

FY 2020 Annual Report





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VISION 2020

ACHIEVED

In one of the most historic moments since Oak Ridge came into existence, UCOR and the Department of Energy (DOE) have completed Vision 2020, the first-ever cleanup and removal of a uranium enrichment plant. Built as a Manhattan Project facility in the early 1940s, the K-25 Site, now called East Tennessee Technology Park (ETTP), produced the fuel for the weaponry that ended World War II. It would later produce enriched uranium for defense and commercial purposes until it was closed down permanently in 1987. The site, riddled with contaminated facilities in various states of dilapidation, presented numerous cleanup challenges. UCOR is proud to have risen to this challenge, reducing risks and transforming the site.



ENABLING MISSIONS

Completing cleanup of ETTP is allowing us to transition our skilled and experienced workforce to the Oak Ridge National Laboratory (ORNL) and the Y-12 National Security Complex (Y-12) to perform needed cleanup at those sites. This cleanup frees up space to enable the sites' continuing missions.



Message from the President and CEO

Making history delivered by an amazing workforce enabled by unmatched partnerships

Making history doesn't come easy. When UCOR embarked upon completing the complex and challenging cleanup of ETTP, we knew we would have to be laser-focused, implementing innovative approaches while never jeopardizing the safety of our workforce or the integrity of the environment. Through our shared governance delivery model, we implemented strategies and efficiencies that allowed us to complete the work four years ahead of schedule, saving taxpayers \$80 million and avoiding \$500 million in environmental liabilities.



Our work involved completing cleanup of the remaining massive gaseous diffusion buildings, plus numerous other support facilities. We also performed cleanup at other select sites on the Oak Ridge Reservation and operated the Reservation's primary waste disposal facilities.

Cleanup work involving contaminated facilities can pose unexpected challenges, but FY 2020 posed a unique challenge that no one could have expected: COVID-19. As with our cleanup planning, we were ahead of the curve on how to address this pandemic, assembling a response team long before the country went into shutdown mode. It is a testament to our workforce and our collaborative partnerships with DOE, labor unions, regulators, and community leaders that despite an almost two-month period of limited operations, we were able to stay on schedule for completing Vision 2020, DOE's term for completing major cleanup activities at ETTP.

With completion of Vision 2020 and an extension of our contract, we have been transitioning our skilled workforce to cleanup projects at ORNL and Y-12, ushering in a new generation of cleanup that will remove excess contaminated facilities at these sites and free up space for their continuing missions. We have long realized that cleanup on the Oak Ridge Reservation will continue for decades to address past releases and remove facilities that no longer have purposes. We have worked diligently to cultivate the next generation of cleanup workers through apprenticeship and internship programs as well as collaborations with local institutions of higher education. Our partnerships and workforce development efforts have resulted in a well-functioning cleanup system to meet current and future cleanup needs. We will continue delivering on our commitments and finding ways to be a good steward of taxpayer dollars.

On a personal note, I am honored and exceptionally proud to be part of the historic cleanup achievement in Oak Ridge. I am also proud that we accomplished this feat safely, reducing site risks and creating economic, historical, and recreational opportunities for the area. In fact, our commitment to safety earned us the prestigious DOE Voluntary Protection Program (VPP) Legacy of Stars Award, DOE's highest safety recognition. We will continue our investment-worthy work ethic as we transition to our new cleanup scope and tackle these new challenges. Our commitment to ensure the workforce goes home at the end of the day in the same condition they arrived will continue. Our new commitment is to apply the approaches and partnerships that made Vision 2020 a historic success to the ORNL and Y-12 Superfund cleanup.

Vision
+
Partnerships
=
Notable Outcomes

A handwritten signature in black ink, appearing to read 'Ken Rueter'.

Ken Rueter
President and Chief Executive Officer

Enterprises

UCOR is responsible for cleaning up ETTP and other sites on the DOE Oak Ridge Reservation. Prior to our completion of ETTP cleanup, UCOR's scope started expanding to include excess contaminated facilities at ORNL and Y-12.



FY 2020 Progress



East Tennessee Technology Park

The historic cleanup of ETTP—the first-ever complete cleanup of a uranium enrichment plant—was achieved in FY 2020.

Completing this cleanup involved the demolition of the remaining facilities at the site, including the largest structure still standing—the Centrifuge Complex. Several other structures throughout the site were also demolished, including K-1600, another centrifuge test facility; a segmentation shop where demolished components were size-reduced; paint shop; laboratory facility; and telecommunications facilities.

Removal of these buildings added to the total of 13 million square feet of facilities that have been removed at the site since cleanup operations began.

UCOR also completed major remedial actions during FY 2020, including removal of a cooling water basin and excavation of contaminated soil from the K-25 Building footprint.

ETTP now moves to a new phase of existence as a multi-use industrial park, national park, and conservation area. As part of commemorative efforts at the site, the K-25 History Center opened during the fiscal year.



The Centrifuge Complex tower pulldown was accomplished by large winches (below). Workers above attach the lines to the tower.





Demolition of the Centrifuge Complex removed one of the most visible facilities at the site





Centrifuge Complex demolished

Spanning 235,000 square feet, the Centrifuge Complex was the largest facility still remaining at ETTP. Workers began demolishing the facility in late 2019 and finished in July 2020.

The Centrifuge Complex was built in stages to provide development, testing, reliability, and demonstration capability of uranium enrichment using centrifuges. The last of these facilities ceased operation in the mid-1980s.

Demolition of the Centrifuge Complex was one of the most visible skyline changes at the site. The project is a prime example of a multi-disciplinary approach needed to safely and efficiently complete a project of this scale—including completing deactivation, removing classification concerns, demolishing, and intricately planning and engineering the pull-down of the 180-foot tower section of the building using large winches. Preparation for this pulldown included a great deal of mock training to ensure safe execution.

The Centrifuge Complex contained four major sections. The K-1004-J lab section was an original Manhattan Project facility built for research and development in 1944. The K-1200 section, known as the Advanced Machine Development Laboratory and Component Preparation Laboratory, was used from 1975 to 1985 to develop machines and manufacturing processes for centrifuges.

The K-1210 section was referred to as the Component Test Facility and Advanced Equipment Test Facility. It operated from 1975 to 1985 to test the reliability and operability of centrifuge machines. The facility also served as a pilot plant for testing feed, withdrawal, and depleted uranium hexafluoride transfer systems.

The final section—the K-1220 Complex Centrifuge Plant Demonstration Facility—was used from 1981 to 1985 primarily to test production centrifuges to be used in the Gas Centrifuge Enrichment Plant. It also contained the tower that was pulled down.



Demolition of the Centrifuge Complex removed the last super structure at ETPP. The demolition left behind a large slab (below), which workers began removing at the beginning of FY 2021.





K-1600

Demolition was completed on the 42,000-square-foot K-1600 Building, a former test and demonstration facility for uranium enrichment centrifuges. The building was decommissioned by Centrus Energy Corp., which had leased it since 2002 to test and demonstrate uranium enrichment centrifuges. The company consolidated its centrifuge testing and demonstration activities into its Technology and Manufacturing Center in Oak Ridge and no longer needed to lease K-1600.

