

Dear Colleagues,

I have written to you to request that the East Tennessee Chapter of the Health Physics Society considers the Bulk Survey for Release (BSFR) issue and acts to ensure the voices of reason and science are heard by the Tennessee legislature.

The Bill to ban disposal of low level radioactive materials at Tennessee landfills is now before Tennessee legislature. see <http://www.legislature.state.tn.us/>. Type in bill SB2733

This is moving in exactly the opposite direction from the risk based waste disposal policies advocated by the Health Physics Society. Discontinuing the BSFR program will impact disposal costs for all low level wastes as available capacity at licensed landfills dwindles, alternative disposal options eliminated, and available sites are monopolized by a single company. This will profoundly impact the cost of decommissioning facilities where large volumes of waste with trace levels of radioactive material will be diverted to the higher cost licensed facilities. As Health Physics professionals we should be good stewards and ensure radioactive materials are disposed of in a safe and environmentally responsible manner at the end of the facility life cycle, rather than leaving them sitting around as abandoned facilities across the country.

Table 1 - Exposure Basis for Exemption and Control

Source	mSv/yr	mrem/yr
ICRP Commodities - Building Materials	1	100
ICRP Practices – Public	1	100
ICRP Exposure Exemption for Practices	0.3	30
Great Britain VLLW	0.02	2
ICRP Prolonged Exposure Exemption for Practices	0.01	1
IAEA also 10 uSv/yr for Exemption	0.01	1

Although I am no longer working on this project for our client, I feel strongly that the BSFR issue in Tennessee is moving away from the policies necessary to ensure radioactive waste disposal options will remain viable over the coming decades. A risk based program like BSFR allows us to continue to decontaminate facilities and sequester source term in a cost effective manner. This is the environmentally responsible approach to low level waste disposal. The BSFR program implements sound principles to evaluate risk and establish concentration limits. The RESRAD software and models used by these companies are the same as those used for facility decommissioning where 25 mrem/year is the acceptable standard compared to 1 mrem/year at a BSFR landfill.

They are reviewed and approved by health physics professionals in the state Department of Public Health and BSFR is administered under a licensed, regulated program. The 1 mrem/year limit for resident farmer continuous occupancy is a standard of care adopted by the NCRP, ICRP and IAEA for low level materials. NCRP 116 defines this as a “negligible” dose. See the attached TENORM Reg Status file from 1999 that discusses these thresholds. See also IAEA Safety Standards Series Application of the Concepts of Exclusion, Exemption and Clearance Safety Guide No. RS-G-1.7, August 2004

Table 1 – Ra-226 TENORM US Disposal Concentrations

EPA Ra-226 TENORM Disposal	Min Bq/g	Max Bq/g	Min pCi/g	Max pCi/g
Average concentration radium in the oil and gas wastes at offsite and onsite disposal facilities is approximately 120 pCi/g.	4.44		120	
disposal in sanitary landfills , with limited access and no future development of the site	0.111	1.85	3	50
disposal in TENORM or Low-Level Radioactive Waste facilities	1.85	74	50	2000
Greater than 2,000 pCi/g disposal according to Atomic Energy Act regulations.		74		2000

There is no discernable increased risk at 1 mrem/year or even an increased environmental risk from BSFR. The state of Tennessee sample leachate at BSFR and Non-BSFR landfills in Tennessee last year. The leachate sample results showed that landfills in Tennessee that accept BSFR have no significant differences in the level of radioactivity. The levels of radioactivity were comparable to those at other landfills in Pennsylvania and California where similar studies were conducted. The contribution from BSFR nuclides is infinitesimal compared to K-40 and other naturally occurring nuclides in the landfills. In fact no BSFR nuclides like Co-60 were detected in the samples. The anti-nuclear PhD from California that was touting the higher gross beta levels in the Tennessee landfills compared to California's failed to mention that California's leachate samples were filtered prior to counting, while Tennessee's were unfiltered. It is a shame when informed knowledgeable people let such allegations go unanswered and perpetuate misinformation and fear in the public mind.

I do not need to tell you how these waste costs effect scientific research, medical care, and all of the other benefits from the use of radioactive materials that we derive. The Health Physics Position paper clearly identifies the impact and the need for a risk based system of disposal such as BSFR. The bottom line is that the BSFR program in Tennessee should be emulated by other states to slow the depletion of valuable licensed radioactive landfill space, not killed so that our precious remaining licensed radioactive landfills are filled up even faster with material that does not require such facilities to be safely disposed of.

I am a resident of Connecticut. Therefore, my writing to the Tennessee representatives will have little impact. I hope that you and your members will take the time to review the information I have attached and to urge your families and friends to contact their representatives to protest the passage of this Bill.

Sincerely,

Harvey Farr