

Fukushima, Chernobyl, And Three Mile Island Prove Why Nuclear Power Will Never Be Inherently Safe

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By Grayson Webb

Recently, after *Forbes Magazine* published an opinion piece entitled, *It Sounds Crazy, But Fukushima, Chernobyl, And Three Mile Island Show Why Nuclear Is Inherently Safe*, a number of *Forbes'* readers called and continue to write Fairewinds Energy Education to ask us if this opinion piece is true. Quite frankly, the article is an infomercial for the nuclear industry: it twists data in order to paint a rosy picture of nuclear energy.

Before we delve into the article itself, note that the author of the article, Michael Shellenberger, has a [degree in cultural anthropology](#), not nuclear science or nuclear engineering, environmental science, or any other educational background related to the energy production methods and their impact on the environment, human lives, or the global economy. He is not a scientist or a doctor (don't be fooled by his twitter handle @shellenbergerMD).

Mr. Shellenberger is the president of a pro-nuclear lobbyist group called Environmental Progress that advocates for extending the life of the old and soon-to-be-retired nukes for an additional 40-years, even though each atomic power reactor was only designed for a 40-year lifespan. On its website, in addition to its pro-nuke work, Environmental Progress claims that they are independent and not funded by the nuclear industry because their only funders are Rachel and Roland Pritzker, of the Pritzker Innovation Fund (PIF). For those that are unaware, the large and extremely wealthy Pritzker family includes 11 billionaires. All together the various family members have a net worth of more than \$30 billion!

The Pritzker Innovation Fund backs various pro-nuclear ventures and supporting nuclear energy is part of its mission. In fact, Rachel, the president of the fund, gave a pro-nuclear TED talk in 2015 using many of the recycled arguments the nuclear industry and the *Forbes* article relied upon. While Environmental Progress (EP) likes to claim it is independent of any financial manipulation, receiving money from a pro-nuclear foundation paints a quite different picture. While Environmental Progress is listed as a nonprofit, it just became a 501c3 nonprofit during the fall of 2017. Since it incorporated as a nonprofit so recently, there are no public financial 990s available to delineate what other corporations may underwrite EP's astroturfing pro-nuke posture with large sums of nuclear industry money, and of course many individual nuclear employees may be donating with the encouragement of their employer incorporation and then could write it off as a tax-deductible donation.

Now that we've addressed the lapses in Mr. Shellenberger's nuclear power engineering and environmental science education, let's look at the false facts raised in his pretend science article.

First, this puff piece for *Forbes Magazine* tries to discredit the assessment of noted pediatrician and children's advocate [Dr. Helen Caldicott](#), who projected close to 1 million people died due to the Chernobyl meltdown. Mr. Shellenberger uses nuclear industry numbers to attempt to claim that the impact of Chernobyl on the environment and to all species involved was minimal, a typical follow the playbook created by industry lobbyists. However, independent scientific research published by the New York Academy of Science in a book entitled [Chernobyl: Consequences of a Catastrophe for People and the Environment](#) proves that Dr. Caldicott's estimate is far more accurate than the fake data that *Forbes Magazine*

allowed Shellenberger to promote. In *Chernobyl: Consequences of a Catastrophe for People and the Environment* the New York Academy of Science confirms and discusses the real scientific data as it was prepared and studied by Dr. Alexey Yablokov, Dr. Vassily Nesterenko, and Dr. Alexey Nesterenko.

A separate scientist, [Dr. Yuri Bandazhevsky](#), was jailed after publishing his [scientific report on radiation induced heart disease in children](#). The disease, aptly named Chernobyl Heart, brought to light the cover-up by the Government of Belarus and has taught doctors around the world about the impact of Cesium, which is absorbed into muscles and damages children's hearts and other muscles. Cesium also crosses the placental barrier and damages babies in utero. Dr. Yuri Bandazhevsky was imprisoned for four-years in Belarus until the public outcry from the European Union sparked his release. He currently lives in the Ukraine where he continues his work.

