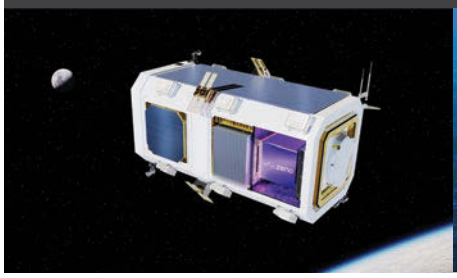
Oak Ridge: The Future Begins With Cleanup

UCOR delivering cleanup to clean energy, nuclear production cycle successes in 2024

by Ken Rueter

Event celebrating the transfer of strontium-90 to Zeno. From left, UCOR President and CEO Ken Rueter, DOE EM Senior Advisor Ike White, OREM Manager Jay Mullis, Zeno Power CEO Tyler Bernstein, and NASA Planetary Science Chief Technologist Leonhard Dudzinski.



For 80 years America has called upon East Tennessee to accomplish big missions... and Oak Ridge consistently answers that call.

As the lead cleanup contractor for the U.S. Department of Energy's (DOE) Oak Ridge Office of Environmental Management (OREM), United Cleanup Oak Ridge (UCOR) kicked off 2024 with a significant waste transportation success in delivering risk reduction and a notable cleanup-to-clean-energy outcome for the nuclear industry.

On January 23, UCOR safely delivered a legacy strontium-90 shipment from Oak Ridge National Laboratory (ORNL) to Zeno Power, a leading developer of commercial radioisotope power systems. Zeno will recycle the strontium-90 to supply

UCOR
United Cleanup Oak Ridge LLC

durable, reliable power sources for the Department of Defense and NASA. UCOR's effort with Zeno is a multifaceted "beneficial reuse" success: for nearly 40 years this strontium-90 had been secured at an ORNL facility and was slated to remain in storage for another 30 years before disposal. UCOR's transfer to Zeno accelerates facility cleanup plans and avoids surveillance and disposal costs.

The Waste Factory: a playbook for success

Safe waste transportation and disposal have been key elements of UCOR's cleanup delivery model since 2011. Demolition of more than 7 million square feet of deteriorating, contaminated facilities generated large amounts of waste and contaminated debris across DOE's Oak Ridge Reservation. UCOR's "waste factory" strategic approach was foundational for streamlined disposition of that waste. With this approach, we dispose of waste as it is generated rather than allowing it to remain in the demolition field for an extended period. And a dedicated, 8-mile haul road that keeps waste shipments off public roads and onsite disposal facilities to accept the waste are key components of the waste factory approach. Since 2011, we've used this system to dispose of more than 1.8 million cubic yards of waste, traveling almost 10 million collective miles — the equivalent of 20 round trips to the moon.

Without a comprehensive transportation strategy, UCOR would have been forced to truck hundreds of millions of pounds of hazardous waste to repositories across the country. Approximately 95 percent of the volume of cleanup waste on the Oak Ridge Reservation is safely disposed of onsite and contains only 15 percent of the original radioactive content, while the more hazardous material is disposed of at off-site facilities.

Reactor vessel from ORNL Low Intensity Test Reactor being lowered into its casing for transportation.

From left, Steve Arnette (Jacobs), Mark Whitney (Amentum), Wade Creswell (Roane County Executive), Brent Booker (Laborers' International Union of North America), Kevin Adkisson (North America's Building Trades Unions), Jeaneanne Gettle (EPA), Lt. Gov. Randy McNally, David Salyers (TDEC Commissioner), Ken Rueter (UCOR), Jay Mullis (OREM Manager), U.S. Rep. Chuck Fleischmann, and Ike White (DOE EM Senior Advisor) shovel the first dirt for the new EMDF project.

The Next Chapter of Cleanup

In Fall 2023, we kicked off the next chapter of cleanup and reinvestment progress at the Oak Ridge Reservation by breaking ground on the Environmental Management Disposal Facility (EMDF).

EMDF early site preparation was one of two DOE EM Priorities that we delivered in 2023, along with the demolition of the Low Intensity Test Reactor. UCOR's cleanup work for OREM has shifted from East Tennessee Technology Park, the former Oak Ridge Gaseous Diffusion Plant, to the Y-12 National Security Complex (Y-12) and ORNL. We are meeting cleanup commitments at those sites to eliminate old, dilapidated facilities — some dating back to the Manhattan Project — and clearing land to support new scientific research and national security missions. The current onsite disposal facility, the Environmental Management Waste Management Facility, is nearing full capacity after 20 years of safe operations. However, hundreds of buildings still require demolition at Y-12 and ORNL. EMDF will provide the capacity needed to complete cleanup at those sites.

EMDF is a reality because of the collaborative partnerships among DOE, the Tennessee Department of Environment and Conservation, the Environmental Protection Agency, our labor partners, regional elected leaders and so many engaged stakeholders.

DOE and its many Oak Ridge partners have successfully closed the circle on the nuclear production cycle – something that has never been accomplished in the United States. We achieved the first-ever complete cleanup of a gaseous diffusion plant at East Tennessee Technology Park, removing production facilities at the end of their life cycle. In doing that, we delivered notable outcomes that set the stage for the commercial nuclear renaissance now underway at the site. And UCOR is an active partner in Tenn. Gov. Bill Lee's "Tennessee Nuclear Energy Advisory Council," which is developing recommendations on capturing more nuclear investments across Tennessee.

It is quite fitting that the Oppenheimer movie has introduced Oak Ridge's proud national security and science legacy to a new generation. We are exceedingly proud that UCOR's cleanup is enabling an even more exciting chapter of clean energy production and science and national security missions for Oak Ridge and our Nation.

Ken Rueter is the President and Chief Executive Officer of United Cleanup Oak Ridge LLC, the lead environmental contractor at the U.S. Department of Energy's 32,000-acre Oak Ridge Reservation. Learn more at www.ucor.com