FY 2022 Annual Report

The future begins with cleanup

UCOR

United Cleanup Oak Ridge LLC

Contents

UCOR is on task

Building what we sold and finishing what we started to deliver investment-worthy environmental cleanup to the American taxpayer

Fiscal Year 2022 was a unique year for UCOR. We brought to an end one of the most successful cleanup contracts ever undertaken—cleanup of East Tennessee Technology Park (the former Oak Ridge Gaseous Diffusion Plant)—and embarked on a new contract that expands cleanup across the Oak Ridge Reservation. This report focuses both on our accomplishments in FY 2022 under the previous contract and the work we have delivered under the new Oak Ridge Reservation Cleanup Contract, which began in May 2022.

Mission

Implement strategic and operational initiatives to complete major environmental cleanup on the Oak Ridge Reservation, resulting in environmental liability reduction and federal land reuse

Vision

To enable an Oak Ridge free of legacy contamination that creates an enduring environmental, social, and economic future

Values

Safety Stewardship Partnership Acceptance Integrity

UCOR
United Cleanup Oak Ridge LLC

TOP WORK PLACES 2022
knox news.
knox.biz

Message from Ken Rueter, President and CEO

A new journey with the same commitment

UCOR closed the books in 2022 on one of the most successful Superfund cleanup projects ever undertaken and has now opened a new chapter in Oak Ridge cleanup. Building on the strong foundation of our successful East Tennessee Technology Park (ETTP) cleanup project, we have expanded across the Department of Energy (DOE) Oak Ridge Reservation to address cleanup at the Oak Ridge National Laboratory (ORNL) and the Y-12 National Security Complex. Being awarded this new Oak Ridge Reservation Cleanup Contract would not have been possible without the investment-worthy performance and commitment to excellence that has been UCOR's hallmark since beginning work in 2011.

Under this new contract, we've brought on new partners to ensure continued success. Honeywell has joined Amentum and Jacobs as primary partners, and along with previous subcontracting partner RSI Entech, we've added Strata-G, Longenecker and Associates, and EAI—each bringing expertise in various aspects of cleanup operations. To guide us through our contract, we developed a strategic plan, which is detailed in this document. It provides a schedule of our cleanup efforts leading to Vision 2031, which encompasses ETTP completion, demolition of mercury-contaminated facilities at Y-12, and removal of excess facilities in ORNL's Central Campus.

Our new contract also brings new focus on sustainability and diversity. Our diversity, equity, and inclusion program extends throughout UCOR to facilitate open dialogue and relationships among the members of our diverse workforce and the communities in which we live. We want to ensure that cleanup work in Oak Ridge doesn't negatively impact nearby communities. Our philosophy is to be an active corporate partner in the diverse communities where we conduct business. This focus reflects UCOR's shared governance approach, which means everyone has a seat at the table. We rely on our partnerships and the input from the community and other stakeholders to help ensure the results from cleanup operations benefit all.

We are off to a great start, having completed the first-ever demolition of a reactor in Oak Ridge—the ORNL Bulk Shielding Reactor. At Y-12, we completed slab removal at the Biology Complex site, enabling the property to be transferred to the National Nuclear Security Administration (NNSA) for a lithium production facility, and demolished the Criticality Experiment Laboratory. At both ORNL and Y-12, we are in various stages of preparing unneeded facilities for demolition through decommissioning and deactivation activities. We are also remediating soil at ETTP and bringing down small structures to deliver Vision 2024.

Planning for a new landfill—the Environmental Management Disposal Facility—is progressing. This important new facility will handle the wastes generated by cleanup operations as the current disposal facility nears capacity. Plans were also being finalized to build a viewing platform at the K-25 Building site, underscoring our commitment to historic preservation. We were also in the planning stages at the end of the fiscal year to take over operations at the Transuranic Waste Processing Center.

None of UCOR's success would have been possible without the safety-focused workforce that has proven over and over that they are up to the task of performing some of the most hazardous work in the nation. We were honored to receive various safety awards in FY 2022, including the Voluntary Protection Program's Star of Excellence Award.

I'm very excited about this new era of cleanup and look forward to continuing UCOR's positive influence on Oak Ridge as we remove risks that will facilitate site missions and economic development.

Structured for Success

To successfully perform the cleanup mission under the new Oak Ridge Reservation Cleanup Contract, we have enhanced our operating structure to maximize efficiency, enhance integration, and optimize the expertise and leadership of our management team.

Building upon the successful completion of the ETTP contract, UCOR brought much of its experienced management team, combined with new talent, into the new contract under a new structure to better address the work ahead.

Several projects are imperative to cleanup success. The Critical Projects organization was established to ensure execution and completion of several critical projects and development and implementation of innovation initiatives. These critical projects and key innovation initiatives will enable the increased efficiencies and pace, more agile organizational planning and integration, and new technology deployments needed to ensure UCOR achieves its cleanup goals.

UCOR laid out a strategic vision that provides a roadmap and employs key enablers to successfully perform the cleanup mission. One of these strategic enablers is the establishment of the Program and Sustainability Management organization. The purpose of the organization is to ensure more efficient execution

Critical Projects Initiative

Environmental Management Disposal Facility

Construction and startup

- Critical to executing cleanup mission with current facility nearing capacity

Outfall 200 Mercury Treatment Facility

Commissioning and startup

- Essential to major demolition in Y-12 West End Mercury Area

Transuranic Waste Processing Center

Operation

- Resume transuranic waste processing and implement new oxide/metal processing capabilities

Innovation, Digital Transformation, and Technology Development

Implementation

- Provides increased efficiencies and pace, more agile system planning, and new mercury technology deployment

of work, and critical integration between three reservation sites and programs to achieve end state goals at the Oak Ridge Reservation.

Included in this increased program management focus is full integration, from strategy to end state, of compliance, regulatory approach, and environmental services. The team will work more closely with UCOR enterprises, DOE, site owners (i.e., the Office of Science, National Nuclear Security Administration, and associated contractors), regulatory agencies, and the community to align visions, time lines, and priorities. This increased program management focus will provide a more comprehensive approach and help support operations on the front and back end of the work. Additionally, the group will ensure compliance and provide a framework for regulatory strategy and environmental services.

Cleanup Advisory Council

UCOR established the Cleanup Advisory Council to enhance collaboration between prime contractor members, business, and community leaders. The group focuses on priorities, project risks, and short- and long-term strategies that impact the cleanup program and mission growth. Members offer knowledge on technical, legislative, or regulatory developments and solutions.

Commissioning and starting up the Mercury Treatment Facility, which is under construction, will be essential to mercury cleanup operations at Y-12.

After successfully planning for transition at the end of the fiscal year, UCOR has taken over operation at the Transuranic Waste Processing Center.

Vision 2031 Strategic Plan

UCOR's Vision 2031 Strategic Plan provides the playbook for successful cleanup operations on the Oak Ridge Reservation. Whether infrastructure modernization to safeguard the nation, clean energy generation as part of a nuclear renaissance, or the world's next big discovery, successful cleanup helps advance the Oak Ridge Reservation's world-class reputation.

Using its proven strategic planning process, UCOR has developed a Vision 2031 end state strategy that protects people and the environment through significant risk reduction. It also enables a strong future for Oak Ridge's national security and science missions that benefit East Tennessee and the entire nation.

By the end of 2031, the cleanup workforce will achieve:

- **Vision 2024.** Final soil cleanup and regulatory decisions at the East Tennessee Technology Park (Heritage Center) to support continued, successful beneficial land reuse
- **Vision 2027.** Central Campus cleanup at ORNL to aid the lab's efforts in advanced manufacturing, supercomputing, and energy research
- **Vision 2031.** 1.4 million square feet of mercury buildings demolished at the Y-12 National Security Complex to support modernization efforts

To achieve Vision 2031, UCOR is investing in four enabling strategic focus areas:

- **Program and Sustainability Management**—This newly formed department will ensure more efficient execution of work and position cleanup to support efforts to modernize Y-12 and ORNL.
- **Innovation and Digital Transformation**—This initiative focuses on embracing digital technology, system planning, and other innovations to enhance production and modernize our cleanup business.
- **Environmental Justice and Diversity, Equity, and Inclusion (DEI)**—UCOR will ensure communities near the Oak Ridge Reservation do not bear negative consequences from cleanup efforts. UCOR will also continue to grow its DEI program to ensure diversity and fairness.
- **Climate Management**—UCOR will consider impacts both to and from operations, assess vulnerabilities, work to reduce carbon emissions, and develop climate-resilient supply chains.

The plan details operational focus areas, including the construction of the new Environmental Management Disposal Facility and support for the Y-12 Mercury Treatment Facility, which is being constructed by another DOE contractor. Other focus areas include:

- **Infrastructure and Integration Projects**—These projects include the Transuranic Waste Processing Center, Y-12 utility reroutes, and high-security perimeter reduction at Y-12.
- **Regulatory Decisions**—UCOR will provide technical expertise and planning on several regulatory decisions.
- **Contract Management**—UCOR will apply proven management approaches to the contract, which uses an End State Task Order contracting model.
- **Sustained Stakeholder Support:** We will continue our investment-worthy performance by adding value and delivering notable outcomes.

The plan also details a roadmap to successful end states, as noted in the graphic at right.

