



## Radiation and Public Health Project

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### The following is a statement by Joseph J. Mangano

Joseph J. Mangano, MPH, MBA, is Director, Secretary, and the Executive Director of the Radiation and Public Health Project.

Mr. Mangano is a public health administrator and researcher who has studied the connection between low-dose radiation exposure and subsequent risk of diseases such as cancer and damage to newborns.

He has published numerous articles and letters in medical and other journals in addition to books, including *Low Level Radiation and Immune System Disorders: An Atomic Era Legacy*. There he examines the connection between radiation exposure and current widespread health problems.

### RISING LOCAL CANCER RATE SUGGESTS LINK WITH FERMI REACTOR

January 14, 2009 - The cancer death rate in Monroe County has been rising since the late 1980s, when the Fermi 2 nuclear reactor began operating, according to a new analysis.

The rise in cancer has been sharpest among children and adolescents, who are most susceptible to the harmful effects of radiation exposure. The analysis uses official data from the U.S. Centers for Disease Control and Prevention.

"The increasing cancer death rate among Monroe County residents, especially young people, suggests a link with the radioactive chemicals emitted from the Fermi reactor," says Joseph J. Mangano MPH MBA, Executive Director of the Radiation and Public Health Project research group. "Because Monroe County has a low risk population that is well educated, high income, and has few language barriers, rising cancer rates are unexpected, and all potential causes should be investigated by health officials."

Fermi 2 reactor began "operating" June 21, 1985. However, it ran very little after the initial low-power start-up until a warranty run in January of 1988, marking the commercial start-up of the reactor. In the early 1980s, the Monroe County cancer death rate was 36th highest of 83 Michigan counties, but by the early 2000s, it had moved up to 13th highest. From 1979-1988, the cancer death rate among Monroe County residents

under age 25 was **21.2% below** the U.S. rate. But from 1989-2005, when Fermi 2 was fully operational, the local rate was **45.5% above** the U.S.

All nuclear reactors produce electricity by splitting uranium atoms, which creates high energy needed to heat water. This process also creates over 100 radioactive chemicals, not found in nature, including Strontium-90, Cesium-137, and Iodine-131.

While most of these chemicals are retained in reactors and stored as waste, a portion is routinely released into the local air and water. They enter human bodies through breathing and the food chain, and raise cancer risk by killing and injuring cells in various parts of the body. They are especially harmful to children.

The findings come at a time when a new nuclear reactor has been proposed at the Fermi plant. The original Fermi 1 reactor, which was the site of a "Partial Core-Melt Accident" in 1966, shut permanently in 1972.

#### DATA ON CANCER RISK FROM FERMI 2 RADIOACTIVE EMISSIONS

- The Fermi 2 reactor is located in Monroe County, and started on June 21, 1985, not becoming fully operational until January 1988.

- Fermi 2 came close to a meltdown on March 28, 2001 and August 14, 2003. (1)

- Fermi 2, like all reactors, routinely emits over 100 radioactive chemicals into air and water.

- Each of these chemicals causes cancer, and is most harmful to infants and children.

- For cancer deaths for all ages (whites only), Monroe County ranked  
36th highest of 83 Michigan counties in 1979-1983 (before startup)  
13th highest of 83 Michigan counties in 2000-2005 (latest data) (2)

- The Monroe County cancer death rate age 0-24  
was 21.1% below the U.S. in 1979-1988 (before/during startup)  
was 45.5% above the U.S. in 1989-2005 (after startup) (3)

Monroe County has no obvious cancer risk. It has a high income, low poverty, well educated population with few language barriers and access to excellent medical care in nearby Detroit. (4) Thus, an increase in cancer (especially to children) is unexpected. This change should be investigated, and one potential cause should be radioactive emissions from Fermi.

Sources:

1. Fermi 2 incurred “near miss” accidents on March 28, 2001 (emergency diesel generator was inoperable for over 7 days) and August 14, 2003 (loss of offsite power due to northeast blackout). Source: Greenpeace USA. An American Chernobyl: Nuclear “Near Misses” at U.S. Reactors Since 1986. [www.greenpeace.org](http://www.greenpeace.org), April 26, 2006.

2. U.S. Centers for Disease Control and Prevention, <http://cdc.wonder.gov>, underlying cause of death. Death rates are adjusted to 2000 U.S. standard population. Includes ICD-9 codes 140.0-239.9 (1979-1983) and ICD-10 codes C00-D48.9 (2000-2005). Whites account for over 95% of Monroe residents.

