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## THE PORTSMOUTH NUCLEAR SITE AT PIKETON, OHIO

**THE PORTSMOUTH NUCLEAR SITE (PORTS)** is a 3,777-acre U.S. Department of Energy (DOE) facility in Pike County in southern Ohio, 23 miles from the Ohio River. **THE PORTSMOUTH GASEOUS DIFFUSION PLANT** was the site's original, massive facility that enriched uranium for nuclear bombs. Operations started in 1954. Gaseous diffusion enrichment was monumental in scale. Three enrichment buildings (85, 75, and 65 feet tall) covered **95 acres under roof**. The site used [as much electricity as New York City](#) according to the former Atomic Energy Commission. Two coal plants were built to supply electricity, burning 7.5 million tons of coal annually. In the mid-1960s the site also began producing low-enriched uranium, the fuel for commercial nuclear reactors. The Department of Energy (DOE) privatized the operation in 1998. The new owner, USEC, Inc. operated the facility until 2001.

- **Reprocessed high-level radioactive waste:** Called by over a dozen names by the DOE, nuclear waste was brought to Portsmouth and run through the enrichment processes for years, contaminating the entire site with transuranics (neptunium, americium, plutonium) the deadliest substances on earth, plus numerous other toxins.
- **Environmental remediation** of the contaminated site began in 1989 with a consent decree between the U.S. EPA, Ohio EPA and the Department of Energy. Production ended in 2001. DOE delayed cleanup by putting the plant on “cold standby” until it was officially closed in 2005.
- **[Ohio's Nuclear Legacy: Troubled Past, Uncertain Future:](#)** The *Dayton Daily News* series by this title was published in 2006. The report detailed how “The Piketon plant leaves poisoned land, sick workers in its wake.” Some of the articles from the long report are still available online by searching for the title.
- **Site Specific Advisory Board (SSAB):** In 2008, [under pressure from U.S. Senator Sherrod Brown](#), a long-overdue citizen advisory board was created to oversee cleanup. A year later, 3 members resigned from the board, citing DOE's failure to abide by its own regulations barring people with conflicts of interest from the board. The SSAB first met monthly, then every other month. Most meetings were canceled for two years during Covid. The DOE has not filled vacancies on the Board, with less than half its 20 eligible members now serving.
- **Site cleanup started slowly** due to inadequate federal funding. The cleanup budget was \$458 million in 2011 and has been up and down since then. Ohio's senators had to pressure the national DOE to get this money, important for job retention. The DOE projects cleanup to be completed between 2034-2043. At \$400+ million per year, it would be \$10 billion at minimum, plus more for inflation.



*The Portsmouth Nuclear Site at Piketon, Ohio covers 3,777 acres.*

- **On Site Disposal Waste Facility (OSWDF):** Fluor-BWXT Portsmouth, a private entity, is building a 5 million cubic yard, clay-lined disposal facility to hold the “less radioactive” rubble from the enormous buildings. In its June 2015 [Record of Decision for Waste Disposition](#) (ROD), **DOE failed to include binding parameters for disposal of radioactive waste**, despite lengthy public input. The ROD and its Waste Acceptance Criteria were said by Ohio Senator Sherrod Brown to have “holes big enough to drive a convoy of trucks through.”
- **Fractured rock:** DOE misrepresented its own geologic study, claiming that rock under the OSDF was intact. A geologist hired by the Village of Piketon found that the DOE's study showed fractured rock. Any facility will leak in time, but with fractured rock below, contaminants will move more quickly to the aquifer.
- **Leaking landfills left unremediated:** The DOE is refusing to remediate landfills – *some unlined* – outside the Perimeter Road. These dumps contain highly toxic materials including uranium, PCBs, organic solvents, heavy metals, and fly ash. Landfills are leaking mercury into Little Beaver Creek. In 2018 the [Village of Piketon and the Sierra Club made a joint statement](#) outlining problems and recommendations regarding the DOE's Waste Disposal Decisions. The public must continue to lobby for **ALL landfills to be dug up and disposed of properly.**

- [The Government Accountability Office 2019 Report](#) criticized cleanups at Portsmouth and other U.S. nuclear sites, saying that DOE needs to set standards and rules to cut costs and address the greatest risks.