Vision 2024
ETTP (Heritage Center) soils completed

ETTP
- Complete soil cleanup and remediation

ORNL
- Complete demolition of two former research reactors and a highly contaminated hot cell at the Radioisotope Development Laboratory

Y-12
- Complete soil remediation to enable transfer of the Biology Complex footprint to the National Nuclear Security Administration

Other activities
- Complete early site preparation at the new onsite waste disposal facility
- Transition and operate the Transuranic Waste Processing Center

Vision 2027
ORNL Central Campus demolition completed

ETTP
- Transfer remaining land for reuse
- Finalize remaining legacy decisions
- Complete construction of the K-25 Viewing Platform and national park exhibits

ORNL
- Demolish Buildings 3544, 3517, 3042, and Isotope Row facilities
- Complete Liquid and Gaseous Waste Operations upgrades

Y-12
- Demolish Beta-1 and Alpha-2 uranium enrichment support buildings
- Operate Mercury Treatment Facility

Other activities
- Complete the groundwater field demonstration project at the new onsite waste disposal facility

Vision 2031
Y-12 mercury buildings demolished

ORNL
- Decommission the Molten Salt Reactor Experiment facility
- Demolish the Experimental Gas-Cooled Reactor

Y-12
- Complete demolition of 1.4 million square feet of mercury-contaminated facilities

Other activities
- Complete the new onsite waste disposal facility

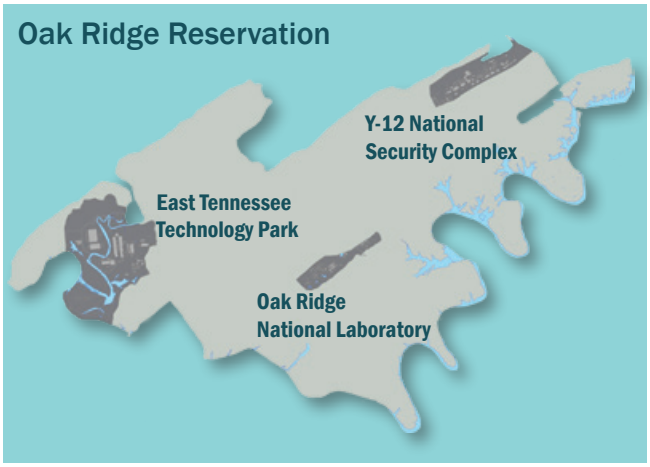
ETTP soil remediation

Alpha-2 prep for demolition

Experimental Gas-Cooled Reactor

Cleanup Progress

With major demolition and remediation at ETTP completed, UCOR is performing remedial actions at the site. UCOR is responsible for cleaning up excess contaminated facilities at ORNL and Y-12. UCOR is also managing waste disposal complexes to ensure appropriate disposition of waste from cleanup activities.



East Tennessee Technology Park (Heritage Center)

During FY 2022, UCOR turned its focus to completing remaining remedial actions at ETTP while assisting DOE in transforming it into a multi-use industrial park, national park, and conservation area.

Across the site, building slabs were removed, and contaminated soil was excavated and replaced with clean fill. For remedial action purposes, ETTP is divided into various parcels, called exposure units (EUs), and specific remediation activities are performed per EU. One of the largest projects that was completed was remediation of EU-25. That site once housed Building K-1413, a former research and development facility. More than 28,000 cubic yards of contaminated soil was removed and approximately 35,000 cubic yards of backfill soil was brought in to complete the EU-25 area site restoration.

UCOR initiated three large remedial actions in EU-21, EU-13, and EU-16. EU-21 lies in the center of the former K-25 building footprint. More than 30,000 cubic yards of the expected 85,000 cubic yards of soil needing excavation has been removed. In addition, more than 370 cubic yards of mercury piping and mixed soil was containerized at EU-21.

Excavation and packaging of EU-25 waste

Soil removal activities at EU-21, an area that sits within the U shape of the former K-25 Building

EU-13 resides in the Poplar Creek area and consists of two radiological and three trichloroethylene remedial actions. Two smaller radiological remedial actions are complete and more than 6,000 cubic yards of soil has been removed. EU-16 is located in a classified burial ground. Although slab removal in this EU is complete, crews continue to remove contaminated soils.

Remedial activities were performed in EU-30, where more than 3,300 cubic yards of material were removed and disposed of. This area will be completed in 2023.

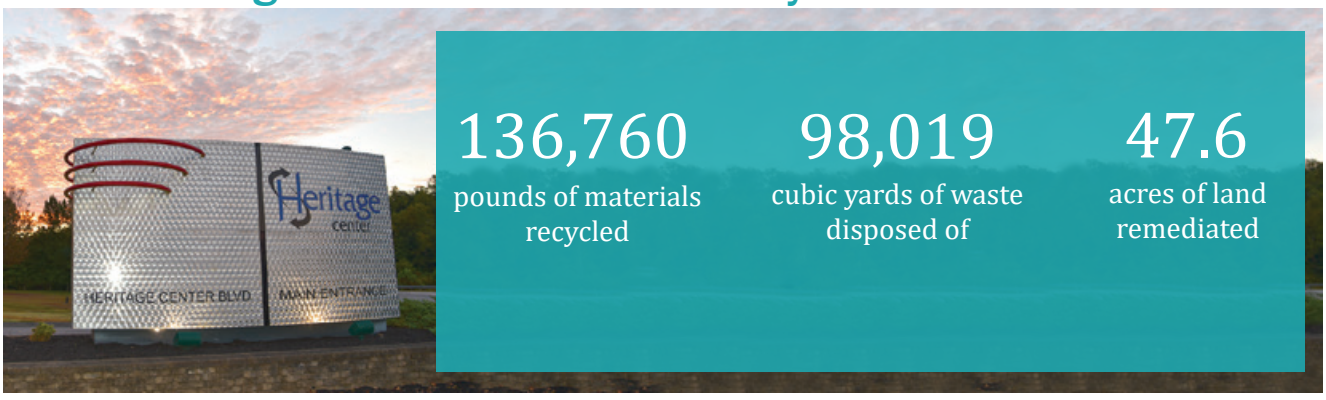
In addition to soil remediation projects, UCOR also removed various structures that were not part of the original Vision 2020 ETTP cleanup project. These structures included a seismic instrument facility, Conex storage structures, tents, and other items.

Demolition of the K-1099 seismic instrument facility at Blair Quarry, one of several small structures removed during the fiscal year

Finding use for unneeded materials

UCOR is always looking for ways to recycle and reuse rather than dispose of materials. The transformation of the site to a multi-use industrial park entails utility upgrades, resulting in numerous transformers and other electrical equipment that had been removed from operation sitting on a tract of land awaiting some type of disposition. Rather than disposing of these materials, UCOR transferred the equipment to the City of Oak Ridge, which helped the city overcome supply chain issues for this type of equipment and saved it significant cost. The transfer included two large transformers, six pad-mounted transformers, and more than 100 other electrical items.

2022 Heritage Center achievements by the numbers



136,760
pounds of materials recycled

98,019
cubic yards of waste disposed of

47.6
acres of land remediated

Oak Ridge National Laboratory

UCOR's focus in FY 2022 was to move several ORNL reactors and other excess contaminated facilities closer to the demolition phase. However, no two facilities are the same—every structure poses unique challenges and approaches to teardown.

Reactors

More than a dozen research reactors were constructed at ORNL over multiple decades. Each contributed to ORNL's reputation as a world leader in cutting-edge nuclear research and development, but now they are unneeded and sit inactive.

UCOR demolished the Bulk Shielding Reactor, a 1950s facility that included a 27-foot-deep reactor pool.

Originally designed to support the Aircraft Nuclear Propulsion Program, its mission changed in 1963 to a general-purpose research reactor and continued as such until permanent shutdown in 1991.

A key pre-demolition activity at the Bulk Shielding Reactor was removing irradiated and contaminated components from the reactor pool. Once those components were removed, workers drained all 130,000 gallons of water from the pool and sent it to an onsite treatment facility. The pool was then filled to the ground level with a concrete mixture, which served as the remedial action for the structure.

In FY 2022, UCOR made significant progress at two other reactor facilities. At the Low-Intensity Test Reactor, UCOR continued to prepare for demolition by manually removing reactor shielding wall blocks on the second floor of the three-level structure. A total of 10,600 pounds of debris was shipped for disposal. Demolition is expected in 2023.

A worker samples the reactor pool wall in the Bulk Shielding Reactor (above left); the reactor pool is filled with a concrete mixture (right); and demolition begins on the facility (above right).

The Bulk Shielding Reactor during demolition (below) and with demolition completed and debris removed from slab (right)

Deactivation was also underway at the Oak Ridge Research Reactor, built from 1955 to 1958. In previous years, the reactor pool had been drained and capped, but it still contained irradiated material.

To safely remove this material, crews filled the pool with 116,500 gallons of demineralized water and removed 10 cement pedestal blocks weighing more than 1,800 pounds each, and 12 cement shield caps, each weighing nearly 11,800 pounds. Repairs to the 20-ton overhead crane and additional safety railing facilitated this process.

Radioisotope Development Laboratory

In FY 2022, crews were deactivating the final hot cell in the former Radioisotope Development Laboratory. To access the cell, workers safely lifted several heavy shield plugs from the roof of the structure and then removed and packaged hazardous materials for disposal. Deactivation has required the use of long-reach tools and a deliberate sequenced approach to ensure worker safety. The cell is slated for demolition in 2023. Deactivating the facilities will remove substantial radiological and hazardous materials, representing a significant risk reduction to ORNL and the environment.

Isotope Row

Characterization and deactivation continued throughout Isotope Row, a series of 12 buildings built in the 1950s and early 1960s for the processing of radioisotopes. This work involved sampling various locations and systems inside and outside of the buildings. Crews removed asbestos, process piping, and equipment. As a risk-reduction measure at the Isotope Development Laboratory, a highly contaminated HEPA unit was removed from the roof and placed inside the facility bay

for safe characterization and packaging for disposal. Isotope Row characterization and deactivation activities will continue in preparation for demolition, which should begin in late 2023.

Experimental Gas-Cooled Reactor (EGCR)

Workers removed materials from the inside and outside of the EGCR. Constructed in the early 1960s, the eight-level steel and concrete structure stands about 150 feet high with an additional 50 feet below grade. It was supposed to serve dual roles as an experimental and power reactor, but construction was halted in 1965 and the reactor was never fueled. To streamline removal of hazardous materials from the various levels on EGCR, UCOR installed a Transport Platform Cart System (TPCS) to safely access upper levels of the facility. Crews cut through the steel containment shell to make four access openings where the TPCS will stop and be used to remove hazardous waste, equipment, and materials from the building. The TPCS will also be used to transport personnel in and out of the building, reducing the need to ascend and descend the building stairwell. Progress also continued in the below-grade cells, where crews cut through steel bulkheads to gain access to each of the eight cells.

Graphite Reactor support facilities

The Oak Ridge Graphite Reactor was the world's first continuously operated nuclear reactor. It is now a non-operational historic landmark and part of the Manhattan Project National Historical Park. Three facilities that supported the reactor moved into the cold and dark stage in FY 2022, meaning that all hazardous energy sources to the structures were removed. These facilities are 3002 (Filter House), 3003 (Solid State Accelerator Facility), and 3018 (Exhaust Stack). Removing hazardous materials and sampling for contaminants have been the primary focus. Demolition of these facilities is expected in 2023.

