

## **Rulemaking1CEm Resource**

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# PUBLIC SUBMISSION

**Docket:** NRC-2015-0057

Linear No-Threshold Model and Standards for Protection Against Radiation

**Comment On:** NRC-2015-0057-0086

Linear No-Threshold Model and Standards for Protection Against Radiation; Extension of Comment Period

**Document:** NRC-2015-0057-DRAFT-0353

Comment on FR Doc # 2015-20722

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## General Comment

I totally oppose the radiation hormesis model. The studies used to give any credence to this fallacious idea are very flawed an aberration. I suggest the the NRC look at Passenger Jet crews to find an analogy. Flight crews receive a steady low dose of radiation that is not associated with fission products. It is found that airline flight crews suffer a 42% greater cancer rate than normal.

The following is a quote from:

[http://www.theecologist.org/News/news\\_analysis/2985367/is\\_radiation\\_good\\_for\\_you\\_the\\_us\\_nuclear\\_regulatory\\_commission\\_could\\_decide\\_it\\_is.html](http://www.theecologist.org/News/news_analysis/2985367/is_radiation_good_for_you_the_us_nuclear_regulatory_commission_could_decide_it_is.html).

The Nuclear Information and Resource Service points out that the US Environmental Protection Agency or EPA is fully supportive of LNT. The agency's reason for accepting LNT - and history of the standard - were spelled out in 2009 by Dr. Jerome Puskin, chief of its Radiation Protection Division.

The EPA, Dr. Puskin states, "is responsible for protecting the public from environmental exposures to radiation. To meet this objective the agency sets regulatory limits on radionuclide concentrations in air, water, and soil."

The agency bases its protective exposure limits on "scientific advisory bodies, including the US National Academy of Sciences, the International Commission on Radiological Protection, the United Nations Scientific Committee on the Effects of Ionizing Radiation, and the National Council on Radiation Protection and Measurements, with additional input from its own independent review."

The LNT standard "has been repeatedly endorsed" by all of these bodies, he writes, and "It is difficult to imagine any relaxation in this approach unless there is convincing evidence that LNT greatly overestimates risk at the low doses of interest." And "no such change can be expected" in view of the determination of the National Academies of Sciences' BEIR VII committee. (BEIR is for Biological Effects of Ionizing Radiation.)

BEIR VII found that "the balance of evidence from epidemiologic, animal and mechanistic studies tend to favor a simple proportionate relationship at low doses between radiation dose and cancer risk."

As chair of the BEIR VII committee, Dr. Richard Monson, associate dean of the Harvard School of Public Health, said in 2005 on issuance of its report: "The scientific research base shows that there is no threshold of exposure below which low levels of ionizing radiation can be demonstrated to be harmless or beneficial."

'Tell NRC: A little radiation is BAD for you'

A European expert on radioactivity, Dr. Ian Fairlie, who as an official in the British government worked on radiation risks and has been a consultant on radiation matters to the European Parliament and other government entities, has presented detailed comments to the NRC on the petitions that it drop LNT and adopt the hormesis theory.

Dr. Fairlie says "the scientific evidence for the LNT is plentiful, powerful and persuasive." He summarizes many studies done in Europe and the

United States including BEIR VII. As to the petitions to the NRC, "my conclusion is that they do not merit serious consideration." They "appear to be based on preconceptions or even ideology, rather than the scientific evidence which points in the opposite direction."

An additional issue in the situation involves how fetuses and children "are the most vulnerable" to radiation and women "more vulnerable than men", states an online petition opposing the change. It was put together by the organization Beyond Nuclear, also based near Washington DC.

Headed "Protect children from radiation exposure", it advises: "Tell NRC: A little radiation is BAD for you. It can give you cancer and other diseases ... NRC should NOT adopt a 'little radiation is good for you' model. Instead, they should fully protect the most vulnerable which they are failing to do now."

How might the commissioners of the NRC decide the issue? Like the Atomic Energy Commission which it grew out of, the NRC is an unabashed booster of nuclear technology and long devoted to drastically downplaying the dangers of radioactivity.

A strong public stand - many negative comments - over their deciding that 'radioactivity is good for you' could make all the difference."

The Linear no threshold model has a gender and age bias. It is well known that children, and especially girls and women have a greater sensitivity to radiation, a higher incidence of cancer and leukemia to low doses of radiation.

Thank You  
William Mark Casebier,  
Sweet Home, Or.