

## **Fukushima: Uncontainable**

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Japan's apocalypse continues. Emergency conditions persist. No end in sight looms. Fukushima's radioactive discharges can't be stopped. They continue. They're uncontainable.

At issue is by far the worst environmental disaster in history. It's multiples worse than Chernobyl. It's an unprecedented catastrophe. It's reason enough to abolish nuclear power.

According to Japan's Ministry of Economy, Trade and Industry, about 300 tons of radioactive groundwater flow into the Pacific daily.

It's done so since Japan's March earthquake and tsunami triggered Fukushima's meltdown.

Tokyo Electric (TEPCO) says water's getting over and around "chemical walls." It can't be stopped. Three Fukushima reactors suffered meltdowns. A fourth was badly damaged.

The worst fear remains. Unit Four's structural integrity was seriously undermined. It contains hundreds of tons of highly radioactive water.

If an earthquake or other natural disaster occurs, its fuel rods almost certainly will catch fire. Radioactive emissions will follow. They'll compound what's already disastrous.

Emissions will continue longterm. They'll circle the planet. They cause catastrophic harm.

Since March 2011, Tepco estimates around 20 to 40 trillion radioactive tritium becquerels leaked into the Pacific. So have large cesium and strontium discharges. They continue. They're much more dangerous.

According to nuclear expert <u>Arnie Gunderson</u>, "(t)he horse is already out of the barn." Leakage continues since earthquake and tsunami struck.

Radioactive water contaminates the Pacific. Gunderson's "experience with underground water is that – if it is serious at the ocean, it is more serious" on land.

Japanese officials proposed erecting a barrier. At issue is preventing water from reaching the Pacific. Whatever's done "is two years too late and will be too late by the time" construction's finished, said Gunderson.

A barrier's not the solution. It causes another problem. "If the water can't go anywhere into the Pacific Ocean, it is going to build up onsite, which means that the nuclear reactors themselves will become unstable."

"The water can pull underneath the nuclear buildings and if there is an earthquake, in fact the nuclear buildings could topple. So, by solving one problem, they are creating another problem."

Gunderson believes contaminated water will keep discharging for at least 20 to 30 years. It's the most radioactive water he ever experienced.

Cost is another issue. Cleanup involves around half a trillion dollars, says Gunderson. Most important is human health.

Epidemic cancer levels are certain. And not just in Japan. In early July, Fukushima's former chief operator, Masao Yoshida, died of esophogeal cancer.

He was 58. Tepco lied saying his death was unrelated to radiation exposure. Japanese children are experiencing a shocking 40% rise in thyroid irregularities.

Experts expect much higher numbers ahead. Fukushima's an ongoing disaster. It persists. It's not ending. It'll continue for decades.

According to Institute for Energy and Environmental Research (IEER) president <u>Arjun Makhijani</u>:

"Fukushima continues to be an emergency without end – vast amounts of radioactivity, including strontium-90 in the groundwater, evidence of leaks into the sea, the prospect of contaminated seafood."

"Strontium-90, being a calcium analog, bioaccumulates in the food chain. It is likely to be a seaside nightmare for decades."

It's much more dangerous than cesium 137 and 134. It's at levels 30 times higher.

"So to give you an idea of the level of contamination, if somebody drank that water for a year, they would almost certainly get cancer."

"So that's one problem. The other is the defenses to hold back this water from the sea seem to be overcome."

"So now the contaminated waters, 70,000, 80,000 gallons, are flowing into the sea every day."

"(S)ome of it will disperse and dilute. Some of it goes into the sediment, and some of it is taken up by the life in the sea."

"And the unfortunate thing about strontium especially is that it bioaccumulates in algae. It bioaccumulates in fish."

"It targets the bone, because it's like calcium. And so this is a problem. We don't have measurements far out to sea."

"The Woods Hole Institute has done some surveys. And they were surprised by how much continuing radioactivity they found, but no clear explanation yet."

The effect on human health's expected to be devastating. It's already bad. It's getting progressively worse. The genie's out of the bottle. No end in sight looms.

Strontium-90 and cesium are both perilous. "(S)ince strontium-90 is more mobile and also more dangerous biologically, (it) behaves like calcium, so it goes to the bone."

"It also bioaccumulates in the base of the food chain and algae. Ultimately because it does bioaccumulate and there is quite a lot of strontium, you could have a large part of the food chain near Fukushima being contaminated."

If pregnant women ingest contaminated water, fish or other food, "the outcomes could be worse than cancer because then you're talking about a much more compromised child in the sense of having a compromised immune system – it makes you more vulnerable to all kinds of diseases."

Makhijani doesn't know how Tepco can handle the problem. It's uncontrollable.

"It's very, very unclear to me how they are going to be able to get at this molten fuel, extract it from the bottoms of these highly damaged buildings and package it for safer or less dangerous storage or disposal."

"This is an accident that's shockingly not stopping." It's certain to worsen. It's unchartered territory.

It affects the region. It's humanity's worst environmental nightmare. Nuclear rain affects North America and Europe.

Obama's an unabashed nuclear power promoter. He wants more reactors built. He wants licenses for aging poorly maintained plants with poor safety records extended. He wants them operating unregulated.

He's recklessly endangering Americans. He talks clean energy alternatives. Policy measures spurn them. He fronts for corporate favorites.

He's captive to a destructive industry. He risks a Fukushima-type disaster on US soil. He risks millions of American lives. He's mindless of potential dangers.

Nuclear power's inherently unsafe. Einstein called it a hellova way to boil water. It does so through massive heat. It turns it into steam. It powers an electricity generating turbine.

According to anti-nuclear activist Karl Grossman:

Avoiding potentially catastrophic accidents "requires perfection and no acts of God." Humans and technology aren't perfect. Natural and other disasters happen.

"We can't eliminate them. But we can – and must – eliminate atomic energy." Otherwise it'll eliminate us.

Nuclear expert Helen Caldicott's clear and unequivocal, saying:

"As a physician, I contend that nuclear technology threatens life on our planet with extinction."

"If present trends continue, the air we breathe, the food we eat, and the water we drink will soon be contaminated with enough radioactive pollutants to pose a potential health hazard far greater than any plague humanity has ever experienced."

It doesn't get any clearer than that.

A Final Comment

Coverup and denial followed Chernobyl's disaster. Helen Caldicott called doing so "the most monstrous coverup in the history of medicine."

The death toll was many multiples greater than reported. Estimates range up to a million or more.

The <u>New York Academy of Sciences</u> (NYAS) translated thousands of Russian articles and papers. It added "revised and updated contributions."

"Written by leading authorities from Eastern Europe, the volume outlines the history of the health and environmental consequences of the Chernobyl disaster," NYAS said.

"According to the authors, official discussions from the (IAEA) and associated (UN) agencies (e.g. the Chernobyl reports) have largely downplayed or ignored many of the findings reported in the Eastern European scientific literature and consequently have erred by not including these assessments."

Fukushima far exceeds Chernobyl. Millions of lives are threatened. Perhaps future independent studies will explain. They'll be too little to late to help victims.

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