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**Subject:** Re: NRC Proceeding "Bell Bend 52-039-COL"

**Subject:** [Study: Nuclear plant radiation may be to blame for cancer spike](#)

*Standard Speaker* - [Study: Nuclear plant radiation may be to blame for cancer spike](#) - Kelly Monitz

Study: Nuclear plant radiation may be to blame for cancer spike

BY KELLY MONITZ (STAFF WRITER)

Published: January 22, 2010

Thyroid cancer rates in Pennsylvania soared in recent decades and radiation from nuclear power plants may be the cause, a study released Thursday said.

Joseph Mangano, who authored the study which appeared in the International Journal of Health Services and is executive director for the Radiation and Public Health Project, called the growth in the number of cases "an epidemic."

Pennsylvania's incidence of thyroid cancer in the mid-1980s was 40 percent below the national rate, and now the rate is 44 percent above the national rate, he said.

"Something occurred to change Pennsylvania's rate from low to high, and one of these possible factors is radiation from reactors," Mangano said.

Some of the highest thyroid cancer rates occur in eastern Pennsylvania, which has the nation's largest concentration of nuclear reactors, including the Susquehanna Steam Electric Station in Salem Township, he said.

Others reactors are Three Mile Island in Dauphin County, Peach Bottom in York County and Limerick in Montgomery County. Seven continue to operate.

Some of the highest thyroid cancer rates - 80 percent above the national rate - are in Sullivan, Luzerne, Carbon, Northampton, Lehigh and York counties, according to his research.

Mangano noted that the radiation released from these reactors is relatively low, and not the high levels associated with the Chernobyl accident or the atomic bomb at Hiroshima.

But the effects of low-level radiation needs to be explored further as a public health concern, he said, because radiation exposure is the only known cause of thyroid cancer.

Mangano pointed to a 1999 study by the National Academy of Sciences that found more than 200,000 Americans developed thyroid cancer from above-ground atomic bomb tests in Nevada, which emitted low levels in the 1950s and 1960s.

Nuclear reactors also release low levels of radiation and these small metal particles come into contact with humans through the air, rain and snowfall and also enter the food chain, Mangano said. Once radiation enters the body, it seeks out the thyroid gland, damaging or killing cells, reducing hormones and causing disease and cancer, he said.

Nuclear power plants emit extremely low levels of radiation - far below background levels in the area, said Joseph Scopelliti, a spokesman for PPL, which operates the Susquehanna plant.

Annual exposure to radiation in Pennsylvania is 350 millirems, Scopelliti said, and that total remains the same with or without the power plant.

The amount of radiation that the Susquehanna plant adds to that total is less than .01 millirem, he said. For perspective, an X-ray gives off 8 millirems, Scopelliti said.

"We're a small contributor to the background," he said.

Another source of radiation in nature is radon, a gas given off from naturally occurring uranium decaying underground, said Scopelliti.

The Salem Township plant has monitored the environment since the 1970s, noting changes following upper-level weapons testing in the 1970s and detecting changes following a deadly nuclear power plant explosion in 1986 in Chernobyl, Ukraine, Scopelliti said.

"We have very sensitive environmental monitoring that we continue to do," he said. "We're a very small contributor."

Mangano released similar study results in November pointing to high thyroid cancer rates in the counties surrounding the Indian Point nuclear power plant, which is 35 miles

north of Manhattan in New York State. Those rates were also among the highest in the country, according to a news release.

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On Jan 7, 2010, at 1:38 PM, [Hearingdocket@nrc.gov](mailto:Hearingdocket@nrc.gov) wrote:

MESSAGE FROM THE OFFICE OF THE SECRETARY, NUCLEAR REGULATORY COMMISSION

Re: NRC Proceeding "Bell Bend 52-039-COL"

The Office of the Secretary has received a document entitled

"Commission Memorandum and Order CLI 10 07"

submitted by Christine Pierpoint who is affiliated with NRC SECY.

It is intended for inclusion in the referenced proceeding. It was submitted through the NRC Electronic Information Exchange (EIE) system and arrived on 01/07/10 at 13:32 EST.

As a hearing participant, you are entitled to view and/or retrieve this document by visiting the following web link:

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