Corrective and preventive maintenance activities

UCOR is ensuring that the nuclear and radiological facilities on the Oak Ridge Reservation are maintained and continue operating safely by performing numerous

Fabricating a hoisting system for camera equipment

One of the tools being used to perform characterization in the Radioisotope Development Laboratory hot cell is a Germanium Gamma-ray Imager. This camera system is used to detect, identify, and locate sources of gamma-emitting radioisotopes. Workers are able to identify the potential location of radiation sources by using a camera to capture an image of the environment and then overlaying the radiation "image" onto the captured picture. Because of the heavy weight of the camera equipment, workers had to design and fabricate a hoisting system to lower the equipment into the cell.

Experimental Gas-Cooled Reactor
TPCS installation

corrective and preventive maintenance activities. These activities are a critical step in ensuring continuity of operations.

In FY 2022, the UCOR surveillance and maintenance and Liquid and Gaseous Waste Operations (LGWO) Operations teams completed 1,337 work orders and numerous separate tasks.

UCOR's reduction of the corrective maintenance work order backlog eliminated potential occurrences that could range from single-point issues to life-threatening events.

LGWO upgrades

Upgrades continued at the LGWO, where an extensive piping replacement effort was underway in FY 2022. Decades-old carbon-steel piping that has begun to leak or rupture is being replaced with new stainless steel piping.

The project, which also includes replacement of corresponding valves, is anticipated to be completed in FY 2024. Crews have designed, fabricated, and installed seven of 18 piping runs with four more fabricated and awaiting installation.

Another critical LGWO upgrade that was completed is replacement of the Distributed Control System (DCS), which controls LGWO instrumentation. With the old DCS system running on obsolete components, the upgrade project included the design, fabrication, and installation of new fiber optic cabling between the LGWO facilities. Increased reliability is reflected in a reduced amount of corrective maintenance work orders being submitted. In FY 2019, corrective maintenance work orders averaged 214 per month. Corrective maintenance work orders in FY 2022 averaged 119 per month. The DCS upgrade was completed four months ahead of schedule and $600 million under budget.

Molten Salt Reactor Experiment

Crews continued surveillance and maintenance work at the Molten Salt Reactor Experiment (MSRE). Because it is an active nuclear facility, numerous upgrades are needed to keep critical systems safe until the facility is demolished. UCOR has been implementing upgrades and modifications to minimize maintenance costs,

UCOR crews completed 1,337 surveillance and maintenance work orders in FY 2022.

Upgrade of the DCS at LGWO provides 24-hour, real-time monitoring of the entire system.

reduce risks, and eventually eliminate the need for personnel to work there. Among the upgrades workers made was installing a new roof over the high bay to protect key systems such as reactor and containment ventilations. They also installed a new Electrical Distribution Center to feed power to the facilities' critical systems.

To strategically plan for the eventual deactivation and demolition of the facility, a Feasibility Study is being conducted to aid in regulatory approval of the MSRE footprint end state. Options being evaluated include in situ decommissioning of all components by using a flowable fill to entomb the entire area; removal of all process components from underground cells for disposition offsite; or a combination where one area might use in situ decommissioning while others are completely cleared out. For this effort, 14 ground wells were installed and are now being monitored to enable hydrological modeling. Additionally, this project is collecting nondestructive assay data from below-grade building cells and units to assist with the MSRE Removal Action Work Plans and waste disposition plans.

MSRE new roof installation

Additional efforts are planned to support eventual MSRE deactivation and demolition. One of those efforts is the installation of the new Continuous Purge System (CPS) for headspace gas purging from the fuel flush and fuel drain tanks. These tanks once supported the molten salt reactor during operations. Remaining chemicals within these tanks are off-gassed, creating pressure within the tanks. This pressure is currently being released via the

Reactive Gas Removal System (RGRS), which filters these gases for discharge. Since the RGRS system was installed over 20 years ago with a designed life expectancy of less than one year, it is now well past its design life. The CPS system will independently and safely control below-grade tank off-gassing for decades to come.

Hazardous piping line relocations

Piping that formerly ran above the catwalk between the 3608 Process Wastewater Treatment Complex systems was degraded after years of use. During the Building 3608 piping replacement project, the team redesigned this system to move all piping under the catwalks, mitigating any potential hazards from this system.

The old location for the nitric acid tank and pumps was in a confined space below the Building 3608 catwalks. Moving these critical elements to a grade-level position reduced hazards to the workers and enabled easy access to systems and tanks for preventive and corrective maintenance.

Installation of a non-radioactive tanker unloading station and the reroute of piping to a tank at Building 3608 reduced the amount of process wastewater that has to be treated through the 3608 Zeolite System (radiological contamination removal filtration system). The non-radioactive wastewater is put straight into the non-radiological tank, reducing the throughput to the radiological treatment side of the process wastewater system.

Reusing Granulated Activated Carbon columns

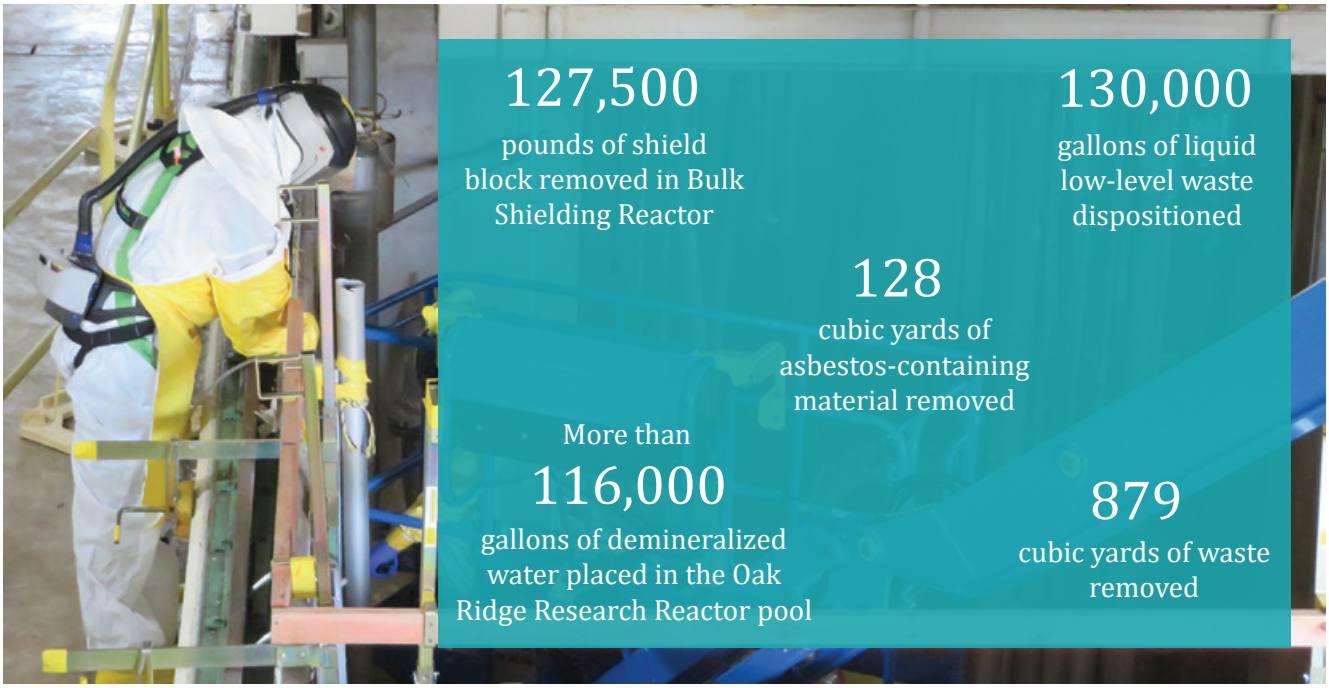
Continuing to find ways to reuse materials, UCOR found uses for three old Granulated Activated Carbon tanks at the 3608 Process Wastewater Treatment Complex. Workers took these tanks out of service when a new system was installed in 2018. Initially, they were to be removed, size reduced, and disposed of. However, workers realized after evaluating the condition of the tanks that they could be reused.

One of the tanks was converted to a backwash surge tank, a needed system improvement that allows for more efficient operations. The other two tanks were removed and are being retained for reuse on other projects.

Reuse of these tanks not only provides a cost avoidance (no tank downsizing, no tank packaging, no waste shipment), but it also provides a cost savings in the future by using an existing tank for future work instead of purchasing a new one.

Planned and ongoing cleanup work at ORNL

2022 ORNL achievements by the numbers



127,500
pounds of shield block removed in Bulk Shielding Reactor

130,000
gallons of liquid low-level waste dispositioned

128
cubic yards of asbestos-containing material removed

More than
116,000
gallons of demineralized water placed in the Oak Ridge Research Reactor pool

879
cubic yards of waste removed

Building 9213 demolition

Y-12 National Security Complex

UCOR demolished another excess facility at Y-12—the old Criticality Experiment Laboratory. Seventy-three years after it was built, the lab (Building 9213) and all of its ancillary facilities have been leveled. Beginning in May, crews worked throughout the hot and rainy summer to demolish the 24,000-square-foot facility that has been home to a variety of missions since its construction in 1949.

During the first decade of the building's operation, more than 9,700 experiments were conducted. Later, it supported the ORNL High-Flux Isotope Reactor program. The building has been closed since 1992.

At the end of the year, workers were packaging and disposing of the remaining waste and debris, with final totals expected to be 4,540 cubic yards (525 truckloads) when the project is completed. During the nearly two years of deactivation, crews prepped the building for demolition by safely removing, packaging, and shipping 1,496 linear feet of asbestos-insulated piping, 323 linear feet of process piping, and 8,540 square feet of other asbestos-containing material.

Biology Complex

In addition to completing demolition of Building 9213, the deactivation and demolition team also finished removing the remaining slabs at the now demolished Biology Complex, readying the land for transfer to Y-12.

In February, crews completed backfill and seeded the portion of the site where the last two buildings (9207 and 9210) once stood. In subsequent months, slabs remaining from previous demolition of buildings in the Complex were removed and their footprints backfilled

Removal of the Criticality Experiment Laboratory frees up land for Y-12's national security mission.

Removal of the Biology Complex slab and completed site (photo inset)

and graveled. More than 6,141 cubic yards of waste and debris was removed.

At the close of the fiscal year, the process to transfer the land back to Y-12 was underway, with an expected completion date before the end of calendar year 2022.

