

from: Nuclear Information & Resource Service

Levels of tritium (radioactive hydrogen) **in rivers and oceans** are estimated to be from **3.2 to 24 picocuries per liter.**^{1, 2.} The U.S. Environmental Protection Agency's current regulations, under the Safe Drinking Water Act of 1974, as amended, allow drinking water to contain **20,000 pCi per liter at the tap.** The EPA assumes a person drinks two liters of water a day. If he or she drinks two liters containing the EPA's permissible 20,000 pCi/L, that person could consume **40,000 picocuries in one day.**

A **picocurie**, or one trillionth of a curie, emits **2.22 radiation particles per minute.** The half-life of tritium is 12.3 years. The tritium generated today will continue emitting beta particles for at least ten half-lives.

The Nuclear Information & Resource Service believes that the EPA's permissible level of tritium in drinking water (20,000 pCi/L) is far too lenient. Any exposure to radiation increases a person's risk of damage to tissues, cells, DNA and other vital molecules, genetic mutations, cancers, leukemias, birth defects, and reproductive, immune, cardiovascular and endocrine system disorders.

Permissible does not mean safe. It means "as low as reasonably achievable."
In other words, as low as the nuclear industry claims it can afford to achieve.

¹ Excerpt from Behaviour of Tritium in the Environment -- Proceedings of a Symposium, San Francisco, 16-20 October 1978, Published by the **International Atomic Energy Agency**. Vienna, 1979. page 536:

"2. Natural and Anthropogenic Sources of Tritium:

The present biospheric inventory of tritium results primarily from natural atmospheric sources, nuclear explosions and the nuclear industry.

"2.1 Natural sources.

Nuclear reactions induced by cosmogenic radiation in the atmosphere are the main source of natural tritium generation. Calculated production rates are still rather uncertain but indicate a global inventory of about 20 - 40 megacuries. The average concentrations of tritium of natural origin are about 3 picocuries per liter in ocean surface waters, 4 pCi/liter in precipitation, and **6 - 24 pCi/liter in continental waters.**" (emphasis added)

² Excerpt from Tritium in the Environment. Published by the **National Council on Radiation Protection and Measurements**, Washington DC. March 1979 – NCRP Report No. 62, page 78:

"8.3 Doses from Tritium in the Environment:

"8.3.1 Natural.

The average concentration of tritium in **environmental waters** due to natural tritium production in the atmosphere by cosmic rays is **3.2 to 16 picocuries per liter.** The production rate is estimated to be 4 to 5.5 megacuries per year. The larger estimate, with the seven compartment model (release to world atmosphere) gives an equilibrium tritium concentration of 16.6 pCi per liter in air, **10.4 pCi/liter in streams**, 1.6 pCi/liter in surface ocean, and 12.3 pCi/liter in man." (emphasis added) #