



Position Statement #41

Health Effects of Low-Level Radiation



It is the position of the American Nuclear Society that there is insufficient scientific evidence to support the use of the Linear No Threshold Hypothesis (LNT) in the projection of the health effects of low-level radiation.

Given this situation, an independent group of reputable scientists, medical experts and health researchers should be established to conduct an open scientific review of all data and analyses on the subject of LNT. Based on the conclusions of this review group, a separate group composed of stakeholders should make recommendations on whether adjustments to current radiation protection guidelines should be made immediately to reflect current information.

In addition, it is the ANS position that new research on low-level radiation health effects, spanning several disciplines, should be initiated. Meritorious existing research within the disciplines should continue to receive funding.

While this research proceeds, the ANS concurs with the Position Statement on “Radiation Risk in Perspective” issued by the Health Physics Society in January 1996, which states as follows:

“In accordance with the current knowledge of radiation health risks, the Health Physics Society recommends against quantitative estimation of health risks below an individual dose of 5 rem¹ in one year or a lifetime dose of 10 rem in addition to background radiation. Risk estimation in this dose range should be strictly qualitative accentuating a range of hypothetical health outcomes with an emphasis on the likely possibility of zero adverse health effects. The current philosophy of radiation protection is based on the assumption that any radiation dose, no matter how small, may result in human effects, such as cancer and hereditary genetic damage. There is substantial and convincing scientific evidence for health risks at high dose. Below 10 rem (which includes occupational and environmental exposures) risks of health effects are either too small to be observed or are non-existent.”

References

1. The rem is the unit of effective dose. In international units, 1 rem = 0.01 sievert (SV)



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