

No, the Amount of Radiation Released from the Japanese Nuclear Reactors is NOT "Safe"

Just as with the Gulf oil spill - where BP, government spokesmen and mainstream talking heads spewed happy talk about how "benign" the dispersants were and how all the oil had disappeared - there is now an avalanche of statements that the radiation is at "safe" doses for everyone outside of the immediate vicinity of Fukushima.

For example, Japanese government call-in advice lines are [telling](#) people to simply *rinse off* any produce covered with radioactive dust.



Ann Coulter [claims](#) that radiation is *good* for you

It is not very confidence-inspiring [that](#):

EPA officials, however, refused to answer questions or make staff members available to explain the exact location and number of monitors, or the **levels of radiation**, if any, being recorded at existing monitors in California.

Or that the EPA has pulled 8 of its 18 radiation monitors in California, Oregon and Washington because (by implication) [they are giving readings which seem too high](#).

What Levels of Radiation Are Being Released?

So what levels of radiation are being released at Fukushima?

New Scientist [reports](#) that the radioactive fallout from Japan is approaching Chernobyl levels:

Japan's damaged nuclear plant in Fukushima has been emitting radioactive iodine and caesium at levels approaching those seen in the aftermath of the Chernobyl accident in 1986. Austrian researchers have used a worldwide network of radiation detectors – designed to spot clandestine nuclear bomb tests – to show that iodine-131 is being released at daily levels **73 per cent** of those seen after the 1986 disaster. The daily amount of caesium-137 released from Fukushima Daiichi is around **60 per cent** of the amount released from Chernobyl.

Tyler Durden [points out](#) that - when you consider the fact that the amount of Caesium-137 released at Fukushima in the first 3-4 days of the crisis amounted to 50% that released by Chernobyl over 10 days - the real run rate of the radiation released at Fukushima is now about 120-150% the figure released by the Chernobyl explosion.

There are other signs of high levels radiation. See [this](#) and [this](#). And it is important to remember that the amount of radioactive fuel at Fukushima **dwarfs Chernobyl**.

This Could Continue for a While

Many experts say that it could take **months** to contain Fukushima. See [this](#) and [this](#). And therefore, high radiation levels might continue to be released for some time.

Evidence for the fact that a quick fix is unlikely is widespread. For example, reactors 1, 2, 3 and 4 were all [leaking steam](#) yesterday.



There was some indication that reactors 5 and 6 are leaking as well. As Kyodo News [reports](#):

The firm [Tokyo Electric Power Company] also said it found both iodine-131 and cesium-137 in a sample taken from near the drain outlets of the plant's No. 5 and No. 6 reactors that stabilized Sunday in so-called "cold shutdown."

CNN [notes](#) today:

Authorities in Japan raised the prospect Friday of a likely breach in the all-important containment vessel of the No. 3 reactor at the stricken Fukushima Daiichi nuclear power plant, a potentially ominous development in the race to prevent a large-scale release of radiation.

The cores of reactors 1 and 3 [appear to be leaking](#) as well.

This is *not* to say that there will be a full meltdown which sends radioactive plumes high into the stratosphere. I am assuming that will **not** happen. But the release of radioactivity is severe and ongoing.

But Low Doses of Radiation Are Safe ... Aren't They?

While most would dismiss as crackpot ramblings Coulter's claim that radiation is *good* for you, what about the pervasive claims that the amount of radiation which has been released is so low that it is "safe" for people outside of the immediate vicinity of Fukushima?

Physicians for Social Responsibility [notes](#):

According to the National Academy of Sciences, there are *no safe doses of radiation*. Decades of research show clearly that any dose of radiation increases an individual's risk for the development of cancer.

"There is no safe level of radionuclide exposure, whether from food, water or other sources. Period," said Jeff Patterson, DO, immediate past president of Physicians for Social Responsibility. "Exposure to radionuclides, such as iodine-131 and cesium-137, increases the incidence of cancer. For this reason, every effort must be taken to minimize the radionuclide content in food and water."

"Consuming food containing radionuclides is particularly dangerous. If an individual ingests or inhales a radioactive particle, it continues to irradiate the body as long as it remains radioactive and stays in the body," said Alan H. Lockwood, MD, a member of the Board of Physicians for Social Responsibility.

Radiation can be concentrated many times in the food chain and any consumption adds to the cumulative risk of cancer and other diseases.

John LaForge [notes](#):

The National Council on Radiation Protection says, "... every increment of radiation exposure produces an incremental increase in the risk of cancer." The Environmental Protection Agency says, "... any exposure to radiation poses some risk, i.e. there is no level below which we can say an exposure poses no risk." The Department of Energy says about "low levels of radiation" that "... the major effect is a very slight increase in cancer risk." The Nuclear Regulatory Commission says, "any amount of radiation may pose some risk for causing cancer ... any increase in dose, no matter how small, results in an incremental increase in risk." The National Academy of Sciences, in its "Biological Effects of Ionizing Radiation VII," says, "... it is unlikely that a threshold exists for the induction of cancers"

Long story short, "One can no longer speak of a 'safe' dose level," as Dr. Ian Fairlie and Dr. Marvin Resnikoff said in their report "No dose too low," in the *Bulletin of the Atomic Scientists*.

