

## Rulemaking1CEm Resource

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**From:** RulemakingComments Resource  
**Sent:** Friday, November 20, 2015 9:06 AM  
**To:** Rulemaking1CEm Resource  
**Subject:** FW: Docket ID 0057-0010&#8207; Linear (No-Thresh) Model & Standards 4 Radiation Protection

### DOCKETED BY USNRC—OFFICE OF THE SECRETARY

#### SECY-067

**PR#:** PRM-20-28, PRM-20-29, and PRM-20-30

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**NRC DOCKET#:** NRC-2015-0057

**SECY DOCKET DATE:** 11/19/15

**TITLE:** Linear No-Threshold Model and Standards for Protection Against Radiation

**COMMENT#:** 560

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**From:** Bobbi Filanda [mailto:robena@mail2Sky.com]  
**Sent:** Thursday, November 19, 2015 11:50 PM  
**To:** Gallagher, Carol <Carol.Gallagher@nrc.gov>  
**Subject:** [External\_Sender] Docket ID 0057-0010 Linear (No-Thresh) Model & Standards 4 Radiation Protection

Nuclear Regulatory Commission:

In this ongoing 70+ year nuclear age: testing, weapons, reactors, "routine" releases of radionuclides, IF a baseline amount were needed, I believe we must have Passed that threshold, especially considering our bodies bioconcentrate radiation. Would this hormesis theory give free rein to urging more people to consent to radiation treatments? Plus more trials for various causes in the form of possible cures? The petitioners state radiophobia (effects of radiation, below, though you should be aware), high cost(s) of abiding by the regs - the nuclear industry is what is cost exorbitant (government subsidies needed to stay in business), deaths due to Refusing said treatments? Ever heard of poor techniques providing medical radiation, burns, destruction of healthy tissues (example, Osteoradionecrosis)? Side effects, most, eventually deadly, from ionizing radiation, would certainly increase. It is a known fact that even small amounts of such exposure can lead to DNA changes, be passed on to progeny, cancers (especially in the very young or elderly), radiation sickness, death.

Every person is subjected to an average of 310 millirem (mrem) per year, of earth sourced radiation, plus 226 mrem from radon (in air) - formed from soil and rock containing uranium, thorium, and radium. "In addition, naturally occurring radioactive elements such as carbon, potassium, uranium, thorium, and radium, as well...as Carbon-14..., find their way into our food and drinking water." [ <http://www.cdc.gov/nc...eh/radiation/natural.htm> ]

Natural sun. "It is known that the sun's UVA and UVB rays are ultraviolet radiation, which damage skin cell DNA,...cause skin cancer. UVB rays are a more potent cause of at least some skin cancers, but based on what's known today, there are No safe UV rays." - 2015 / American Cancer Society (skin cancer and UV radiation).

Tritium comes down in rain, yet nuclear reactor releases magnify the amounts. "Like normal hydrogen, Tritium can bond with oxygen to form...water...is radioactive. Tritiated water...is chemically identical to normal water and the tritium cannot be filtered out." [ <http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/tritium->

[radiation-fs.html](#) ] Tritium is radiologically significant in that it is easily assimilated into our bodies. It can be inhaled, ingested via water, absorbed through skin from vapors. Experiments have been done with mice and rats. Tritium can cross the placenta, may induce spermatogenesis mutations, and chromosomal anomalies in human lymphocytes. "Like all radioactive substances, tritium is a carcinogen, a mutagen, and a teratogen." [ Dr. Gordon Edwards - [http://www.ccnr.org/tritium\\_1.html#UN-H](http://www.ccnr.org/tritium_1.html#UN-H) ]

Radiation man-made. Fission of uranium and plutonium result in Cesium-137. Continually supplied by nuclear reactors and events as the Fukushima meltdown. This formed element mimics potassium. If we are deficient, radioactive Cesium-137 can inhabit our bodies, tending to settle in the muscles and heart. Could be why there has been an increase in heart attacks in student athletes, who would receive more exposure to Cesium-137, as they are apt to spend more time outdoors. Their emitted beta particles may cause a rash or burn; if ingested, DNA damage to death can result. Cesium-137 gamma rays could penetrate many internal body parts with severe damage. I would question its common use as a nuclear medicine treatment. [

<http://www.nuclearworld.net/category/cesium-137/> ]

"Ionizing radiation...expelled from nuclear reactors,...can break molecular bonds in our cells, causing unpredictable chemical reactions...There is scientific evidence that lower doses lead to cancer, heart disease, and other ailments. Radiation use needs precaution. Science and human experience have shown that high doses of radiation are damaging, even deadly to human health. - Many experts, including the most recent National Academy of Sciences radiation committee, reconfirm there is no scientific evidence for a safe dose of radiation." [

[http://static1.1.sqspcdn.com/static/f/356082/3590705/1247619906770/precaution\\_roadmap.pdf?token=154AF22XCj31S28og2LM53iml%2BA%3D](http://static1.1.sqspcdn.com/static/f/356082/3590705/1247619906770/precaution_roadmap.pdf?token=154AF22XCj31S28og2LM53iml%2BA%3D) ]

Re: nuclear weapons testing, 1982, "radiation protection measures in the tests were substandard and 'not in the spirit' of what was known at the time about the health hazards of radiation...'We believe that the nuclear age is here to stay and that its future rests in large measure on the successful control of radiation exposure,' in an editorial in the first issue of Health Physics." - Dr. Karl Morgan, [ <http://www.nytimes.com/1999/06/13/us/karl-z-morgan-91-founder-of-the-field-of-health-physics-dies-in-tennessee.html> ]

Dr. Gordon Edwards, in "The Dangers of Nuclear Power: - An Open Letter to Physicists (Biological Ignorance, Some Biological Effects, more): "The history of atomic energy is one of repeated over-optimism, especially with regard to biological effects. Part of the reason for this, no doubt, is that physicists don't generally know very much biology. Nuclear physicists, for example, rarely spend a significant portion of their careers in the study of the biological effects of radiation. One of the factors that is often ignored in talking about the release of low-level radioactive wastes into the environment is the fact that biological organisms can concentrate those wastes to a dangerous level" [ [http://www.ccnr.org/open\\_letter.html](http://www.ccnr.org/open_letter.html) ] Presented in 1972 - shows this has been known for many years.

Radionuclides do accumulate in the body, via inhalation and ingestion. It is known small amounts can alter DNA, cause birth defects, cancer. Just because effects are not seen immediately does not mean they do not occur. Cancers may take years and years to surface and become known to exist in a body.

There is not only one source of exposure. We are constantly bombarded. Will you say this is safe?! We "need" more?

Living beings can be harmed by radioactivity. This fact is known. With the numerous testing facilities, reactors, nuclear waste, residual exposure from "accidents" such as Fukushima, I believe we are overexposed.

I am not expert, have a minimal knowledge of radiation, but know when you are aware, for example, a stove is hot, you do not touch it.

Can you say, no disrespect intended, with a clear conscience and / concern for humanity, that there is not a strong argument to not pass this new rule? I am very fearful that this would make it acceptable and "legal" to allow more and more amounts of lethal radiation to affect and infect our population.

Thank you for your time and attention,

R. Filanda, RN, BSN  
Southeast Michigan

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