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Linear No-Threshold Model and Standards for Protection Against Radiation

Comment On: NRC-2015-0057-0010
Linear No-Threshold Model and Standards for Protection Against Radiation; Notice of Docketing and Request for Comment

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Submitter Information

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General Comment

I do not support the 10CFR20 rule change suggested by Mohan Doss, et al, Dr. Carol Marcus and Mark Miller in their petitions.

The similarity in their petitions makes me wonder who the "man behind the curtain" is that is pursuing this agenda:

From Dr. Carol Marcus' petition (citations removed for clarity):
I will present scientific data as reported in study after study to justify that safety regulations and policies should no longer be derived from the LNT model in order to ensure these requirements are more risk-informed... There has never been scientifically valid support for this LNT hypothesis since its use was recommended by the U.S. National Academy of Sciences Committee on Biological Effects of Atomic Radiation (BEAR I)/Genetics Panel in 1956. The costs of complying with these LNT-based regulations are enormous. Prof. Dr. Gunnar Walinder has summed it up: The LNT is the greatest scientific scandal of the 20th century.

From Mark Miller's petition (citations removed for clarity):
I will present scientific data as reported in study after study to justify that safety regulations and policies should no longer be based on the scientifically unjustified LNT model... There has never been scientifically valid support for this LNT hypothesis since its use was recommended by the U.S. National Academy of Sciences Committee on Biological Effects of Atomic Radiation (BEAR I)/Genetics Panel in 1956. The costs of complying with these LNT-based regulations are incalculable. Dr. Gunnar Walinder has summed it up: The LNT is the greatest scientific scandal of the 20th century.

All three petitioners state the current LNT-based regulations are not based on science. They suggest that low-levels of radiation may have a "hormetic" effect "in which low levels of potentially stressful agents, such as toxins, other chemicals, ionizing radiation, etc., protect against the deleterious effects that high levels of these stressors produce and result in beneficial effects (e.g. lower cancer rates)." (quote from Mr. Miller's petition).

All three petitioners say the benefit of this "hormetic" effect outweighs the cost of the current "As Low As Reasonably Achievable" principle. If this "hormetic" effect exists, then the current "Linear, no-Threshold" standard is denying the public the health advantage of a low radiation dose.

All three petitioners cite the research of B.L. Cohen to support the statement "Comparison of residential radon levels and lung cancer rates in the counties of the USA has shown an inverse correlation between radon levels and lung cancer rates" (quote from Mr. Doss' petition). That is their only substantiation of this "hormetic" principal for ionizing radiation.

Unfortunately, the World Health Organization said this about Cohen's research: "Cohens geographical correlation study has intrinsic methodological difficulties which hamper any interpretation as to causality or lack of causality"
(IARC Monographs on the Evaluation of Carcinogenic Risks to Humans 78. World Health Organization, International Agency for Research on Cancer. 2001, p. 160)

I believe the current "Linear, no-Threshold" standard is satisfactory and that there is no substantial science upon which to base any change in the 10CFR20 limits.

I hope you extend the comment deadline as requested by numerous other commentors. This will allow for a reasoned, timely and informed discussion by commentors from a wide variety of backgrounds and interests.

About me:
I successfully completed the Reactor Operations class at the Reed Research Reactor
I graduated in the top half of my (Officer) class at Naval Nuclear Power School
I passed the Department of Energy, Division of Naval Reactors comprehensive "Nuclear Engineer Officer" exam

Thank you,
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