



Thomas D. Matte, M.D. MPH

Vice President for Environmental Health

Vital Strategies (212) 500 - 5720 environmentalhealth@vitalstrategies.org

Senior Lecturer Environmental Health Sciences, Mailman School of Public Health, Columbia University
(212) 854-1754 tdm2132@cumc.columbia.edu

April 16, 2020

Subject: **Closing Indian Point Power Plant will have adverse COVID-19 health consequences**

Dear Professor Matte:

I've been collaborating with some New York City area advocates for nuclear power in their quest to save Indian Point Energy Center (IPEC.) There are significant parallels to the proposed Diablo Canyon Power Plant (DCPP) closure. Both planned nuclear power plant closures are being driven by politics, and not necessarily ethical politics. The attached recently-published essay by Matt Wilkinson discusses the political problem in greater detail. While the New York City area has strong public health grounds for keeping IPEC open, the planned cessation of operation for one of the reactors is April 30, 2020. IPEC currently safely supplies about 1/4 of the power to southeast New York State **without emitting any air pollution**. You will likely not be surprised to learn that a new large natural-gas-fired power plant with a significant emissions burden is poised to start up on May 1, 2020.

Since I earned my Ph.D. in radiation biophysics at SUNY Buffalo starting in 1973 and worked and lived in Westchester County from 1983 to 1986, I've been closely following the COVID-19 story in the New York City. Sadly, this area is where many in the U.S. are being sickened by COVID-19 and dying. You coauthored a JAMA paper in 2016 regarding nonpandemic influenza that explains some of the CVD mechanisms.

The State of New York Department of Health has been posting detailed statistical information regarding the spread of COVID-19 in the state. Unfortunately, to use the data requires that it be hand-transcribed each day. I sent an email to the New York State Department of Health Commissioner, Dr. Howard Zucker, J.D. requesting the ability to download data tables in Microsoft Excel Format. Yesterday, I received a reply informing me, "your request will be shared with clinical and research staff." I did not observe a website change yesterday. Undeterred, I have been hand-entering the data into my spreadsheet, which converts the New York State data into useful population incidence information, namely how many per 100,000 (100K.) This has been a time-consuming process. I've attached the spreadsheet. **Trends showing the high death rate in Bronx County relative to Westchester County, immediately to the north, cause me concern**. Those statistics are set off in red bold near the top right of the spreadsheet. I believe this increased death rate is a consequence of the historical use of highly-polluting "dual fuel" generators in and near Manhattan Island during intensely-cold "polar vortex" events. If fuel-secure IPEC is shut down, the City and State will have no choice but to return to strong reliance on the these huge, dirty power plants, indifferent to the public health harms. I've gathered considerable evidence that supports this contention. I also have some information from a knowledgeable "insider" that calls into question Riverkeeper's motives. Furthermore, I was pleased to locate in the *Wall Street Journal* two editorials in 2019 and two OpEds supporting continued IPEC operation. I can send these articles and my background research materials on request.

I would be pleased to discuss this time-sensitive information with you and your colleagues with the goal of changing the politics of the planned IPEC closure.

Sincerely, /s/ Gene Nelson, Ph.D. Legal Assistant, Californians for Green Nuclear Power, Inc. (CGNP)

San Luis Obispo, CA (805) 363 - 4697 cell government@CGNP.org email

<http://CGNP.org> website

Don't be blindsided by another black swan

Matt Wilkinson April 14, 2020

https://napavalleyregister.com/opinion/letters/dont-be-blindsided-by-another-black-swan/article_faba17fb-c669-5ae7-835b-32ad135b1c36.html

The black swan theory is a metaphor that describes an event that comes as a surprise and has a major effect. The COVID-19 pandemic is a black swan. Dr. Anthony Fauci says the earliest we can resume life as it was before COVID-19 is in 18 to 24 months.

Eighteen to 24 months is long enough for a second, localized black swan to occur on top.

Each year, hurricanes, floods, wildfires, earthquakes and other catastrophes occur across our vast country and strain our communities. 2020 will be no different. Our response to these catastrophes becomes more difficult in the middle of the COVID-19 pandemic. Imagine the incremental complexity to navigate the 2014 Napa earthquake or the 2017 wine country fires if we could not come within six feet of one another.

In this moment, elected officials should take steps to reduce the risk of localized black swans. Take New York's Governor Cuomo as an example.

The state of New York decided in recent years to shut down the Indian Point nuclear power plant. The decision to shut down was political, not science- or engineering-based. Power generation from the plant will be cut in half by the end of this month, the other half a year later, unless Governor Cuomo intervenes to keep it going.

Indian Point provides 25% of New York City's power, all with zero-carbon emissions. That's one in four ventilators in New York City hospitals. New York will replace the nuclear generation with solar, wind and mostly natural gas.

When Hurricane Harvey made landfall in Texas in 2017, the storm shuttered refineries, destroyed solar farms and idled wind turbines that can't operate when winds exceed 55 mph. Yet the South Texas Project nuclear power plant near Houston operated at full capacity despite wind gusts that peaked at 130 mph, providing essential electricity for hospitals and emergency response.

California has one operational nuclear power plant left: Diablo Canyon near San Luis Obispo, which provides 10% of the state's electricity at just under three cents per kilowatt-hour (versus solar at 10 cents, not counting storage, gas backup or payments to other states to take our excess when we don't need it). Entirely carbon-free, Diablo Canyon represents 20% of California's carbon-free electricity. Like New York, California decided in recent years to shut down Diablo Canyon in 2025. And like New York, this was a political decision, absent of science.

Could a localized black swan event occur in California? Could the high voltage power transmission lines feeding electricity to California from the Pacific Northwest succumb in a forest fire? Could the aging network of natural gas pipelines that feeds our natural gas power plants crumble and fail? How many of the most vulnerable in our communities would not survive a widespread, long-term power outage?

Over six decades, nuclear power has experienced only one fatal accident, Chernobyl in 1986, which directly caused about 60 deaths and is blamed for an estimated 4,000 more over the 34 years that followed.

That's a serious accident, but other nonnuclear industrial accidents have been worse. A hydroelectric dam failure in China in 1975 killed tens of thousands, and the 1984 Bhopal gas leak at a Union Carbide plant in India killed 4,000 initially and an estimated 15,000 more over time. Yet, we don't stigmatize those entire industries as a result.

The 1979 accident at Three Mile Island killed no one. In Japan in 2011, the fourth largest earthquake in recorded history and a 50-foot tsunami together took almost 18,000 lives—and damaged the Fukushima nuclear facility, which leaked radiation. Exposure during the incident may have contributed to one worker's 2016 death.

We're lucky Diablo Canyon is not scheduled to shut down during this pandemic, as is the case with Indian Point in New York. California's leaders who successfully leverage science to guide their COVID-19 decisions should extend science-based decision-making to avoid an electricity generation black swan.

They should do everything in their power to keep Diablo Canyon running until an equally dense, reliable, safe, non-intermittent and carbon-free replacement can be deployed.

Matt Wilkinson

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