DOE/ORO/2313

FY 2009

Cleanup Progress

U.S. DEPARTMENT OF ENERGY

Annual Report to the Oak Ridge Community

About the cover

The Toxic Substances Control Act (TSCA) Incinerator operated for its last full fiscal year in FY 2009. At the end of the fiscal year, plans were under way to shut down the facility. It was scheduled to completely cease operation in FY 2010. For more information, see the article on page 32.

This report was produced by
Bechtel Jacobs Company LLC,
DOE's Environmental Management
Contractor for the Oak Ridge Reservation.

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Message from the Manager

DOE Oak Ridge Office

Gerald Boyd

To the Oak Ridge Community:

Many key developments in DOE's cleanup of the Oak Ridge Reservation took place in Fiscal Year (FY) 2009. The most notable was the additional $755 million that the Oak Ridge Environmental Management Program received as a result of the American Recovery and Reinvestment Act. The increased funding allowed us to expedite many planned cleanup projects on the Reservation. You can find out more about these various projects as you review this publication.

In December 2008, we initiated demolition of the K-25 Building west wing at East Tennessee Technology Park (ETTP), with two-thirds of the wing demolished at the end of the fiscal year. Although bringing down such a massive gaseous diffusion facility posed many challenges, our focus was and continues to be on safely accomplishing this complex demolition project.

Other facilities at ETTP were demolished during FY 2009, including the K-1035 former maintenance facility and three high-risk buildings in the Poplar Creek area. A large, contaminated pond near the K-1007 Building was drained and recontoured. The fish were removed from that pond as well as two others adjacent to Highway 58 in order to populate the ponds with more environmentally-friendly species.

FY 2009 marked the last full year of operation for the Toxic Substances Control Act Incinerator, a one-of-a-kind facility that has treated more than 34 million pounds of waste since it began operating in 1991. At the end of the fiscal year, the Incinerator was in the process of being shut down and will completely cease operations in FY 2010.

We implemented a Radio Frequency Identification Device system that tracks waste shipments from ETTP to the Environmental Management Waste Management Facility via the eight-mile dedicated Haul Road. The system not only tracks each individual truck, but also identifies its contents. This system has lead to greatly increased efficiency in the disposal of ETTP waste.

Our Reindustrialization Program had many notable achievements in FY 2009. It transferred three buildings and two land parcels to the Community Reuse Organization of East Tennessee as it continued its effort to transform ETTP into a private sector industrial park. To date, 11 buildings and five land parcels at ETTP have been transferred to private companies. Construction has also begun on speculative buildings on two of the parcels.

The public is involved in all aspects of our cleanup work, and we appreciate the public input that is provided through our public meetings and comment periods. The Oak Ridge Site Specific Advisory Board, composed of citizen volunteers, is a key component of our public involvement process, and we welcome its advice and recommendations on our cleanup activities.

I've just touched on a few of the accomplishments in FY 2009, but great progress has been made on numerous Reservation-wide projects. As we continue making progress on these existing cleanup projects, we are concurrently planning additional work through the Integrated Facility Disposition Program. This Program addresses facilities at Oak Ridge National Laboratory and the Y-12 National Security Complex that are considered excess. Removing them will allow future growth for our current and future missions.

Our efforts are improving the environment while supporting programs across the Oak Ridge Reservation that provide beneficial employment to more than 13,000 people in East Tennessee. We are focused on safely performing our work and look forward to continuing this momentum in FY 2010 and beyond.

Commonly Used Terms

CERCLA

CERCLA: The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for hazardous waste releases at these sites, and established a trust fund to provide cleanup when no responsible party could be identified. The law authorizes two kinds of response actions: short-term removals, where actions may be taken to address releases or threatened releases requiring prompt response, and long-term remedial actions, which permanently and significantly reduce the dangers associated with releases or threats of releases. Long-term actions can be conducted at sites on the Environmental Protection Agency's (EPA's) National Priorities List, a listing of the nation's most hazardous waste sites. The Oak Ridge Reservation was added to that list in 1989.

EMWMF

Environmental Management Waste Management Facility: The *Record of Decision for the Disposal of Oak Ridge Reservation Comprehensive Environmental Response, Compensation, and Liability Act of 1980 Waste, Oak Ridge, Tennessee* was issued in 1999 to construct a dedicated disposal facility on the Reservation to receive low-level radioactive waste, Resource Conservation and Recovery Act hazardous waste, Toxic Substances Control Act waste, and mixed wastes generated from cleanup programs conducted under CERCLA. While the ROD did not establish a formal name for this facility, it has been designated as the Environmental Management Waste Management Facility.

Federal Facility Agreement: Cleanup activities are performed in accordance with state and federal laws, and CERCLA requires an interagency agreement to facilitate the interaction between state and federal entities (for the DOE Oak Ridge Office, that would be DOE, EPA, and the Tennessee Department of Environment and Conservation). The Federal Facility Agreement for Oak Ridge was initiated in January 1992 to satisfy the interagency agreement requirement.

FFA

ROD

Record of Decision: Under the CERCLA process, a Record of Decision formally documents the selection of a preferred cleanup method at Superfund sites after a series of steps, including a Remedial Investigation/Feasibility Study. After a preferred cleanup alternative is selected, it is presented to the public for comment in a Proposed Plan. EPA, the state, and the lead agency then select a remedy and document it in the Record of Decision.

Removal Actions: Some cleanup activities on the Oak Ridge Reservation are conducted as Removal Actions under CERCLA. These actions provide an important method for moving sites more quickly through the CERCLA process. When a site presents a relatively time-sensitive, non-complex problem that can and should be addressed, a Removal Action would be warranted.