**AMERICAN CENTRIFUGE:** The private entity USEC, Inc. put about \$2.5 billion, much of it taxpayer money, into a never-completed centrifuge uranium enrichment facility. Citizen interventions to stop its licensing were rejected by the Nuclear Regulatory Commission (NRC). Of 11,500 centrifuges planned, 120 were completed. Six centrifuges crashed in 2011, spewing radioactive contamination. DOE gave USEC hundreds of millions toward the facility *after USEC's stock became junk rated*. USEC declared bankruptcy in 2014. DOE took over plant management, ending its funding in 2015.

- *See our flier [Ohio, Centrus and the Nuclear Bomb](#). Out of USEC's ashes emerged Centrus, LLC. In 2019, DOE gave Centrus a \$115-million, no bid contract for a pilot plant to produce High Assay Low Enriched Uranium (HALEU). HALEU is weapons usable and easily enriched to bomb grade – a weapons proliferation risk. In 2022 DOE gave Centrus a new contract for \$150 million more – a public subsidy for a private firm. The Ohio Nuclear Free Network (ONFN) has challenged the Nuclear Regulatory Commission's licensing of the new American Centrifuge facility without doing the required Environmental Impact Statement.*

**CONVERSION:** Operation of a conversion facility began at the site in 2011. "Conversion" removes fluorine from Depleted Uranium Hexafluoride (DUF6), the enrichment waste. While the amount of radioactivity remains unchanged, removing the fluorine is important to make the uranium less chemically reactive. Conversion was stopped in 2015 after accidents and contamination of workers. All the while, operator BWXT Conversion continued to receive DOE bonuses for excellent work. A new operator, Mid-America Conversion, gradually restarted the conversion process in 2018.

As conversion started, there were approximately 225,000 metric tons of DUF6 on site. This included DUF6 that was shipped to Portsmouth from Oak Ridge, TN. Citizens opposed these shipments as being premature. The highly-reactive DUF6 was contained in roughly 19,500 cylinders. Some were thick-walled holding 10 tons and others thin-walled holding 14 tons. Many are over 60 years old and rusting. The DOE estimates it will take until 2036 to convert all the DUF6 on the site.

- *See our flier [Portsmouth Conversion Facility to Make Depleted Uranium for Warfare](#). What was once going to be a process to turn the DUF6 radioactive waste back to uranium oxide has been modified. Mid-America is now going to make Depleted Uranium Tetrafluoride (DUF4) which will be used to make depleted uranium (DU) for weapons. Depleted uranium has contaminated war zones as well as test sites in the U.S.*

**A DANGEROUS FUTURE:** In 2009, the DOE gave Ohio University \$500,000 to study site reuse. [Results were doctored](#). In 2017, DOE granted themselves the right to transfer/sell all but 100 acres of the site without doing the required Environmental Impact Statement. The extraordinary decision covers the original plant, HALEU production, DUF6 conversion, and uncounted radioactive dumpsites.

Besides making HALEU and Depleted Uranium, a nuclear reactor and a facility that would obtain hydrogen from natural gas are proposed. Hydrogen is needed for the **conversion plant**. ONFN's flier [Hydrogen at Davis-Besse, Portsmouth and Beyond](#) exposes most hydrogen proposals as dirty, not green as advertised.

The intimate relationship between nuclear power and weapons is glaring in at the Portsmouth Nuclear Site.



**PHOTO: Improper covering of demolition activities is allowing radioactivity to move offsite.**

**OFFSITE RADIOACTIVITY:** In 2019 Dr. Michael Ketterer, an expert on nuclear isotope analysis, reviewed the 2017 DOE Annual Site Environmental Report. The report showed neptunium in an air monitor outside the Zahn's Corner Middle School, 4 miles from the site. DOE claimed this came from atmospheric bomb testing. Ketterer identified radioactivity as coming from the Portsmouth site. The Scioto Valley School Board closed the school and quarantined the property. DOE's response was to 1) take test samples using material contaminated with uranium and 2) bring in a health physicist from Oregon to claim that the radioactivity is "below acceptable levels." Two class action lawsuits have been filed by nearby residents claiming radioactive contamination on their properties and/or illnesses related to radioactive poisoning. A [massive RICO lawsuit](#) was filed against current and former industries.

**CANCER IN PIKE COUNTY:** The Ohio Nuclear Free Network engaged Joseph Mangano, Executive Director of the Radiation and Public Health Project, to analyze cancer and death statistics in Pike County. His report, [Health Risk to Local Residents from the Portsmouth Gaseous Diffusion Plant](#), showed that from 1950-2020 county cancer mortality went from 12% below the U.S. to 32.8% above. The county death rate is now 85% above the U.S.

The Piketon community is determined to continue sustained action for justice.