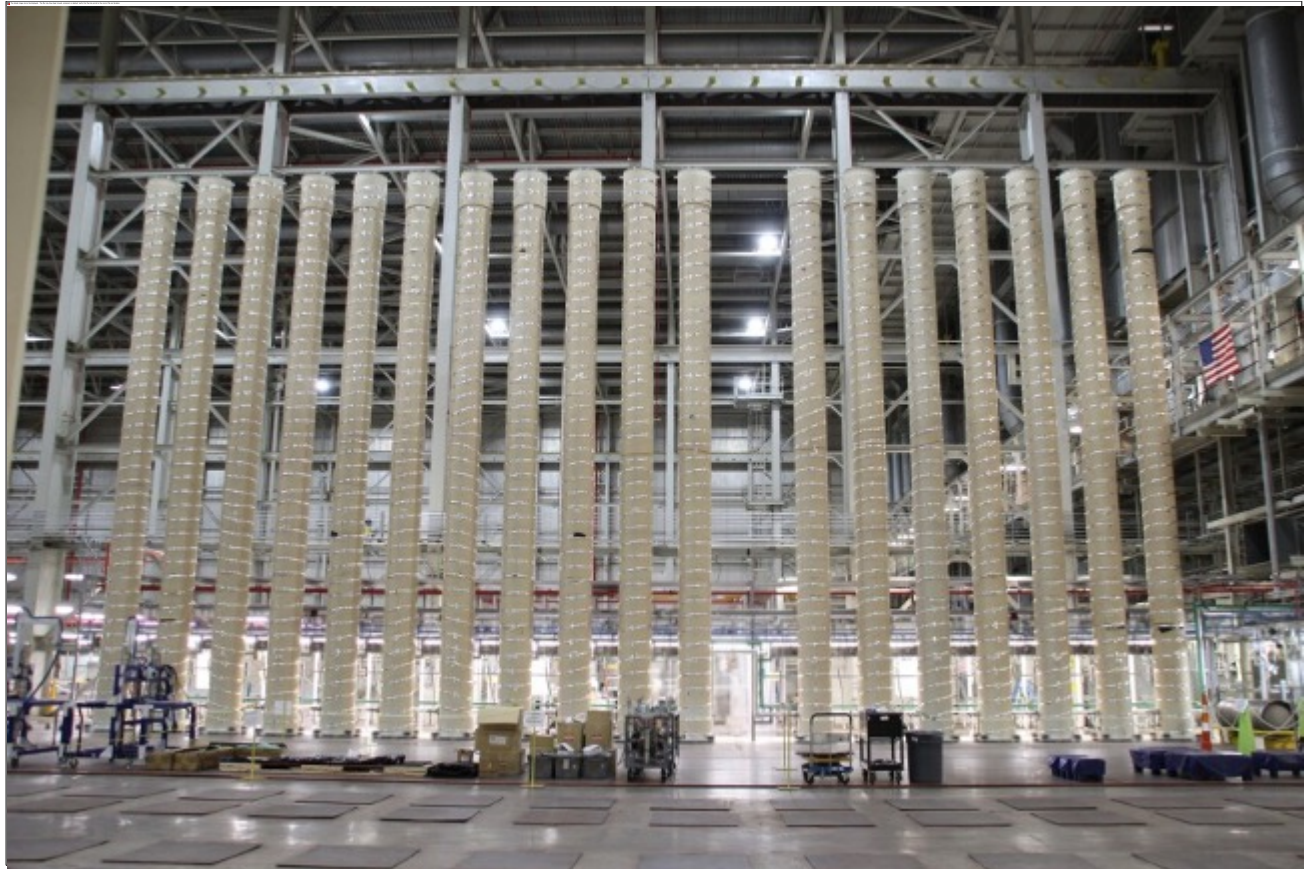


A small town in rural Ohio is producing enriched uranium again. Here's why that matters

The Ohio Newsroom | By [Erin Gottsacker](#)

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Centrus Energy

Centrus Energy started building a cascade of centrifuges to enrich uranium on a parcel of land at the former Portsmouth Gaseous Diffusion Plant in 2019. They started operating in October, the first time an American company has enriched uranium in Ohio in decades.

When [Centrus Energy](#) flipped three switches at its [new plant](#) last fall, it was a new beginning for an industry that had been dormant for more than a decade in Ohio: uranium enrichment.

As the U.S. looks to meet its clean energy goals, there's [increasing demand](#) for the resource, which is necessary for nuclear power generation.

For years, the U.S. [didn't have a American-owned source](#) of enriched uranium. (A subsidiary of Urenco enriches uranium in New Mexico, but it's owned by a conglomeration of foreign governments and European-based businesses.) Now, Centrus Energy is attempting to fill in the gap. And it's doing that at a plant in Piketon, Ohio.

“We have been working for many years to restore a domestic uranium enrichment capability that can be used for both national security purposes and commercial purposes,” said Dan Leistikow, the vice president of corporate communications for Centrus.

In 2019, Centrus Energy started building a cascade of centrifuges to enrich uranium on a parcel of land at the former Portsmouth Gaseous Diffusion Plant. Those centrifuges started operating in October.



Centrus Energy

A view of the centrifuges inside Centrus Energy's plant in Piketon

Some locals [aren't thrilled](#). One group worries about the industry's connection to nuclear weapons. Others fear the waste from the plant could contaminate the surrounding environment. The specter of the *last* time uranium was being enriched in Piketon looms large: many former plant workers get federal compensation because of illnesses they sustained as a result of exposure to toxic and radioactive materials.

