

# NORTH COUNTY NEWS

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## Leaks at Indian Point created underwater lakes

By Abby Luby

*Debate continues  
on how to deal  
with the problem*

Radioactive leaks both old and new have created two large underground lakes, or plumes, beneath Indian Point nuclear power plant's reactor units 1 and 2 and energy officials and citizen watchdog groups are at odds over how to deal with them.

The known leaks have all been mapped in a 2,500-page report by GZA Geoenvironmental, Inc., a Massachusetts-based hydrology firm hired by Entergy Nuclear, the plant's owner, to study the leaks.

In commenting on the GZA report, Nuclear Regulatory Commission spokesman Neil Sheehan said that the leaks were fixed by then-owner Con Ed in 1992, but, as the report indicates, they had already filled considerable space under the plants. It wasn't until years later that the NRC discovered the system for capturing the leaks had failed.

"We were aware that there were leaks, but we believed that the drain system was properly capturing any leakage," Sheehan said. "In the end it turned out that it wasn't working." Additional leaks were apparently created by onsite construction in 2005. Entergy has since dug 54 monitoring wells to find the sources of the leaks. The leaking radioactive waste is Tritium and Strontium-90, cancer causing radioactive isotopes. According to the GZA report, Tritium is leaking into one of two underground lakes from the Unit 2 spent fuel pool and Strontium-90 is leaking into the other lake from the Unit 1 spent fuel pool. (Unit 1 has been closed since 1974). One contaminated lake measures roughly about 50- to 60-feet deep and the other is about 30-feet wide by 350-feet long, according to Entergy. Unit 2, currently in operation, has high concentrations of Tritium in the spent fuel pool up to 40,000,000 pico curies per liter, a normal amount for a radioactive waste storage system, according to Sheehan.

The report recommends that the lakes be left to decay on their own. Don Mayer, Entergy's director of special projects, said that leaving the lakes alone was the safest thing to do. "If you were to pump that water out you would have to create suction on the ground and that would actually move some of the Strontium-90 away from Unit 1 and spread it to a larger extent," Mayer said. "We definitely don't want to do that."

Mayer said leaving the lakes to decay would be of no risk to anyone. David Lochbaum, a scientist with the Union of Concerned Scientists, said the lakes are relatively stable and not likely to result in a sudden discharge.

"The report says that remediation is not necessary and if they got the hydrology right it makes sense," he said. "Since Tritium has an 11-year half life the clean up might be done when the plant is decommissioned. If it's not going to get to the Hudson River and it stays where it is, [then] they've made a mess in their own sand box but they're not messing up anybody else's." Not everyone agrees with the recommendation of leaving the contaminated underground lakes

there. Marilyn Elie of the Westchester Citizens Awareness Network, a watchdog group in favor of shuttering Indian Point, said other companies have taken a different approach.

"It's hard to understand why Entergy would even think about leaving radioactive contaminated water underneath the reactors," Elie said. "We know that this water will eventually find its way into the Hudson River and could affect the health of anyone using the river. Contaminated water in similar lakes has been removed at the Salem Hope Creek. Why shouldn't it be removed here?"

The Salem Hope Creek Nuclear Power plant in New Jersey cleaned up its underground contamination problem by drawing the Tritium-laced water into its plant wells. It's an expensive process.

However, GZA traced the Tritium from the Unit 2 leak and found that it was going under the discharge canal where, according to the report, "a significant amount discharges directly to the canal before the plume reaches the Hudson River."

Entergy says fish tested not only in the river near the plant, but up and down river have only trace amounts of Strontium-90. Nonetheless, Entergy says it will start to remove the spent fuel to stop the leak.

"We have started to prepare with testing out some of the heavy transfer equipment for dry runs," said Mayer. "We expect to be moving the fuel this summer and have it emptied out by the end of the year."

However, Phil Museegas, of the environmental group Riverkeeper, remains concerned about leaks that are still unaccounted for.

"Have they accounted for all the leakage that's going to happen [while they spend time removing spent fuel]?" he asked. "According to the [GZA] report, 50 gallons a day are still unaccounted for in the groundwater. If emptying the spent fuel pool takes until December, that's about 15,000 gallons of highly contaminated water going into the environment. Is that being accounted for or assessed? I don't think so."