An entirely different [scientific study conducted by noted United Kingdom scientist Dr. Ian Fairlie, who completed his PhD at Princeton University](#), shows that 5-million people still reside in highly radioactive areas and that there has been an increase of 700% in cases of thyroid cancer and a 200%-500% increase in Leukemia cases. All one needs to do to see the lingering effects of Chernobyl and the damage that radiation has caused in Chernobyl is to look at the haunting photo gallery entitled [Chernobyl Legacy: Radiation Poisoning](#) taken by photographer Paul Fusco a little more than a decade after Chernobyl. Mr. Fusco also [narrates a video of his photographs from his trip](#) to help to provide context. There is also a short documentary by the name of *Chernobyl Heart* which chronicles the effects of the Chernobyl nuclear disaster on the health of children in the area of the plant. The film won the Best Documentary Short Subject award at the 2004 Academy Awards. You can watch the heart wrenching film above. Unfortunately, instead of speaking truth to power, *Forbes Magazine* has allowed self-promoting industry data to be used in this infomercial while actually discarding real scientific independent peer-reviewed research.

Another discordant note that appears in the *Forbes* accepted opinion piece discredits real medical science in its attack on the World Health Organization's (WHO) estimate of premature deaths caused by Chernobyl. In his published opinion in *Forbes*, Shellenberger claims that because the WHO uses the "linear no threshold" (LNT) model, its estimates are exaggerated. In a rush to meet the desired growth of major nuclear corporations, there has been a recent push by a fringe group of pro-industry scientists to change the Environmental Protection Agency (EPA) rules away from LNT, thereby increasing the amount of toxic chemicals and radiation that industries in the United States would be able to place in products and dump into the environment. Unfortunately, this ill-informed science is popular with the current U.S. Administration. However, [according to a recent story in the LA Times](#),

This view — that pollution and radiation can be beneficial — has many experts worried. The fact that such a position may become EPA policy, they say, portends a future in which corporate desires outweigh public and environmental health.

"Industry has been pushing for this for a long time," said [David Michaels](#), former assistant secretary of labor for the Occupational Safety and Health Administration who's a professor of environmental and occupational health at George Washington University. "Not just the chemical industry, but the radiation and tobacco industries too."

If the EPA ultimately adopts Calabrese's proposed new regulations, researchers say it could change decades of standards and guidelines on clean air, water and toxic waste. It could also fundamentally alter the way the government assesses new

chemicals and pesticides entering the marketplace.

“This is industry’s holy grail,” said Michaels.

Later in the *Forbes Magazine* nuclear industry sponsored opinion piece by Shellenberger asserts another falsity when it asks: Why were they destroying Fukushima’s precious topsoil in order to reduce radiation levels that were already at levels far lower than posed a danger? Why was the government spending billions trying to do the same thing with water near the plant itself? Was nobody in Japan familiar with mainstream radiation health science?

The soil is being removed and the water is being purified because it is highly radioactive. The pro-nuke Environmental Progress organization claims it endorses *mainstream radiation health science*, yet it does not. The LNT (Linear No Threshold) model is *mainstream science* that has been repeatedly endorsed by scientific bodies like the [National Academy of Sciences](#), the [National Council on Radiation Protection and Measurements](#), and the [International Commission on Radiological Protection](#).

The next fallacy *Forbes Magazine* continues to market in this fake news pro-nuke industry promotion is calling the meltdown at Three Mile Island (TMI) a dream,

What about Three Mile Island? After the accident in 1979, *Time Magazine* ran a cover story that superimposed a glowing headline, “Nuclear Nightmare,” over an image of the plant. *Nightmare*? More like a dream.

The 40th observance of the March 28, 1979 meltdown at TMI begins tomorrow, Saturday March 23rd at the Pennsylvania State House and culminates in a presentation at Penn State on March 27th. The first of the commercial nuclear power meltdowns was anything but a dream for the real people living nearby. Many residents were exposed to high levels of radiation because the plant owners outright lied to the Nuclear Regulatory Commission, President Carter, and Pennsylvania’s own governor, so that all those government officials failed to issue a timely evacuation because they did not know that a meltdown was even in progress!

