

Commentary by Steve Leeper, in italics

## Indian Point: Radioactive tritium spiked in groundwater Michael Risinit June 6, 2014

http://www.lohud.com/story/news/local/indian-point/2014/06/06/indian-point-investigatingtritium-leak/10092537

Indian Point is trying to figure out why some recent samples collected from monitoring wells had higher than usual levels of radioactive tritium.

"Higher than usual"? What is usual? Is Indian Point usually leaking less? Yes, all nuclear power plants are leaking tritium all the time. Tritium is impossible to keep under perfect control.

Federal regulatory and Indian Point officials are searching for the source of a spike in radioactive material discovered in groundwater beneath the nuclear power plant in Buchanan.

The Nuclear Regulatory Commission said elevated levels of tritium were found in two monitoring wells in late March near Indian Point Unit 2. Sampling last month found the highest detected level had dropped by about 92 percent but was still higher than usual.

Well, that's a comfort. Dropped 92%. Perfectly safe. But what were the elevated levels? How high were they? What would be wrong with giving us some detail here?

The tritium-laced water is in bedrock and isn't a public health concern because it's not used for drinking, the NRC said — but the levels do exceed acceptable Environmental Protection Agency standards. The wells were installed after sampling in 2005 found trace amounts of the radioactive isotope.

Oh this is good, too. The water is in bedrock. That means it is in a watertight little pool in some rock. Nothing going in. Nothing going out. Just sitting there, being perfectly safe. If water doesn't flow, it starts to smell, and I smell some bullshit.

"The levels that we're talking about here are very much on the low side," NRC spokesman Neil Sheehan said.

On the low side of what? How about telling us what the levels were and let us decide if they are on the low side?

Tritium is a radioactive form of hydrogen. A byproduct of nuclear power, it is also commonly found in luminescent watches or exit signs. The EPA said tritium is "one of the least dangerous" radioactive particles because it emits very low energy radiation and, if ingested, leaves the body relatively quickly.

One of the least dangerous particles? The Nuclear Information and Resource Service cites peer-reviewed studies that say it can cause cancers, genetic effects, developmental abnormalities, reproductive effects, mutations, tumors and cell death. Let's see, who should we trust. Science or the nuclear industry, which we know is a congenital liar.

Susan Shapiro, a member of the Indian Point Safe Energy Coalition, raised the issue during this week's annual safety meeting with the NRC. She said volunteers using a Geiger counter in the region surrounding Indian Point detected a radiation spike about the same time as the leak.

## Is this why we found out?

"Why are we're only hearing about this in June? They didn't tell us when it happened," she said in an interview later.

Would we have found out if the volunteers hadn't found it? Or was someone waiting for that 92% drop in radioactivity? And why did that drop happen? Did they plug the leak?

Both the NRC and plant owner Entergy said the tritium would not have been detectable off-site because it is underground and has a low level of radioactivity.

Underground and low level. Yup, nothing to see here. Plus it is trapped in bedrock and will never go anywhere, so don't worry.

Entergy notified the NRC, the state Public Service Commission and the state Department of Environmental Conservation about a week after the results were confirmed, spokesman Jerry Nappi said.

"There are dozens of wells on site that are monitored several times throughout the year and public health agencies have consistently stated there is no public health impact from periodic tritium findings on-site That being said, we rigorously monitor the wells and promptly investigate any sample results that vary from typical levels," he said in an email.

Several times a year? What happens if the leak happens right after one of those times? What public health agencies are stating that there is no impact? On the basis of what information are they saying that? It seems to me that investigating samples that vary from typical levels means that tritium is always leaking. It's just a matter of how much. Tritium is extremely rare in nature. It was present in only trace amounts until 1945. Now, it's all over the place, with a half-life of 12 years.

While one sample this year exceeded 2005's levels, the NRC said the earlier episode was a persistent, ongoing situation and March's discovery was a spike.

So the wells were established because of an ongoing situation. What situation? How much tritium in that situation? And how high was the spike? And for how long? We never get the details because we're too stupid to understand them anyway?

The 2005 underground plume, which was traced to a failed weld in a transfer canal leading to Unit 2's spent fuel pool, is shrinking in size and tritium level, the NRC said. The recent discovery may be related to the movement of used nuclear fuel in March during a maintenance shutdown, the agency said.

A failed weld. Sure. Could happen to anyone. Luckily, the plume is shrinking in size and tritium level. (How is it doing that? Plumes don't shrink. They grow. But maybe not when trapped in bedrock. Still, how would a plume be shrinking? And how would the NRC know it's shrinking? How did they measure it? And where?)

The groundwater eventually flows into the Hudson River where the tritium is diluted to non-detectable levels, Sheehan said.

You mean even the groundwater in the bedrock that we don't have to worry about is flowing to the Hudson River? Could this be part of the reason the tritium level is going down? It's good no one drinks from the Hudson, right? Or eat fish from it. I hope they get all the tritium out before it gets to the ocean, cause I eat fish from the ocean, and they say that tritium is more dangerous in food than in water.

An Associated Press review of NRC records in 2011 found 48 of 65 reactor sites had tritium leaks.

48 of 65 reactors leak tritium. Do you believe that? I don't. I am willing to bet that 65 of 65 reactors are leaking tritium constantly. Anyone in the nuclear industry willing to take me up on this?