K-1039

UCOR demolished two unneeded telecommunications facilities. K-1039-1 served as the central telecommunications office for ETPP since 1997. The adjacent K-1039 building housed supporting equipment.





K-1095 Paint Shop

Constructed in 1979, the K-1095 paint shop was used to prepare paint and signs for all three sites on the Oak Ridge Reservation. From the late 1990s until recently, the 13,500-square-foot facility was used as an electrical maintenance shop. The facility was demolished in January 2020.

K-1006 Laboratory

The K-1006 Building, which was constructed in 1962 to support overall K-25 Site operations, was demolished in February 2020. The 18,000-square-foot structure was leased to Material and Chemistry Laboratory, Inc. until 2019. The building had no future use after the company moved from the facility.



K-832 Basin

A large basin that once held the cooling water used in Oak Ridge uranium enrichment operations has been removed, and the site where it was located has been restored. Workers completed removal of the K-832 Basin in the Poplar Creek area of ETTP. The basin worked in conjunction with a pumphouse and cooling tower, both of which UCOR previously demolished.



K-1203 Site



Once housing a sanitary sewer system, the K-1203 site has been remediated. The buildings that sat on the site were previously demolished, and the underground structures were removed this fiscal year, leaving behind a grassy field after remediation.



K-25 footprint Tc-99 remediation



UCOR identified areas in a section of the massive K-25 footprint where technetium-99 (Tc-99) contaminated soil needed to be excavated and removed. Workers have now completed that excavation—which began in 2018—removing more than 90,000 cubic yards of soil. The site has been backfilled and hydroseeded.



Before cleanup (1989)

TRANSFORMATION



Vision 2020 completed (Sept. 2020)

ETTP opens a new chapter in its history

With cleanup completion, three planned end states for ETTP are being achieved. These end states are a multi-use industrial park, historic preservation (part of the Manhattan Project National Historical Park), and conservation/greenspace areas. A great deal of progress was made in FY 2020 toward these end states.

Multi-Use Industrial Park

UCOR's Reindustrialization Program has facilitated the transfer of almost 1,300 acres for beneficial reuse. In 2020, UCOR supported the Oak Ridge Industrial Development Board in developing Environmental Assessments to evaluate expanded use of the Horizon Center that includes increasing electrical supply and expanding land use changes to support proposed projects. UCOR also initiated the transfer of three additional areas of ETTP, including Portal 4, a former switchyard, and the former K-1037 area. These parcels have been requested by the Community Reuse Organization of East Tennessee and the City of Oak Ridge for economic development and expanded support of city services.

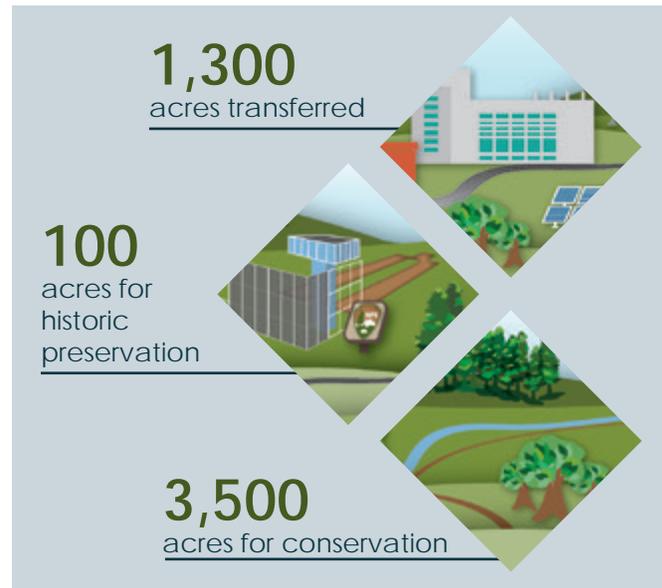
The UCOR Reindustrialization Program also continued to support the Metropolitan Knoxville Airport Authority, and more recently the City of Oak Ridge, in their pursuit of a proposed general aviation airport at ETTP.

Historic Preservation

Historic preservation efforts at ETTP will 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. Commemoration will include construction of an equipment building and viewing tower. In FY 2020, UCOR's National Historic Preservation team completed construction of the K-25 History Center, which opened to the public in February 2020.

Conservation/Greenspace Areas

In areas where redevelopment is more challenging due to terrain or wetlands, UCOR is facilitating opportunities to enrich the community through potential conservation and greenspace initiatives. UCOR initiated and continued



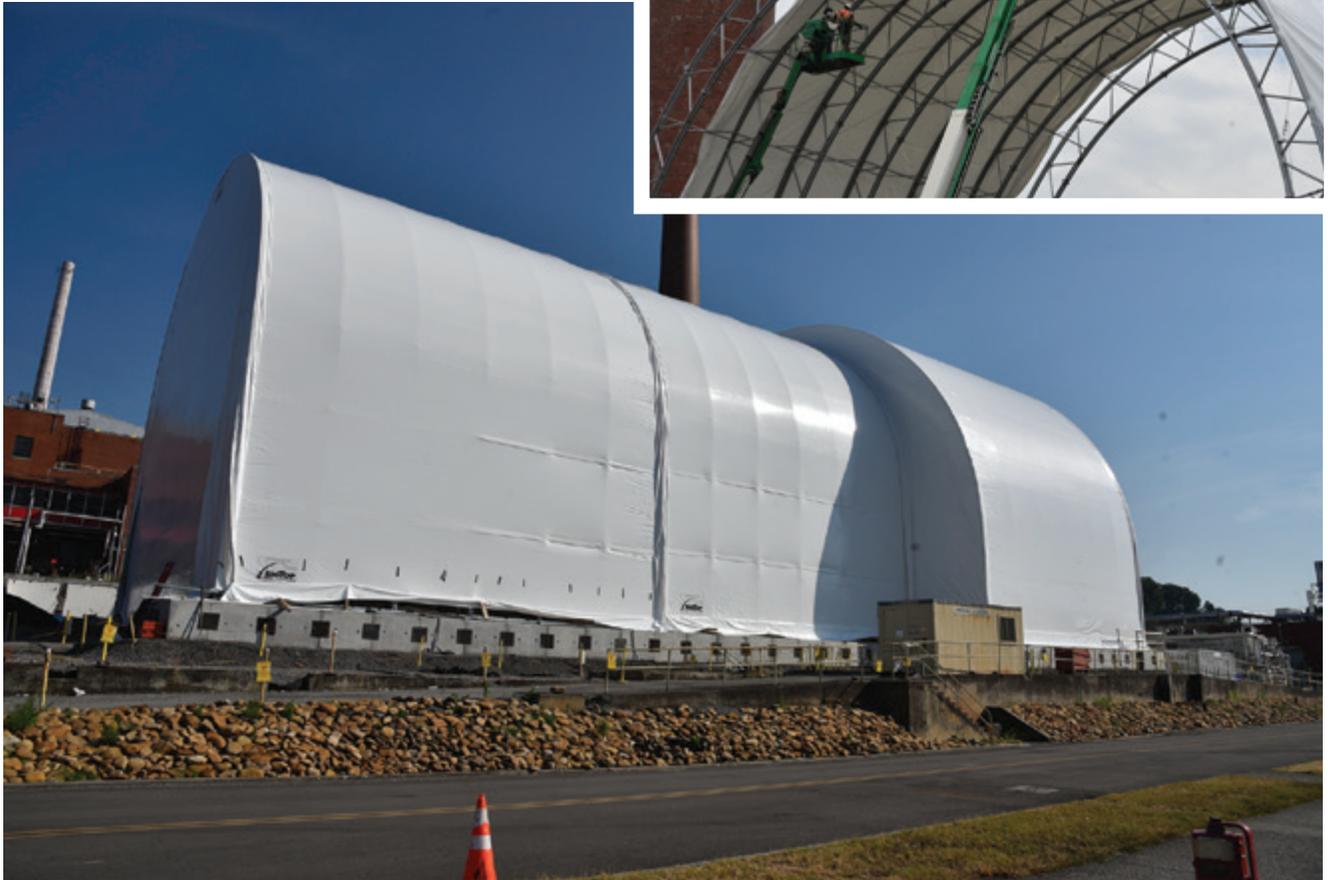
to actively support the Legacy Parks Foundation in the development of the Natural Asset Guidebook, which was published this fiscal year. The guidebook evaluates options for maximizing the use of greenspace and creating regional connectivity. UCOR continued discussions with Roane County to establish canoe launch areas on ETTP property adjacent to Poplar Creek as part of the "Blueways" initiative. UCOR has also facilitated development of a partnership between the Tennessee Wildlife Resources Agency (TWRA) and DOE that will result in hundreds of acres with limited development potential being transferred to TWRA for development of mixed-use recreational areas.



