

Fukushima Meltdowns: A Global Conspiracy of Denial

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Does anyone in authority anywhere tell the truth about Fukushima?

If there is any government or non-government authority in the world that is addressing the disaster at Fukushima openly, directly, honestly, and effectively, it's not apparent to the outside observer what entity that might be.

There is instead an apparent global conspiracy of authorities of all sorts to deny to the public reliably accurate, comprehensible, independently verifiable (where possible), and comprehensive information about not only the condition of the Fukushima power plant itself and its surrounding communities, but about the unceasing, uncontrolled release of radioactive debris into the air and water, creating a constantly increasing risk of growing harm to the global community.

While the risk may still be miniscule in most places, the range of risk rises to lethal in Fukushima itself. With the radioactive waste of four nuclear reactors (three of them in meltdown) under uncertain control for almost three years now, the risk of lethal exposure is very real for plant workers, and may decrease with distance from the plant, but may be calculable for anyone on the planet. No one seems to know. No one seems to have done the calculation. No one with access to the necessary information (assuming it exists) seems to want to do the calculation.

There is no moral excuse for this international collusion. The excuses are political or economic or social, but none of them excuses any authority for withholding or lying about information that has potentially universal and destructive impact on everyone alive today and everyone to be born for some unknown generations.

Japanese authorities may be the worst current offenders against the truth, as well as the health and safety of their people. Now the Japanese government has passed a harsh state secrets law that threatens to reduce or eliminate reliable information about Fukushima. The U.S. government officially applauded this heightened secrecy, while continuing its own tight control on nuclear information. Japanese authorities are already attacking their own people in defense of nuclear power: not only under-measuring and ignoring varieties of radioactive threat, but even withholding the iodine pills in 2011 that might have mitigated the growing epidemic of thyroid issues today. Failing to confront Fukushima honestly, the Japanese are laying the basis for what could amount to a radiological sneak attack on the rest of the world.

Just because no one seems to know what to do about Fukushima is no excuse to go on lying about and/or denying the dimensions of reality, whatever they might be.

There are hundreds, probably thousands of people with little or no authority who have long struggled to create a realistic, rational perspective on nuclear threats. The fundamental barrier to knowing the scale of the Fukushima disaster is just that: the scale of the Fukushima disaster.

Chernobyl 1986 and Fukushima 2011 are not really comparable

<u>Chernobyl</u> is the closest precedent to Fukushima, and it's not very close. Chernobyl at the time of the 1986 electric failure and explosion had four operating reactors and two more under construction. The Chernobyl accident involved one reactor meltdown. Other reactors kept operating for some time after the accident. The rector meltdown was eventually entombed, containing the meltdown and reducing the risk. Until Fukushima, Chernobyl was considered the worst nuclear power accident in history, and it is still far from over (albeit largely contained for the time being). The Chernobyl <u>Exclusion Zone</u> of roughly 1,000 square miles remains one of the most radioactive areas in the world and the clean-up is not even expected to be complete before 2065.

At the time of the March 11, 2011, earthquake and tsunami, the <u>Fukushima plant</u> had six operating reactors. Three of them went into meltdown and a fourth was left with a heavily laden fuel pool teetering a hundred feet above the ground. Two other reactors were undamaged and have been shut — down. Radiation levels remain lethal in each of the melted-down reactors, where the meltdowns appear to be held in check by water that is pumped into the reactors to keep them cool. In the process, the water gets irradiated and that which is not collected on site in leaking tanks flows steadily into the Pacific Ocean. Within the first two weeks, <u>Fukushima radiation</u> was comparable to Chernobyl's and while the levels have gone down, they remain elevated.

The plant's corporate owner, <u>Tokyo Electric Power Company</u> (TEPCO), in turn effectively owned by the Japanese government after a 2012 nationalization, began removing more than 1,500 <u>fuel rod assemblies</u> from the teetering fuel pool in November, a delicate process expected to take a year or more. There are additional fuel pools attached to each of the melted down reactors and a much larger general fuel pool, all of which contain nuclear fuel rod assemblies that are secure only as long as TEPCO continues to cool them. The Fukushima Exclusion Zone, a 12-mile radius around the nuclear plant, is about 500 square miles (much of it ocean); little <u>specific information</u> about the exclusion zone is easily available, but <u>media coverage</u> in the form of <u>disaster tourism</u> is plentiful, including a <u>Google Street View</u> interactive display.

Despite their significant differences as disasters, Chernobyl and Fukushima are both rated at 7 – a "major accident" on the International Nuclear Event Scale designed in 1990 by the International Atomic Energy Agency (IAEA). That is the highest rating on the scale, a reflection of the inherent denial that colors most official nuclear thinking. Designed by nuclear "experts" after Chernobyl, the scale can't imagine a worse accident than Chernobyl which, for all its intensity, was effectively over as an accident in a relatively short period of time. At Fukushima, by contrast, the initial set of events was less acute than Chernobyl, but almost three years later they continue without any resolution likely soon. Additionally Fukushima has three reactor meltdowns and thousands of precarious fuel rod assemblies in uncertain pools, any of which could produce a new crisis that would put Fukushima clearly off the scale.

And then there's groundwater. Groundwater was not a problem at Chernobyl. Groundwater is a huge problem at the Fukushima plant that was built at the seashore, on a former riverbed, over an active aquifer. In a <u>short video</u>, nuclear engineer Arnie Gunderson makes clear why groundwater makes Fukushima so hard to clean up, and why radiation levels there will likely remain dangerous for another hundred years.

