

From: Jim Johnston
Sent: Tuesday, November 03, 2015 11:49 AM
To: Hanlon, Edward <Hanlon.Edward@epa.gov>
Subject: Comment on protecting the vulnerable from radioactivity

Dear Mr. Edward Hanlon,

Dr. David B. Richardson was the lead author of a recently published study which estimates excess cancer DEATHS (mortality) from radiation at 51 to 58% per Sievert.

Since roughly half (52%) die, this would be a 99 to 100% excess cancer rate (morbidity) per Sievert. This excess relative risk is around 10 times higher than the 2005 BEIR VII report estimates.

The earlier 15 country study suggests an even higher rate, meaning that the Richardson et. al. estimate appears middle of the road.

What was the excess relative risk estimate when the current rule was implemented? What will be done to make new EPA standards 10 times (or more) protective? That is, how will this be taken into consideration?

In an interview Dr. Richardson mentioned that this should be taken into consideration for nuclear workers and in radiology.

However, these two do not fall under EPA jurisdiction, but legally (and illegally) leaking nuclear facilities, including waste, DO fall under EPA jurisdiction because they pollute the environment. (Well, under patient release rule some medical releases pollute too). Furthermore, the risk to animals and plants must be considered.

Additionally, research is under way regarding health impacts other than cancer, which will need to be taken into consideration.

See: "Risk of cancer from occupational exposure to ionising radiation: retrospective cohort study of workers in France, the United Kingdom, and the United States (INWORKS)" BMJ 2015; 351 doi: <http://dx.doi.org/10.1136/bmj.h5359> (Published 20 October 2015) David B Richardson, et. al.

Thank you,
Jim Johnston