Alpha-2

Alpha-2, Beta-1, and Alpha-4

Along with the demolition work, UCOR workers were busy deactivating three large former uranium processing facilities. Those three facilities—Alpha-2, Beta-1, and Alpha-4—were all home to the historic calutron (mass spectrometer) racetracks used for separating isotopes of uranium.

Beta-1

Deactivation work in these large facilities is the heavy lift leading up to demolition and is focused on removing potential hazards and environmental risks.

Alpha-4

Alpha-2. The three-story facility (Building 9201-2) stands on a footprint of 107,619 square feet. Since bringing Alpha-2 to the cold and dark stage in the summer of 2021, workers have been steadily deactivating

the facility. In addition to removing asbestos-containing materials and hazardous and universal waste, workers have drained tens of thousands of gallons of oil from large pieces of electrical equipment and have removed 184,569 pounds of lead blocks from shields that were used to support fusion experiments.

Beta-1. Next door to Alpha-2 is the multi-level Beta-1 facility (Building 9204-1) with a footprint of 75,012 square feet. During the fiscal year, crews were busy removing asbestos-containing materials (floor and ceiling tile, ductwork, piping, etc.) as well as hazardous and legacy waste.

In 2022, crews pumped out tens of thousands of gallons of water from the basement to prepare for deactivation activities in the basement. They also performed an infiltration study in the spring to support design of a water treatment skid to treat and discharge approximately 3 million gallons of water starting in the late winter/early spring FY 2023.

Alpha-4 and East Column Exchange (COLEX). Standing on a footprint of more than 174,000 square feet, the four-story Alpha-4 is one of Y-12's larger high-risk facilities with elemental mercury contaminating much of the structure.

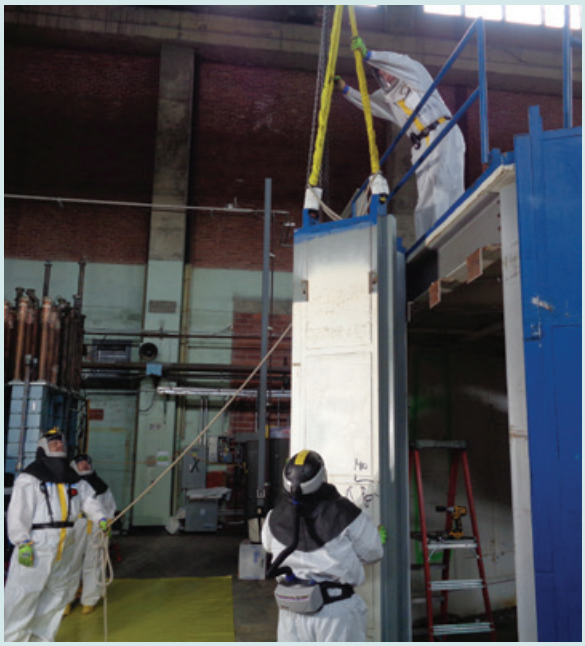
During the fiscal year, workers completed deactivation of the adjacent East Column Exchange (COLEX) equipment, which involved retrieving 2.3 tons of mercury from the processing structure's pipes and tanks. That amount is in addition to the 4.19 tons that was recovered from the West COLEX structure when it was demolished in 2018. A combined total of 6.49 tons was recovered from the two facilities, which significantly reduced potential hazardous risks, both onsite and offsite, at Y-12.

As the fiscal year was closing, crews were beginning work to make Alpha-4 cold and dark. That work includes isolating mechanical and electrical power sources so that crews can safely remove hazardous waste and prep the facility for demolition.

Deactivation activities in Alpha-2

Innovative rigging at Alpha-2

A special challenge at Alpha-2 was removing massive lead shielding panels from the second floor of the facility. Crews installed special rigging to allow them to remove the shields, which weigh an average of 8,300 pounds (more than four tons). The rigging allowed workers to lift lead blocks from the second floor so they could be downsized and packaged.



Rigging at Alpha-2

Cost savings at Y-12

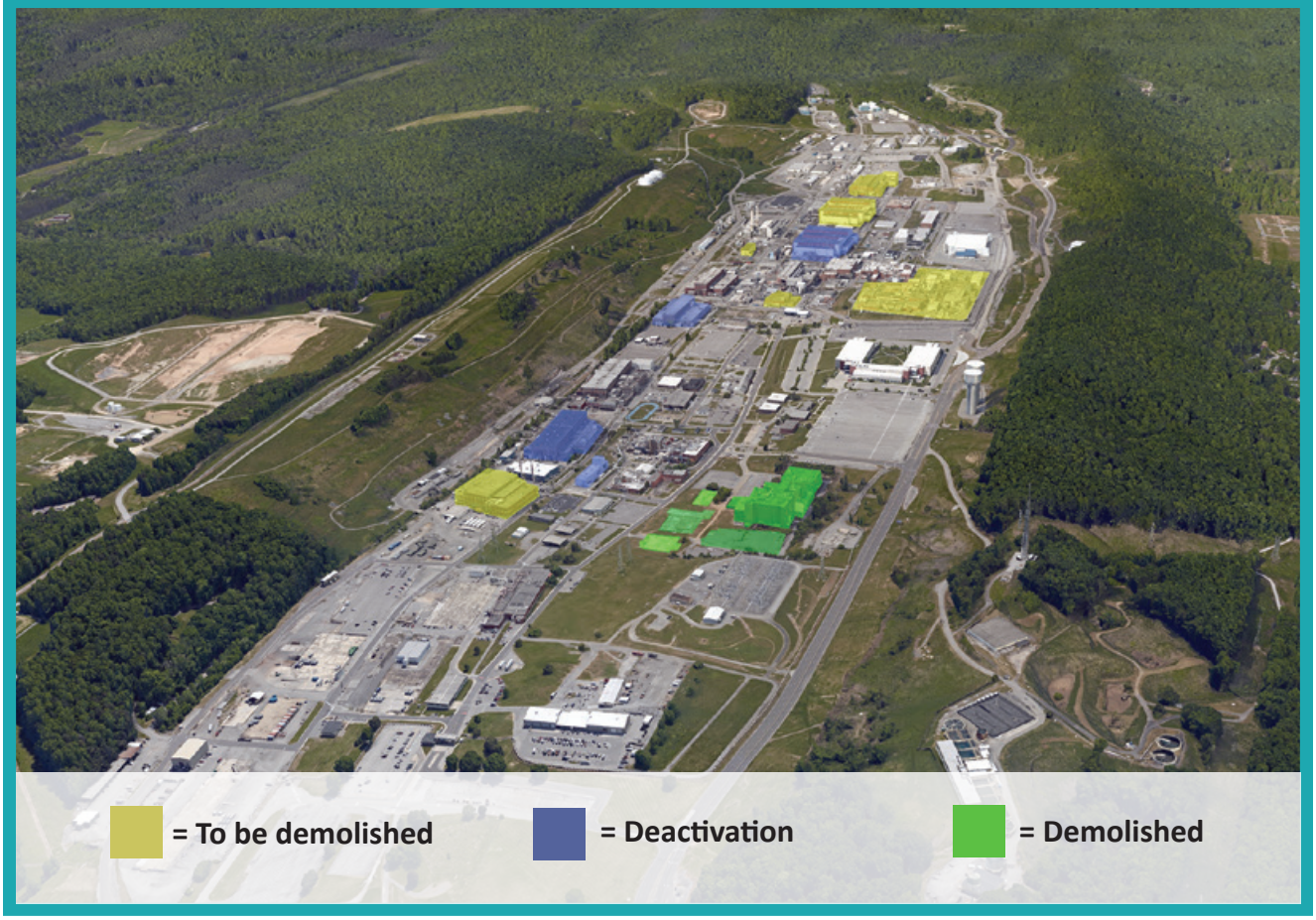
Biology. As the foundations were being removed, crews were stockpiling clean fill dirt, which resulted in a significant savings to taxpayers. By supplementing vendor-supplied dirt with clean backfill from ETTP, UCOR saved an estimated $80,000.

Alpha-2. A variety of cost savings occurred thanks to creative thinking by the project team. They have been using small universal and hazardous waste items (capacitors, circuit boards, etc.) as filler packing material. This innovation reduced shipping, waste treatment, and filler costs while still meeting the void space requirements for lead being packaged in Macro B-25 boxes for shipping to the Nevada National Security Site.

Alpha-2 and Beta-1. Thanks to extensive coordination with Y-12's prime contractor, Consolidated Nuclear Security, LLC, UCOR was able to install 13.8 kV power skids for the Alpha-2 and Beta-1 buildings. Not only did the skids enable convenient power distribution throughout both facilities so workers could continue with deactivation, but use of the skids reduced maintenance and rental costs that would otherwise have been incurred from renting generators.

Biology site backfilling

Planned and ongoing cleanup work at Y-12



2022 Y-12 achievements by the numbers

23,898
square feet of buildings demolished

1,048,438
square feet of building being prepared for demolition

22,892
tons of waste shipped

22
acres of land cleared for no further action

20
gallons of mercury collected from Alpha-4

Waste Management

Waste Tracking System upgrades online

In December 2021, the waste management team completed implementing upgrades to the waste tracking system. These upgrades modernized and streamlined the tracking of waste loads from work sites around the reservation to the Environmental Management Waste Management Facility (EMWMF) and the Oak Ridge Reservation Landfills (ORRL) disposal sites and replaced a number of legacy systems.

The upgrades streamlined the flow of weight and origin information from multiple truck scales around the site, introduced an updated radio frequency identification truck tracking system, and standardized and consolidated a number of forms, databases, and processes to reduce processing time and limit the potential for error. This modernization effort comprehensively updated the tracking system across the reservation.

EMWMF 20-year anniversary

Crews at EMWMF celebrated 20 years of safe, compliant disposal at the site. EMWMF is the onsite, engineered disposal facility for low-level radioactive waste generated by environmental cleanup projects in Oak Ridge. Over its 20 years in operation, EMWMF has been instrumental in the pace of cleanup across DOE's Oak Ridge Reservation by providing a safe and cost-effective disposal pathway for building debris and soil that is not highly contaminated.

Approximately 95% of the waste generated from cleanup in Oak Ridge fits that category and is disposed of onsite. The remaining waste is shipped offsite for disposal. The waste disposed of offsite accounts for approximately 98% of the radioactivity of the site's total cleanup waste.