DOE Under Secretary for Science Paul Dabbar is joined by UCOR President and CEO Ken Rueter and others to cut the ribbon for the new K-25 History Center



UCOR constructed a protective tent over the 3026 facility to allow safe demolition of the hot cells



Oak Ridge National Laboratory

During the past year, UCOR's work to clean up excess facilities at ORNL expanded to help facilitate the site's Office of Science missions.

Excess Contaminated Facilities

The ORNL Central Campus is the focus area for removing old, unused buildings, including reactor and isotope production facilities, most of which were built in the 1940s or early 1950s.

One of the priority projects was to prepare Building 3026, the Radioisotope Development Lab. Using a 175-ton crane, workers installed a protective tent to keep nearby research facilities protected while the final two hot cells (heavily shielded concrete rooms) are demolished.

Crews conducted deactivation operations in Buildings 3005 and 3010, which were brought to the cold and dark state (all utilities isolated) earlier this year. Building 3005 was the first project to receive crews transferring from ETP. Those workers have removed asbestos and all universal waste.

Building 3042, a research reactor, and the buildings in "Isotope Row" that supported and produced radioisotopes, were also priority projects. Building 3042 went cold and dark at the end of the fiscal year and crews began deactivation work. Efforts were underway at the end of the fiscal year to place in cold and dark status the 11 Isotope Row buildings (3029, 3030, 3031, 3032, 3033, 3033A, 3034, 3036, 3038, 3093, and 3118). Cold and dark activities were also underway for Building 3517, the Fission Product Development Lab and the Experimental Gas-Cooled Reactor complex (Bldgs. 7600, 7609, 7610, and 7614).

Surveillance and Maintenance Activities

The Molten Salt Reactor Experiment (MSRE) began undergoing modernization and life-extending upgrades that will extend the facility life by 40 years. With the focus of UCOR work transitioning from ETP to ORNL



Building 3042 is now in cold and dark status

and Y-12, the facility focus shifted from deactivation and demolition to modernization and life design extension to allow for in situ decommissioning of facilities. The 1960s-era facility has been undergoing a series of upgrades that will last 40 years and provide valuable office space for workers transitioning to the ORNL Nuclear Operations Project. The upgrades include electrical investigation and verification, roof repair, a new steam system, and fire panel upgrades.

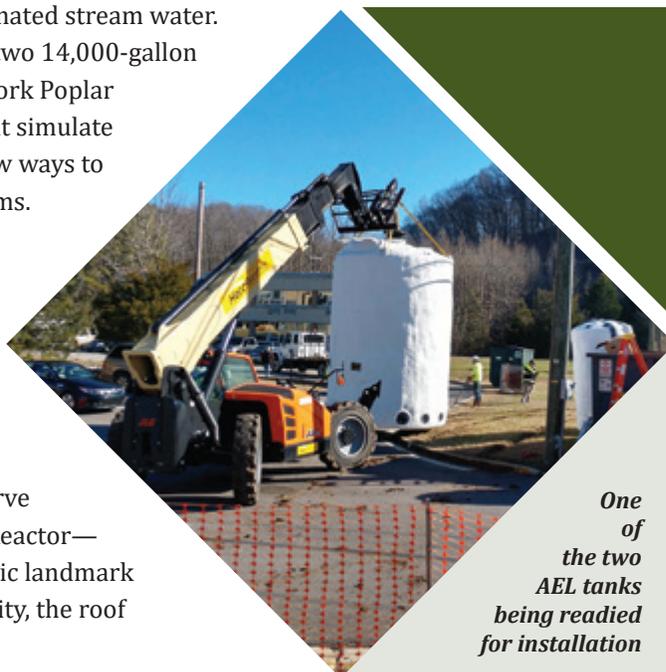
The most significant upgrade is the design of the Continuous Purge System (CPS) to replace the aging Reactive Gas Recovery System. Once implemented, the new CPS will substantially improve the safety posture of the facility through replacement and isolation of legacy systems and components.

UCOR successfully upgraded the Aquatics Ecology Laboratory (AEL) to enable researchers a unique way to study mercury remediation techniques. As a result, ORNL is now home to a one-of-a-kind mercury testing

facility that will enable scientists to study actual contaminated stream water. For the upgrade, workers built a new structure to house two 14,000-gallon tanks that can be filled with water from the Lower East Fork Poplar Creek. The water will then be pumped into structures that simulate creek beds. As the water flows, researchers will study new ways to treat mercury contamination in the water and in organisms.

The flow-through testing of new technologies targets mercury that was released at the Y-12 Complex during the 1950s and early 1960s. Once scientists no longer need the stream water, it will be channeled to a nearby wastewater treatment facility and processed.

A major roof repair is taking place to maintain and preserve Building 3001, home of the historic Oak Ridge Graphite Reactor—the oldest reactor in the world. It was designated a historic landmark in 1966. Among several upgrades taking place at the facility, the roof repair, which consists of seven sections to be completed in different stages, includes gutter replacement and vent repair. UCOR worked with Historic Preservation officials for approval of colors, materials, method, and approach.



