

Chalk River - the radioactive runaround

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BY GORDON EDWARDS

In a Facebook post – accurately quoted in the North Renfrew Times of December 31, 2019 – Mitch MacKay of Canadian Nuclear Laboratories flatly contradicts himself.

Defending the proposed radioactive megadump at Chalk River (which CNL likes to call a “disposal facility”) Mr. MacKay says, on the one hand, that “The NSDF will contain only low-level radioactive waste”; then a few sentences later on, he says “In fact, about 98 per cent of the total radioactivity contained in the NSDF is represented by cobalt-60.”

There is no way on earth that any knowledgeable scientist would regard cobalt-60 as “low-level” radioactive material when present in such enormous amounts – 90 quadrillion becquerels of radioactivity!

Cobalt-60 is one of the most powerful and intense gamma radiation emitters known to science. It requires very heavy shielding and is extremely dangerous.

In 1984, New York Times reported an incident involving tiny silvery pellets of cobalt-60 “that looked like cake decorations” accidentally ending up in a metal scrapyards in Juarez Mexico.

Each tiny little pellet delivered a radiation dose of 25 rads per hour at a distance of two inches, or 219,000 rads per year.

The maximum dose permitted for an atomic worker is 50 rads per year. Exposure to 400 rads of gamma radiation in a short time (e.g. 16 hours with one of these pellets in a shoe or pocket) will

kill half the people so exposed.

The cobalt-60 pellets were melted down and mixed in with other scrap metal. The result was over 400 tons of dangerously radioactive steel reinforcement rods being shipped to construction sites in seven different states of the USA, as well as thousands of radioactive table legs intended for restaurants and cafés throughout North America.

In a Winnipeg café, the table legs had to be retrieved as dangerous nuclear waste.

The New York Times said the incident was “recognized as potentially the worst spill of radioactive material in North American history.”

The Washington Post reported that the contaminated metal would not have been detected were it not for a confused truck driver hauling radioactive scrap taking a wrong turn into Los Alamos Nuclear Laboratories and accidentally triggering radiation alarms.

The total amount of cobalt-60 involved in the 1984 accident was 400 curies, equivalent to 14.8 billion becquerels. [should be 14.8 trillion becquerels]

The amount of cobalt-60 that CNL plans to put in the Chalk River megadump is 6,000 times greater. This is hardly “low-level” radioactive material!

Mr. MacKay writes that “CNL does everything in its power to help the public understand the facts about the NSDF, and has held dozens of public engagement opportunities to talk about this environmental remediation project in an open and transparent manner.”

Not so, apparently.

Runaround

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Mr. MacKay tells us that cobalt-60 is very short-lived, with “a half-life of only 5.3 years” and so “in little more than 50 years... the cobalt-60 will be essentially gone.”

The truth is that even if all 90 quadrillion becquerels of cobalt-60 were dumped at Chalk River today, 53 years later the amount of cobalt-60 remaining will be 90 trillion becquerels.

That is still six times greater than the amount of cobalt-60 involved in the 1984 cobalt-60 scrap metal incident, one of the worst radioactive releases ever experienced.

“In terms of how many people were potentially exposed and the duration of their exposure, it could [have been] the most serious radiation accident” in North America, said Karl Hübner, a radiation accident expert at the Oak Ridge Associated Universities in Ten-

nessee.

Perhaps we should offer a big thank you to Mr. MacKay for so clearly illustrating the duplicitous language surrounding CNL’s claims about the proposed Chalk River megadump.

It is not all “low-level” waste that is planned for the dump, the dump does not conform to international standards, and there will remain significant quantities of many highly dangerous materials in the dump for hundreds of thousands of years.

CNL likes to call its dump a “disposal facility,” but the word “disposal” has no scientific definition. Humans have never successfully disposed of anything that is indestructible.

The alternative to abandonment is rolling stewardship – see <www.ccnr.org> for the documents “Rolling_Stewardship.pdf” and “Five_Principles.pdf”.

Gordon Edwards, PhD, is President of the Canadian Coalition for Nuclear Responsibility. He says he has served as a consultant on nuclear issues to governmental and non-governmental organizations for over 40 years.