Safety and compliance have been hallmarks of EMWMF operations throughout its history. The facility earned the National Safety Council's Superior Safety Performance Award for achieving more than 10 consecutive "perfect record" years of operation without incurring an occupational injury or illness resulting in days away from work. Other recognitions include a Tennessee Recycling Coalition Recycling Innovator Award and a nomination for the GreenGov Awards sponsored by the White House. EMWMF operations also won five awards for pollution prevention and waste minimization.

While EMWMF has a capacity of 2.3 million cubic yards, 20 years of compliant, safe, and continuous disposal of cleanup waste has resulted in a capacity of less than 18% remaining. UCOR and the DOE Oak Ridge Office of Environmental Management (OREM) worked with Federal Facility Agreement partners in FY 2022 on plans for another facility that will provide enough capacity to complete the remaining work at Y-12 and ORNL.

EMDF public meeting

In May 2022, OREM and UCOR hosted more than 100 people for a public meeting on the proposed onsite Environmental Management Disposal Facility (EMDF).

Waste disposed of in FY 2022

Location	Cubic yards
EMWMF	76,028
ORR Landfills	61,252
Other onsite	6,642
Offsite	18,006
Total	**161,928**

The meeting was part of a public outreach effort OREM launched for the proposed EMDF that included a 30-day comment period and website to inform area residents about the project.

OREM hosted the meeting with representatives from the U.S. Environmental Protection Agency (EPA) and Tennessee Department of Environment and Conservation (TDEC). The meeting focused on three key areas related to the project: site groundwater characterization, waste acceptance criteria, and protection of Bear Creek's water quality.

The proposed EMDF is essential to adequately dispose of waste from OREM's environmental cleanup at Y-12 and ORNL. The current disposal facility, EMWMF, was critical to UCOR's successful completion of major cleanup at ETTP ahead of schedule and under budget.

The new public outreach phase marks the second public comment period and meeting on the project. The previous meeting occurred in 2018 during a 120-day comment period when OREM released the proposed plan for EMDF. OREM responded to all comments received during that comment period in the responsiveness summary included in the draft record of decision for the project. Almost 84 percent of the comments were either positive or neutral, with 16 percent in opposition. OREM also responded to all comments from this second public outreach phase in an updated draft record of decision that was submitted to regulators.

An attendee speaks at the EMDF public meeting.

Reindustrialization and Reuse

Cleanup of ETTP has provided more economic possibilities for a site that once housed numerous contaminated, unneeded structures. Land transfers are supporting economic development. Conservation and historic preservation efforts are also ongoing at the site.

UCOR continued to play a key role in shaping the future of the west end of Oak Ridge. As cleanup has progressed, so has the ETTP site's transformation into a multi-use industrial park with national historic preservation and conservation/greenspace areas.

Following the completion of the ETTP End State and Closure Plan in FY 2021, UCOR planned and hosted a virtual public event to share progress and priorities. This event provided the community with an in-depth look at how the site is being improved and revitalized. It also provided attendees an opportunity to ask questions and hear from leaders about the steps taken to achieve success.

Multi-Use Industrial Park. Interest in the site increased in the last year with four new and significant businesses committing to starting operations. This amounts to a $500 million investment and a projection of nearly 1,500 job opportunities in the coming years. All four companies are contributing to the clean energy revolution, which continues to innovate, expand, and support a more sustainable future. This momentum is bringing excitement to the reindustrialization effort. UCOR helped plan and facilitated the "Future Ready Workshop," which brought together several companies, community leaders, and economic development organizations to understand and collaborate on future workforce needs and opportunities.

UCOR worked alongside DOE and Community Reuse Organization of East Tennessee (CROET) to transfer land from federal ownership to the private sector. UCOR is also continuing to play a vital role in supporting

ETTP

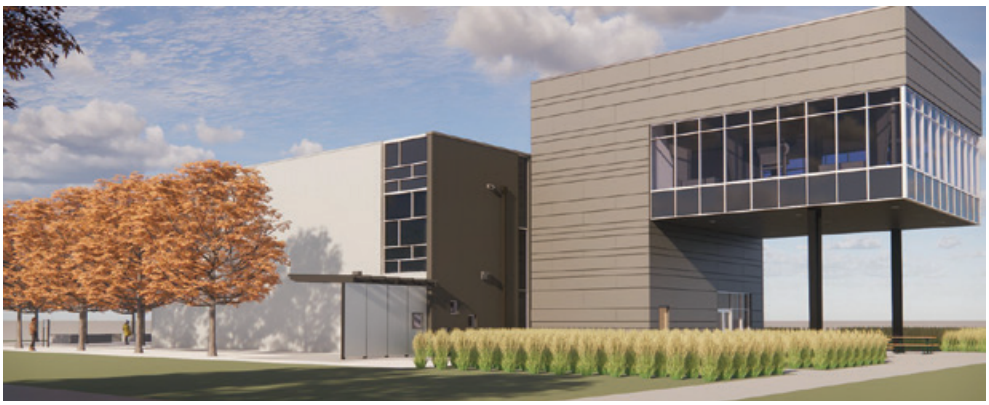
Ultra Safe Nuclear Corporation established a first-of-a-kind pilot fuel manufacturing facility at the Heritage Center to produce its proprietary nuclear fuel.

the transfer of infrastructure such as utilities and roads. Additionally, UCOR has worked in partnership with DOE and the City of Oak Ridge in planning for a general aviation airport. This has included expedited building demolition and soil cleanup, support of National Environmental Policy Act evaluations, property transfers, and coordination between DOE mission and airport needs.

National Historic Preservation. Historic preservation efforts at ETTP provide a destination where visitors can honor the men and women who designed, built, and operated the world's first gaseous diffusion plant, K-25, and the hundreds of facilities and structures that followed. In FY 2022, UCOR completed the design of a viewing platform that will provide an expansive view of the historic K-25 Building footprint. The K-25 Building was once the largest in the world, covering more than 5.2 million square feet. The viewing platform design includes visual indicators at each corner of the former building to illustrate the original dimensions and height of the structure.

UCOR facilitated the development of an interagency agreement between the U.S. Army Corps of Engineers (USACE) and DOE whereby USACE will procure construction services and manage construction of the viewing platform and the other site improvements. UCOR will provide construction engineering support to USACE and manage the fabrication and installation of the viewing platform exhibits. The viewing platform will be located near the K-25 History Center Museum.

Conservation/ Greenspace. The importance of and accessibility to the natural environment continued to be a key component of the end state vision. Signing an agreement in principle in December 2021 between the Tennessee Wildlife Resources Agency (TWRA) and DOE further advanced the goal of conservation and stewardship. This agreement formalized the partnership for expanding natural resource management on the Oak Ridge Reservation. UCOR continued to support both agencies in planning and land transfer efforts to ensure conservation and recreational opportunities are maximized. Nearly 3,500 acres are set aside to safeguard and enhance the natural assets and provide the community with greater access to enjoy the outdoor amenities.



Artist's renderings of the future K-25 Viewing Platform

Safety and Health

UCOR's commitment to safety is unwavering, and it is a prerequisite to all that we do. Our goal is to ensure all workers return home at the end of the day in the same condition they arrived for work. We will never cut corners, and we have empowered members of our workforce to stop work if they perceive unsafe conditions. We promote a strong safety culture through workforce engagement initiatives, campaigns, special workforce safety recognition programs, exercises, and sponsorship of safety-related events and activities.

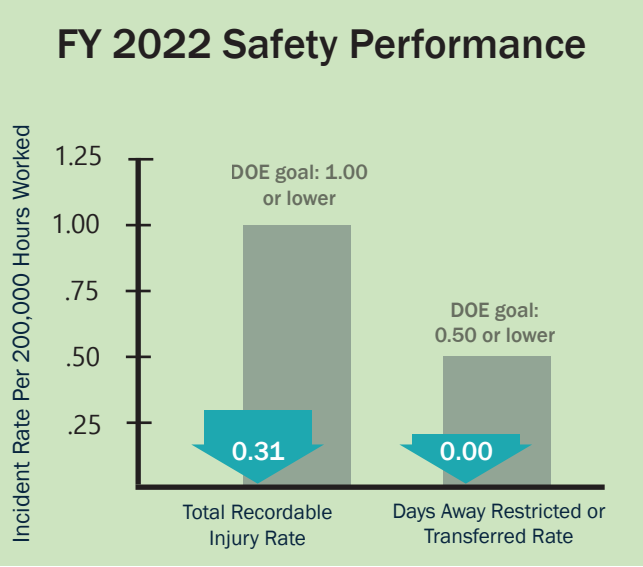
UCOR continues to be an exceptionally safe place to work. Our 0.31 Total Recordable Injury rate is significantly lower than the 3.1 industry average for our work category. We had no Days Away Restricted or Transferred cases as opposed to the 2.3 industry average. This performance is possible because of our Culture of Caring and Excellence that ensures that not only does safety flow down from management, but emphasis is also placed on workers looking out for one another.

Mobile interface boosts safety observations

Safety observation cards play a key role in UCOR's Culture of Caring. They became an even bigger factor in 2022 with the introduction of a new mobile interface. As a result of this interface, which makes it easier and faster to perform safety observations, submittals grew to more than 6,000 during the year— representing a 65 percent increase from FY 2021 submittals.

National safety stand-downs

UCOR supported and participated in national safety stand-downs to heighten awareness about struck-by hazards and fall prevention and protection. During a special event to enhance awareness of heavy equipment safety, workers were provided with an opportunity to look inside and sit in construction equipment to gain perspective on what equipment operators see. Employees also participated in a vehicle safety rodeo where they were provided opportunities to test their driving skills.



Workers experience sitting inside heavy equipment to gain new perspective.

Mission Ready 2.0

The UCOR Mission Ready program was updated and rebranded in 2022 to provide a streamlined platform that promotes a team-centric approach to total worker health. Weekly Mission Ready Bulletins and Mission Ready communications found on digital information displays serve to improve safety and health. Increased knowledge of how personal choices/conditions may have a negative impact on one's ability to safely perform work is a major focus of the program.

New technologies to keep workers safe

In a continuing effort to provide early detection and prevention of worker heat strain, UCOR assisted with the developmental testing of innovative physiological monitoring technology. Previously used monitoring equipment has been replaced with new arm bands that provide a greater level of worker protection through the provision of real-time heart rate, core temperature, rates of exertion, and other important data that assist with evaluating potential heat strain impacts. No first aid or recordable events related to heat strain were incurred in FY 2022.

