



REPORT TO ICUCEC AGM, 22 JUNE 2000
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I am deeply, personally concerned that Saskatchewan's unique development of high-grade uranium may eventually lead to a disastrous ecological loss through detrimental genetic change in the environment for our children in future centuries. I was led to this way of thinking by an ecological organization and their consultant ASPECT and the paper that they presented to B.C. Royal Commission in 1980. Since that time the more I have learned, the more I am convinced that these authors are right.

Therefore I have been fighting a lonely battle. But to be part of ICUCEC is a tremendous support. Since moving into Saskatoon three years ago, my work has progressed enormously. Some of the work I have done during 1999/2000 has been over my own name. Some I have done for ICUCEC.

1. The Scandalous Spill of Radium-226 at Cluff Lake

At the Cluff Lake mine site during 1997 and 1998, 134 million litres of water, contaminated with Ra-226, was allowed to spill into Snake Lake which is in the open environment. The concentration of the Radium in that water was (at best) 5 Bq/gram (600 disintegration per second); (at worst) 17 Bq/gram (2000 disintegration per second per gram). In November 1996/97, Cogema used a clean pipe and pump for the transportation of highly contaminated raffinate from the mill, and tailings. In the spring of 1997, Cogema allowed this same pipe and pump to be used again for its original purpose--to transport clean runoff water to the environment. In fact, they used the same pipe and pump for clean water in the

summer and for contaminated water during the winters of 1996/97 and 1997/98.

In May 1997, Cogema tested (the so-called) "clean" water coming out of the pipe and they found that Ra-226 was 5 Bq/L. But they reported that "that must have been 'an anomaly.'" (How could clean water have 5 Bq/L?!) The water at the end of the pipe was never measured again until April 1998 when it was found that the Ra-226 was 17 Bq/L!

Surely this was criminal negligence on the part of both Cogema and AECB, the regulator. The AECB report (BMD 99-91) June 1999 admitted that it had been a very bad accident, but they did not think that any harm had been done. Their lawyers say they don't have enough evidence to prosecute. Therefore, the case is closed.

ICUCEC documented 24 pages of our own criticisms of the investigative and final reports last October in which we asked 33 questions regarding:

- what actions have been taken against those who authorized the use of the pipe and pump and what rationale had been given for the use of the pump?
- why the biota in Snake Lake were not tested? We suggested why we believe this must be done including the long-term genetic effects of alpha-irradiation.

We have received no reply from AECB/CNSC (Canadian Nuclear Safety Commission) to our criticisms. And no answer to our questions.

2. McArthur River ore transported to Key Lake

The StarPhoenix recently published a 20-page Supplement celebrating the start of McArthur River and McClean Lake mining. Some of us fear that in the long-term this is likely to seriously impact future generations.

The McArthur River ore which has a 15% Uranium ore grade is being transported 80 kilometres to Key Lake for processing in that mill and tailings stored in the Deilmann pit.

A 15% U grade means that in each gram of ore the Ra-226 atoms are decaying at a rate of 120 times per second. Therefore in a kilogram of ore, radium atoms emit 120,000 atoms of radon each of which emits three isotopes of alpha-emitting Polonium.

Thorium-230 decays into radium. So in all there are six alpha-emitting radionuclides. The long, long half-lives of Th-230 and Ra-230 means that when out in the

environment, in the water, sediment or in living plants and animals, these will be genetically affected for thousands of years.

Most of the waste will go into the tailings pit and therefore the environment will be protected; but a small amount will be allowed out in effluent from the mill, a sizeable amount of which will go into the sediment from which plants and creatures draw their sustenance; some may escape during transportation and spills; runoff from the piles of waste rock will also go into the environment after the pumps no longer operate. How long the tailings in the open pit will remain safe is an open question.

Long-term genetic and somatic effects from the alpha-emitters is my major concern. Very few scientific tests of the effects of alpha-irradiation have been conducted. There have been no genetic tests in the field. Most of the lab studies appear to confirm my fears. Damage from alpha-irradiation cannot be internally repaired.

3. Changes in federal environmental laws

CEPA (Canadian Environmental Protection Act), which came in in 1988, specified limits to toxic substances allowed in the environment. But these toxic substances did not include radionuclides. Now, twelve years later, it is the government's intention to add radionuclides. Environment Canada has asked AECB/CNSC to prepare a rationale for limiting concentrations of radionuclides allowed into the environment.

AECB sent me a draft copy of their four-hundred-page rationale. This ends up by "proving"! that the radionuclides at Cluff Lake and Rabbit Lake are non-toxic by CEPA standards! AECB works out its (manipulated) figures for Key Lake but are silent as to whether this can be considered "non-toxic"!

We are at present waiting for an updated Draft copy. From conversations I have had with the author, it may be considerably changed from the First Draft.

Eventually, this will go to the Canada Gazette and I have been told that there are sixty days in which comments can be submitted at that time.

I am surmising that it should be possible to argue (or insist) that the final manipulated numbers must conform with the forgoing rationale. I don't believe this was the case in the First Draft.

CEAA (Canadian Environmental Assessment Act) came

into law in 1995. Five years later, this year, it is undergoing a review. A number of ICUCEC members have been involved in this review.

My own involvement made me aware of a basic environmental flaw that is taking place at the mines.

In a Discussion Paper put out by the Environmental Assessment Agency, they discuss trends that are happening in industries. They describe one of these trends as being "adaptive management." This they describe as being: that in circumstances in which neither the operator nor the regulator have sufficient scientific understanding as to whether or not the operation will cause harm, the regulator allows the operation to proceed, warning that when they have further understanding the procedures will have to be changed!

I challenged this on the EA Agency's website. I received a reaction from SEN who pointed out the fact that there is an environmental theory held by many that goes by the name of "The Precautionary Principle." This suggests that unless all the scientific facts are known regarding the harmful effect of toxic substances being emitted from a project, no license to proceed should be given.

In a January 6 article in the StarPhoenix, Environment Minister David Anderson said that he believes in essence with "The Precautionary Principle." But he wants to see it defined. He fears that projects will be held up for "minuscule" problems.

IS OURS A "MINUSCULE" PROBLEM?