



Public Consultation on Uranium Industry Issues in Québec

HEALTH AND THE ENVIRONMENT

Following its analysis, the inquiry commission set up by the Bureau d'audiences publiques sur l'environnement (BAPE) to review the uranium sector has concluded, using Canadian data, that the presence of a uranium mine could generate radioactive exposure in excess of the Canadian ceiling of 1 mSv/year for populations living in the vicinity of the mine's facilities.

This conclusion is similar to that of the Institut national de santé publique du Québec, but differs from the stance taken by the Canadian Nuclear Safety Commission (CNSC). Exposure to relatively high doses of ionizing radiation can have long-term impacts, mainly in the form of cancers or genetic effects.

However, in the inquiry commission's view, the lack of available, convincing, reliable data on pre-mine exposure levels among populations living near a potential uranium mining site makes it extremely difficult to assess and estimate the exposure levels and health risks generated by the mine. This aspect, combined with the broad range of estimates produced by researchers to date, makes it difficult if not impossible to assess the impact a uranium mine would have on exposure levels among neighbouring populations. A complete characterization of "background noise" or baseline status for all contaminants and vectors used to assess exposure is vital to ensure that the health of these populations can be monitored adequately.

As for uranium mine workers, it has been shown that exposure levels have declined considerably in recent decades, and that the average dose is now below 1 mSv/year, much lower than the current workplace standard of 50 mSv/year (which should be lowered to 20 mSv/year, to bring it into line with the recommendations of the International Commission on Radiological Protection).

Psycho-social impacts

While the psycho-social impacts associated with the presence of other types of mines are well-documented, the inquiry commission notes that there has been very little research on psycho-social impacts of uranium mining among neighbouring populations, even though anxiety concerning radioactivity appears to be key. Accordingly, assessments are needed to distinguish between the psycho-social impacts associated with uranium mines and those associated with other types of mines.

As things currently stand, the existence of a project, or even the prospect that a uranium mine may be developed in a given area, may have a detrimental impact on the social climate and cause citizens to lose confidence in the authorities.

Environmental impacts

The scientific literature states that the environmental impacts of uranium's chemical toxicity are greater than those of its radiological toxicity. In aquatic environments, impacts vary according to the prevailing physical and chemical characteristics: some environments are more sensitive to radionuclides than others, especially in Northern Québec. It would therefore be appropriate to introduce criteria tailored specifically to the context in Québec. In addition, ecotoxicological knowledge of radionuclides from uranium decay is incomplete.

Despite the environmental risk assessment methods currently in use, recent scientific developments and lack of information on environmental radiation protection have made it difficult to predict the potential environmental impacts of future uranium mining facilities in Québec.

Accordingly, if the uranium mining industry were to be developed in Québec, a research program would have to be set up to gather information on radionuclide toxicity for wildlife and plants, and the long-term impacts for ecosystems.

Here too, the commission is of the opinion that a chemical and radiological characterization of host ecosystem baseline status is required before uranium can be extracted. This will allow for more effective monitoring and make it possible to assess the cumulative exposure of aquatic and terrestrial organisms, and the impacts of that exposure.

Moreover, the commission notes that a project-by-project approach to environmental impact assessment does not provide an overview of the cumulative impacts of all the activities in a given territory. It therefore believes that a method must be devised and perfected for this purpose in Québec, especially if the Plan Nord is implemented, and if the uranium mining industry is to be developed.

Lastly, the inquiry commission is of the opinion that the environmental supervision and monitoring programs to be introduced if uranium is mined in Québec should encourage participation by residents and users of the territory, and should not only take their environmental concerns into account, but also provide for an independent verification system. The commission also believes monitoring results should be disseminated in a form that the general public is able to understand.