Scientists for Accurate

Radiation Information

(SARI)

Secretary, U.S. Nuclear Regulatory Commission,

Washington, DC 20555–0001

ATTN: Rulemakings and Adjudications Staff

Date: 9/29/2015

**SUBJECT: ALARA Comments in Support of Petitions - Docket Numbers PRM–20–28, PRM–20–29, and PRM–20–30 which request that the NRC amend its ‘‘Standards for Protection against Radiation’’ regulations and change the basis of those regulations from the Linear No-Threshold (LNT) model of radiation protection -** Docket ID NRC–2015–0057

We, the listed members from Scientists for Accurate Radiation Information\* ([SARI](http://radiationeffects.org/)), an organization of like-minded individuals interested in promulgation of scientifically-based information of the true risk from exposure to ionizing radiation, would propose that actions be taken to remove clause §20.1101(b) be removed from Title 10 Code of Federal Regulations Part 20. This clause states, “The licensee shall use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable (ALARA).” It is our view that the implied risk that would be mitigated by this clause is not scientifically based and has resulted in millions of dollars in unnecessary expenditures by government and industry and has promoted a fear of radiation to members of the public.

The ALARA concept is a result of what is known as the linear no-threshold (LNT) theory that states that any radiation exposure, no matter how small, is in some way harmful. Recent information has come to light (Calabrese, 2015) showing that early statements to this effect by Nobel laureate Herman Muller and as published by subsequent panels of the Biological Effects of Atomic (now Ionizing) Radiation (BEIR) were unfounded and perhaps politically motivated. These statements were promulgated into publications of the International Commission on Radiological Protection and National Council on Radiation Protection and Measurements and ultimately into regulation. We feel that it is time to correct this costly error .

While the BEIR committee continues to promote this ideology, there have been many recent publications that show that the LNT model is untenable and that there are likely thresholds above which radiogenic effects might occur. (HPS ,2010) In addition, the data cohort used by BEIR (Hiroshima and Nagasaki exposure victims) does not effectively address stochastic effects below 50 rem (Ozasa, 2012). It is therefore inappropriate to continue the use of LNT and the practice of ALARA.

We recognize that researching and recommending a threshold dose at this time would be impractical, without collaboration with the NCRP and possibly even the ICRP. We look forward to your positive response to the three petitions listed and offer our organization’s support in your deliberations.

Signed,

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Edward (Ted) L. Quinn, Past President, American Nuclear Society, 1998-99

**References**

Calabrese, 2015. “On the origins of the linear no-threshold (LNT) dogma by means of untruths, artful dodges and blind faith”, Environmental Research 142 (2015) 432–442.

HPS, 2010. PS0010-2, “Radiation Risk in Perspective”

Ozasa, 2012. Ozasa K, Shimizu Y, Suyama A, Kasagi F, Soda M, Grant EJ, et. al., “Studies of the mortality of atomic bomb survivors”, Report 14, 1950–2003: an overview of cancer and non-cancer diseases. Radiation Research 2012; 177:229–43.

# \* SARI’s Charter

**Charter:** *The objective of this group is to monitor for and counter nuclear/radiological misinformation that could adversely impact the world’s ability to effectively respond to nuclear and radiological challenges, to the end point of saving lives.*

Note: All signers of this letter are members or associate members of [SARI (Scientists for Accurate Radiation Information)](http://radiationeffects.org). The above letter represents the professional opinions of the signers, and does not necessarily represent the views of their affiliated institutions.