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Nuclear Crisis: Former CEQ Chairman Frampton says Japanese disaster worse than Three Mile Island (OnPoint, 03/17/2011)

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About this video



How does Japan's Fukushima nuclear event compare to the United States' Three Mile Island incident? During today's OnPoint, George Frampton, the deputy director and chief of staff for the Nuclear Regulatory Commission's special inquiry group into the Three Mile Island accident, explains why Fukushima is a more serious event than Three Mile Island. Frampton, also the former chairman of the White House Council on Environmental Quality and currently senior of counsel and a member of the clean energy and climate industry group at Covington & Burling, also explains how Fukushima will affect the U.S. nuclear industry.

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Transcript

Monica Trauzzi: Hello and welcome to OnPoint. I'm Monica Trauzzi. With me today George Frampton, senior of counsel and a member of the Clean Energy and Climate Industry group at Covington & Burling. George is a former chair of the White House Council on Environmental Quality and was deputy director and chief of staff for the Nuclear Regulatory Commission's Special Inquiry Group into the Three Mile Island accident. George, it's a mouthful, but it's great to have you here.

George Frampton: Delighted to be here, thank you.

Monica Trauzzi: George, as we hear the details about Japan's Fukushima incident, everyone has been quick to compare it to Pennsylvania's Three Mile Island accident of 1979. Does Fukushima take you back to Three Mile Island? I mean are there some distinct similarities that you're noticing?

George Frampton: Well, similarities and differences. Three Mile Island frightened people, but it wasn't anywhere near as serious as what's happening in Japan. In Three Mile Island a combination of a broken valve and bad instrumentation and operator error meant that the core was uncovered. Water leaked out and was not repumped in to cool the reactor as it shut down, but that only occurred for a number of hours. When they realized the mistake, the core was recovered with water and then the situation was under control. So even though there was a partial core meltdown at Three Mile Island and it took many years to get in and fix it, there were no releases that were harmful to public health. And the situation was really contained and under control after the first half a day. Here, we have no idea. We know the situation is not in control in multiple reactors and, in addition to the fact that it looks like at least one containment vessel was probably breached, there are problems with the adjacent pools of spent fuel rods. Those pools are not contained, so we know at least one where a fire occurred is open to the air. And the potential of explosions and releases directly into the atmosphere from spent fuel, which is not as radioactive as what's in the core, but is now unprotected, means that this is obviously far worse than Three Mile Island.

Monica Trauzzi: What does the rating for radiation released tell us? Walk us through what those numbers mean and how an incident increases in severity as the number goes up.

George Frampton: Well, the biggest danger is that the most radioactive releases from fuel, cesium and iodine and potentially plutonium, which here nobody has talked about, which occur when the cladding or the packing of the fuel rods actually burns and melts. The problem here is isotopes, which are long lived and which have the potential to get into peoples' lungs or into milk and food and have half-lives of 10, 20, 50, 75 years. So the risk here is that water, agricultural land would be contaminated for a very long period of time. That's probably a bigger threat to the adjacent public, let's say in the 20 mile radius, than actual contact with radiation, high levels of radiation directly.

Monica Trauzzi: You mentioned plutonium. Talk about that specifically, because the impacts of that are quite scary.

George Frampton: Well, there's been very little discussion about what's in this fuel. The Japanese use reprocessed fuel, so they use plutonium in their fuel rods and there's plutonium in the exhausted fuel rods that are in these pools. So, plutonium is not only dangerous because of its radioactivity, it's also exceptionally toxic in tiny trace amounts to human beings. So, the potential of plutonium being in the mix in the case of, for example, a meltdown, an explosion of fuel rods in a pool, used fuel rods, which now have no water in the pool, that's an additional risk that hasn't been much discussed.

Monica Trauzzi: How transparent do you think the Japanese government and the Japanese nuclear industry are being in disclosing exactly what's happening on the ground?

George Frampton: Well, certainly not very transparent, but it's hard to know whether to blame the government or the utility. In this case, it appears that the utility, from the beginning, released contradictory information, did not release information about the situation that it knew. Now, it's really not clear what the utility knows about what's happening inside at least two of these plants where there have been explosions, certainly the one where the containment may have been breached. But I would say that the level of transparency is extraordinarily low. At least in this country we have developed response plans that would involve obligations on the utility, the local governments, and state governments who are partners and federal agencies like the Nuclear Regulatory Commission and Department of Energy and Homeland Security. We have an incident response procedure in this country that would be far more transparent.

Monica Trauzzi: How do you clean up an accident of this magnitude?

George Frampton: Well, it takes a long time. Even though the Three Mile Island accident involved a core, a partial core meltdown, the containment was never breached. There were never significant releases outside the plant. There was not any real destruction within the plant. And, nonetheless, it took about 12 years and a billion dollars simply to dismantle Three Mile Island No. 2. It was not until six years after the accident that they actually began to take the fuel rods and the fused independent fuel rods out of the reactor, out of the water in which it had been cooling for six years, because it took that long to decontaminate the plant, do the plans, have a system, do an environmental impact statement and get ready. So here it's clearly cleaning up this plant is going to be a multi-decadal job, probably a 20-year project at best.

Monica Trauzzi: Three Mile Island is thought to have stopped the nuclear industry from growing here in the U.S. Do you think that Fukushima is going to have a similar chilling effect?

George Frampton: I think it will have some chill. I think there will be a lot of re-examination of existing plants, backup systems for power. It is astonishing that there was no redundancy here. But I don't think it's necessarily going to kill the next wave of nuclear. I think however that there may be, in addition to more attention on power systems, used fuel, containment, design, that there may be a shift to designs which are truly passive safe or designs, for example, the pebble bed, gas-cooled reactor and similar designs which don't depend on any active intervention, no matter what goes wrong. And some of the most recent designs that have now been licensed that are being built in Europe and are proposed for the U.S., have a lot of those passive features, but they're not completely passively safe. And I think there may be some reconsideration of what we think of as the leading-edge designs, but they're not quite as far as the next generation of designs in terms of their inherent safety.

Monica Trauzzi: Should California be worried and what should they be doing with the plants that they have there?

George Frampton: Well, I would be surprised if the Nuclear Regulatory Commission isn't going to make all U.S. plants and particularly any of this particular design, which was the original so-called Mark 1 GE boiling water reactor design, look at-look hard at additional redundancy for power, at how the adjacent pools of spent nuclear fuel, which nobody regarded as a big problem, even after 9/11, and probably to look at containment designs and risk assessment. So I think that there will be, and clearly, California reactors, you know, on the ocean, are going to get a review from the point of view of the assumption that the generators in Japan were

wiped out by that tsunami. What this will do to the future I think really remains to be seen. I don't think yet this is going to kill nuclear in the world, but I think it's going to lead to sort of a bit of a pause and perhaps a re-examination of what designs we will accept for a next generation of nuclear power.

Monica Trauzzi: OK, we'll end up there on that note. Thank you for coming on the show, very interesting.

George Frampton: Thank you.

Monica Trauzzi: And thanks for watching. We'll see you back here tomorrow.

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