

A-bomb tests didn't cause cancer, government says

United Press International
SALT LAKE CITY — A \$6 million Energy Department study assessing radiation from nuclear fallout has determined exposure levels to the organs of certain cancer victims were not enough to cause cancer.

The victims were cited in a massive lawsuit against the government.

That is the latest piece to the puzzle Justice Department attorneys are attempting to assemble to show U.S. District Judge Bruce S. Jenkins the government did not disregard the safety of downwinders when it conducted the Nevada atomic bomb tests in the 1950s and early '60s.

Dr. Lynn R. Anspaugh, a biophysicist at the Lawrence Livermore National Laboratory, testified on behalf of the government Friday as the federal trial ended its eighth week.

He said his analyses from computer-simulated data show doses to the most critical organs of the 24 cancer victims cited in the multi-million dollar lawsuit ranged from 310 rads to 0.28 rads.

But that's the total dosage received over the entire 11-year atomic bomb test program, so the yearly average for the highest dose would be only 3.1 rads, defense attorneys contend.

Earlier in the week, several pathologists testified it would generally take more than 50 rads received during a short period of time to initiate the chain of events in a cell that eventually leads to cancer.

And if the doses are received in small amounts over a long period of time, the normal cell generally has a chance to repair itself from the initial damage before the next exposure.

Other testimony for the government noted the Atomic Energy Commission determined during the test period that 3.9 rads per year was the maximum exposure it could

allow from the explosions at the Nevada test site.

Expert witnesses presented by the plaintiffs testified that the most damaging kind of exposure occurs from ingesting radioactive particles through food and air.

So Anspaugh described how he calculated the internal exposures each cancer victim received through inhalation or ingestion.

Earlier witnesses who are participating in the study — which is becoming a cornerstone of the government's case — testified the data showed northern Utah actually received more fallout

than southern Utah, and monitors measuring the external radiation indicated negligible dose levels.

Anspaugh took those external measurements and then calculated the amount humans would ingest or inhale to reach his internal dose level.

Then he added the internal exposures to external gamma ray exposures computed by other participants in the study.

Because individual human organs react differently to radiation exposure, Anspaugh said he chose a critical organ most related to the type of cancer suffered for his study of each victim.

itty bitty con iii with vicki ann heydron

she will speak on researching the background of imaginary worlds. she will also read an excerpt from *the bronze of eddartha*, the third novel in the *gandalara* series.

after the presentation there will be an off campus party featuring the movie *casino royale*.

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tuesday, november 9
7:00 601 rudder free

Smog tied to cancer of breast

United Press International
BERKELEY, Calif. — Breast cancer may be linked to auto exhaust and smokestack emissions, researchers at the University of California at Berkeley say.

Researchers have obtained the first experimental evidence linking benzopyrene, a hydrocarbon combustion byproduct, with breast cancer, laboratory officials said.

The findings were reported in a recent issue of the *Journal of Cellular Biochemistry*.

"Benzopyrene is the most common chemical carcinogen in the environment resulting from the burning of fossil fuels," said Jack Bartley, one of the two biomedical scientists who conducted the research.

"It may be found in automotive exhaust as well as in emissions from industrial smokestacks, and mammary cells are well-supplied with enzymes which act on this substance," he said.

By exposing living breast cells developed in the laboratory to benzopyrene, the scientists identified the cellular processes by which a chemical is converted into its cancer-causing form. Some of the benzopyrene was metabolized by the cells and transformed into a biochemical derivative that reacts with DNA, the carrier of the genetic code.

"This reaction has been suggested as a crucial event in the initiation of cancer in a cell," Bartley said.

Studies in underdeveloped countries where the incidence of smog is much lower have shown a lower rate of cancer occurrence.

Bartley also noted individual county studies in the United States indicate women in urban areas are more likely to develop cancer than those living in rural areas.

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