UCOR also continues to aid with the development of new virtual reality worker training technology for construction and heavy equipment spotters. This system, which allows spotters to master required skills in a safe environment, will also be used to evaluate skill levels during spotter qualifications.

UCOR's new heat-strain monitoring equipment, shown being placed on a worker, allows monitoring of workers' vital signs by cell phone.

Performance

Information in this section reflects UCOR's performance since UCOR began work (August 2011) through the end of FY 2022, covering both the original ETTP Cleanup Contract and the new Oak Ridge Reservation Cleanup Contract. The numbers reflect not only sustainment of a decade of cost performance excellence but also a successful transition and implementation of the new contract.

UCOR has delivered $3.87 billion worth of work for $3.73 billion

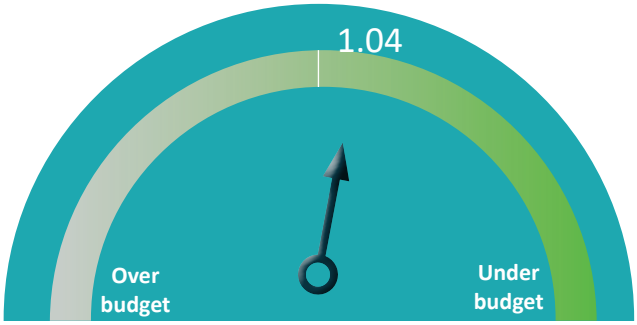
More than 7 million square feet of facilities demolished

More than 1.64 million cubic yards of waste safely disposed

More than 8.3 million safe miles traveled

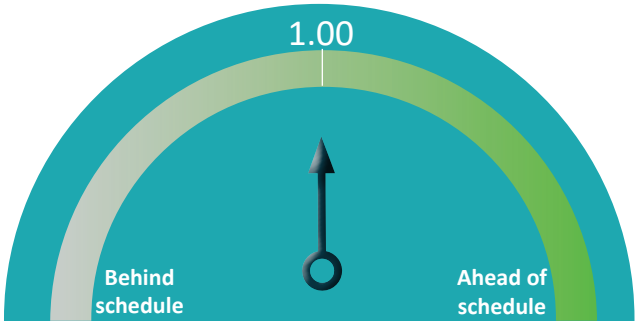
81.6 percent of subcontracted work awarded to small businesses ($1.65 billion)

Cost Performance Index



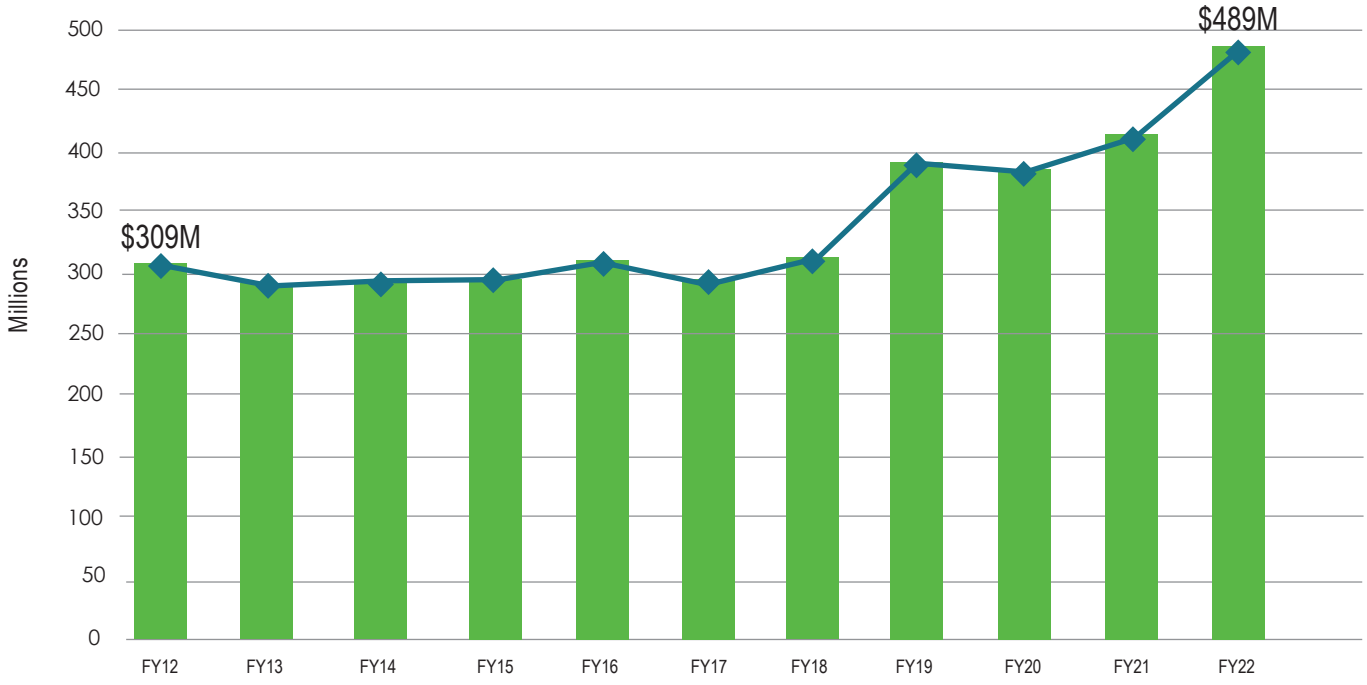
The cost performance index (CPI) is the measure of the efficiency of expenses spent. CPI is equal to budgeted cost divided by actual cost. A value higher than 1 indicates a favorable condition, while a value less than 1 would be considered unfavorable.

Schedule Performance Index

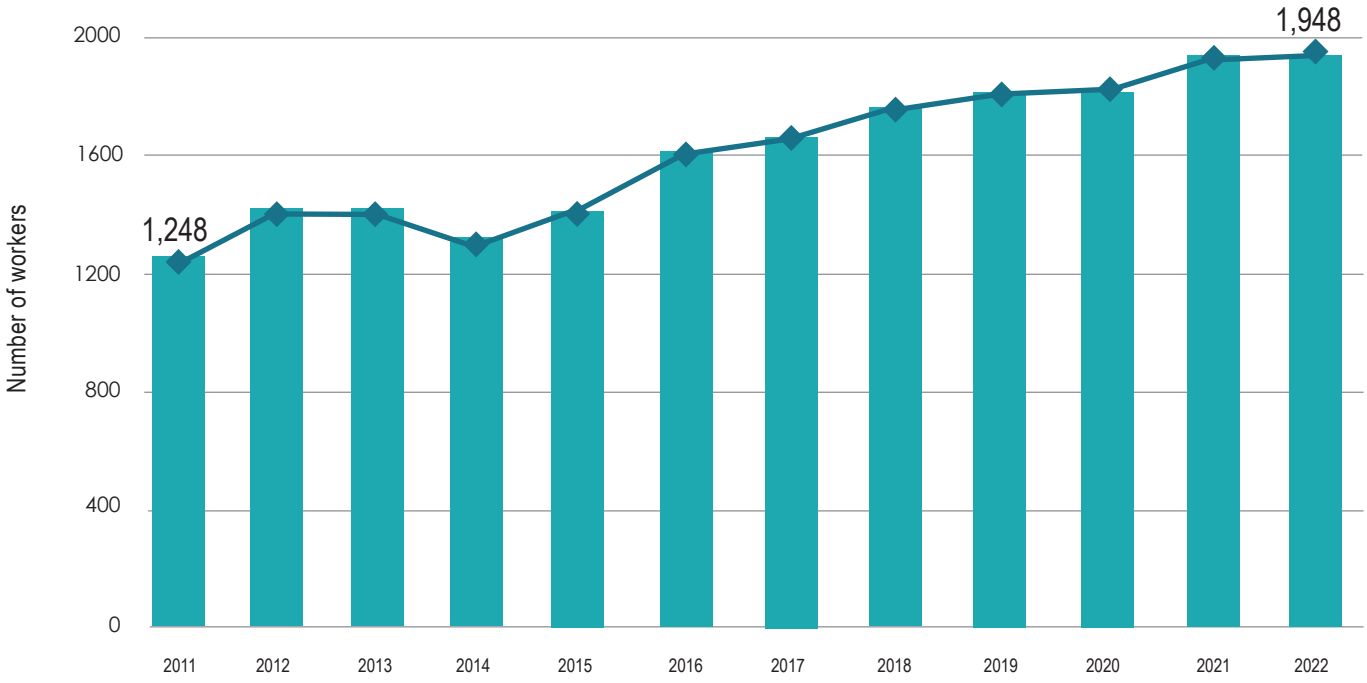


The schedule performance index (SPI) is the measure of schedule efficiency. It is predictive of whether a project will finish ahead of schedule, on time, or behind schedule. A value higher than 1 indicates ahead of schedule, while a value less than 1 would be behind schedule.

Budgeted Cost of Work Performed



Employment



Task Order Delivery

UCOR's new contract is based on completing task orders, a type of contracting that is saving taxpayer dollars while ensuring efficient, effective cleanup.

UCOR's new contract is part of the DOE Oak Ridge Office of Environmental Management's (OREM) end state contracting model (ESCM), which focuses on accelerating cleanup while reducing environmental liabilities.

The goal of the ESCM is to achieve measurable results toward completion of the OREM mission on the Oak Ridge Reservation by accomplishing the maximum amount of environmental cleanup over the next decade at the best value to the U.S. taxpayer.

The $8.3 billion Indefinite Delivery/Indefinite Quantity contract uses task orders that provide specific scope and cost for designated periods of performance for various cleanup activities.

UCOR completed Task Orders 1 and 2 in FY 2022. These task orders put in place the new contract, organization, planning, and strategies for moving forward with cleanup work. Task Order 3, which began Oct. 1, 2022, establishes the groundwork for future task orders.

