Can Nuclear Power Be the Answer?

By Harvey Wasserman

What are the consequences of using nuclear power to address climate change? Is nuclear power clean energy? Can nuclear power lower greenhouse gases soon enough to help mitigate climate change, with ‘soon enough’ defined as 10 years or less by the 2022 International Panel on Climate Change? Lastly, what is the risk of nuclear power to play in our nuclear power and nuclear weapons?

The consequences of operating nuclear reactors include:
- Carbon dioxide (CO2), radioactive [1] and toxic emissions at each step in the nuclear fuel chain, the vast industrial infrastructure, part of which we almost every state in the U.S.
- Regularly released radioactive material to the air and water.
- Thermal pollution of the surface water which provides the vast heat and water needed to cool down the reactor, and the water contamination in which fission and fissioning uranium fallout rods in the core.
- Accidents, leaks, and unplanned, unregulated releases of radioactive gases, liquids and solids into the biosphere.
- Many forms of radioactive wastes, some of which remain toxic for millions of years, all of which we do not know how to safely store them for the next 100 years, much less for millions of years.
- Providing the academic, industrial, and governmental infrastructures which are, according to former Energy Secretary Ernest J. Moniz, fundamental enablers of our nuclear and nuclear weapons [2], contributing something $42,4 billion per year for these purposes.[3]

This is a formidable list of significant consequences. Given these impacts, nuclear power is clearly not a clean source of electricity, even though fissioning uranium and of itself, does not emit large amounts of CO2. The CO2 which nuclear power does put into the environment is hazardous radiactively.

Nuclear reactors produce many other toxic and deadly emissions, as well as nuclear waste. We don’t know the full extent of the effects of ionizing radiation on living things and our planetary ecology, but what we do know is that in humans it can cause cancer and diseases of the pulmonary, cardiac and immune systems.

In one sense, the worldwide nuclear enterprise has put all of us into a non-consensual, unplanned, unregulated and out-of-control human experiment which involves irradiating our biosphere. Due in part to research about the radioactive strontium-90 from atmospheric nuclear weapons tests found in kids’ teeth around 1960, President John F. Kennedy signed the Partial Test Ban Treaty in 1963 in an effort to reduce our exposure to radioactivity.

According to the National Academy of Sciences, all exposure to ionizing radiation increases health risks, which are cumulative over our lifetimes.[4]

While one could argue based on these consequences alone that nuclear power should be stopped rather than promoted, let us consider if nuclear power can really be a part of the solution to climate change. Climate change, like nuclear weapons, poses existential threats to life on earth, so if nuclear power can play an essential part in mitigating climate change, then maybe accepting the above known and unknown detriments of nuclear power is just part of the price of survival. A steep price for sure, in environmental, health, financing, and nuclear weapons dangers, but no price is too high if it is the only path to survival, right?

Do we have to accept nuclear power’s clearly evident risks to avert climate chaos?

To avert climate change we have 10 years or less to significantly reduce CO2. While some of the 93 operating reactors in the U.S. are eligible for $6 billion of taxpayer subsidies to help them survive economically, the aging facilities are being considered as a potential danger and we can readily direct mounting damage to and breaking down the nuclear power infrastructure, industry, and its institutions.

The nuclear industry has been pushing the fantasy of atomic power, new or old. By 1991, the nuclear industry was touting small modular reactors. But they’re uneconomical, and the two designs that have been most promoted are both uneconomical and uneconomic, drawing attention away from military weapons and their massive destruction, and instead atoms for peace put a smiley face on the nuclear enterprise, drawing attention away from military concerns.

Atoms for peace put a smiley face on the nuclear enterprise, drawing attention away from military weapons and their massive destruction, and instead directed attention to the promises of unlimited benefits. This program proliferated nuclear technology to over 40 nations around the world, including Iran, and was based on the aspirational atom that we would “tame” to “serve” us, with electricity “too cheap to meter” — along with atomic cars, boats, ships and rockets — truly a phantasmagorical and mythical cultural promise, which does not exist in reality. Certain nuclear weapons are the most potent instruments of destruction in the world. As illustrated by the Manhattan Project begun in 1942, nuclear weapons depend upon an extensive scientific-industrial-academic/governmental infrastructure. Ernest Moniz, mentioned above, has clearly illustrated how much nuclear power depends on the civilian nuclear power infrastructure, calling it “an essential enabler of national security.” The Atlantic Council in Washington, DC also mentioned above, calculates the value of this contribution to be $42.4 billion per year. In other words, if you support nuclear power, you are enabling nuclear weapons.

Is nuclear power the real answer?

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Nuclear goodbye: The future must be solar, wind, battery and LED/efficiency

By Harvey Wasserman

The nuclear industry has been pushing the fantasy of yet another “renaissance” of nuclear power, based on the absurd idea that atomic reactors — which operate at 571 degrees Fahrenheit, resulting in substantial greenhouse gas emissions and, periodically, explosions — can somehow cool the planet.

The fact is: there’s no more big, old-style light water reactors (LWRs), and the ones we have are being severely stressed. The Davis-Besse facilities, whose “hole-in-the-head” was a major criticism that plagued by corruption, incompetence, design flaws, and labor problems. Plant Vologe might never open — especially in light of the astonishing advances in renewable, solar, wind, battery and LED technology, which has completely buried any economic or ecological justification for atomic power, new or old.

Desperate atomic cultists including Bill Gates are now touting small modular reactors. But they’re uneconomical, can’t compete with renewable energy, and we can’t guard against terrorists, and can’t beat renewables in safety, speed to build, climate impacts, price, or job creation. Our energy future should consist of modern solar, wind, battery and LED technologies, not nuclear reactors. Let’s work to guarantee that none of them explode before we get there.

— Harvey Wasserman co-convenes the weekly Election Protection 2024 Zoom. His People’s Spiral of U.S. History is at www.solartopia.org.

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