

April 25, 1979

Chairman James Hendrie
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

RE: EPA ORP-SID 72-1

Dear Commission Chairman Hendrie:

From the speeches of the NRC Commissioners I have read, and recognizing the lumbering nature of bureaucracy and mercurial nature of politics, I am beginning to sympathize with the Commission in trying to carry out their function as regulator. I used to assume that experts in any given field read and evaluated everything on that particular field. But as regulators, I guess you work with the tools at hand, depending on other government agencies to do their job right. For that reason I am writing to you, who take the brunt of criticisms on nuclear issues with my comments on referenced report "Natural Radiation Exposure in the U.S." by Donald T. Oakley.

Since the referenced report is the basis for establishing radiation exposure for populations around nuclear facilities, you cannot imagine my shock to learn that it is a thesis for someone's doctorate! Not a scientific study based on actual and timely environmental measurements at a specific site or area, but an estimate based on aerial surveys made a decade ago. I guess the figures that the author came up with seemed to dovetail into the "permissible dose" Eisenhower established as a political decision in May of 1960 via FR Ruling. The whole thing is complete insanity.

A few specific criticisms - The entire concept of determining "natural" background radiation from aerial surveys taken at nuclear installations is ridiculous. The only "natural" background radiation occurred before man started digging up coal, copper, etc. Each activity man has engaged in adding radiation to the environment must be classified as technologically enhanced natural radiation; and the man-made radiation such as plutonium from satellite crashes or bomb tests must be classified as man-made radiation. To establish a "natural" radiation measurement long after man's activity has been adding to the natural background radiation is simply deceiving either oneself, or the "general public" as we out here in the non-scientific community are referred to.

Page 24 - the author states that the aerial radiological measuring surveys (ARMS) conducted in 1963 concluded "there were no reported or obvious patterns of radionuclide deposition around the facilities". I strongly suspect there was either something wrong with the surveying equipment and the authors of the report, or the reports were edited to conform to some political design since in just the past six months EPA has announced there are 1200 to 2000 lost radioactive materials sites in the U.S. Why didn't any of these show up in ARMS? Also known sites, such as Mound Lab have contamination in surrounding areas.

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ARMS did not use data obtained over lakes, reservoirs and swamps, a gross omission as these are areas that would contain radionuclides such as the leaks that occurred at Hanford, Wash. or the discharges, accidental or permissible, of weapons facilities such as G.E. Knolls Atomic Labs. By omitting bodies of water in the measurements, ARMS possibly eliminated one of the largest contained areas of "natural" radioactivity, thereby lowering the estimated population dose based on ARMS measurements.

Since the time of the aerial surveys, use of radioactive materials have multiplied in our environment through industrial, weapons, medical, and/or commercial uses - all additive to the EPA estimated population dose based on 10 year old measurements.

To claim a measurement of natural radiation is pure fiction. The only natural radiation measurement occurred long before science devised a way to measure it. In fact, it occurred before man even recognized such a thing as natural radiation, and it became TENR when man first learned to use fire, releasing the natural radiation in wood.

pg. 35 4.2.1 Housing "...natural radioactivity in building materials, are based on relatively little data, and probably represent the greatest uncertainty in estimating man's exposure to natural sources". Another fairy tale. Plants take up radioactivity, so while wood is ~~is~~ radioactive naturally, degree depending on geographic location, is probably also growing more so every year unnaturally due to weapons testing fallout as well as other atmospheric and water borne discharges and leaks from nuclear facilities. The author also overlooks the fact that masonry ~~buildings~~ buildings with high DE from nuclides may very well be due to mill tailings from uranium or other mining activities or slag from phosphate minings - all man enhanced natural radiation.

pag. 21 3.3.2 DE due to fallout - the author says fallout from testing doubled background radiation in 1962 to 1963 but that "recent measurements" (pre 1970) show DE rate from fallout to be approximately 5 to 15% of "natural" terrestrial rate. If 75% of the fallout was cesium 137 (column 2, pg. 22) the DE from fallout would not have decreased by 80 to 90% by 1970. In addition to this burden still with us, we have the additive radioactivity from the Cosmos crash, French atmospheric testing until 1974, as well as the "dirty" Mainland China tests of 1976 and 1978, plus the releases from the 3 Mile Island Plant, and leaking underground U.S. weapons tests.

As stated before, the figures the author came up with look good to the nuclear industry - something they feel the public can accept, and something to rationalize the continuation of proliferation of nuclear materials throughout the environment, but to me it is a gross deception of humanity.

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In addition to using a thesis in place of scientific data, even some of the references are unpublished, making it impossible for someone to check the accuracy of the supporting data for the thesis.

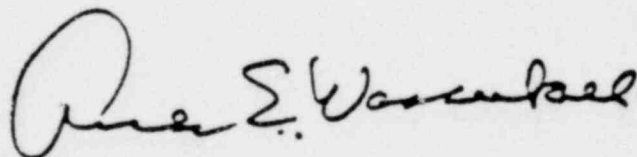
There is no such thing as a true measurement of background radiation. There is not even a definition of TENR. And there is no such thing as an average "permissible dose" or population dose except on paper. This is tragically and shamefully borne out by the testimony of survivors of U. S. nuclear weapons testing in our own country.

I am sending my comments to you, as EPA has a problem and obviously, if it endorses a thesis full of assumptions and outdated data as a guideline to "protect" the public's health, it must feel hardpressed to come up with ~~any~~ figures ~~so~~ ambiguous enough to justify the existence of ORP, but not so incriminating as to eliminate it.

Since NRC can only do its job to the best ability of the tools it is given, I would request that you review ORP@SID 72-1.

Wishing you sunny skies,

cc:Dr. R. Bertell,
Ministry for Concern for Public Health
Rep. H. Fish, Jr.
NRC V. Gilinsky
Senator G. Hart
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N.Y. Times

Such mudflows could pour into three hydroelectric reservoirs on the Lewis River just south of Mount St. Helens, which, in turn, could cause wide flooding in the river valley and could swell the Columbia River downstream from Port-

Rays Make Human Cells Malignant in Laboratory

3-22-80

DAYTONA BEACH, Fla., March 27 (UPI)—A powerful X-ray beam has converted normal human cells into cancerous cells in the laboratory for the first time, opening the way for a new test to evaluate the risks of low levels of radiation.

Heretofore, scientists have been able to obtain this result only with the cells of laboratory animals. The development was reported yesterday by a New York biologist, Dr. Carmia Borek of the Columbia University College of Physicians and Surgeons. She used a dose of 400 rads to transform human skin cells into a malignant state.

Even at such a high dose, Dr. Borek said, only one cell in more than 1 million was made cancerous. By comparison, animal cells turn into cancerous cells with a similar radiation dose at the rate of 10,000. It is because of these differences in resistance that scientists have been reluctant to use animal cell studies to evaluate radiation risks for humans.

Once the rate of cell conversion in human cells is more precisely determined, the system can be used to assess cancer risks under various radiation conditions. "It seems different things happen at different dose levels," Dr. Borek said in an interview after discussing the development at an American Cancer Society symposium. The findings have just been reported in the British scientific journal, Nature.

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