“I feel violated,” said Vina Colley, a former worker at the Portsmouth Gaseous Diffusion Plant. “They said I would get more radiation by getting on the plane than working out here.”

In the time since she worked at the plant, she's battled beryllium disease, chronic bronchitis, COPD, neuropathy and heart failure.

But according to [a survey](#) led by Stephanie Howe, director of Ohio University's PORTSfuture program, many people wanted to see the nuclear energy industry return.

"We were a little surprised about [that]," Howe said, "but then not so much because they were used to being part of that nuclear landscape."

After years of planning, her organization and the [Southern Ohio Diversification Initiative](#) are working to transform the old Portsmouth Gaseous Diffusion Plant into [a hub of decarbonized energy production](#).

Below, Dan Leistikow explains his take on how Centrus figures into the site's future.

This conversation has been lightly edited for clarity and brevity.

Why does the U.S. need enriched uranium? Here's the backstory

"The United States, of course, invented uranium enrichment, and had, essentially, a monopoly on supplying enriched uranium fuel to the entire Western world. And that gave the United States tremendous influence over nonproliferation.

"But over the course of the last four decades, unfortunately, the United States lost its leadership position. The U.S. government's large enrichment plants that were built during the '50s, including the Portsmouth plant, had become hopelessly outdated and uneconomical. And so one by one, they shut down and the United States never replaced them.



Centrus Energy

Centrus Energy's plant in Piketon, located on a parcel of land at the former Portsmouth Gaseous Diffusion Plant, started operating last fall.

"In the meantime, after the Cold War ended, Russia continued to maintain and even expand its capacity. So now, a market that the United States once dominated is [dominated by Russia](#). There's not enough non-Russian enrichment capacity to fuel the world's reactors."

(The U.S. imports most of its uranium from [Canada and Kazakhstan](#); about 12% comes from Russia.)

"The United States has become the most import-dependent country in the world when it comes to nuclear fuel. We import far more than any other country in the world. And because all of the government enrichment plants have shut down, the United States now lacks the ability to enrich uranium for national security purposes for the first time since 1945."

(Leistikow said the U.S. has been relying on its stockpile in the meantime.)

So what exactly is Centrus Energy doing in Piketon?

"The U.S. Department of Energy privatized its uranium enrichment enterprise in the 1990s. Since that time, Centrus has been developing a new American centrifuge technology that can be used to meet both commercial requirements and national security requirements for enriched uranium.

"Starting in 2019, we began to construct a cascade of centrifuges in Piketon that is designed to produce something called [high-assay, low-enriched uranium](#), or HALEU.

"When you dig uranium out of the ground, it has less than 1% U-235. That's the good stuff. That's what makes the reaction go. So you send it to centrifuges to enrich it, so that you can get that U-235 concentration up to about 5%. Most of the existing reactors in the world, including all of them in the United States, run on low-enriched uranium. That's about 4 or 5%. Think of that as like Miller Lite.

"If you were to go up above 90%, that is weapons grade. That's what you would use for fueling submarines and that kind of thing. So you can think of that as like Everclear.

"But if you go between 5 and 20%, that's what we call high-assay, low-enriched uranium. That is way below a level that could be used for military purposes, but it has a lot of useful attributes. You can think of it like a port wine or a nice Belgian beer.

"Most of the advanced reactors that are currently under development today require HALEU, unlike the existing generation of reactors that require [low-enriched uranium]. But up until October of 2023, [when Centrus opened its Piketon plant], the [only source of HALEU](#) in the world today was Russia. So Centrus is working to pioneer U.S. production of HALEU so that the United States can lead the way in commercializing and deploying these next generation reactors."

Is it safe?

"The technology that we're using is a modern technology, and we are closely regulated by the Nuclear Regulatory Commission, which did not exist back in the '50s and '60s. There's great

transparency through the Nuclear Regulatory Commission process. We're very proud of our safety record there and in the safety of our technology.

"We've been a long-time member of the community [in Piketon]. Our employees live there and we are very much committed to safety as the first priority."

What's in store for the future?

"Today, we have 16 huge centrifuges running [in Piketon], producing HALEU for advanced reactors. That facility has a footprint roughly the size of the Pentagon. Our goal is to be able to scale it up with thousands of additional centrifuges so that we can meet the full range of U.S. requirements for both low-enriched uranium for the existing fleet of reactors in the United States and around the world, but also this new, advanced reactor fuel, HALEU, which is going to be needed for the next generation of advanced reactors."

"We already employ a large number of workers who are operating the plant today — more than 100. [To scale up], we would have to mobilize hundreds of additional union workers in Ohio to build and operate that plant. [We would] then also mobilize a nationwide supply chain for the centrifuges and centrifuge components. That would support thousands of jobs around the country."

Corrected: April 24, 2024 at 5:12 PM EDT

An earlier version of this story included an error in its headline about how many places enrich uranium in the U.S. There are at least two sites: one in Ohio and one in New Mexico. This story also has been updated to clarify the ownership of the Ohio and New Mexico plants.



Erin Gottsacker

Erin Gottsacker is a reporter for The Ohio Newsroom. She most recently reported for WXPB Public Radio in the Northwoods of Wisconsin.

<https://www.statenews.org/section/the-ohio-newsroom/2024-04-18/a-small-town-in-rural-ohio-is-now-the-only-place-in-america-producing-enriched-uranium>