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February 7, 2016 348 E. 9th Street #13 New York, NY 10003-7916 s.a.nolting@earthlink.net

Ms. Cindy Bladey
Office of Administration
Mail Stop: OWFN-12-H08
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Re: Docket ID: NRC-2008-0672 Indian Point Nuclear Reactors

Dear Ms. Bladey,

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Yesterday I heard about yet another problem that had just happened at Indian Point, yet another warning to close this dangerous nuclear power plant as soon as possible. Governor Cuomo had ordered an investigation in January into the several recent mishaps at Indian Point, the aging nuclear power plant 25 miles north of New York City, that had forced it toshut down temporarily. The Governor is very aware of the potential dangers to people within the area that would be affected by a serious accident at Indian Point and wants to see it shut down for good. NYC councilmembers are also attempting to close this dangerous power plant.

An act of terrorism, internal malfunction or natural disaster could put the lives and health of many millions of people at risk Evacuation of these numbers of people is not realistically possible. I have been concerned about Indian Point for many years. So far we have been lucky, but counting on that luck continuing is becoming increasingly irresponsible as these nuclear reactors age further and risks of terrorism, including cyber-attacks, become more likely.

Indian Point is storing 1500 tons of radioactive waste, which is not only a source of potential disaster, but also a source of ongoing damaging effects on vegetation and human and animal health due to inevitable leaks. An article in the February 1 issue of The Washington Spectator states that "one of the main sources of human exposure to radioactive iodine is nuclear power reactors. Not only from accidents...but from routine operations of reactors." "The highest rates of thyroid cancer in the United States, according to federal statistics, are found in New Jersey, Pennsylvania, and New York, states with the densest concentration of reactors in the nation." Attached is a copy of the article.

We no longer even need the energy produced by Indian Point. Energy efficiencies adn expanded renewable energy would enable New York to do without these plants in the near future. In fact, recent research by Synapse Energy Economics has condituded that New York's electric power system can be "operated reliably even in the absence of both of the Indian Point Energy Center units as of 2016," if certain infrastructure projects are completed soon. I urge you to consider all of the potential dangers and ongoing damage caused by Indian Point and come to a determination that the already expired licenses for units #2 and #3 not be renewed. Indian Point should be retired permanently and soon.

Sincerely, Sharon A. Nolting

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## Editorial An Invisible Epidemic

by Janette Sherman and Joseph Mangano

Is it possible for an epidemic to be invisible?

Since 1991 the annual number of newly documented cases of thyroid cancer in the United States has skyrocketed from 12,400 to 62,450. It's now the seventh most common type of cancer.

Relatively little attention is paid to the butterflyshaped thyroid gland that wraps around the throat. Many don't even know what the gland does. But this small organ (and the hormone it produces) is crucial to physical and mental development, especially early in life.

Cancer of the thyroid also gets little attention, perhaps because it is treatable, with long-term survival rates more than 90 percent. Still, the obvious question is what is causing this epidemic, and what can be done to address it?

Recently, there has been a debate in medical journals, with several authors claiming that the increase in thyroid cancer is the result of doctors doing a better job of detecting the disease at an earlier stage. A team of Italian researchers who published a paper last January split the difference, citing increased rates and better diagnosis. But as rates of all stages of thyroid cancer are soaring, better detection is probably a small factor.

So, what are the causes?

The Mayo Clinic describes a higher frequency of occurrence of thyroid cancer in women (not a telling clue, unless more is known about what predisposes women to the condition). It mentions inherited genetic syndromes that increase risk, although the true cause of these syndromes aren't known. And Mayo links thyroid cancer to exposure to radiation. The latter is perhaps the only "cause" for which there is a public policy solution.

In the atomic age, radioactive iodine (chiefly Iodine-131) has proliferated, from atom bomb explosions and now from nuclear power reactors.

The thyroid gland requires iodine, a naturally occurring chemical. But it doesn't distinguish between radioactive Iodine 131 and naturally occurring iodine. Iodine 131 enters the human body via the food we eat, the water we drink and the air we breathe, damaging and killing cells, a process that can lead to cancer and other diseases.

The current debate in medical journals, or lack of one, ignores the obvious. Although the specific process that causes thyroid cancer isn't known, many scholarly studies have already linked exposure to radioactive iodine to increased risk. Studies of Japanese survivors of the atomic bombs the United States dropped on Hiroshima and Nagasaki found the cancer with the greatest increase was thyroid cancer.

- A U.S. government survey of cancer rates among residents of the Marshall Islands, who were exposed to U.S. bomb testing in the 1950s, found thyroid cancer outpaced all others.
- A 1999 federal study estimated that exposure to I-131 from bomb testing in Nevada caused as many as 212,000 Americans to develop thyroid cancer.
- A 2009 book on the Chernobyl nuclear plant disaster found soaring levels of local thyroid cancer rates after the meltdown, especially among children, and workers called "liquidators," who cleaned up the burning plant.
- More recently, studies have documented thyroid cancer rates in children near Fukushima, Japan, site of the 2011 meltdown, to be 20 to 50 times above the expected rate.

Today, one of the main sources of human exposure to radioactive iodine is nuclear power reactors. Not only from accidents like the ones at Chernobyl and Fukushima, but from the routine operation of reactors. To create electricity, these plants use the same process to split uranium atoms that is used in atomic bombs. In that process, waste products, including I-131, are produced in large amounts and must be contained to prevent exposure to workers and local residents. Some of this waste inevitably leaks from reactors and finds its way into plants and the bodies of humans and other animals.

The highest rates of thyroid cancer in the United States, according to federal statistics, are found in New Jersey, Pennsylvania, and New York, states with the densest concentration of reactors in the nation. In a study conducted in 2009, one of this article's authors (Janette Sherman) found the highest rates of thyroid cancer occurring within 90-mile radiuses of the 16 nuclear power plants (13 still operating) in those states.

Declaring "we don't know why" and continuing to diagnose and treat the growing number of Americans suffering from thyroid disease is not sufficient. Causes must be identified, preventive strategies must be implemented, and ultimately policy makers will have to take a serious look at closing the 99 nuclear reactors currently operating in the United States.

Joseph J. Mangano is executive director of the Radiation and Public Health Project based in New York. Janette Sherman is a physician and author, specializing in toxicology and chemical and radiation-related illnesses.

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