RmA

Contents

Introduction

Environmental Management (EM) is the largest DOE program in Oak Ridge, with cleanup programs under way to correct the legacies remaining from several years of energy research and weapons production.

Because of past practices, portions of land and facilities on the 33,750-acre Oak Ridge Reservation are contaminated with radioactive elements, mercury, asbestos, polychlorinated biphenyls, and industrial wastes.

The Oak Ridge Reservation is on the U.S. Environmental Protection Agency's National Priorities List and is being cleaned up under a Federal Facility Agreement with the Environmental Protection Agency and the State of Tennessee.

In 2009, the program focused on cleanup efforts at East Tennessee Technology Park. The most visible project was the ongoing demolition of the massive K-25 Building. Significant progress has been made in cleaning up large gaseous diffusion buildings, various facilities, and contaminated ponds and soils at this site. Cleanup efforts also continued at the other sites on the Oak Ridge Reservation.

The current focus of the EM Program is completing the high-priority projects of demolishing the K-25 Building and preparing for cleanup activities at the Oak Ridge National Laboratory and Y-12 National Security Complex.

New Funding Results in Expanded Work Scope

Funding from the American Recovery and Reinvestment Act of 2009 (ARRA) has allowed more cleanup work to be performed on the Reservation and has created and retained jobs for the local area.

DOE Oak Ridge received $1.36 billion under the Act, with a large portion of that amount—$755 million—going to EM projects.

At the end of FY 2009, the Act had created 633 jobs and saved 198 at DOE facilities in Oak Ridge.

Many of the projects in this publication have been funded by ARRA and are denoted with the ARRA logo.

About ARRA Funding

On Feb. 13, 2009, Congress passed ARRA and President Obama signed it into law four days later. A direct response to the economic crisis, ARRA has three immediate goals:

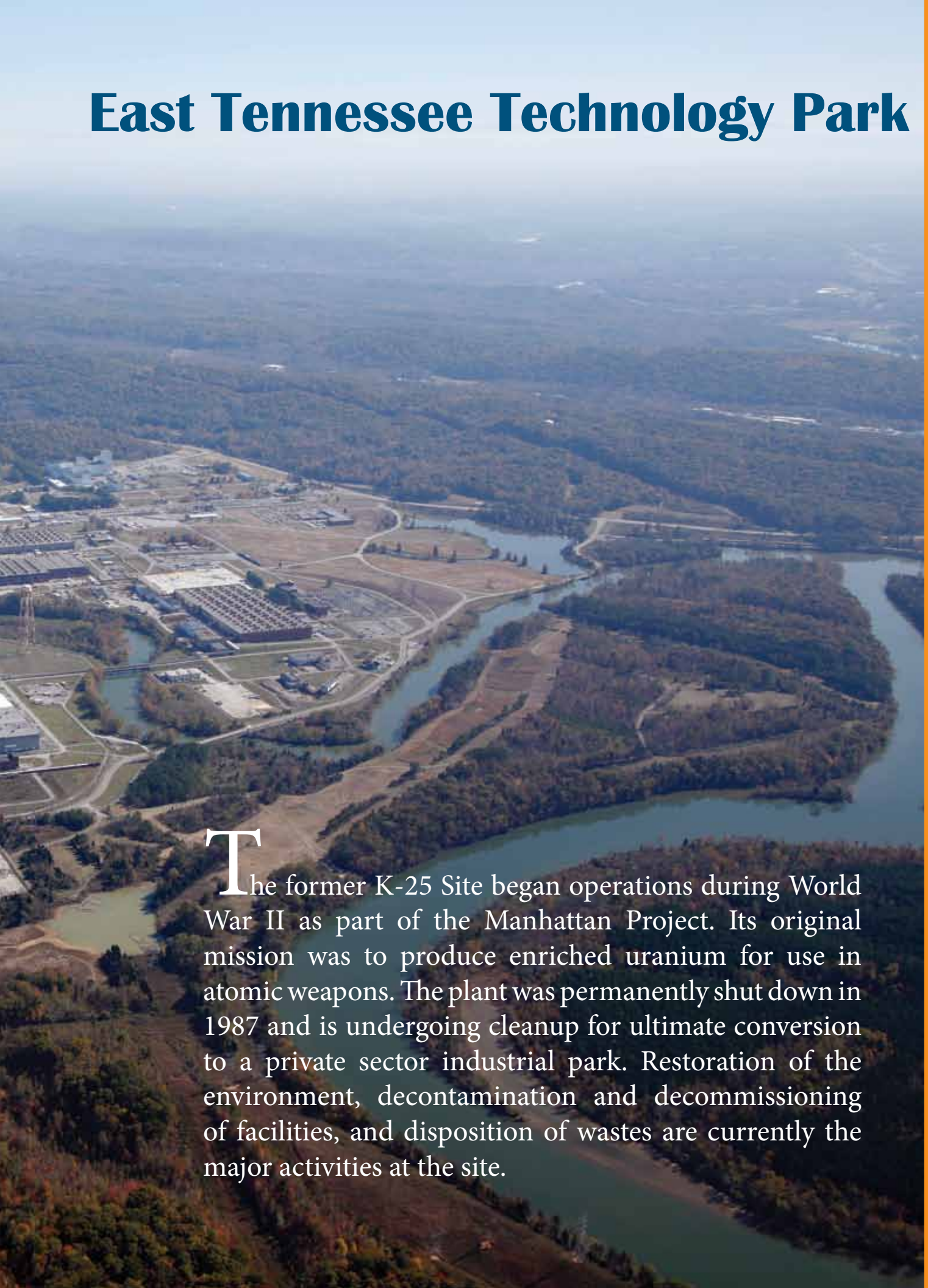
- create new jobs as well as save existing ones,
- spur economic activity and invest in long-term economic growth, and
- foster unprecedented levels of accountability and transparency in government spending.

