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Marcia K. McNutt, Ph.D.
Editor-in-Chief, *Science* Family of Journals
American Association for the Advancement of Science
1200 New York Avenue NW
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Subject: The article <http://www.sciencemag.org/content/123/3209/1157> “Genetic effects of atomic radiation”, a summary report of the Committee on the Genetic Effects of Atomic Radiation of the National Academy of Sciences, published in *Science*, in Volume 123, pages 1157-1164, on June 29, 1956,

Dear Dr. McNutt:

I would like to add my support to the request by Dr. Jerry Cuttler that *Science* retract the above summary report of the Genetics Panel of the Biological Effects of Atomic Radiation (BEAR) I Committee of the National Academy of Sciences (NAS). Prof. Edward Calabrese has summarized his findings regarding this report in a recent publication “On the origins of the linear-no-threshold (LNT) dogma by means of untruths, artful dodges and blind faith” in *Environ. Res.* (2015), <http://dx.doi.org/10.1016/j.envres.2015.07.011>. There are many disturbing revelations regarding the origin of the LNT model in this comprehensive analysis by Prof. Calabrese. I will just mention one aspect in this letter.

The summary report made statements such as: “*Even very small amounts of radiation unquestionably have the power to injure the hereditary materials*” and “*there is no such figure other than zero*” (for amount of radiation that is genetically harmless). **The LNT model essentially originated with this report.** The report was also published in the *New York Times* and received huge publicity initiating the fear of low-dose radiation.

However, a year later, the letters exchanged among the BEAR Genetics Panel committee members included statements such as: “*I, myself, have a hard time keeping a straight face when there is talk about genetic deaths and the tremendous dangers of irradiation*”, “*Let us be honest with ourselves—we are both interested in genetics research, and for the sake of it, we are willing to stretch a point when necessary*”, and “*Now, the business of genetic effects of atomic energy has produced a public scare, and a consequent interest in and recognition of importance of genetics. This is to the good, since it will make some people read up on genetics who would not have done so otherwise, and it may lead to the powers-that-be giving money for genetic research which they would not give otherwise.*” (Please see page 440 of the Calabrese article).

These exchanges are highly informative, as they indicate the true reason for the adoption of the LNT model was not that the smallest amount of radiation is dangerous according to the NAS BEAR Genetics Panel committee members, but their own self-interest.

The use of the LNT model over the years has resulted in tremendous public harm because of actions taken by governments, professionals, political activists, and the public based on unfounded fears and concerns regarding low-dose radiation. Some examples of public harm are as follows:

- Casualties in Fukushima: Urgent evacuation of the Fukushima area and its prolongation following the 2011 nuclear power plant accidents caused more than 1000 deaths with no recognizable benefit. More than 100,000 people remain displaced, either by government mandate or by fear of low-level radiation exposure.
- Suppression of nuclear energy: The use of nuclear energy to produce electricity, though it has proven to be the safest in terms of number of fatalities per amount of energy produced, has been suppressed due to trumped up low-dose radiation-induced cancer concerns. This has resulted in real casualties from the use of other non-nuclear energy sources.
- Suppression of research on cancer, Alzheimer's disease, etc.: There is considerable evidence supporting the use of low-dose radiation to prevent cancers and other major diseases like Alzheimer's. The use of the LNT model unnecessarily inhibits testing such ideas.
- Missed diagnoses: Many patients are refusing to have CT scans and doctors are not prescribing them due to radiation dose concerns, resulting in missed diagnoses and potentially harming patient health. Also, CT scans are being performed with poorer image quality to reduce radiation dose, making it harder to diagnose diseases.
- High costs: Ratcheting up of regulations for the various uses of radiation (medical, industrial, nuclear energy, etc.) has resulted in tremendously increased costs but no benefit.

Hence, both from the perspective of scientific integrity as well as in the best interests of the society, it is important that the LNT model be rejected by the scientific community and not be used any longer. The retraction of the 1956 BEAR I Genetics Panel summary report by *Science* would help in achieving this goal by correcting a major error committed by the scientific community in the 1950s. I hope you would initiate the process of retraction of the 1956 BEAR I Genetics Panel summary report immediately. Thanks for your consideration.

Sincerely,



Mohan Doss