time. The citizens of Pangnirtung are our first priority right now, they are handling this situation very well, and we need to address their problems first."]