ARRA is achieving those goals by:

- providing $288 billion in tax cuts and benefits for millions of working families and businesses;
- increasing federal funds for education and health care as well as entitlement programs (such as extending unemployment benefits) by $224 billion;
- making $275 billion available for federal contracts, grants, and loans; and
- requiring recipients of ARRA funds to report quarterly on the amount of monies spent, the status of the project, the number of jobs created and/or saved, and other details so that the public can track where the total $787 billion Recovery funds are going and how they are being spent.

You can track the status of all ARRA funding, including the DOE Oak Ridge projects, on the Web site www.recovery.gov.

East Tennessee Technology Park



The former K-25 Site began operations during World War II as part of the Manhattan Project. Its original mission was to produce enriched uranium for use in atomic weapons. The plant was permanently shut down in 1987 and is undergoing cleanup for ultimate conversion to a private sector industrial park. Restoration of the environment, decontamination and decommissioning of facilities, and disposition of wastes are currently the major activities at the site.

K-25 Building Demolition Under Way

Full-scale demolition of the K-25 Building began in December 2008 as workers began demolishing the west wing.

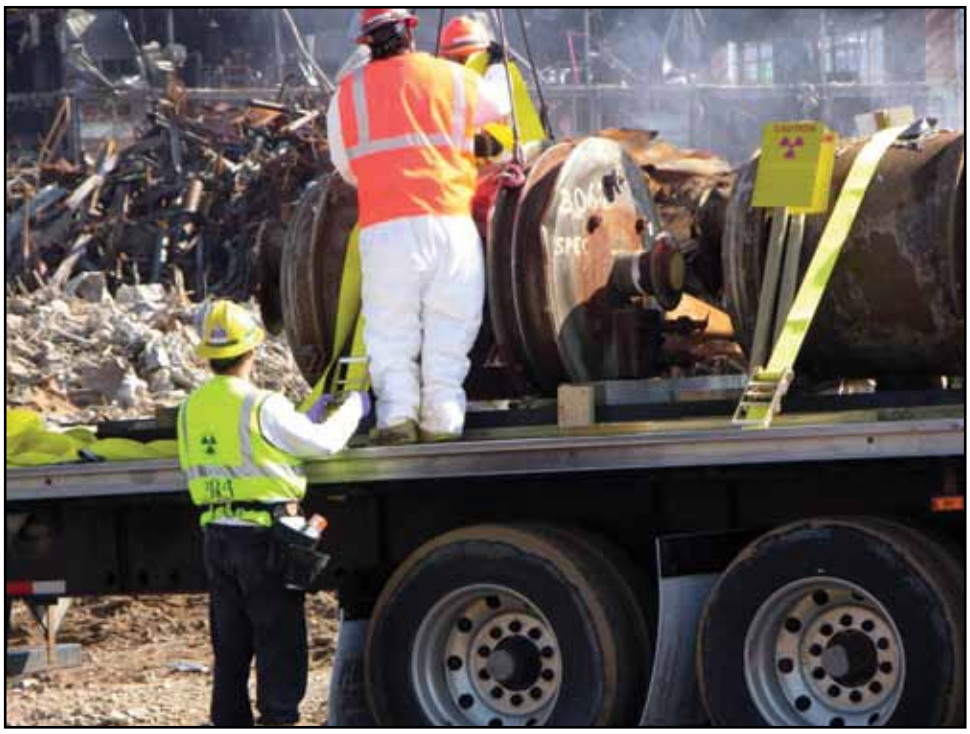
The K-25 Building, built during the Manhattan Project, covers 1.64 million ft^2 and contains more than 3,000 stages of gaseous diffusion and associated auxiliary equipment. Each stage consists of a converter, two compressors, two compressor motors, and associated piping. The footprint of the K-25 Building, the largest facility at ETTP, occupies about 40 acres.

At the end of FY 2009, two-thirds of the west wing had been demolished. Approximately 5,500 loads of demolition debris, 1,300 compressors, and 700 converters were shipped to the Environmental Management Waste Management Facility (EMWMF) for disposal.

Workers had earlier removed the 143-000-ft^3 bridge connecting the west wing to the north end of the building. The bridge housed pipes that transferred uranium as it was undergoing enrichment between building wings.

Pre-demolition activities continued in the east wing, including the removal of 104 of the 343 high-risk equipment items. Workers also continued performing vent, purge, drain, and inspection activities; asbestos removal; and draining of lubrication oil and coolant from the process system in both the east and north wings.

Measures were previously taken to improve the safety of workers inside the facility, including the installation of nets and barriers to add protection from falling debris.



Demolition of the west wing is pictured above. Workers are shown in the photo to the left loading converters removed from the west wing onto a flatbed truck for disposal.

Scrap Metal from K-1101, K-1201 Demolition Prep Project Recycled

Buildings K-1101 and K-1201, two structures contained within the K-25 Building's U-shaped footprint, were being prepared for demolition in FY 2009.

K-1101 and K-1201 were support facilities for the K-25 Building when it was operational. Removing the metal is part of the process to prepare the buildings for demolition.

The scrap metal was originally slated to be sent to a nearby landfill, but officials determined that it could be recycled, thereby saving landfill space.

More than eight million pounds of scrap metal resulting from this project is being recycled.

Scrap metal from K-1101 and K-1201, which are being prepared for demolition, is being recycled rather than shipped to a landfill.

Workers completed demolition of the K-1035 Building, a former maintenance and instrument shop, in the summer of 2009.

K-1035 Demolished

Building K-1035, which was built in the 1940s to house the maintenance division and serve as an instrument shop, was demolished in FY 2009.

