

VLLW RADIOACTIVE WASTE= VERY LARGE LOOPHOLE WASTE

Diane D'Arrigo
Radioactive Waste Director
Nuclear Information & Resource Service

Contact:
(301) 270-6477 x 3
dianed@nirs.org

Presentation NRC RIC
Regulatory Information
Conference
March 13, 2018



NO to VLLW

Don't Bother!

Keep all nuclear waste from the nuclear power and weapons fuel chain under **radioactive** controls.

Public opposes removing radioactive controls from radioactive waste

VLLW

Clearly for industry benefit

Weakening 10 CFR 61 protections for a large portion of the radioactive waste streams.

IAEA, HPS, EPRI and other supporters of the concept, which NRC is using to justify the new category, represent industry perspectives exclusively—no meaningful public input.

NRC Scoping announcement indicates large volumes of nuclear decommissioning waste would go to solid and hazardous waste facilities.

Radiation Risk

The most common justification for adding more radioactivity to the radioactive environment is that there is some preexisting natural and manmade radioactivity in the environment. Doubling an unavoidable risk by deliberately permitting release of manmade radioactivity is not publically or morally acceptable.

The National Academy of Sciences (BEIR VII) reports that there is risk of cancer from the preexisting radioactivity. Adding to background may not be directly attributable to increased cancer but it certainly does increase the risk to the exposed population.

The science shows that all ionizing radioactive exposures can cause harm--cancer and non-cancer health effects. NRC and nuclear waste generators SHOULD have a goal of PREVENTING radioactive releases and exposures, not legalizing and encouraging them.

Dose Limits are Unenforceable

- Dose limits such as 1 millirem/year are not verifiable or enforceable. They are not meaningful units of measure or protection. Further there is no effort to limit the number or practices or waste streams that can give that dose.
- Concentration limits are *theoretically* potentially enforceable but not practically so. The ability to verify release levels is expensive, time consuming and highly exclusive to industry and possibly some well-funded regulatory agencies.
- Creating a generic, across the board category of radioactive waste such as VLLW that does not need radioactive control is a clear, unacceptable shift of liability from the nuclear waste generators to the public.

Dilution or Averaging

- Radioactive wastes could be physically or mathematically averaged to enable hotter, more concentrated wastes to be considered VLLW.
- What is there to prevent higher concentration wastes from being diluted or packaged to VLLW levels, enabling more waste to avoid nuclear controls?
- What provision is there for calculating and observing the totality of the radioactivity released from radioactive control?

Long-lasting waste

If a VLLW category is created as a percentage of the 10 CFR 61.55 concentration tables, every kind of radionuclide is eligible to go to unregulated destinations including

- Plutonium 239 half life 24,000 years
- Strontium 90 half life 28 years
- Cesium 137 half life 30 years
- Tritium (H-3) half life 12 years
- Uranium-238 half life ~4.5 billion years + decay chain
- Uranium-235 half life ~ 700 million years + decay chain

Landfills Leak

- Synergistic health effects from radioactive and hazardous and radioactive and other stressors
- “Although liners and leachate collection systems minimize leakage, liners can fail and leachate collection systems may not collect all the leachate that escapes from a landfill. ... The USEPA has concluded that all landfills eventually will leak into the environment...” (U.S. Environmental Protection Agency, 1988).

10 CFR 20.2002 and 10 CFR 40.13a

Case by Case exemptions from radioactive regulatory controls

Codification of exemption from radioactive regulatory controls

NRC clearly ENCOURAGING REUSE AND RECYCLE

Appears to be the step toward VLLW—Industry requesting “relief” from burdensome 20.2002 analyses


