

# Matoush Project: Health concerns expectations and recommendations



## Conseil Cri de la santé et des services sociaux de la Baie James

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**Cree Board of Health and Social Services of James Bay**

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# Holistic vision of Health

- Promote the Cree way of life



# Potential benefits to health

- Investment valuing over 60 million dollars will create a potential for spin-off Cree-owned businesses to support the mining project. Even though this is only the exploration phase, it will have significant economic impacts for several suppliers of the region.
- New jobs in the region.
  - Potential for approximately 27 jobs for Cree workers over a period of 18-24 months out of a maximum of 180 projected jobs overall for the exploration phase of the proposed uranium exploration project

# Employment and health - training

- Unemployment is usually associated with poor health, and opportunities should be maximized for Crees to be employed in the Strateco project.
- Presently, with the winding down of the major construction for Hydro's Rupert river diversion project, many well-trained Crees will be looking for work in other areas.
- **It would be good for the company to collaborate with the Cree School Board and Cree Human Resources development to elaborate a DEP or DEC for mining work/jobs.**
- **Training could also be organized to ensure that Troilus mine employees will be able to switch to the Strateco project.**

# Health of mine employees

- Approximately 180 employees, 90 employees on rotating work shifts, will be involved in the project.  
(Stateco objective : 15% Cree workers)
- The main health issues for uranium mine workers are exposure to the radioactive gas, radon, and injuries.
- **The Occupational health and safety team of the Cree Board of Health's Public Health Department must have access to all the information necessary to ensure that the workers' health and safety is being protected, including on site visits.**

# Radioactivity

- The main health hazards for uranium workers relate to exposure to radon and radon progeny, which develop from the natural decay of uranium. Long-term exposure to high levels of radon increases the risk of lung cancer, but is not linked to other cancers or causes of death.
- Modern controls and strict radiation protection programs at today's nuclear facilities ensure that uranium workers do not have a higher lung cancer risk than the general population.
- **Strateco must comply with the strict regulations in place through the Canadian Nuclear Safety Commission, and ensure that the tunnel is adequately ventilated.**

# Risk assessment

- According to the results of the risk assessment of the proponent, it appears that radiological and non-radiological substances will not pose adverse effects on selected valued components of the ecosystem and on human health.
- It is important to be aware that any mining project will impact the environment to a certain degree, with potential consequences for human health in the short and long term.
- However, neither the impact assessment or the answer to the COFEX questions showed a proper human health risk assessment process that respects the steps and guidelines generally suggested by MSSS and HC.
- **As requested by EC and HC, we consider that ecotoxicological and toxicological risk should be analysed separately.**



# Waste rock

- Mining produces waste rock that must be removed to retrieve the uranium ore.
- In a recent document CNSC admit that “the potential environmental risks associated with the management of mine waste rock arise when the rock is removed from areas where it was formerly isolated from weathering and, for the most part, from biological processes. Mine waste rock is broken and the reactive surface area increases as it is placed in an active weathering environment. This increases the weathering rates and the rates of release of hazardous substances (for example, arsenic and nickel) and nuclear substances (for example, uranium and radium) to the adjacent environment.” (CNSC, 2010).
- **Waste rock must be well managed during operations and properly disposed of. This ensures that contaminants are not easily dissolved and released in the environment.**

# Contamination of the environment

- **Conform to Directive 19** which includes but is not limited to: water use practices, the quality of waste water released into the environment, the protection of groundwater, the reduction of noise pollution, handling of mining waste, as well as land restoration and ongoing environmental surveillance following the termination of the project.
- **Ensure that regular soil, water, air quality and wildlife (bird, mammal, and fish) testing are conducted** by a reputable, qualified and experienced firm. A copy of all reports of the soil, water and air quality testing should be sent to the Environmental Health Officer at the CBHSSJB, to the CRA and to local environmental administrator on a regular basis, and at the very least, once a year.

# Impact on traditional activities and traditional food

- Contamination at the mining site could lead to contamination of the fish, migratory birds and wild animals which are an important part of the Cree traditional diet.
- The mining activities may disrupt the natural habitat of local flora and fauna, and impact traditional activities on nearby land including hunting, fishing and trapping.
- Even simply the increased noise and activity could impact migratory patterns and local fauna activity which could interfere with hunting, trapping and fishing.
- The studies show that people who eat more traditional foods have a healthier diet than those who eat less of them. The Cree Board of Health actively promotes the consumption of traditional Cree foods.

# Drinking water

- Drinking water source for the camps is suppose be to located in the lake No. 5.
- We agree with the recommendation from Region 10 (Nord du Québec) that the water source should be located somewhere else and not be from the lake where the mining effluent will be rejected.

# Health services

- Problems have arisen after injured or sick workers have been transported out of work camps by companies, to hospitals in the south. First Nations have the right to certain services in addition to those covered under provincial medicare plans: the services of interpreters, lodging in the referral city if they do not need to be in hospital but need several specialized tests, and transportation back to their community. **An agreement needs to be in place between the Cree Health Board and the company for the treatment of Cree patients in the south for injuries or illnesses contracted while at the work camp. The company must establish lines of communication with the Cree Board of Health clinic in Mistissini**
- Pre-employment exams are important. Young adults tend not to go to doctors for checkups if they feel well, but they may have health problems, which could be a threat to health under the strenuous working conditions of a mine. **Since a pre-employment exam may provide an important opportunity for a periodic health exam in young adults, it would be an advantage if these exams could be done at the CBHSSJB clinics. Since the employer normally pays for these exams, CBHSSJB doctors may be available to do them outside their regular working hours.**
- This should be discussed with the local clinic director.

# Access to drug and alcohol

- Crees often name alcohol as one of their most serious health and social problem.
- At Troilus mine, a policy of not selling alcohol on site was in force, and we have heard positive comments about this policy from various Cree informants.
- In contrast, Hydro-Quebec's approach includes a bar and the sale of beer on site in the work camps. We have heard negative comments about this policy .
- **Prohibiting drugs in the work camp, and not selling alcohol on site, is better for the health of Cree workers.**

# Hazardous material

- Strateco should provide a list of all chemical products that will be used in the exploration operations, including petrochemical products, explosives and any other potentially hazardous products.
- It should include clear information about:
  - the quantities used;
  - how each of the products will be safely transported into the region;
  - safe storage and use on site ,
  - and safe dispose of the products.

# Emergency preparedness

- Almost one million litres of diesel, 22 500 litres of gasoline and over 150 000 US gallon of propane will be used during the exploration phase of the project. Diesel, gasoline and propane fuels will be shipped in tankers to the Matoush site over the 130 km winter road from road 167 to the site. Fuel will be the largest tonnage of material shipped in.
- **In addition to the risk of spill or fire on site, a special attention should be brought to prevent accident and spill resulting from road accidents.**
- **In collaboration with local and regional cree entities, an emergency plan should be prepared in case of accidents.**



# Full scale mining operation

- If enough high grade uranium ore is found, a real mine will be developed, with large amounts of ore being brought to the surface. As well, in the event of a full-scale mining operation, the rocks brought up to the surface will be ground up in order to concentrate the uranium, and may undergo a process called milling which involves the addition of various chemicals to the ground-up ore.
- **A full-scale mining operation will require a another impact assessment.**

# Conclusion

The decision for the Cree Nation is therefore not *whether* there will be an impact – there will be, but will the impact from this project for this generation and for future generations be sufficiently counterbalanced by the benefits to make this worthwhile?

For this reason, it is important to minimize the potential risks and maximize the benefits for the Cree communities as a whole.