In later years, the building was used by private tenants under DOE's Reindustrialization Program.

Debris from demolition of the 48,000 ft^2 structure was disposed of at EMWMF.

Demolition debris from the K-1035 building was loaded onto trucks and shipped to EMWMF.

ETTP Demolition Projects Continue

FY 2009 brought more changes to the ETTP landscape as facilities were demolished. Most buildings at ETTP, except for property transfer candidates, are scheduled for demolition.

The facilities that will remain will be transferred to private sector organizations under the Reindustrialization Program.

Eleven facilities (which include some complexes of multiple small buildings) and five land parcels at the former gaseous diffusion plant have been transferred.

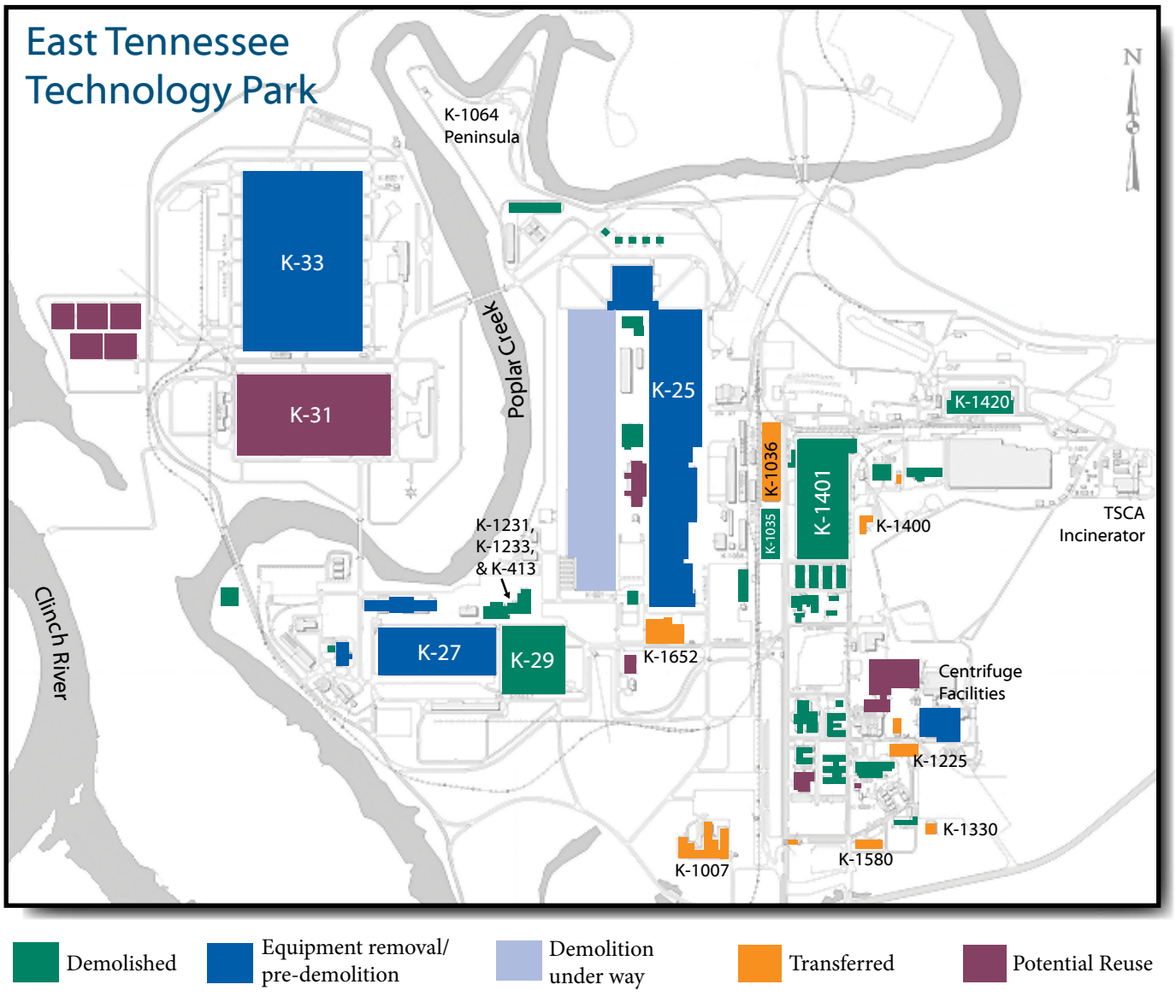
Building demolition has been or is being performed through several projects:

- Buildings K-25 and K-27,
- Group I Auxiliary Facilities,
- Group II, Phase 1 Main Plant Facilities,
- Group II, Phase 2 Buildings (K-1064 Peninsula),
- Group II, Phase 3 Remaining Facilities, and
- Buildings K-29/K-31/K-33.

Because these are Removal Actions, the CERCLA Zone 1 and Zone 2 Records of Decision (RODs) will determine the final remedy for the contaminated slabs, soils, and below-grade structures.

K-25/K-27 Buildings

As mentioned previously, the K-25 Building is undergoing demolition. Pre-demolition work was initiated in Building K-27. Work completed in the K-27 Building during FY 2009 includes installation of 90% of



construction power and removal of 80% of the combustibles from the vault and cell level.

Group I: Auxiliary Facilities

In FY 1997, DOE signed an Action Memorandum to demolish five ETTP auxiliary facilities. This project began in FY 1998 and was completed in FY 2006. In FY 2006, the final Removal Action Report was prepared.

Group II, Phase 1: Main Plant Facilities

In FY 2000, DOE signed an Action Memorandum to demolish the ETTP main plant facilities. This project began in August 2000 and was completed in December 2003. In FY 2004, the work was completed, and the Removal Action Report was prepared.