One of the two AEL tanks being readied for installation

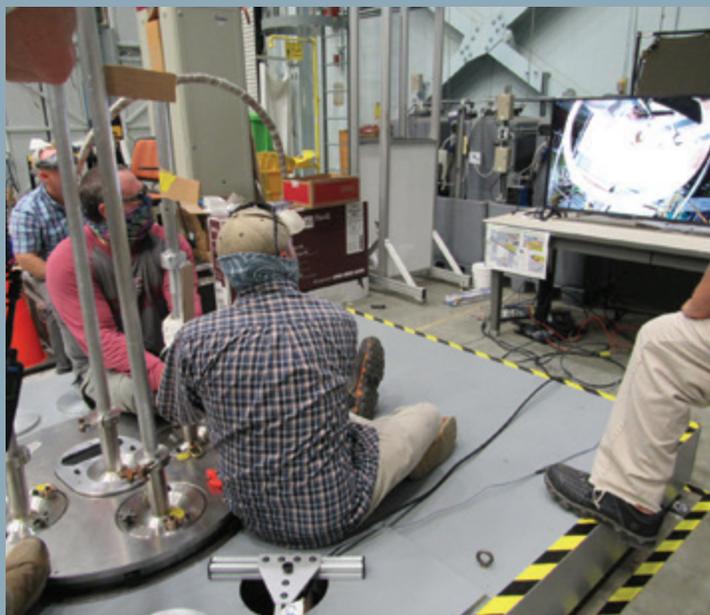


Roof repairs on the Oak Ridge Graphite Reactor

Partnering



The ORNL Nuclear Operations Enterprise partnered with the UT-Battelle Remote Systems Group to perform a mock installation of the continuous purge system on the MSRE drain tanks. The mock-ups allowed workers to develop a detailed procedure for the installation, verify the design of the long-handled tools, and develop “as low as reasonably achievable” strategies to minimize worker dose during the installation process.



LGWO improvements increasing service life

At Liquid and Gaseous Waste Operations (LGWO), UCOR is making significant improvements to the Gaseous Waste system, the Liquid Low-Level Waste system (LLLW), and the Process Waste system. To support the nuclear work of the ORNL mission, having functioning and reliable treatment systems is critical. These efforts are fulfilling that goal by improving operation and reliability, and extending the service life of this important nuclear mission support function.

The Gaseous Waste system life span has been greatly extended due to the upgraded Central Off-Gas system with turbine replacements and the current Variable Frequency Drive replacement. Updates to both mechanical and electrical equipment with new technology is extending this off-gas treatment system by decades and reducing annual operating costs to DOE.

Evaporation in the LLLW system was nearing re-start at the end of the fiscal year. An evaporator in the 2531

Building has received focused attention in FY 2020 after years of non-use. Every system has been evaluated, and valving, pumps, instruments, and ventilation have been repaired. This monumental effort to restore the 20+ year-old system to operability demonstrates the commitment to full LGWO functionality and reliability. Further, the LLLW system is being greatly assisted by the Process Waste Pre-Treatment system at Building 3571.

The new Process Waste Pre-treatment system will treat wastewater going into the LLLW system. Once this project is successfully commissioned, 80% of the wastewater formerly being stored in the LLLW system will be treated and discharged through the Process Waste system, thereby extending LLLW storage capacity. Site preparation has been completed, and delivery of the modular treatment system is expected in November.

The Process Waste system has seen notable progress in FY 2020 with the installation of the new Zeolite



Treatment System at Building 3608. The new system installation was completed, and it is now removing cesium and strontium from LGWO wastewater. As a result, the Rad Process Waste Treatment Complex (Building 3544) that has exceeded its design life is in

standby and will be available for decommissioning once the new Zeolite treatment process has been optimized and confirmed reliable. It has already demonstrated increased capabilities in treatment throughput, as well as proven simpler to operate and maintain.



Zeolite tank installation at LGWO

Y-12 National Security Complex

UCOR has expanded its work at the Y-12 site during the fiscal year, adding more excess contaminated facilities to the scope for deactivation. Asbestos abatement moved at a rapid pace in the remaining facilities in the Biology Complex. Demolition of these facilities will make way for future Y-12 security missions, such as the Lithium Processing Facility.

Crews have worked steadily deactivating two Biology Complex buildings, 9207 and 9210, removing asbestos and other waste to ready the facilities for demolition, planned to begin early FY 2021. Because of the similarity of the two facilities, crews have been able to work on the two buildings simultaneously. The six-story 9207 facility spans 256,600 square feet, and the three-story 9210 facility spans 64,700 square feet. To clean up the top floors of the facilities, crews installed transfer platform cars, or lifts, to move equipment,

supplies, and workforce between floors and to remove waste and hazards from the facilities quickly and safely. Additionally, UCOR hired a number of graduates of an apprenticeship training program and put them through a specialized asbestos abatement training experience to add to the Biology Complex workforce.

During the year, workers abated and shipped more than 1.75 million pounds of asbestos waste for disposal. Demolition of Building 9210 is expected to be complete in January 2021, and Building 9207 in November 2021. Remedial action for the area known as Exposure Unit 5 will begin in December 2021 to disposition the 9207 crawl space.

With cleanup of the Biology Complex continuing, three new projects were brought online and another was restarted. Workers have begun mobilization,



Workers are removing asbestos in the Biology Complex

characterization, and cold and dark activities for these three buildings that were transferred for cleanup in the spring—Alpha-2, Beta-1, and Building 9401-1. Alpha-2 and Beta-1 are large, former Manhattan Project buildings that supported uranium enrichment efforts, using an electromagnetic separation process, for the first nuclear weapons created during the Manhattan Project. The 325,000-square-foot Alpha-2 housed operations that ended in the 1950s. The more than 210,000-square-foot Beta-1 was decommissioned in 1947 and was later used to support ORNL missions. Research and development and operational activities ended there in 1995.



Lifts help crews reach higher levels of the Biology Complex

Building 9401-1, a former steam plant for the site, was built in 1943 and served Y-12 missions in the 1960s and 1970s. ORNL later used the facility to test non-radiological fuels such as ethanol.

To clean up these three facilities, a special training program was developed to provide workers with

necessary information working around specific hazards in the facility. Approximately 70 highly trained workers have transitioned to the new Y-12 projects from ETP.

Work is resuming at the Alpha-4 complex to remove the East Column Exchange (COLEX) equipment. Used to separate lithium for defense missions for nearly a decade, COLEX used large quantities of mercury in the production process. UCOR is tasked with mercury removal, system deactivation, and demolition of the East COLEX process.



Facilities such as the Alpha and Beta buildings have been transferred to UCOR for cleanup



Waste from the K-25 footprint remedial action being disposed of at EMWMF

Waste Management

FY 2020 was a year of significant accomplishment for UCOR's Waste Management organization as it actively supported the successful completion of Vision 2020. UCOR safely and compliantly disposed of 197,738 cubic yards of waste both onsite and offsite, totaling more than 16,000 shipments.

This disposal included loading and shipping to the Environmental Management Waste Management Facility (EMWMF) the last load of contaminated soil excavated from the K-25 Building footprint. Crews have been performing remediation activities for more than two years and have excavated and disposed of more than 90,000 cubic yards of soil and debris.

Final RCRA waste storage area closed

As part of the Vision 2020 wrap-up, the last of the storage facilities at ETTP dedicated to storage of Resource Conservation and Recovery Act (RCRA) waste was closed during the fiscal year. Waste generated and handled at ETTP has been managed under RCRA and the Toxic Substances Control Act—laws

that address the proper management of hazardous and polychlorinated biphenyl (PCB) wastes. Those wastes—either generated at ETTP or brought in to be processed at the TSCA Incinerator—were stored at various locations across the site.

