



Update on Fukushima: Discussion of High Level Radiation Releases and the Pro Senario" Planned for by The Industry



Hi, I'm Arnie Gundersen from Fairewinds Associates. Today is Thursday, March 31

In the last two days the Fukushima plant has kind of been stable, but precarious balancing on the edge of a cliff, but not going over and not being pulled back either. I'll give you my opinion of a couple of the more significant pieces of information that have come out in the last two days. In broad terms, there are very large amounts of liquid still being released into the environment, very large amounts of gasses still being released into the environment. The one thing is that no one ever envisioned this type of recovery from an accident, even before Fukushima happened.

Let's talk about the liquid and gas releases. The New York Times is reporting that thousands of tons of radioactive liquid are being poured into the nuclear reactors and the fuel pool every day. Well, where is it going? If it's going in, it's coming out. It's coming out as radioactive steam and it's coming out as radioactive water. If you put a hundred tons in, two hundred tons is coming out. In engineering terms, that's called "leakage." What you're feeding in as clean water is bleeding out as radioactive steam and water. There are some indications offsite that the releases are very large. The

damaged, significantly damaged, and of course the releases are going to be hundred tons of releases every day.

That boils down to a couple things. The IAEA, that's the International Atomic Energy Agency, found that twenty-five miles away from the reactor there's been deposition of radiation to the tune of two million becquerels per square meter (2,000,000 Bq / Sq m). Now mean? A square meter is about three feet by three feet, a meter by a meter, becquerels is two million disintegrations every second being deposited in rough three feet. That's well above what the IAEA would say you should evacuate if the high. So, there are places out well beyond where the Japanese are evacuating evacuated based on the deposition of radioactive materials nearby.

To give you an example: at Chernobyl, the exclusion zone was five hundred thousand (500,000 Bq). This is four times higher than Chernobyl. Now, there are differences some of these will decay away, and the Chernobyl ones are longer lived, but serious concentrations of radioactivity being deposited on the ground from the reactor coming out of the plant.

The next thing is the water. We've seen incredibly high concentrations in the radiation trenches onsite. There are indications that the survey meters simply can't read measure the amount of radiation coming off the water. Another indication is what Offshore radioactive readings in the ocean have gone up and are now over three the standards that are routinely expected. That's not coming from the air; the ocean polluted by what's coming out of the airborne releases. It's clearly leaking from the ocean. They haven't found the leak, but the only source of quantities of radiation large enough to pollute the ocean has got to be leakage from these trenches. So, tons of liquid going in, and two hundred tons of liquid going out. It's reasonable to ocean is going to be polluted because it's clearly leaking in.

There's one other interesting reading that was detected onsite. There are several [heavy elements that are being detected on the ground. We talked about plutonium video, but there are some other ones too, something called cerium, which is also one doesn't easily go volatile. That it's on the ground also indicates significant fuel damage from the fuel pool in unit four.

It's important to realize that this feed and bleed operation that's going on was never planned by anyone who ever planned to mitigate an accident. A month ago the that was ever assumed was [that] one percent (1%) of the fuel in one reactor melting, seventy percent (70%) of the fuel in three reactors melting. A month ago, containment would leak at [a rate of] half a percent per day; now we know the leaking [at a rate of] much more than half a percent per day. A month ago, radioactivity would go high up a stack, and in fact we're finding the stacks don't radiation is on the ground. The net effect of this is that in the Fukushima vicinity probably five hundred to a thousand times higher than anticipated in the accident a reasonable a month ago.

Also, a month ago no one ever envisioned the possibility of a fuel pool burning possibility. Brookhaven National Labs, back in 1997, did a study that said that the of a fuel pool burning would be a hundred and thirty-seven thousand (137,000) fat cancer. That's a serious study, and it's a number that we still need to be concerned

The difference between what's happened and what we thought would happen is believed that the containment would contain, and it's not. The plan was that reactor would get recirculated in the reactor and none of that material would co

ground water. These exposures are much, much higher as a result of what Fukushima.

Thank you very much, and I'll get back to you as more develops.

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