Group II, Phase 2: K-1064 Facilities

DOE signed an Action Memorandum in July 2002 for the demolition of 18 facilities and the removal of scrap material located in the K-1064 peninsula area. In FY 2007, the work was completed, and the Removal Action Report was prepared.

Group II, Phase 3: Remaining Facilities

In September 2003, DOE signed an Action Memorandum to demolish the approximately 500 remaining facilities. In FY 2009, four predominantly uncontaminated facilities and 11 low-risk/low-complexity facilities were demolished. In the Poplar Creek area, three high risk buildings were demolished in FY 2009: K-1231, K-1233, and K-413.

K-27 Building

K-29/K-31/K-33 Buildings

DOE signed an Action Memorandum in 1997 to decontaminate and remove equipment from the K-29, K-31, and K-33 gaseous diffusion buildings. The contractor, BNG America, completed that work in FY 2005, and the Removal Action Report was prepared in FY 2006. Building K-29 was later demolished after DOE determined that the facility was not suitable for reindustrialization.

K-413 before, during, and after demolition

Contaminated Surface Water, Groundwater at ETTP Addressed

Remediation activities to reduce ETTP groundwater and surface water contamination were initiated in FY 2009. These efforts included fish removal from three contaminated holding ponds: one near Building K-1007 and two adjacent to Highway 58. Approximately 8.5 tons of fish were removed from the ponds. The fish removal was necessary because the species that were in the ponds would stir the contaminated sediment at the bottom. The largest pond was drained, recontoured, and revegetated.

An Action Memorandum for the remediation of the holding ponds as well as K-720 Slough and K-770 Embayment was approved in FY 2007. The Remedial Action Work Plan and the Sampling and Analysis Plan were completed in FY 2008.

A time-critical Action Memorandum to address releases of hexavalent chromium to Mitchell Branch was approved in FY 2008. Chromium releases into Mitchell Branch were causing exceedances of the ambient water quality criteria. In response to this release, DOE completed a time-critical removal action to extract the contaminated groundwater. Since completion of this removal action in 2008, the concentration of chromium in Mitchell Branch has been reduced to ambient water quality criteria.

DOE proposed a non-time-critical Removal Action in FY 2009 for a long-term solution to the release of hexavalent chromium. An Engineering Evaluation/Cost Analysis was drafted. This document and the Action Memorandum will be prepared in FY 2010.

Workers are revegetating an area near an ETTP holding pond that was recontoured in FY 2009.

A two-phase groundwater treatability study at ETTP began in FY 2009 to support selection of a site-wide groundwater remedy. The purpose of the study was to determine the feasibility of in situ treatment technologies to restore the groundwater. Two in situ technologies have been identified as possibilities, and one or both may be suitable: thermal conductive heating and biological treatment.

The purpose of the first phase of the study was to characterize and delineate suspected areas of solvent contamination. Seven boreholes were installed to depths of 110 to 160 feet below ground surface. Sampling of selected intervals in the boreholes will be initiated in FY 2010. Once data are collected, a workshop to select a treatment technology for Phase 2 of the study will be conducted in late-winter or early spring of 2010.

Workers examine core samples taken as part of the groundwater treatability study.

A drill rig is being set up to take core samples.

Soil Remediation Work Begin at K-770 Scrapyard, K-1070-B

Excavation of contaminated soil was initiated in two areas of ETTP: the K-770 Scrapyard and the K-1070-B Burial Ground.

K-770 is located in an area called Zone 1, which is the 1,400-acre area surrounding ETTP outside the main plant perimeter. Scrap was previously removed from the site under a different remediation effort. K-1070-B is located in Zone 2, which is the main plant area (approximately 800 acres).

The soil at ETTP is to be remediated to a level that protects a future industrial work force and the underlying groundwater. Records of Decision (RODs) are in place that address soil, slabs, subsurface structures, and burial grounds for both zones.

The Zone 1 ROD was signed in November 2002, and the Zone 2 ROD was signed in April 2005.

In Zone 1, soil characterization continued in FY 2009 to determine whether additional remediation is needed. In Zone 2, characterization continued in the main portion of ETTP.

Excavation of contaminated soil at the K-770 area

K-770 Scrapyard before scrap removal completion

Reindustrialization Program Transfers Buildings, Land Parcels

DOE Oak Ridge Office's Reindustrialization Program transferred the Phase I Electrical Distribution System and Phase I Plant Roadway System to the City of Oak Ridge in FY 2009. The Phase I portion of the electrical system included all direct off-site main plant power lines. The Phase I portion of the plant roadway system included the main plant entry and arterial roadways.

Building K-1000 has been renovated and is now ETTP's welcome center.

DOE also transferred Buildings K-1000, K-1501 H&L, and K-1008-F, as well as Land Parcels ED-4 and ED-5 West to the Community Reuse Organization of East Tennessee (CROET). CROET completely renovated the structure and grounds of the 2,500-ft^2 K-1000 Building to serve as the main park welcome center. Building K-1501H&L is a 3,000-ft^2 structure used as the main maintenance structure by the private sector site roads and ground maintenance contractor. The 6,300-ft^2 K-1008-F Building is currently leased to a private sector company for use as its corporate area headquarters.

ED-4 is comprised of two land parcels that total approximately 14 acres and is located adjacent to Highway 58. This parcel of land is being slated for new development.

Land Parcel ED-5 West, in the front quadrant of ETTP, is approximately 28 acres and has also been slated for new development. CROET has begun construction on two new speculative buildings on that parcel.

In addition to transfers, DOE also removed and recycled approximately 3,000 ft^2 of former security fence, shrinking the plant security area to better facilitate reindustrialization efforts.

