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New Images Reveal Nuclear Fuel Rack Exposed to Air



Hi, I'm Arnie Gundersen from Fairewinds Associates. It's Thursday, March 31st. I noticed that this is the second update of the day. Normally I update you every other day, but some disturbing video has shown up on Ustream that I wanted to talk to you about.

First off, a little bit about my background. I used to be an executive in the nuclear industry. In the divisions I ran built nuclear fuel racks for boiling water reactors, so nuclear fuel racks are something I that know a little bit about.

Nuclear fuel racks look like this. This is [a video of] square cans at the bottom of what was a swimming pool. Each can is designed to handle one nuclear fuel bundle. That's the way you see sliding into the can. The wrapper around those cans has boron in it, and that prevents a nuclear chain reaction from occurring in the pool. You don't want a chain reaction to occur in the pool; that should occur in the reactor.

What happened at Fukushima was, when the whole site lost power, at Fukushima there was no reactor operating. All the fuel had been removed and was in the fuel pools. The pools are cooled; however, they lost power, so there was no longer any cooling. It's like the pools boiled dry. The roof blew off the building. That indicates that hydrogen was

something called a zircoloid-water reaction that had to occur at temperatures (hundred degrees [Celsius] (2200 degrees C). After that, the Fukushima staff has had to pour water into that reactor. You can see in this picture that, up the side of that hydraulic device, it's actually designed for pumping concrete, that is pumping water to the roof and pouring water into the nuclear fuel pool.

This picture is undated, but when it was taken, it clearly shows that there is no water. You look, there's a green, a long, green device. That's the refueling bridge. It runs along on rails above the pool, and the pool is that crystal-clear water that you're seeing. Well, after the explosion it has collapsed and is lying in the pool. Between seconds thirty-seven on this video you can see little boxes. The little boxes are just to the left of the bridge. The boxes are in air. Those boxes are the top of nuclear fuel racks. They are under thirty feet of water. They're not.

What that means to me is a couple things. First off, the top of the nuclear fuel is exposed, but certainly the top is. You can see steam coming from the top of the fuel. [From] down further in the cavity there is steam coming up. So they're spraying in and hitting the nuclear fuel and creating steam, but it's not filling the pool. The water has two purposes: cooling, but also shielding. That means the fuel. That [unshielded fuel] emits gamma rays, and the gamma rays go up into the sky, through molecules through something called "sky shine," and rain back down on the site as a radiation that's much higher than normal. That makes work on the site really difficult. Work on that refueling pool almost lethal.

The other thing it means to me is that the nuclear fuel itself is extraordinary. Plutonium inside can become volatile. I spoke yesterday, in the [I mean] earlier about cerium being discovered offsite and plutonium being discovered, and that the nuclear fuel pool does not have water in it, to me, indicates that it might be a clear sign that heavy elements are escaping from the building and being discovered. I recommend, based on this, that the evacuation zone should be pushed back further. If these heavy elements are being released, as well as the cesium that was also in there, they have some serious consequences. As this situation develops, and perhaps, more information is available, I will update you again.

Thanks again.

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