During the peak period in the 1990s, the equivalent of 110,000 55-gallon drums were stored in 79 different RCRA-permitted storage facilities at ETTP. Removal of these wastes reduced site risks and helped ETTP reduce its security and emergency operations stance, another major step in helping DOE achieve Vision 2020.



Inside one of the former RCRA storage areas after the materials were removed

State Regulators Approve Landfill Buildout

During the year, UCOR received state regulatory approval for completing the buildout of Area 6 of the Oak Ridge Reservation Landfill (ORRL)-VII, increasing the storage capacity of the landfill by more than three acres. The Tennessee Department of Environment and Conservation (TDEC) provided routine inspections of the buildout and provided its approval on June 30, allowing UCOR to meet its goal despite COVID-19 limitations and managing record rainfalls in January and February. The additional disposal capacity is necessary to accommodate waste material from construction of the Outfall 200 Mercury Treatment Facility at Y-12 and other construction demolition projects on the reservation. The buildout included cutting, loading, and restocking 14,400 cubic yards of soil for future use.



*Oak Ridge
Reservation Landfill
buildout*

Landfill Infrastructure Improvements

UCOR completed several landfill infrastructure improvements to maintain a posture of compliance and establish a solid future for use of the various landfills operated by UCOR. These infrastructure improvements include:

- Rebuilding four sediment ponds at the ORRL to bring up to current technologies, resizing to support the 100-year-flood event, and removing sediment that has collected over the years.
- Implementing significant erosion control measures. These include spreading riprap in numerous drainage locations, hydroseeding several acres of bare ground, and diverting precipitation to the drainage locations.
- Rebuilding and replacing the leachate collection system piping and mechanical infrastructure for Landfill V at the ORRL.



Waste disposed of in FY 2020



Location	Cubic yards
EMWMF	129,349
ORR Landfill	31,580
Other onsite	28,665
Off-site	8,144
TOTAL	197,738

Innovation

UCOR's EMWMF operations group implemented a series of innovative solutions during the year to address regulator concerns in connection with disposal of waste from ETTP with relatively high concentrations of technetium-99 (Tc-99).

A highly mobile radionuclide that is soluble in water, Tc-99, without proper safeguards, can transport through soil and threaten the environment. State regulators had expressed concern about potential releases of Tc-99 into the environment and requested additional safeguards.

In response, the EMWMF team took several proactive steps, including constructing a bowl for elevated Tc-99 waste that minimized the disposal area, reducing the amount of precipitation that fell onto the waste, diverting stormwater runoff away from the waste, and funneling the leachate more quickly to a collection system away from contact water.

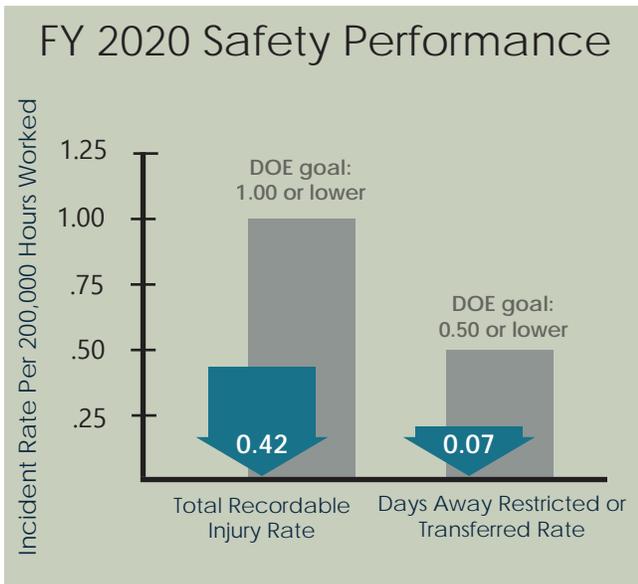
Another innovation at EMWMF involved personnel reusing palletized transite panels removed from buildings being demolished at ETTP as armor over the landfill liner system. The transite provides a physical protective barrier, preventing other waste (e.g., steel beams) from damaging the underlying liner.



Transite panels being repurposed at EMWMF

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 employees 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 our employees to stop work if they perceive unsafe conditions. We promote a strong safety culture through employee engagement initiatives, campaigns, special employee safety recognition programs, exercises, and sponsorship of safety-related events and activities.



Safety excellence

In FY 2020, UCOR received the DOE VPP Legacy of Stars Award, DOE's highest-level safety award. It distinguishes contractors that excel in outreach and demonstrate sustained excellence in worker safety and health. This award recognizes contractors for maintaining a total recordable case rate of injuries 75 percent lower than the industry average for three consecutive years. Also in FY 2020, UCOR's shared governance leadership model was recognized as a best practice by the DOE Office of Enterprise Assessment.

UCOR launched and copyrighted the innovative Mission Ready Program to aid in the reduction of injuries and illnesses. This unique program designed to bring together safety, health, and wellness recognizes that personal readiness to work should be considered in addition to compliance-driven requirements. Mission Ready supports the individual worker's ability to be physically, mentally, and emotionally ready to work.

For the sixth consecutive year, UCOR's Wellness Program, which sponsors a variety of events and activities to help employees take charge of their health, was awarded the Healthier Tennessee Workplace Award, an initiative of the Governor's Foundation for Health and Wellness.

The UCOR team was highly adaptive and responsive to the unprecedented COVID-19 pandemic. UCOR successfully navigated a temporary shutdown of



Temperature checks and return-to-work briefings were part of UCOR's COVID-19 response

non-critical operations and the resumption of work activities through the designation of a COVID-19 Response Team, the timely formulation of standing orders, implementation of a strong continuity of operations program, increased telecommunications capabilities to support teleworking staff, and a variety of communications across various platforms to keep employees informed and engaged.

UCOR named one of America's safest companies

UCOR was among 16 companies nationally to be named one of "America's Safest Companies" by *EHS Today* magazine. The list recognizes companies with exceptional occupational health, safety, environmental

and risk management efforts. Every year, *EHS Today* singles out companies that meet specific criteria, including support from leadership on environmental health and safety efforts, employee involvement, innovative solutions to safety challenges, good communications about the value of safety, and more.

In announcing the award, Dave Blanchard, *EHS Today's* editor-in-chief, said "UCOR is not satisfied with merely complying with minimum safety standards, choosing instead to set the bar high."



Innovation

UCOR continues to invest in technologies to ensure the safety of workers. An example is the implementation of MyZone Technologies Worker Alert Systems at UCOR work sites. When a receiver worn by the worker is within the preset range of the transmitter, the receivers will emit distinct vibrations that can be felt. These vibrations alert of an approaching danger. UCOR is also implementing technology that alerts drivers to nearby pedestrians and objects.



Performance

UCOR has delivered

\$2.961 billion worth of work for **\$2.868 billion**

since contract inception (August 2011) through the end of FY 2020



More than 1.28 million cubic yards of waste safely disposed



More than 6.6 million square feet of facilities demolished

More than 7 million safe miles traveled



82 percent of subcontracted work awarded to small businesses (\$1.23 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 one indicates a favorable condition, while a value less than one would be considered unfavorable.

