

Elevated pipe recommended

Steve Zoltai of the Canadian Forestry Service recommends pipelines in the north be built above ground rather than buried.

In a telephone interview with Gateway he said "original calculations" in planning the pipeline were wrong and there

would be heating in the line which would melt permafrost if the pipe is buried.

The pipe would be without support, possibly leading to cracks and leakage.

Zoltai said at a Boreal Circle meeting Tuesday

a pipe designed to run cold would create permafrost where originally there was none and have a damming effect on the environment's natural flow of water.

"I'm not an engineer and the details should be worked out by them, but pipe should be built above ground," he said.

"Wherever possible, damage should be minimized and can even be nonexistent if the information we have already is put to good use.

"The least damage can be done by avoiding deterioration or promotion of permafrost," he said.

How? "Well, that could be fairly difficult," Zoltai said, "Perhaps by laying the pipe with sections above ground on struts or by laying it on the ground and covering it with gravel. I repeat I'm not an engineer.

An elevated gas pipeline would be extremely costly, he said, probably about four or five times more expensive than burying it.

It would need high carbon steel because the gas is under high pressure in the line. Temperature changes and stresses require a thick-walled pipe of high quality steel and the struts need to be extremely strong.

However, he suggested, it may make repairs easier and less costly in the long run.

"In all, we have got to be more flexible in our thinking and planning. I know the plans in the beginning were absolutely inflexible, but they're bending a bit now.

"Wrong calculations have been found, so alternatives are being sought. Then again recommendations of the Berger

inquiry have to be followed as well as National Energy Commission findings.

If this permafrost melts result is mud. Using slides, Zoltai showed some of the actions of this permafrost on the overlying active soil.

Many areas, he said, are subject to frost heaving churning soil so that the various horizons are mixed together.

"The polar gas route would cover a great deal of this territory," said Zoltai.

Part of the gas route plan, said, involved blasting but it will heaving and water seepage affect this land? He said they would work on other objects well.

Some solids, he said, liquefy when only slightly disturbed water. "Solifluction" and flow downslope an active layer soil may occur on top of permafrost.

Sometimes vegetation promote permafrost by insulating pockets of ice. Zoltai illustrated how these clumps of vegetation could be relatively small but as the landscape matures, so does the amount of permafrost.

Man also has left scars on northern landscape. Several slides were shown of areas bulldozed in the past.

Subsidence or sinking of ground results. With such subsidence, he said, often water will collect in the trench cause gullying. An instance of this was well illustrated by a sink of an old mining road which sunk 10 feet down and widened 60 feet and was now threatening the mining camp.

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