

Radioactive Waste - Clearance Levels

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As a means of attempting to deal with the sheer volume of materials contaminated with “low-level” radioactive waste, over the past years, governments and nuclear agencies have been developing policies that would clear materials with low levels of radioactive contamination that meet criteria referred to as “clearance levels” from regulatory control.

In other words, if the radioactivity levels of these waste materials meet or are below designated “clearance levels”, this waste is considered no longer radioactive and can be “free-released”, that is, transferred without any restriction or regulatory control, directly to landfills, to recycling streams, such as concrete, metal, soil, asphalt, etc. and ultimately into commercial and consumer products, ranging from building materials, steel, roads, vehicles, tools, utensils, furniture, playgrounds, toys, personal items etc.

By instituting clearance levels, the nuclear industry has “minimized” its quantity of waste by making it available for recycling and re-use. These policies are permitting the dispersal of man-made radioactive waste to enter freely into the open marketplace and into everyday consumer products, without public knowledge or consent and no means of tracking it. There is no way of knowing what portion of recycled material in a product contains “cleared” radioactive waste.

The deregulation of some low-level radioactive waste material is currently in place in Canada. Amendments made to the *Nuclear Substances and Radiation Devices Regulations* (NSRDR) in 2008 added clearance levels for the free release of radioactive materials. Accordingly, material that meets these clearance levels, can be “free released” from a licensed facility to recyclers, landfills etc., and into the marketplace without public knowledge and no way to track it. This practice is also operational in other countries.

Public concerns have been raised as to the potential for the contact to and releases of radioactive materials from numerous recycled sources over time, especially in playground material and toys, and the inability to track or control these releases to protect public safety, especially children.

For example, at Cameco’s facilities (refineries at Blind River and Port Hope, Ontario) clearance levels are applied to minimize its amount of wastes during the course of operation. If waste streams generated are considered “clean”, they are either recycled or sent to landfills. The nature of material cleared includes the following;¹

- Scrap metals collected at the site are decontaminated to comply with the CNSC’s unrestricted release criteria (i.e. free release or clearance limits) and then released to metal recyclers for re-melt or stored on-site.
- Other bulk non-combustibles such as soil, concrete and like materials are sent to landfill provided they meet the criteria set out in the *Nuclear Substances and Radiation Devices*

¹ Cameco Licence request – CMD 16-H8.1 p. 54, 55

Regulations (NSRDR). Other wastes are managed on a case by case basis in accordance with CNSC regulations.

- The production of Uranium Dioxide (UO₂) results in an ammonium nitrate by-product solution. The solution is treated to reduce uranium and radium to levels less than the CNSC requirements (10 mg U/L and 370 mBq/L) respectively. **After being analyzed for uranium and radium to ensure compliance with these levels, this material is released to a local agricultural supply company for use as a fertilizer.** [emphasis added]

This practice of free release is an insidious means of dealing with radioactive waste and is unacceptable. It only serves to spread around radioactive waste and put it into the common market in a variety of consumer products, thereby removing responsibility and liability from the nuclear industry and the government to properly account for and control these releases in the interest of protecting public safety.

As there is no safe dose for ionizing radiation, the release of any radioactive material must be prevented to protect public health and safety, and it must certainly not be made available in the marketplace, especially without informed knowledge and consent of consumers.