Schedule Performance Index

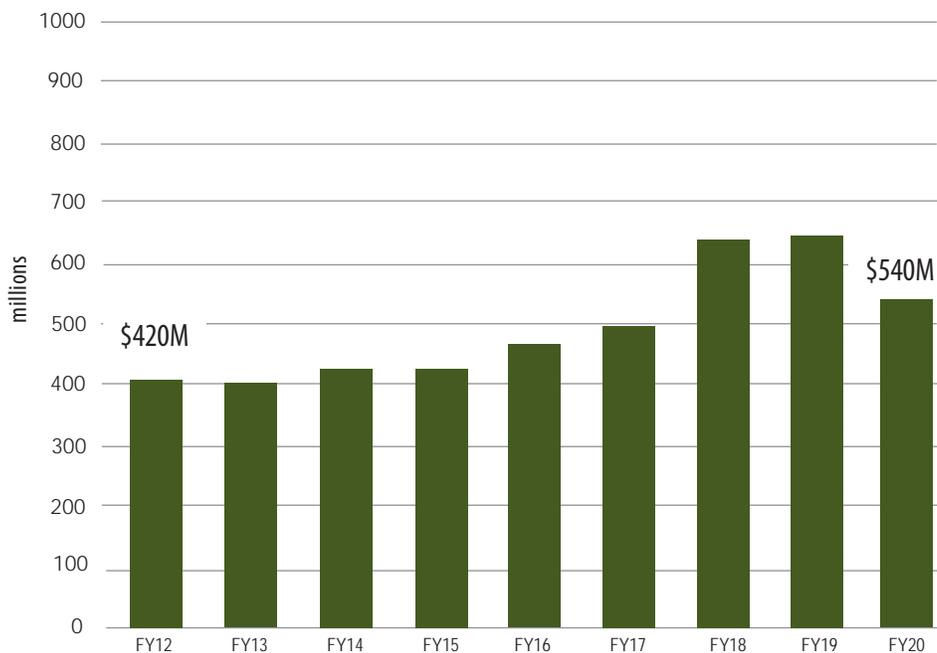


The schedule performance index (SPI) is the measure of schedule efficiency. It is predictive of whether a project will finish ahead of schedule, on time, or behind schedule. A value higher than one indicates ahead of schedule, while a value less than one would be behind schedule.



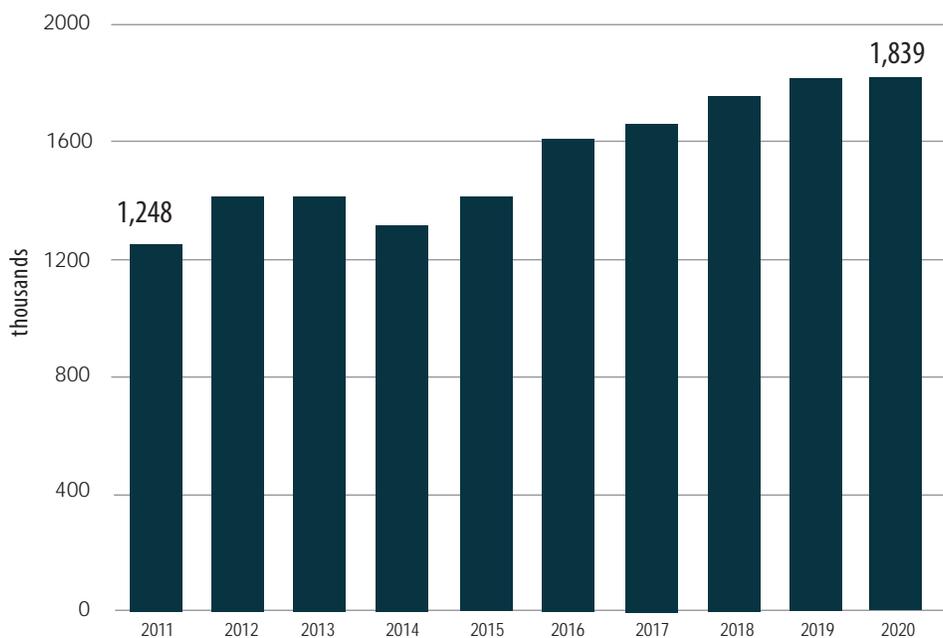
Funding

(56 percent increase at peak - FY 2019)



Employment

(47 percent increase since first year of contract)



Community

Community involvement is a key aspect of UCOR's success. During FY 2020, UCOR contributed to a wide array of community programs, both monetarily and with volunteer hours, and engaged with area economic organizations. The underlying purpose of UCOR's philanthropy efforts is to serve the diverse populations of the East Tennessee region in four specific focus areas: children's advocacy, education and outreach, health and wellness, and conservation and preservation. UCOR has contributed more than \$3 million in the local region during the past nine years.



Children's Advocacy

Focusing on the welfare, healthcare, and education of children



Education and Outreach

Preparing the next generation to enter the workforce



Health and Wellness

Promoting wellness through programs and activities that encourage healthy choices



Conservation and Preservation

Preserving the lands and contributions of the ETPP site and associated natural assets

UCOR's support for children's advocacy, including volunteer hours, goes to help organizations that focus on the welfare, healthcare, and education of children, such as Second Harvest of East Tennessee's Food for Kids Program and East Tennessee Children's Hospital Fantasy of Trees fund raiser.

Through our educational outreach focus, we support science, technology, engineering, and math (STEM) education programs at all levels (K-12, undergraduate, and beyond). Our activities included providing 33 mini-grants to teachers in 2020 to fund specific projects based on proposals they submitted. We contributed substantially to Pellissippi State Community College's new math and science building. We also supported the Roane State Community College Chemical Engineering Technology Program.

Our health and wellness focus area provides support for employee engagement in area races, like the Secret City Half Marathon. UCOR executives serve on community boards related to this focus area, including Methodist Medical Center of Oak Ridge and the American Society for Safety Professionals.

In our final focus area, conservation and preservation, we have provided monetary support and board members as well as coordination and interface with key stakeholders for the Clinch Valley Trail Alliance, Foothills Land Conservancy, and the Legacy Parks Foundation. We also supported the Oak Ridge Children's Museum and Oak Ridge Playhouse.

During the year, our employees conducted a variety of fund-raising efforts to support the United Way, including payroll deductions and various events that raised money for the organization. Employees also held fund-raisers for Second Harvest Food Bank and local schools.

UCOR is also a member of, sponsors events for, and participates in a number of community economic organizations. Those include the East Tennessee Economic Council; the Energy, Technology and Environmental Business Association; the Oak Ridge Chamber; and the Roane County Alliance. In addition, UCOR supports community and charitable programs by our labor unions, including the Atomic Trades and Labor Council and Knoxville Building and Construction Trades Council.