These transfers are part of DOE's plan to transform ETTP into a private sector business/industrial park. Additional buildings at ETTP and several land areas are in various stages of the transfer process.

Artist's rendering of a speculative building being constructed on Parcel ED-5 at ETTP

Oak Ridge National Laboratory

Oak Ridge National Laboratory (ORNL) has become one of the world's most modern campuses for scientific discovery in materials and chemical sciences, nuclear science, energy research, and super-computing. However, among all this modern infrastructure are large contaminated areas that resulted from years of former operation and waste storage. The Environmental Management Program has divided ORNL into two major cleanup areas: Bethel Valley and Melton Valley. The Bethel Valley area includes the principal research facilities, and the Melton Valley Area was used for reactors and waste management.

Tank W-1A Remediation Planned

An area of groundwater contamination resulting from Tank W-1A, called the Core Hole 8 plume, was the focus of early actions taken by DOE at ORNL.

The plume, located in the central portion of the ORNL main plant area, emanates from contaminated soil surrounding Tank W-1A in the North Tank Farm and migrates westward to a nearby creek.

The principal plume contaminants are strontium-90 and uranium isotopes. Since late 1994, DOE has been implementing various coordinated actions to minimize the release of contaminants.

Remediating Tank W-1A has been on hold pending funding, but in FY 2009 it was identified as a project that would receive ARRA funds.

Soil sampling at Tank W-1A has helped characterize the contaminants

Planned remediation includes excavating, packaging, and transporting waste for disposal; removing, size-reducing, containerizing, and transporting the concrete pad and tank supports and tank shell to the Nevada Test Site; and performing soil sampling and characterization along a Tank W-1A feed pipeline to delineate the extent, type, and concentration of contamination for excavation. The project is scheduled to be completed in 2011.

The engineering and planning will take place in early 2010. The field work is expected to begin in early 2011.

Tank W-1A is located in the central portion of ORNL and is surrounded by contaminated soil.

3019 Complex

Facility Being Prepared to Process Large U-233 Inventory at ORNL

Oak Ridge has a significant inventory of Uranium-233 (U-233) currently stored in Building 3019 at ORNL. U-233 is a special nuclear material that requires strict safeguards and security controls to protect against access.

The U-233 Material Downblending and Disposition Project was initiated to address safeguards and security requirements, eliminate safety and nuclear criticality concerns, and ship the material to an approved receiver site. Treating the U-233 inventory as expeditiously as possible will reduce the substantial annual costs associated with safeguards and security requirements, eliminate the risk of a nuclear criticality event, and avoid the need for future facility upgrades to Building 3019 to ensure safe storage of the inventory.

The U-233 downblending and disposition process is a remote-handled operation due to the highly radioactive nature of the U-233 material. Therefore, the downblending process will be conducted in Building 3019 inside a manipulator-equipped hot cell, and the drying and packaging process will be conducted in a heavily shielded, remotely-operated system in the Building 3019 annex adjacent to Building 3019. Modifications to Building 3019 to allow processing of the U-233 is in the design phase, which is 60 percent complete.

The U-233 Project has experienced some design and operational changes since FY 2008. Due to structural concerns with Building 3019, the project intends to construct an annex facility exterior and adjacent to Building 3019 to house the drying and packaging operations. After researching historical documentation, project personnel determined that the U-233 inventory does not contain transuranic elements to the extent that would require the downblended material to require disposal at the Waste Isolation Pilot Plant in New Mexico. The downblended inventory will be disposed of at the Nevada Test Site as remote-handled low-level waste.

In addition, as a result of concerns regarding the integrity of the 3020 emissions stack, which would handle emissions from the project, the U-233 Project will demolish the existing stack under a time-critical removal action and construct a replacement stack to support processing operations. Two auxiliary structures will also be removed under this action. The removal of the two structures will allow for the addition of the annex.