3. Cancer Death Rates, Monroe County vs. U.S.  
1979-1988 and 1989-2005, age 0-24

Period	Monroe County		Deaths/100,000 Pop.		%vs. US
	Cancer Deaths	Avg. Pop.	Monroe	U.S.	
1979-1988	22	56,234	3.91	4.96	- 21.2%
1989-2005	42	51,407	4.86	3.79	+45.5%

Source: U.S. Centers for Disease Control and Prevention, <http://cdc.wonder.gov>, underlying cause of death. Includes ICD-9 codes 140.0-239.9 (1979-1983) and ICD-10 codes C00-D48.9 (2000-2005). Increase in rate significant at p<.05.

4. Demographic Comparison, Monroe County vs. U.S.

Indicator	Monroe	U.S.
2006 Population	155,035	299,398,484
2000 % Foreign Born	1.9	11.1
2000 % Language other than English spoken at home, age 5+	4.0	17.9
2000 % High School graduates, age 25+	83.1	80.4
2000 % Homeownership	81.0	66.2
2004 Median Household Income	\$53,838	\$44,344
2004 % Below Poverty	8.7	12.7

Source: U.S. Census Bureau, [www.census.gov](http://www.census.gov), 2000 population, State and County Quick facts

## **ESBWR Incomplete Design & Cancellations Update For Wednesday's NRC Meetings in Monroe, MI on the Fermi 3 Proposal**

January 14, 2009 Statement by Kevin Kamps,

Beyond Nuclear

and Michael Keegan KR

General Electric-Hitachi's so-called "Economic Simplified Boiling Water Reactor" (ESBWR) design, proposed by DTE to be built as the new Fermi 3 reactor, has not even been completed, let alone certified by the U.S. Nuclear Regulatory Commission. The ESBWR has suffered many recent setbacks, calling into serious question its viability.

On November 23, 2008 there were six ESBWRs proposed to be built across the country: one by Dominion Nuclear at North Anna, Virginia; others by Entergy Nuclear at Grand Gulf, Mississippi and River Bend, Louisiana; two more by Exelon Nuclear at Victoria County Station, Texas; and the sixth by DTE at Fermi nuclear power plant near Monroe, Michigan.

However, on November 24<sup>th</sup> the ESBWR dominoes began to fall. That's when Exelon announced it would abandon the ESBWR design for its proposed two new reactors at Victoria County Station, Texas.

Texans for a Sound Energy Policy had objected to NRC allowing an ESBWR licensing proceeding to continue, given the incomplete status of the design. In fact, they argued that the continuation of the licensing proceeding would violate federal laws and NRC regulations. Such pressure contributed to the nuclear utility, Exelon, the largest in the U.S., announcing that it was no longer considering the ESBWR design for its Victoria County Station, Texas twin reactor project. Exelon notified NRC it would seek another reactor design, stating "technologies other than the ESBWR provide the project greater commercial and schedule certainty...As a result, Exelon is considering reactor technologies that have more mature designs, more certain cost structures and better availability of information than the ESBWR."

January 9, 2009 marked Black Friday for the ESBWR design. Entergy, "the second-largest nuclear generator in the United States," announced cancellation of its ESBWR new reactor proposals at both Grand Gulf, Mississippi and River Bend, Louisiana. An Entergy press release reported:

The company asked the Nuclear Regulatory Commission on Friday to suspend reviews specific to GE Hitachi's Economic Simplified Boiling Water Reactor after unsuccessful attempts to come to mutually acceptable business terms with GEH [General Electric-Hitachi]. Entergy Nuclear also will temporarily defer environmental reviews related to the construction and operating license applications for potential projects at its nuclear sites at Grand Gulf, near Port Gibson, Miss., and River Bend, near St. Francisville, La.

Paul Hinnenkamp, vice president of Entergy Nuclear's business development function, said "...this action simply reflects the fact that we have not been able to come to mutually agreeable terms and conditions with GEH for the potential deployment of an ESBWR."

Later that same day, Reuters reported that Dominion Resources Inc. had likewise "been unable to reach an agreement with GE Hitachi to pursue development of a new nuclear plant in Virginia...". Reuters went on:

[Spokesman] Jim Norvelle said Dominion has decided to open a competitive bidding process to select a new engineering, procurement and construction partner for a proposed single new reactor at the North Anna nuclear station in Virginia.

While Exelon, Entergy, and Dominion have pledged to continue pursuing new reactors at these same sites, they have made clear that they would not be ESBWRs. Thus, in just the past two