Task Order 1: Transition

The Task Order 1 period began in February 2022 with a 90-day schedule to prepare for the end of UCOR's ETTP cleanup contract and the beginning of the new Oak Ridge Reservation Cleanup Contract (ORRCC). A dedicated Task Order 1 manager and transition team executed a transition plan that resulted in completing all activities eight days ahead of schedule and delivering over 100 submittals. By applying best

Task Order 1	Task Order 2	Task Order 3	Task Orders 4-10
Transition	**Contract Implementation**	**End State Phase In**	**End States**
• Prepare for new contract • Declare readiness	• Continue cleanup momentum • Develop and finalize Task Order 3	• Develop and finalize future task orders	• Execute end state mission • Deliver Vision 2031

practices and lessons learned from other recent contract transitions, the team was able to use this time to ensure a seamless transition from the previous contract to the new one without any interruption to current operations. Key activities during this period included:

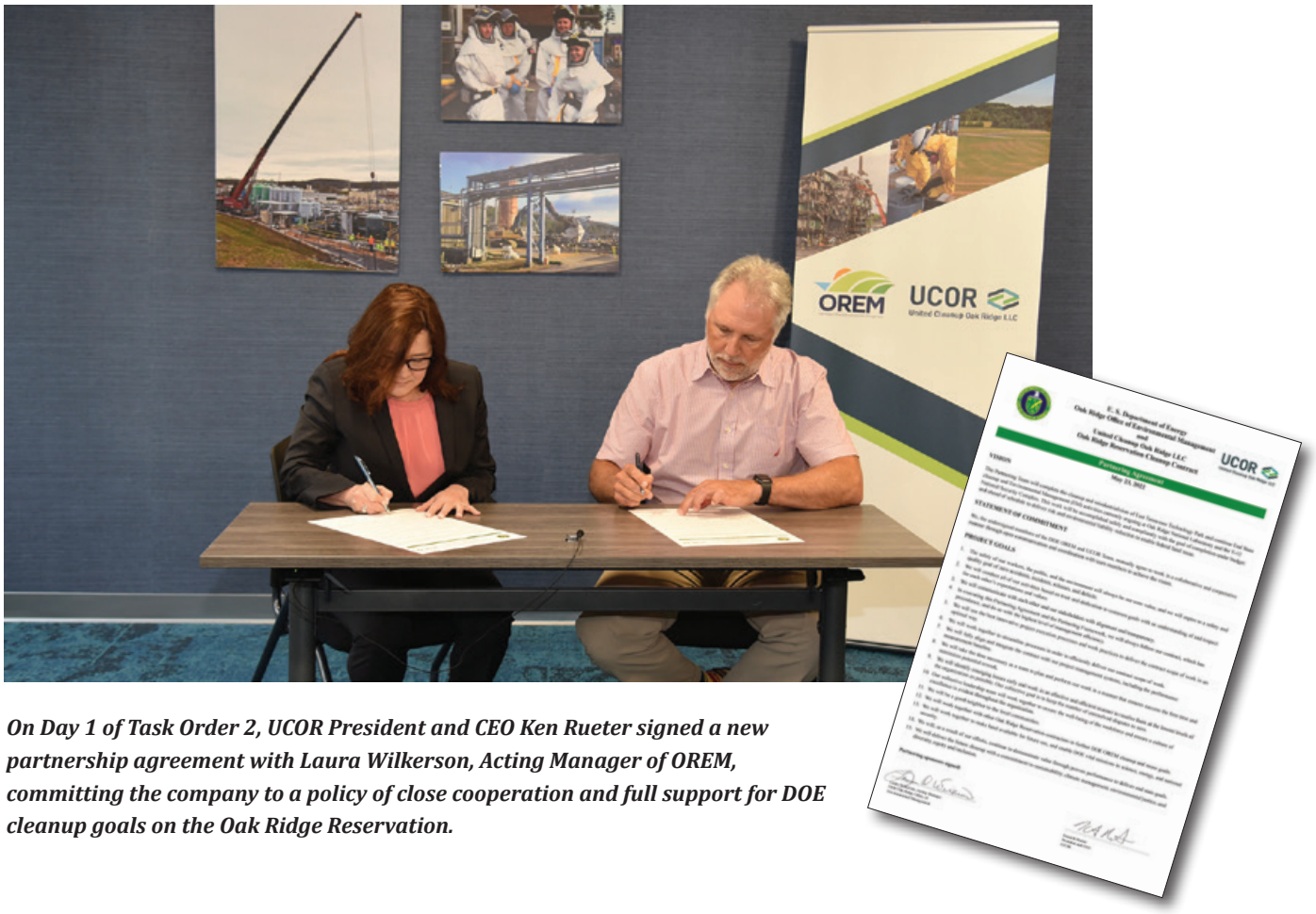
- Introducing the new UCOR team and approach to DOE OREM
- Conducting town hall briefings for the workforce, key stakeholders, and the community
- Performing physical inventory of government property
- Transitioning almost 2,000 workers to the new contract and aligning associated procedures, programs, and business systems as necessary

Task Order 2: Contract Implementation

Day one of the new ORRCC contract began on May 23, 2022, with a welcome video from UCOR's President and CEO Ken Rueter to the workforce, setting the stage for the next era of cleanup.

During this four-month period, a new partnering agreement with DOE OREM was signed that details project goals and reinforces a collaborative work arrangement. A Vision 2031 strategic plan was also developed.

The UCOR team continued to maintain performance momentum with several notable cleanup accomplishments at all three sites.



On Day 1 of Task Order 2, UCOR President and CEO Ken Rueter signed a new partnership agreement with Laura Wilkerson, Acting Manager of OREM, committing the company to a policy of close cooperation and full support for DOE cleanup goals on the Oak Ridge Reservation.

Community

Community involvement is a key aspect of UCOR's success. During FY 2022, UCOR contributed to a wide array of community programs, both monetarily and with volunteer hours.

UCOR's Community Outreach Program oversees the donation of more than $300,000 to community organizations each year and a total of $3.4 million since 2011. The program focuses on four key areas:

- Children's advocacy
- Education and workforce development
- Health and wellness
- Conservation and historic preservation

A few of the agencies we support include Second Harvest of East Tennessee, Clinch Valley Trail Alliance, Foothills Land Conservancy, Legacy Parks Foundation, East Tennessee Children's Hospital, Methodist Medical Center of Oak Ridge, and the United Way of Anderson County.

UCOR sponsors a yearly mini-grants program that provides funding for science, technology, engineering, and math (STEM) projects at local schools. We also support higher education initiatives as part of our university partnerships.

Interns support food bank

UCOR summer interns conducted a "Pack the Van" program to benefit Second Harvest Food Bank's Food

UCOR summer interns collected almost 6,000 food items for their Pack the Van community support project.

for Kids Program. Also known as the backpack program, Food for Kids provides easy-to-prepare meals for at-risk children to have on the weekends when they aren't receiving school meals. The interns collected almost 6,000 food items and $870 in monetary donations.

STEM projects get grant funding

UCOR's annual STEM Education Mini-Grants Program continued to support STEM-related projects in area schools. The program supports K-12 teachers in Anderson, Blount, Campbell, Knox, Loudon, Morgan, Roane, Scott, and Union counties (and the city systems in those counties). Grants are available for both traditional STEM classes as well as for STEM-enhancing projects in all areas (English, social studies, music, etc.). Last year, UCOR awarded a total of $40,000 to 38 projects in 28 schools.

UCOR's Mini-Grants Program supported 38 STEM Projects in FY 2022.

Elementary school pantry helps families

The Ridge View Elementary School Pantry, the first school pantry opened in Roane County, continues to serve students and their families in its fourth year. The pantry is made possible by UCOR's sponsorship with Second Harvest Food Bank.

The pantry continued food distribution throughout the COVID-19 pandemic and during the summer months when school was out. In 2021, the Ridge View Pantry provided food to an average of 47 children/90 families each month.

UCOR supports NABTU fundraiser

Members of the UCOR leadership team supported the North America's Building Trades Unions (NABTU) Labor of Love golfing fundraiser in Atlantic City, New Jersey. The three-day event raised $710,000 for the Diabetes Research Institute Foundation.

Community Outreach Coordinator Shannon Potter (right) and Communications intern Monica Johnson pack boxes for the Ridge View Elementary School Pantry.

Recognition

UCOR's exemplary performance was noted several times in FY 2022. The company as a whole and individuals and teams within the company were honored for their efforts. UCOR is especially proud of the honors it received related to safety.

UCOR named Top Workplace

UCOR was recognized as a 2022 Top Workplace by the *Knoxville News Sentinel*. The award is based on the results of a confidential, third-party survey of UCOR's 2,000-member workforce by Energage, a national management consulting firm.

This year was UCOR's first time participating in the Top Workplaces competition, along with nearly 100 other regional companies. UCOR ranked second out of all large businesses (more than 500 employees) who qualified—second only to Pilot Corporation, the seventh-largest privately held company in the United States.

More than half of the UCOR workforce responded to the survey and shared valuable feedback on the strengths of the company, including a strong belief that the work they do supporting the DOE Oak Ridge Office of Environmental Management is meaningful.

Workers also highlighted their view that the company does its environmental cleanup work efficiently and well.

UCOR President and CEO Ken Rueter called the award "a true testament to our Culture of Caring, shared governance model, and partnership with DOE that has enabled us to drive best-in-class outcomes for the Oak Ridge Reservation through a skilled and talented workforce."

The company also captured the Top Workplaces "Training Culture Award" based on workforce feedback about the level and quality of training provided.

Members of the UCOR team accepting the Top Workplace Award

UCOR awarded VPP Star of Excellence

UCOR was again recognized with DOE's Voluntary Protection Program's (VPP) Star of Excellence. UCOR previously achieved the Star of Excellence four successive years (2017–2020), which led to the company's Legacy of Stars award in 2020.

The Star of Excellence recognizes UCOR's outstanding level of performance in meeting established safety and health goals, actively conducting outreach to others, and achieving an injury and illness rate that is at least 75% below the average of similar businesses and operations.

The Voluntary Protection Programs Participant's Association (VPPPA) is considered the premier global safety and health organization. The organization places stringent criteria around its awards, which are designed for sites that go above and beyond in their efforts to improve the safety and health of their workforce.

New mobile interface earns Innovation Award

VPPPA awarded UCOR the 2022 VPP Innovation Award, recognizing the success of the mobile version of the Safety Observation Card program.

The mobile version significantly increased the number of observations submitted. The VPP Innovation Award recognizes an individual, company, or work site that develops and successfully implements an innovation, encourages others to try new approaches, and emphasizes the value of creativity and flexibility in the resolution of worker safety and health problems.

UCOR wins 8th EPEAT Award

UCOR was recognized nationally for the eighth consecutive year for excellence in sustainable purchasing in information technology. The Global Electronic Council's Electronic Product Environmental Assessment Tool (EPEAT) Purchaser's Award spotlights UCOR's commitment to sourcing sustainable information technology equipment. Sustainability is a critical focus for UCOR. The company has established a new Sustainability and Environmental Programs Group. The team is tasked with enhancing existing sustainability practices, exemplified by IT's dedication to sustainable purchasing, while introducing new sustainability operations throughout the organization.