Plans Under Way to Decommission Bethel Valley Non-Reactor Facilities

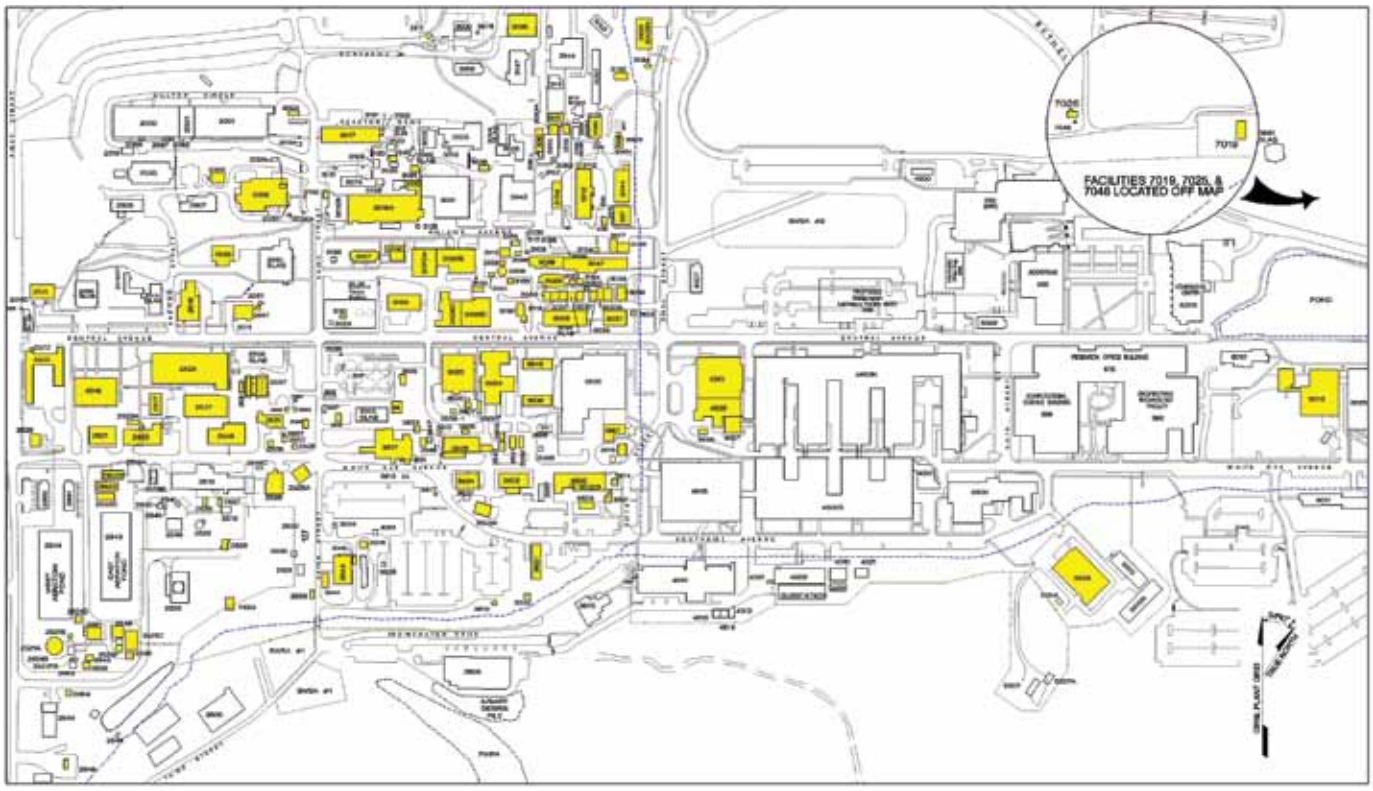
In FY 2009, DOE prepared a Remedial Design Report/Remedial Action Work Plan (RDR/RAWP) for Decontamination and Decommissioning (D&D) of non-reactor facilities and legacy material removal in the Bethel Valley Watershed at ORNL. The RDR/RAWP addresses D&D of approximately 180 facilities including:

- near-term projects funded by ARRA that are planned for completion in 2011, and
- other (non-ARRA funded) facility D&D and legacy material removal scope planned for implementation during a 20+ year period.

Non-reactor facility D&D and legacy material removal activities will protect human health and the environment, as specified in the ROD for Interim Actions in Bethel Valley. The activities will also support the planned modernization of ORNL. Remediation of building slabs and soils, D&D of reactor facilities, and other remedial actions identified in the ROD will be addressed in separate CERCLA documents.

Key work components described in the RDR/RAWP are site preparation, removal of legacy material, building D&D to slab or grade level, waste management, site restoration, and demobilization. The RDR/RAWP identifies the various controls that will be implemented to protect construction workers, site workers, the public, and the environment. It describes the general methods of accomplishment that will be used to perform the work.

Procurement activities for ARRA projects were in progress at the end of FY 2009. Regulator comments were being incorporated to finalize the RDR/RAWP.



Bethel Valley non-reactor facilities are highlighted in yellow, the majority which are located in ORNL's Central Campus, located between the modernized East and West campuses.

3026 facility

Demolition Initiated at 3026C&D

Demolition was initiated on one of the highest hazard excess facilities at ORNL: the 3026C&D Radioisotope Development Laboratory. This building—one of the original Manhattan Project facilities—has a footprint of approximately 20,000 ft^2 and contains several hot cells and associated pipes and ducts that are highly contaminated.

The wooden structure in which the hot cells are located has deteriorated significantly over the years due to age and roof leaks. A roof failure in 2007 damaged the fire suppression sprinkler system, requiring it to be deactivated. This deactivation presented potential fire hazards to nearby facilities and the potential for contaminant release if a fire occurred in the facility. DOE determined that the resulting risks warranted implementing a time-critical Removal Action to remove the 3026C&D wooden structure.

A high-priority, accelerated project plan was developed by UT-Battelle and approved by DOE to prepare for demolition of the wooden structure. The Waste Handling Plan and associated Sampling and Analysis Plan/Quality Assurance Project Plan was prepared, reviewed, and approved by the Environmental Protection Agency and the Tennessee Department of Environment and Conservation. The facility structural condition was assessed, and shoring was installed to ensure safe access for workers to most areas of the facility. The facility was surveyed to establish baseline hazardous material conditions so that appropriate worker protection measures could be identified and implemented. Samples and analytical data were developed, and a waste profile was prepared and approved for disposal of the majority of demolition debris at EMWMF as well as disposal of selected items off-site.

Associated cell piping and ductwork were treated with stabilizing agents to minimize the potential for release of contaminants during the demolition process. The facility was disconnected from utility systems (water, steam, air, and ventilation).

A subcontract was established with Clauss Construction, LLC, a Service Disabled Veteran-Owned Business, to demolish the wooden structure. The activities required to prepare for final demolition of the wooden superstructure were initiated and are now approximately 75% complete, including removal of asbestos-containing materials (floor tile, transite, thermal insulation); removal of hazardous materials, such as lead shielding, light bulbs, mercury switches, and oils; and removal of hot cell piping and ductwork. At the end of FY 2009, final preparations were in progress to begin shipping and disposing of asbestos-containing debris at EMWMF.

Demolition of the 3026 wooden structure is expected to be completed in early FY 2010. A follow on project is planned to be initiated later in FY 2010 to demolish the remaining 3026 hot cell structures.