And Brian Moench, MD, [writes](#):

Administration spokespeople continuously claim "no threat" from the radiation reaching the US from Japan, just as they did with oil hemorrhaging into the Gulf. Perhaps we should all whistle "Don't worry, be happy" in unison. A thorough review of the science, however, begs a second opinion.

That the radiation is being released 5,000 miles away isn't as comforting as it seems.... Every day, the jet stream carries pollution from Asian smoke stacks and dust from the Gobi Desert to our West Coast, contributing 10 to 60 percent of the total pollution breathed by Californians, depending on the time of year. Mercury is probably the

second most toxic substance known after plutonium. Half the mercury in the atmosphere over the entire US originates in China. It, too, is 5,000 miles away. A week after a nuclear weapons test in China, iodine 131 could be detected in the thyroid glands of deer in Colorado, although it could not be detected in the air or in nearby vegetation.

The idea that a threshold exists or there is a safe level of radiation for human exposure began unraveling in the 1950s when research showed one pelvic x-ray in a pregnant woman could double the rate of childhood leukemia in an exposed baby. Furthermore, the risk was ten times higher if it occurred in the first three months of pregnancy than near the end. This became the stepping-stone to the understanding that the timing of exposure was even more critical than the dose. The earlier in embryonic development it occurred, the greater the risk.

A new medical concept has emerged, increasingly supported by the latest research, called "fetal origins of disease," that centers on the evidence that a multitude of chronic diseases, including cancer, often have their origins in the first few weeks after conception by environmental insults disturbing normal embryonic development. It is now established medical advice that pregnant women should avoid any exposure to x-rays, medicines or chemicals when not absolutely necessary, no matter how small the dose, especially in the first three months.

"Epigenetics" is a term integral to fetal origins of disease, referring to chemical attachments to genes that turn them on or off inappropriately and have impacts functionally similar to broken genetic bonds. Epigenetic changes can be caused by unimaginably small doses - parts per trillion - be it chemicals, air pollution, cigarette smoke or radiation. Furthermore, these epigenetic changes can occur within minutes after exposure and may be passed on to subsequent generations.

The Endocrine Society, 14,000 researchers and medical specialists in more than 100 countries, warned that "even infinitesimally low levels of exposure to endocrine-disrupting chemicals, indeed, any level of exposure at all, may cause endocrine or reproductive abnormalities, particularly if exposure occurs during a critical developmental window. Surprisingly, low doses may even exert more potent effects than higher doses." If hormone-mimicking chemicals at any level are not safe for a fetus, then the concept is likely to be equally true of the even more intensely toxic radioactive elements drifting over from Japan, some of which may also act as endocrine disruptors.

Many epidemiologic studies show that extremely low doses of radiation increase the incidence of childhood cancers, low birth-weight babies, premature births, infant mortality, birth defects and even diminished intelligence. Just two abdominal x-rays delivered to a male can slightly increase the chance of his future children developing leukemia. By damaging proteins anywhere in a living cell, radiation can accelerate the aging process and diminish the function of any organ. Cells can repair themselves, but the rapidly growing cells in a fetus may divide before repair can occur, negating the body's defense mechanism and replicating the damage.

Comforting statements about the safety of low radiation are not even accurate for adults. Small increases in risk per individual have immense consequences in the aggregate. When low risk is accepted for billions of people, there will still be millions of victims. New research on risks of x-rays illustrate the point.

Radiation from CT coronary scans is considered low, but, statistically, it causes cancer in one of every 270 40-year-old women who receive the scan. Twenty year olds will have double that rate. Annually, 29,000 cancers are caused by the 70 million CT scans done in the US. Common, low-dose dental x-rays more than double the rate of thyroid cancer. Those exposed to repeated dental x-rays have an even higher risk of thyroid cancer.

Beginning with Madam Curie, the story of nuclear power is one where key players have consistently miscalculated or misrepresented the risks of radiation. The victims include many of those who worked on the original Manhattan Project, the 200,000 soldiers who were assigned to eye witness our nuclear tests, the residents of the Western US who absorbed the lion's share of fallout from our nuclear testing in Nevada, the thousands of forgotten victims of Three Mile Island or the likely hundreds of thousands of casualties of Chernobyl. This could be the latest chapter in that long and tragic story when, once again, we were told not to worry.

Note: People who rationally discuss the hazards from nuclear accidents are dismissed as "anti-nuclear". However, that is like saying that people who are against pilots drinking tequila during flights are anti-flying. As Bloomberg [points out](#), the operator of the Fukushima reactors faked safety tests and results and cut every corner in the books for decades, just as BP cut every safety corner prior to the Gulf oil spill. Moreover, the Fukushima reactors were [not designed](#) to withstand an earthquake or a tsunami, and their peculiar design makes the spent fuel rods an even greater danger than the reactors themselves.

Demanding a safer design - e.g. thorium reactors - and ongoing maintenance and safety tests doesn't mean one is anti-nuclear.

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