

## Questions answered in writing at the Uranium panel event on Dec. 10

**1. Please explain in as simple language as possible the difference between fission products and transuranics -- not where they originate but are they -- for instance -- all manmade elements?**

Answer: Fission products occur when a uranium atom SPLITS - so the broken pieces are all much smaller atoms than the uranium atoms — whereas transuranics occur when a uranium atom absorbs neutrons and becomes HEAVIER (without splitting) and these transform into the transuranic elements: plutonium, neptunium, americium, curium and so forth. [GE]

**2. Do you think any of uranium [for weapons] came from Uranium City in Saskatchewan which was producing uranium in the late 1930s.**

Answer: Until 1965 all uranium from Uranium City went into the nuclear weapons program, almost all of it for US bombs. But there was no uranium produced at Uranium City until after the end of WWII. [GE]

**3. Has there been a study in Ontario in communities around Pickering, or Bruce Peninsula etc. re leukaemia rates, cancer etc.**

Answer: Yes, Atomic Energy Control Board did a two-phase study of leukemia, it actually included Blind River.

**4. Can you please talk about the effects of uranium on Port Hope Ontario?**

Answer: Big topic. Over \$1.2 billion is being spent to consolidate about 2 million cubic metres of radioactive waste that was dumped in ravines, in the harbor, in the public beach, and used to construct roads and many hundreds of homes and other buildings including schools, many of which had to be destroyed because of very hazardous levels of radon gas buildup. Good book, quite old, called “Blind Faith” by Peggy Sanger. [GE]

**5. How does polonium get into the tobacco in such high amounts? is it naturally occurring or is it only due to spread from the nuclear industry?**

Answer: Radioactive fertilizer releases radon gas, it builds up under the canopy of leaves, disintegrates to produce radioactive lead-210 (22 years half-life) which produces a steady supply of polonium-210 to the smoker. It also drifts in the cigarette smoke causing second-hand dangers to those in the same room. [GE]

**6. Have the hazards from uranium mining been mitigated by modern safety methods and equipment?**

Answer: In the short term yes, as a result of strenuous work by activists and workers, but the long-term risk is still enormous as the radioactivity lasts for hundreds of thousands of years and the material is finely ground, no longer locked in hard rock deposits underground. [GE]

{added comment} In addition radon gas emanates from the tailings pile and deposits radioactive fallout on the ground for thousands of miles around the tailing pile. [GE]

**7. Is there a cost effective but environmentally sound way to mine uranium? We still need it for medical use, and it'd be safer to access it from Canada than other countries.**

Answer: Uranium is not needed for medical use. Isotopes - including technetium-99m - can be made without any need for uranium or nuclear reactors of any kind. This is done by using "particle accelerators" like cyclotrons. This matter is not a simple cut-and-dried situation either way. But we certainly do not need large power reactors in any case; the entire world supply of Tc-99m came from only 5 nuclear reactors around the world, and NONE of them were power reactors nor were they large ones. [GE]

**8. Has there been research into cancer rates since Elliot Lake became a 'retirement community'? Say, over the past 20 years?**

Answer: No, but you might want to check with Laurentian University in Sudbury, who has studied the tailings - there is a Book Boomtown Blues, also try and google Victor Clulow.

[Additional comment] Gordon Edwards testified on behalf of the Steelworkers Union in 1978 on the expected cancer told from new housing being constructed in Elliot Lake at the time – the summary of this testimony is at [www.ccnr.org/lung\\_cancer-1/html](http://www.ccnr.org/lung_cancer-1/html) . For males living at the maximum "safe" radon level in Elliot Lake, there would be an excess of 17 lung cancer deaths per 1000 people exposed. That's about a 30% increase in lung cancer rates. [GE]

**9. Lorraine, what is the danger of the tailings dams breaking and releasing effluent like the ones at Mt. Polley?**

Answer: There was actually a Beaver who built their own dam at the site and caused a flood which dumped tailings onto a roadway that led to the ski hill in Elliot Lake. The dams will require thousands of years of attention.

[Additional comment] Before 1974 there were over 30 tailings dam failures in the Elliot Lake region. By 1978 an Ontario government report declared the Serpent River System (including 18 lakes) as essentially a "biological desert" due to chemical and radiological contamination from spilled uranium tailings. Worldwide, the second largest radioactive spill into the environment, second only to the Chernobyl disaster, was the sudden collapse of the Churchill Rock state-of-the-art tailings dam in Colorado. Cattle downstream had to be slaughtered due to radioactive contamination. The effects of that spill are extremely long-lasting.

See [https://en.wikipedia.org/wiki/Church\\_Rock\\_uranium\\_mill\\_spill](https://en.wikipedia.org/wiki/Church_Rock_uranium_mill_spill) [GE]