While the United States Nuclear Regulatory Commission data claims that no one died from radiation emanating from TMI, independent research shows this is simply not true. [Studies by epidemiologist Dr. Steve Wing](#) show that cancer rates in the surrounding area significantly skyrocketed following the meltdown at TMI. You can listen to [Dr. Wing talk about his studies](#) and the implications from a video taken at the Pennsylvania State Capitol on March 26, 2009. [Fairewinds Energy Education](#) also has a video of [the 38th commemoration presentation](#) Arnie Gundersen gave in Harrisburg, Pennsylvania on its website [fairewinds.org]. In this video, Mr. Gundersen discusses the significant errors in data claimed as accurate by the Nuclear Regulatory Commission (NRC). Yet Shellenberger relies upon the scientifically refuted data promoted by the NRC for his *Forbes Magazine* nuke power promotion piece.

The U.S. government was the first agency in the world to call for people within a 40-mile radius surrounding Fukushima Daiichi to be evacuated, which again the *Forbes*’ Shellenberger pro-nuke industry fiction claims was unnecessary. This unscientific hit piece by Shellenberger in *Forbes Magazine* goes even further to blame the evacuation itself for the resulting misfortune of the refugees – instead of accurately reporting that the nuclear power industry, the government of Japan, and atomic power with its daunting risks are to blame for the hardships faced by refugees and the communities surrounding the Fukushima site.

“While some amount of temporary evacuation might have been justified, there was simply never any reason for such a large, and long-term, evacuation. About 2,000 people died

from the evacuation, while others who were displaced suffered from loneliness, depression, suicide, bullying at school, and anxiety.”

The victims of Fukushima Daiichi and the hardships that they have endured during the past 8-years, as well of the physical and emotional traumas they have suffered, are facts the refugees will live with for the remainder of their lives. The fact that the triple-meltdown at [Fukushima Daiichi was foreseen and preventable](#) and proves that the blame should be firmly placed on TEPCO and the nuclear power industry for allowing TEPCO to get away without constructing the government mandated seawall. More than 1,000 years of documented history about tsunamis were ignored when an entire mountain side was cut down so the Fukushima atomic power reactors could be built near the shoreline giving them easier access to cooling water. Now tens of thousands of refugees are facing decimated cities and farms, and the destruction of their families and communities as they struggle daily to protect themselves, their children, and even their grandchildren from extensive radiation exposure. As [Fairewinds peer-reviewed research](#) shows, as well as a [separate study](#), highly radioactive hot particles that are severely dangerous, are present in many parts of Japan and continue to be inhaled. As discussed in our recent blogpost Atomic Balm Part 2, even after areas have been cleaned of radioactive material, it is only a matter of time before radioactive particles born on the wind or washed down from radioactively contaminated areas migrate back.

The first problem is with the government of Japan’s clearance criteria that only areas in and around homes have been allegedly decontaminated. I measured radiation along highways and then 50-feet into the surrounding woods, only to find that the woods remained highly contaminated, so that when it rains or snows, or the wind blows the dust or pollen from the woods, that radiation migrates back to people’s supposedly clean and radiation-free homes. I went to the top of 4-story high rooftops in Minamisoma that had been completely cleaned and repainted following the meltdowns. These rooftops were recontaminated by dust on the wind, blowing in radiation from the surrounding mountains. Peoples’ homes and communities that were claimed to be clean are indeed being recontaminated every day.

Why on earth would someone willingly want to live with their families in an area known to have high levels of radiation that damage DNA and cause cancers and other long-term illnesses?

The nuclear power that originated with President Eisenhower’s Atoms for Peace Program is not what many people envisioned when the concept was first created in the early 1950s. Atomic or nuclear power, whichever moniker you want to give it, is extremely expensive, takes a long time to build, releases small amounts of radiation into the environment daily during normal operation, produces highly toxic waste with no proven technology for storing it for more than 100-years, and must be stored for 250,000-years until it becomes safe as normal soil.

For the last 70-years using nuclear power to produce electricity has unveiled all of its flaws and proven that it is not an energy source for the future of humankind because it simply is not up to the task.

The argument that nuclear energy “has always been inherently safe” is absolutely wrong. There have been *five meltdowns during the last 40-years* resulting in a ratio of one meltdown every eight years. Look at TMI, Chernobyl, or Fukushima; people have died, each disaster has been worse than the one before it, and at Chernobyl and Fukushima, once pristine farmland and entire cities will never be habitable again.