Fukushima Unit #3 activity led to some panic-driven reporting in 2013

The Japanese government and nuclear power industry have a history of not telling the truth about nuclear accidents dating back at least to 1995, as reported by New Scientist and Rachel Maddow, among others. Despite Japan's history of nuclear dishonesty, Japanese authorities remain in total control of the Fukushima site and most of the information about it, without significant objection from most of the world's governments, media, and other power brokers, whose reputation for honesty in nuclear matters is almost as bad as Japan's. In such a context of no context, the public is vulnerable to reports like this from the Turner Radio Network (TRN) on December 28:

** NEWS FLASH - URGENT ** STEAM SUDDENLY EMANATING FROM FUKUSHIMA REACTOR # 3 - WEST COAST OF NORTH AMERICA SHOULD BEGIN PREPARATIONS FOR POSSIBLE RADIATION CLOUD WITHIN 3 TO 5 DAYS

Five days after this story was posted, the "radiation cloud" had not developed despite the story's assertion that: "Experts say this could be the beginning of a 'spent fuel pool criticality (meltdown)' involving up to 89 TONS of nuclear fuel burning up into the atmosphere and heading to North America." The story named no "experts" and provided links only to TEPCO announcements in Japanese. The bulk of the story reads like an infomercial for "protective" gear of various sorts that TRN makes a point of saying it does NOT sell. Despite such obvious warning signs, others – such as The Ecologist and Gizmodo – reported the threat of "another meltdown" at Fukushima Unit #3 as imminent.

Clarification and reassurance quickly started chasing the "new meltdown" rumor around the Internet. <u>ENENEWS</u> (Energy News) promptly posted the TEPCO reports in English, demonstrating that there was nothing "sudden" about the steam releases, they've been happening more or less daily since 2011, but condensation caused by cold weather makes them visible. At <u>FAIREWINDS</u> (Energy Education), Arnie Gunderson posted on January 1:

"... the Internet has been flooded with conjecture claiming that Fukushima Daiichi Unit 3 is ready to explode.... Our research, and discussions with other scientists, confirms that what we are seeing is a phenomenon that has been occurring at the Daiichi site since the March 2011 accident.... While the plants are shutdown in nuke speak, there is no method of achieving cold shut down in any nuclear reactor. While the reactor can stop generating the actual nuclear chain reaction, the atoms left over from the original nuclear chain reaction continue to give off heat that is called the decay of the radioactive rubble (fission products).... constantly releasing moisture (steam) and radioactive products into the environment." [emphasis added]

In other words, Fukushima Unit #3 continues to leak radioactivity into both air and water, as Units #1 and #2 presumably do as well. But as Gunderson explains, the level of radioactivity has declined sharply without becoming benign:

"When Unit 3 was operating, it was producing more than 2,000 megawatts of heat from the nuclear fission process (chain reaction in the reactor). Immediately after the earthquake and tsunami, it shut down and the chain reaction stopped, but Unit 3 was still producing about 160 megawatts of decay heat. Now, 30 months later, it is still producing slightly less than 1 megawatt (one million watts) of decay heat.... 1 megawatt of decay heat is a lot of heat even today, and it is creating radioactive steam, but it is not a new phenomenon."

Reassurances about Fukushima are as misleading as scare stories

The reassuring aspects of the condition of Unit #3 – radioactive releases are not new, they're less intense than they once were, the nuclear waste is cooling – while true enough, provide only a false sense of comfort. Also true: radiation is released almost continuously, the releases are uncontrolled, no one seems to be measuring the releases, no one seems to be tracking the releases, no one is assessing accumulation of the releases. And while it's true that the waste is cooling and decaying, it's also true that a loss of coolant could lead to another uncontrolled chain reaction. ("Fukushima Daiichi Unit 3 is not going to explode," says Gunderson in a headline, but he can't know that with certainty.)

For the near future, what all that means, in effect, is that the world has to accept chronic radiation releases from Fukushima as the price for avoiding another catastrophic release. And even then, it's not a sure thing.

But there's another aspect of Fukushima Unit #3 that's even less reassuring. Unit #3 is the one Fukushima reactor that was running on Mixed oxide fuel, or MOX fuel, in its fuel rods. MOX fuel typically uses Plutonium mixed with one or more forms of Uranium. Using Plutonium in fuel rods adds to their toxicity in the event of a meltdown. In part because Plutonium-239 has a half-life of 240,000 years and can be used to make nuclear weapons of "dirty bombs," its use in commercial reactors remains both limited and controversial. Because it contains Plutonium, MOX fuel is more toxic than other nuclear fuel and will burn at lower temperatures. As Natural Resources News reported in 2011:

"The mixed oxide fuel rods used in the compromised number three reactor at the Fukushima Daiichi complex contain enough plutonium to threaten public health with the possibility of inhalation of airborne plutonium particles.... Plutonium is at its most dangerous when it is inhaled and gets into the lungs. The effect on the human body is to vastly increase the chance of developing fatal cancers."

Reportedly, TEPCO plans don't call for the removal of the MOX fuel in Unit #3 for another decade or more. <u>Fuel removal</u> from Units #1, #2, and #3 is complicated by lethal radiation levels at all three reactors, as well as TEPCO's <u>inability so far to locate</u> the three melted cores with any precision.

There is ample reason to hope that Fukushima, despite the complex of uncontrollable and deteriorating factors, will not get worse, because even the Japanese don't want that. But there is little reason to expect anything but worsening conditions, slowly or suddenly, for years and years to come. And there is even less reason to expect anyone in authority anywhere to be more than minimally and belatedly truthful about an industry they continue to protect, no matter how many people it damages or kills.

The perfect paradigm of that ruthlessly cynical nuclear mentality is the current Japanese practice of <u>recruiting homeless people</u> to work at Fukushima in high level radiation areas where someone with something to lose might not be willing to go for minimum wage.

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