A field radiological engineer shows students how to use radiation detection devices during Jefferson Middle School STEM Night



Engineers provide a hands-on experience handling material in a glove box at the 8th Annual Introduce a Girl to Engineering event



In addition to sponsoring the carousel at the East Tennessee Children's Hospital Fantasy of Trees fund raiser, UCOR also contributed to the Emergency Department Expansion Project

A UCOR Local Safety Improvement Team sponsored a Stuffed Animal Drive to benefit the Juvenile Courts of Anderson County through Allies for Substance Abuse Prevention of Anderson County



UCOR presented a check to Second Harvest Food Bank on Double Your Donation Day, a one-day telethon in which donations to the regional food bank were matched



The UCOR Wellness Warriors participate in the Susan G. Komen Race for the Cure in Knoxville



UCOR sponsored and collected donations for the Coloring Spirits Bright campaign benefiting East Tennessee Children's Hospital. The collection included coloring books, crayons, card games, books, toys, and crafts for patients who spend Christmas in the hospital.

Diversity

At UCOR, diversity includes not only race, ethnicity, and gender, but also a diversity of ideas, perspectives, and approaches to solving problems. UCOR draws from surrounding communities to maintain its diverse workforce. Among the events sponsored and/or attended are Blacks in Government Luncheon, Greenwood Education Foundation Freedom Fund Banquet, Men of Tomorrow, the NAACP state convention, Women's History Month, and International Women's Day.



Workforce Development

UCOR is committed to ensuring that a dedicated workforce is available to perform the necessary cleanup work in future years. Even with major cleanup activities at ETTP wrapping up, a great deal of cleanup will be necessary at other sites on the Oak Ridge Reservation.

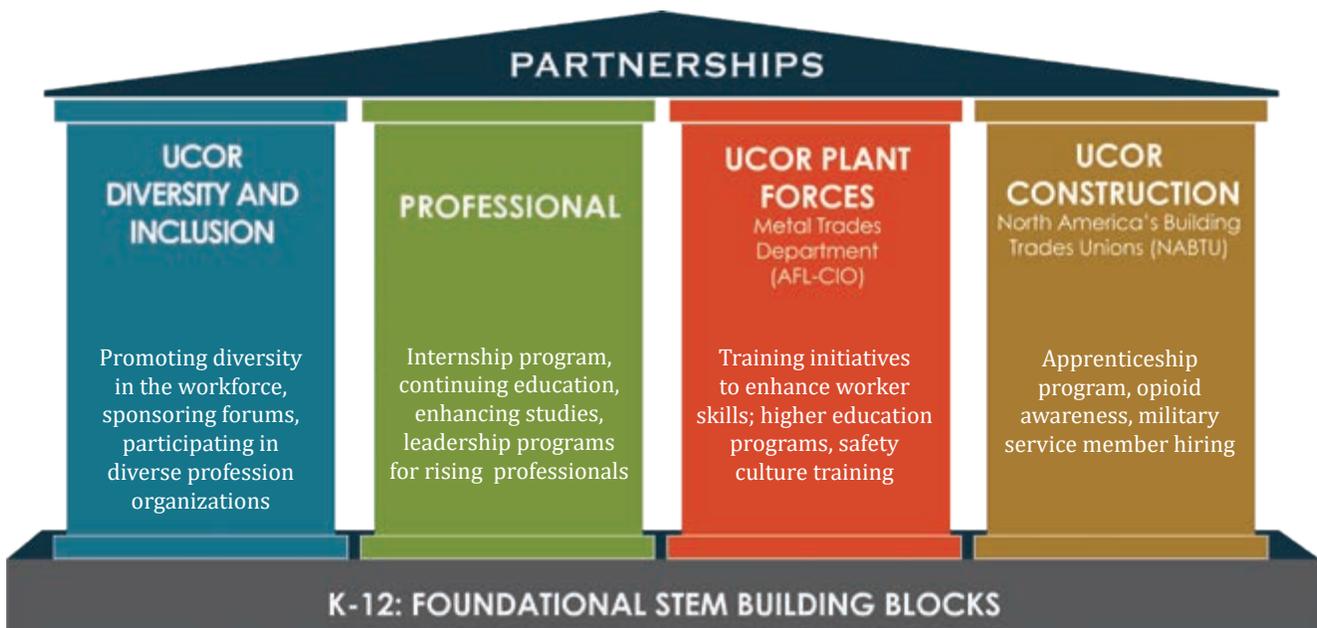
In FY 2020, UCOR collaborated with educational institutions, union leaders, and the community to cultivate the next generation of Oak Ridge Reservation cleanup workers.

UCOR plants the seeds of interest at an early age by offering a Mini-Grant Program to area elementary, middle, and high schools to fund STEM education. The company collaborated with Oak Ridge High School to implement the High School Work-Based Learning Program to provide high school students with administrative support experience.

UCOR partnered with DOE to host a demonstration classroom during local middle school STEM events.

These events allowed students an opportunity to meet community partners who provided insight into STEM careers and the skills required for those career paths. The UCOR/DOE OREM classroom featured an introduction to radiation protection measures used on the Oak Ridge Reservation.

At the college level, UCOR collaborated with the University of Tennessee-Knoxville (UTK) to offer a Nuclear Decommissioning and Environmental Management minor in the nuclear engineering department. UCOR also participated in UTK's guest lecturer series, conducted student site visits, and sponsored a senior design project, allowing seniors to work with UCOR engineers.





UCOR's outreach efforts give school-age children an appreciation of the type of work we do

UCOR collaborated with Roane State Community College to establish a chemical operators program, employing students full time as apprentices. Several of the students have gone on to become full-time UCOR employees.

UCOR participates in the Millennial Nuclear Caucuses to bring together the next generation of nuclear leaders to share experiences and expand the nuclear knowledge base. Internally, UCOR is proactively growing its next generation of leaders through its year-long Rising Senior Leaders program, which has graduated its second class. The program identifies and mentors employees who have senior management potential. UCOR also sponsors NextGEN, which provides early career technical professionals structured opportunities for professional development, networking, and career guidance.

Fourteen more members of the UCOR team achieved Safety Trained Supervisor-Construction (STS-C) certification, giving the company a total of 194 individuals holding the certification. That amount constitutes 70 percent of all STS-C certification holders in Tennessee.

UCOR partners with the International Union of Operating Engineers (IUOE) to train heavy equipment operators at the IUOE's International Training and Education Center in Crosby, Texas. Members of UCOR's workforce will participate in the Operating Engineers Certification Program (OECF) to obtain a valid and reliable certification that accurately assesses their competence in crane operations. This is intended to directly promote a safer jobsite environment for UCOR workers, the public, and the industry.

UCOR collaborates with North America's Building Trades Unions (NABTU) leadership on initiatives to continue to ensure a pipeline of trained women craft construction personnel for cleanup work in Oak Ridge and to gain exposure for current female craft workers.

UCOR encourages membership to a number of diverse professional and labor organizations such as Women in Nuclear, Blacks in Government, Helmets to Hardhats, Women in Trades, National Society of Black Engineers, National Association of Women in Construction, American Society of Safety Professionals, National Human Resources Association, and the American Institute of Chemical Engineers.



RSL participants meet with Ken Rueter

UCOR's workforce has grown by almost 600 personnel since contract inception.