Cannady chosen as Rising Safety Star

Ryan Cannady, UCOR Deputy Environment, Safety, and Health Manager, was named to the National Safety Council's 2022 class of Rising Stars of Safety, a group of leaders younger than 40 dedicated to making their workplaces safer.

Ryan Cannady

Since 2010, the National Safety Council has been honoring the next generation of safety professionals through the Rising Stars of Safety Award. Rising Stars provide safety leadership in their organization and are dedicated to continuous improvement in safety.

UCOR's award-winning mobile app

Partnerships

UCOR understands that maintaining strong partnerships is key to completing work safely and efficiently. Our partnerships with other prime contractors, regulators, subcontractors, labor unions, appropriators, and other organizations have allowed us to work more efficiently and complete projects ahead of schedule. They have also been a key component of our workforce development efforts. We work under a shared governance philosophy to ensure all voices are heard.

Workforce Development

UCOR continued its efforts to ensure a diverse pipeline of employees for cleanup work today and in the future. We are managing a comprehensive program that seeks to attract talent, ensure they have access to the resources to make them successful, ingrain in them our Culture of Excellence and shared governance, and create a work culture intended to retain talent.

Internship Program

Recognizing the COVID-19 pandemic had impacted in-person internships for many students over the past two summers, UCOR expanded its internship program in 2022 by hosting 29 students from 12 schools across the nation—the largest, most diverse college intern class yet. The 2022 class was double the size of the 2021 class.

UCOR's 2022 internship program expanded its university partnerships for internships to include Benedict College and Florida International University. It also drew from various DOE programs. One of those programs was the Mentorship for Environmental Scholars program—an internship that provides exposure to research in environmental science, environmental justice, and environmental policy to underrepresented college students. Another resource was the DOE Fellowship Program, an innovative program between DOE Environmental Management and Florida International University's Applied Research Center designed to create a pipeline of minority engineers specifically trained and mentored to enter the DOE workforce in technical areas of need.

UCOR's summer internship program pairs college students with mentors in their respective departments. Several participants have pursued careers in environmental cleanup in Oak Ridge after completing their internships.

About half of the 29 students will continue skills learned in the classroom by supporting UCOR part-time throughout the 2022–23 school year. This arrangement marks the first time UCOR has offered extended internship options to students from its summer internship program. Since 2017, 18 interns have become part of the UCOR workforce.

University Consortium

In 2022, UCOR established a University Consortium to sustain and continually develop valuable partnerships

UCOR interns meet with a fellow intern at his work site.

with several higher education institutions. These institutions include the University of Tennessee, Tennessee State University, Benedict College, Georgia Institute of Technology, Florida International University, Roane State Community College, and Pellissippi State Community College. This focus is fundamental to our culture and vision and benefits several aspects of our business. It also promotes innovative learning and professional development techniques that are adaptive to different generations of the workforce.

UCOR's donation of $50,000 to RSCC helped strengthen the chemical operator apprenticeship program.

Roane State Community College

In the fifth year of its partnership with Roane State Community College (RSCC), UCOR continued sponsoring the Chemical Engineering Technology Program. UCOR partnered with the Atomic Trades and Labor Council to host select students for a year-long apprenticeship during their second year in the program, ultimately hiring them as full-time chemical operators upon graduation. Seven of those apprentices are now journeymen and assist in training the next generation of chemical operators. Another 2022–23 school year apprentice was working at UCOR at the end of the fiscal year.

UCOR is in the second year of sponsorship of the RSCC Environmental Health Technology Program, which was created to enhance the Radiation Protection Program. UCOR continued highlighting the latest technology and instrumentation. Its newest apprenticeship effort through this program will provide training for industrial hygiene and radiation protection technicians.

University of Tennessee

UCOR continued to implement its partnership with the University of Tennessee's nuclear engineering department to facilitate development of the current and future workforce. This collaboration with UT to offer the first nuclear decommissioning and environmental management minor degree in the United States continued to prove successful in 2022. The program develops an educated workforce with expertise in nuclear site decommissioning to strengthen environmental management and cleanup capabilities. UCOR also sponsors an interdisciplinary Senior Design Project as a scholarship endowment. Several students from the program have interned with and joined UCOR's workforce.

East Tennessee Apprenticeship Readiness Program

UCOR continued to support the East Tennessee Apprenticeship Readiness Program sponsored by the North America's Building Trades Unions (NABTU). This program allows potential apprentices to better achieve their career goals by receiving training as well as first-hand experience with ongoing work on the Oak Ridge Reservation and the craft needed to complete the various missions. A new class began at the end of FY 2022. All 21 graduates from this class were hired by UCOR.

UCOR engineer Derek Holstein speaks with a student during one of UT's engineering expos.

UCOR sponsors Nuclear Opportunities Workshop

UCOR was a sponsor for the East Tennessee Economic Council's 2022 Nuclear Opportunities Workshop. The event gave industry professionals an opportunity to network, reconnect with colleagues, and interact with young professionals interested in career opportunities. Several UCOR interns attended and were joined by students from the University of Tennessee and interns from ORNL, Y-12, and Oak Ridge Associated Universities. Industry representatives discussed the current and future workforce needs and how to work together with university partners to meet those needs.

UCOR Chief Engineer Tommy Morgan (right) discusses workforce opportunities with a Nuclear Opportunities Workshop attendee.

Diversity, equity, and inclusion

As part of its new contract, UCOR launched a comprehensive diversity, equity, and inclusion organization in FY 2022. Its mandate is to broaden diversity among the UCOR workforce while helping to ensure that a trained workforce remains available for current and future environmental cleanup.

UCOR partners with HBCUs and minority-serving institutions

UCOR forged alliances with Historically Black Colleges and Universities (HBCUs) during the year, partnering with three minority-serving universities and hiring science, technology, engineering, and mathematics-trained HBCU graduates.

UCOR entered into agreements with Tennessee State University in Nashville, Tennessee; Benedict College in Columbia, South Carolina; and Florida International University in Miami, Florida. The goal of these agreements is to help build a pipeline of qualified candidates for cleanup work at Oak Ridge and other parts of the DOE complex.

As part of the agreements, UCOR will assist in creating courses and programs leading to credentials and certifications similar to those UCOR helped create in connection with the nuclear decommissioning minor degree at the University of Tennessee. UCOR is also providing guest lecturers, hosting site tours, and arranging co-ops and internships.

HBCUs are a rich source of qualified professionals in engineering, environmental science, information technology, and other disciplines UCOR depends on to conduct its cleanup mission.

Supporting the Scarboro Community

UCOR sponsored a workforce workshop at the Scarboro Community Center in FY 2022. Scarboro is a predominantly minority community adjacent to the Oak Ridge Reservation. Information was presented on apprenticeships, careers at UCOR, and small business opportunities. The workshop was part of an ongoing outreach effort to increase UCOR's environmental justice initiatives, identify barriers to employment, and build and maintain a skilled and diverse workforce.

The workshop featured several UCOR staff augmentation companies, the American Job Center, the Knoxville Building & Construction Trades Council (KBCTC), and the Knoxville Urban League. The event allowed community members to meet and discuss employment opportunities with vendors aligned to their interests.

UCOR also launched an e-blast newsletter for the Scarboro Community highlighting available employment opportunities and events at UCOR, including community-giving activities. The online newsletter is directed to more than 60 key stakeholders who can serve as a direct pipeline for information to other members of the community.

Labor relations

UCOR has continued to maintain its key partnerships with local and national labor organizations that are essential to success in safely executing the Oak Ridge cleanup mission. Working closely with the ATLC and KBCTC along with the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO) Metal Trades Department and NABTU, UCOR continued building on its commitment to develop and maintain a highly skilled workforce. This strong partnership will support future Oak Ridge Reservation cleanup.

Our shared governance model, which gives all parties a seat at the table, has facilitated success in navigating challenges. In transitioning to the Oak Ridge Reservation Cleanup Contract, UCOR maintained a consistent and open dialogue with the labor workforce and leadership, ensuring all concerns were addressed. Working together was key to a successful contract transition, allowing UCOR to maintain its previous momentum.

The contract transition also meant additional collaborative efforts to ensure that labor standards determination would continue to be consistently and effectively applied. UCOR continues to establish consistent labor standards practices across the company's numerous projects.

An open dialogue policy coupled with specific forums to encourage communications continued to allow for constant feedback and a swift resolution to issues. These resolutions are accomplished through many initiatives, including regular meetings between UCOR's president and chief operating officer, union stewards, and safety advocates to openly discuss issues and concerns. A Quarterly Union President's Dinner also promotes a healthy working relationship between union leaders and the UCOR Office of the President.

UCOR became a governing member of The Association of Union Contractors, which works to bring together customers, contracts, and unions for construction projects.

Additionally, UCOR continued to navigate the challenges of COVID-19, which required constant communication and understanding between management, the workforce, and union leadership.

Coordinating with ORNL and Y-12 officials

Close coordination and communication continued to play an important role in the success of the cleanup mission at ORNL and Y-12 during the year. In addition to facilitating schedules and meeting budgets, this partnership helps avoid interference with critical ongoing work such as preparations to demolish the Bulk Shielding Reactor, the first Oak Ridge reactor ever to be torn down.

UCOR regularly briefs ORNL and Y-12, as well as DOE Office of Science and National Nuclear Security Administration leadership, regarding sequencing of deactivation and demolition plans to ensure coordination of utility isolations and relocations in support of demolition. Ultimately, cleanup will benefit both ORNL and Y-12 by reducing hazards and making room for new missions.

Students and officials from Benedict College tour Oak Ridge facilities, including the K-25 History Center.

The future begins with cleanup

Environmental cleanup paves the way for what's next on the Oak Ridge Reservation. Whether infrastructure modernization to safeguard the nation, clean energy generation as part of a nuclear renaissance, or the world's next big discovery, successful cleanup helps advance the Oak Ridge Reservation's world-class reputation.

In delivery of the cleanup mission, UCOR commits to:

Protect the health and safety of people and the environment

Place **sustainable** practices at the forefront of project execution

Facilitate economic **opportunities** for underserved communities

Be **good stewards** of federal dollars

Pursue and advance **innovation**

Restore lands for beneficial reuse