

# PUBLIC SUBMISSION

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**Docket:** NRC-2015-0057

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 oppose any increases of allowable limits of exposure to radiation in any form.

Radiation comes from so many sources..accidents from nuclear power plants such as Fukushima, background radiation, cellphones and cellphone towers, ultraviolet (UV) radiation, radon, tanning beds, microwaves, ELF radiation from power lines, and various consumer products. It is invisible and the amount of exposure cannot be ascertained without sophisticated testing/monitoring that is not readily available to the general public.

From the website of the American Cancer Society:

<http://www.cancer.org/cancer/cancercauses/radiationexposureandcancer/xraysgammaraysandcancerrisk/x-rays-gamma-rays-and-cancer-risk-do-xrays-and-gamma-rays-cause-cancer>:

Under the heading:Do x-rays and gamma rays cause cancer?

"X-rays and gamma rays are known human carcinogens (cancer-causing agents). The evidence for this comes from many different sources, including studies of atomic bomb survivors in Japan, people exposed during the Chernobyl nuclear accident, people treated with high doses of radiation for cancer and other conditions, and people exposed to high levels of radiation at work, such as uranium miners.

Most studies on radiation and cancer risk have looked at people exposed to high doses of radiation in the settings above. It is harder to measure the much smaller increase in cancer risk that might come from much lower levels of radiation exposure. Most studies have not been able to detect an increased risk of cancer among people exposed to low levels of radiation. For example, people living at high altitudes, who are

exposed to more natural background radiation from cosmic rays than people living at sea level, do not have noticeably higher cancer rates.

Still, most scientists and regulatory agencies agree that even small doses of gamma and x-radiation increase cancer risk, although by a very small amount. In general, the risk of cancer from radiation exposure increases as the dose of radiation increases. Likewise, the lower the exposure is, the smaller the increase in risk. But there is no threshold below which this kind of radiation is thought to be totally safe."

Under the heading What do expert agencies say?

"Several agencies (national and international) study different substances in the environment to determine if they can cause cancer. (A substance that causes cancer or helps cancer grow is called a carcinogen.) The American Cancer Society looks to these organizations to evaluate the risks based on evidence from laboratory, animal, and human research studies.

Based on animal and human evidence, several expert agencies have evaluated the cancer-causing nature of x-rays and gamma rays.

The International Agency for Research on Cancer (IARC) is part of the World Health Organization (WHO). Its major goal is to identify causes of cancer. Based on the data available, IARC classifies x- and gamma radiation as a known human carcinogen.

The National Toxicology Program (NTP) is formed from parts of several different US government agencies, including the National Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC), and the Food and Drug Administration (FDA). The NTP has classified x- and gamma radiation as known to be a human carcinogen.

The US Environmental Protection Agency (EPA) sets limits for exposure to x-rays and gamma rays in part because it recognizes that this form of radiation can cause cancer."