Recognition

UCOR's exemplary performance was noted several times in FY 2020. The company as a whole, plus individuals and teams within the company, were honored for their efforts. UCOR is especially proud of the honors it received related to safety, which are also discussed in the Safety and Health section, p. 24.

UCOR and its employees continued to receive recognition during the year for outstanding performance in pursuit of the Oak Ridge cleanup mission and contributions.

National labor award received

During the year, UCOR was recognized with the Mark H. Ayers Community Achievement Award given annually by NABTU.

A longtime president of NABTU, Ayers died in 2012. The union created the award to honor Ayers' passionate belief that Building Trades unions are a force for good in their local communities. The award is presented annually, usually to union affiliates around the country. A formal presentation will be scheduled when in-person meetings resume.

VPP Legacy of Stars

UCOR, which last year was recertified as a DOE Star site, received the DOE VPP Legacy of Stars Award, which distinguishes contractors that excel in outreach and demonstrate sustained excellence in worker safety and health. This award recognizes contractors for maintaining a total recordable case rate of injuries 75 percent lower than the industry average for three consecutive years.



UCOR gets sixth EPEAT Award

For the sixth year in a row, ETPP was named a winner of the EPEAT Purchaser Award. Total impact reductions and cost savings over the lifetime of the 508 EPEAT-registered products purchased in 2019 total \$24,655. EPEAT stands for Electronic Product Environmental Assessment Tool.

UCOR uses EPEAT in purchasing contracts to ensure that vendors only provide electronics that use strict sustainability criteria. These products are more energy efficient, less toxic, longer lasting, and easier to recycle than products that do not meet EPEAT criteria while addressing labor and human rights issues within the supply chain.

Purchasing these products moves UCOR closer to achieving its mission of protecting the community and environment while eliminating hazards and reducing risks.

UCOR receives high rating

UCOR's Environmental Management System (EMS) program received DOE's highest rating during the year. Known as the "Green Score," the rating indicates that UCOR is in full compliance with expected practices of the DOE sustainability program.



A remediated pond at ETPP

EMS is implemented through the Integrated Safety Management System. It ensures that UCOR's work activities minimize or eliminate or, conversely, cause or increase beneficial impacts on the environment.

Conner: Muddy Boot Award

Dr. Harold Conner Jr. received the 2019 Muddy Boot Award presented by the East Tennessee Economic Council. Harold has a 50-plus-year career in the DOE complex, holding a number of senior executive positions. Most recently, he served as UCOR's senior technical advisor before retiring and becoming a consultant. The Muddy Boot Award goes to those who make the community, state, and nation better places to work and live.

Saunders Named to UT Chancellor Associates

Ashley Saunders was named to the 2020 class of the UT Chancellor's Associates. Formerly UCOR's Chief of Staff, Ashley recently assumed

the role of Manager, End State and Federal Land Reuse. The Chancellor's Associates are a group of East Tennessee leaders who work to cultivate and enhance greater public understanding and support between the University and the greater Knoxville community.

Lawhorn: AHMP Award

Linda Lawhorn, a member of UCOR's Waste Management team, received the 2020 Pete Cook Founder's Award from the Alliance of Hazardous Materials Professionals (AHMP). The Pete Cook Founder's Award is AHMP's highest honor given for outstanding accomplishments. Linda has served as an officer in the organization's East Tennessee chapter and is a member of the national board of directors.

Adkisson earns patriotic award

Janet Adkisson was honored by the Office of the Secretary of Defense with an Employee Support of the Guard and Reserve (ESGR) Patriotic Award. A Department of Defense program, ESGR promotes cooperation and understanding between Reserve Component Service Members and their civilian employers and to assist in the resolution of any conflicts arising from an employee's military commitment.



Pictured are Sarah Jackson, Janet Adkisson, Dan Macias, Stephanie Wilson and ESGR volunteer Kim Spencer

Partnerships

UCOR understands that maintaining strong partnerships is key to completing work safely and efficiently. These partnerships with other prime contractors, regulators, subcontractors, labor unions, and organizations has allowed us to work more efficiently and complete projects ahead of schedule. We work under a shared governance philosophy to ensure all voices are heard.

Labor

Robust partnerships forged between UCOR and its labor partners over the past nine years paid significant dividends in 2020 as the workforce dealt with the impacts of the COVID-19 pandemic.

UCOR worked closely with NABTU, the Metal Trades Department AFL-CIO, and the Atomic Trades and Labor

Council (ATLC) throughout the year to coordinate a mutually supportive response to this health challenge. The common goal was to protect the health and safety of the represented workforce while allowing mission-related work to go forward as conditions permitted.

Through its partnership, UCOR aligned its pandemic response with guidance developed by the national and local unions to help ensure consistency and maximum protection

UCOR's shared governance approach ensures everyone has a seat at the table



for worker health and safety. This cooperation was extended by the development of phased return to work plans that were implemented throughout the year and will continue to be monitored throughout the pandemic.

In an unprecedented cooperative effort between unions, UCOR worked with the ATLC and the Knoxville Building Trades Council to address labor shortages created by the pandemic. The Building Trades Council agreed to temporarily fill vacant positions usually staffed by ATLC members, some of whom were considered vulnerable under pandemic health guidance.

UCOR also worked closely with other Oak Ridge and nationwide federal contractors during the year to share information and coordinate response to the virus.

Cleanup Advisory Council

Initiated by UCOR, representatives from Consolidated Nuclear Security, LLC (Y-12) and UT-Battelle, LLC (ORNL) along with key stakeholders of the community meet to discuss priorities and mission objectives to ensure alignment among the three contractors as well as DOE-

EM, DOE Office of Science, and National Nuclear Security Administration.

Education

In a key educational partnership, UCOR is supporting construction of a new math and science building at Pellissippi State Community College. UCOR's partnership with Pellissippi State is focused on ensuring a continuing pipeline of a trained, qualified workforce for environmental cleanup and other future industry needs. The new Bill Haslam Center for Math and Science will increase the college's ability to provide qualified candidates for the regional workforce.

Workforce Development

UCOR's partnership with Roane State Community College (RSCC) has enabled the college to offer a Chemical Engineering Technology program, which prepares students for future careers as chemical operators. UCOR Workforce Development team members visited the RSCC Chemical Technology Laboratory to receive a curriculum update.



UCOR's partnership with Pellissippi State Community College will result in a new math and science building at its Hardin Valley campus



Delivering the Vision

With Vision 2020 completed, a new chapter is opening up for ETPP as a multi-use industrial park, historic preservation site, and recreational area. It also marks the full-scale transition of cleanup operations to ORNL and Y-12. We are proud of our achievements in 2020 and are now applying our knowledge and skill to cleanup operations at the other sites, enabling their site missions. We will continue with our unwavering commitment to safety and the strong partnerships as we continue delivering exceptional performance.

UCOR successfully brought ETPP cleanup over the finish line. UCOR's innovative and safety-focused performance brought the project in under budget and ahead of schedule.



Investment-worthy results



\$500 Million
Reduction in
Environmental
Liabilities



Leading performance (UCOR totals)



More than
1.2 million
cubic yards of waste
disposed



More than **7 million**
safe miles driven



Lasting impressions



56% Increase
in Funding





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