

TESTIMONY ON OHIO BILL HB308

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Background – Proposal to Designate Nuclear Power as “Green”

The bill recently passed by the Ohio House of Representatives (HB 308) proposes “to amend section 4928.01 of the Revised Code to include energy generated by nuclear reaction as green energy.”

The two nuclear power reactors in Ohio are the Perry Nuclear Power Plant (in Lake County, started in 1977) and the Davis-Besse Nuclear Power Station (in Ottawa County, started in 1986). Together, they produced 12.3% of Ohio’s electricity in 2023. Perry and Davis-Besse are licensed by the U.S. Nuclear Regulatory Commission to operate until 2026 and 2037, respectively.

Discussion is now under way to construct a new – but still experimental - type of nuclear reactor (Small Modular Reactors) in Ohio. A new uranium enrichment plant, that would generate High-Assay Low-Enriched Uranium (HALEU) fuel for nuclear reactors, has recently been built at the Portsmouth site, in Pike County. At Portsmouth, enriched uranium was generated for nuclear weapons and reactors from 1954-2001.

As plans emerge to keep aging reactors at Perry and Davis-Besse operating, to construct new reactors, and to produce enriched uranium fuel for these facilities, the proposed designation of nuclear power as “green” merits more review.

Why Nuclear Power Is Not “Green”

For decades, “green” forms of electricity have typically been assigned to wind, solar, hydroelectric, geothermal, and others that do not generate climate-changing products, as do coal, natural gas, and oil. But in recent years, proponents of nuclear power have pushed to designate nuclear as “green.”

Nuclear power is not “green” or “emission-free” for several reasons:

1. Nuclear reactors produce and release climate-changing chemicals during their operation, such as radioactive Carbon-14.
2. Nuclear reactors are just the last step in a lengthy process to produce electricity. All prior steps – uranium mining, milling, enrichment, fabrication, and purification), consume large amounts of climate-changing gases.
3. Processes such as transportation for each of the above steps, construction of nuclear reactors, management of high-level radioactive waste, and decommissioning of reactors after shutdown also consume large amounts of climate changing gases.

Thus, the definition of nuclear power as “green” – as defined as one which will reduce climate change – is false, misleading, and dangerous.

Why Nuclear Power is Not “Emission Free”.

Nuclear reactors produce and generate over 100 radioactive chemicals – waste products from splitting uranium-235 atoms. They are not found in nature, but only produced in nuclear weapons explosions and nuclear reactor operations. These isotopes, including Strontium-90, Iodine-131, Cesium-137, and Plutonium-239, are arguably the most toxic chemicals in history. Each is radioactive, and is harmful to humans, animals, and plants that are exposed.

Much of these chemicals are stored as high-level waste at each plant. But a portion is routinely released into local air and water, and are ingested by humans through breathing, food, and water. These isotopes destroy or impair healthy cells, potentially leading to cancer, birth defects, and other diseases. They are most harmful to the young (fetus, infant, and child), frail elderly, and persons with impaired immune systems.

Finally, meltdowns at nuclear power reactors have been catastrophic, including those at Three Mile Island (1979), Chernobyl (1986), and Fukushima (2011). Earlier meltdowns have occurred at research reactors, with the largest being at Santa Susanna near Los Angeles (1959) – believed to have released more radioactivity than at Three Mile Island.

Thus, the designation of nuclear power as “emission-free” is also false, misleading, and dangerous.

Historical Harm to Humans Caused by Ohio Reactors .

According to data from the Centers for Disease Control and Prevention, death rates from all cancers combined in the Ohio counties where the Davis-Besse, Portsmouth, and Perry nuclear reactors have operated were typically equal to or below the U.S. rate. This pattern was consistent up to the early 1990s.

However, for the most recent 12-year period in which data is available (2009-2020), local cancer death rates have soared above the U.S. (see table below). For those 12 years, the “excess” cancer deaths have exceeded 1,000. In other words, if the county-national ratio from the baseline period (1989-1993) had not changed, 1,077 fewer residents of the three counties would have died of cancer.

<u>Site</u>	<u>County</u>	<u>County vs. U.S. Cancer Rate, 1989-93</u>	<u>County vs. U.S. Cancer Rate, 2009-20</u>	<u>Excess Deaths</u>
Portsmouth	Pike	- 6.7%	+25.1%	283
Perry	Lake	+ 0.6%	+ 8.2%	520
Davis-Besse	Ottawa	- 3.3%	+15.1%	274
Total				1077

Source: U.S. Centers for Disease Control and Prevention, <https://wonder.cdc.gov>. Rates are annual neoplasm deaths per 100,000 population, adjusted to the 2000 U.S. standard population.

Recent detailed analyses of rising mortality from cancer and other diseases near the Portsmouth site are available at <https://radiation.org/rphp-report-finds-soaring-death-rate-near-ohio-uranium-plant/>.

Conclusion – Expansion of Nuclear Power in Ohio is Hazardous

With historical data showing unusually high rates of cancer in home counties of Ohio nuclear facilities, the designation of nuclear power as “green” is an arbitrary and unbased one, and any legislative action – including HB308 - that supports this designation should be rejected. The “green” power label should be restricted to those that present far lower environmental health risks from pollutants, including solar, wind, geothermal, and hydroelectric power.

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