3026 facility

Inside the 3026 laboratory

Planning Under Way for Demolition Of 2000 Complex Facilities

Planning was under way in FY 2009 for the demolition of the 2000 Complex at ORNL. The 2000 Complex is located in the northwest corner of the central campus area and includes eight facilities and structures totaling approximately 60,000 ft^2.

The eight facilities are Buildings 2000, 2001, and 2024, and the ancillary support facilities 2019, 2034, 2087, 2088, and 2092. The facilities are in severe disrepair and have been vacant for approximately six years. These facilities were used to support the ORNL research projects in the late 1940s.

A high-priority, accelerated project plan was developed by UT-Battelle and submitted and approved by DOE. The demolition will be conducted in two phases with the first phase (2000 Complex East) consisting of six buildings (2001, 2019, 2024, 2087, 2088 and 2092) and the second phase (2000 Complex West) consisting of the 2000 and 2034 buildings.

The project waste will primarily be disposed of at on-site facilities, including EMWMF and Y-12 Landfills. The Waste Handling Plan and associated Sampling and Analysis Plan/Quality Assurance Project Plan are in development, with approval anticipated in early FY 2010.

A subcontract was established with Safety and Ecology Corporation for the demolition of the 2000 Complex East buildings, and the contractor is expected to mobilize in early FY 2010.

Demolition of the 2000 Complex East buildings is expected to be completed by the spring of 2010. Demolition of the 2000 Complex West facilities is expected to be completed in the late fall of 2010.

The 2000 Complex facilities are no longer used and will be demolished

Preparations Under Way for Bethel Valley Burial Grounds Remediation

In 2009, DOE prepared a Remedial Design Report/Remedial Action Work Plan (RDR/RAWP) that presents the design for hydrologic isolation of buried waste at the Bethel Valley Burial Grounds at ORNL.

The RDR/RAWP addresses remediation of two former waste sites that are sources of contaminant release: Solid Waste Storage Area (SWSA) 1 in Central Bethel Valley and SWSA 3 in West Bethel Valley.

The RDR/RAWP also addresses contaminated areas in the vicinity of the two SWSAs. The Bethel Valley Burial Grounds remediation project is planned to be performed with ARRA funding and be completed in 2011.

Strontium-90 and other radionuclides are contaminants of concern at SWSAs 1 and 3. The Bethel Valley Burial Grounds remediation will hydrologically isolate these SWSAs and remove and dispose of associated "hot spot" soil contamination.

Hydrologic isolation consists of placing separate multi-layer caps over the two waste areas to prevent exposure to waste contaminants and minimize generation of contaminated groundwater from buried waste. An upgradient trench at SWSA 3 will divert clean water away from waste to enhance hydrologic isolation effectiveness.

A low-permeability cap will be placed at SWSA 1. Additionally, soil covers to prevent direct exposure will be installed and maintained at the Former Waste Pile Area and the Nonradioactive Wastewater Treatment Plant Debris Pile near SWSA 1, and the Contractor's Landfill near SWSA 3.

A contract for Bethel Valley Burial Grounds remediation has been awarded. Resolution of regulator comments to finalize the RDR/RAWP is in progress.

Hydrologic Isolation: An Effective Means of Remediation

The Bethel Valley Burial Grounds will not be the first Reservation waste site to be remediated through hydrologic isolation. The process was used on solid waste storage areas in Melton Valley and have proven to be effective since installation was completed in 2006.

Monitoring Wells to Be Installed To Check for Off-Site Contamination

DOE plans to install monitoring wells opposite the Oak Ridge Reservation side of the Clinch River to monitor for potential ORNL site-related contaminants.

The Melton Valley Off-Site Monitoring Well project will use a small business drilling firm to drill and install 16 monitoring wells at four different off-site locations. Following well installation, each well will be monitored to determine groundwater flow potential under the Clinch River, along with sampling to evaluate groundwater chemistry. These monitoring wells will yield data that can reduce uncertainty about the feasibility of ORNL groundwater contamination migrating beyond the Clinch River. Accurate data will allow DOE to provide reliable information to the public concerning groundwater conditions beyond the Oak Ridge Reservation. Installation of these wells is an expansion of the current well network at ORNL.

Major accomplishments in FY 2009 include the development of a monitoring plan, procurement of a drilling subcontractor, acquisition of two of the four property access agreements, surveying of the available properties, development of work control documents, development of site plans, and construction of access roads.

Access roads are being built to facilitate the installation of off-site monitoring wells.

Soils, Sediment to be Remediated

The ORNL Soils and Sediment Project will complete removal of contaminated soils and sediments to protect workers and groundwater as specified in the Bethel Valley Interim Record of Decision.

The Remedial Action Work Plan (RAWP) for the project provides the approach that will be followed to characterize soils and sediments to ensure that the soil cleanup requirements for Bethel Valley are met. The initial draft of the RAWP was submitted to the regulators in 2008 and a revised draft submitted in 2009. Officials are working to resolve regulator comments and finalize the RAWP by early FY 2010. The next step in the process is to implement the RAWP strategy by conducting a series of workshops to identify sampling needs in specific portions of Bethel Valley.

The initial workshop, which focused on the northwest corner of the ORNL main campus, has been completed and agreement has been reached on detailed sampling requirements.

Field sampling activities for this area are planned to be started in FY 2010. Additional workshops on the remaining areas will also be conducted in FY 2010.

Y-12 National Security Complex

The Y-12 National Security Complex is a premier manufacturing facility dedicated to making our nation and the world a safer place. The Y-12 Complex helps ensure a safe and reliable U.S. nuclear weapons deterrent. The site also retrieves and stores nuclear materials, fuels the nation's naval reactors, and performs complementary work for other government and private-sector entities.

UEFPC Remediation Under Way

Remediation of the Upper East Fork Poplar Creek (UEFPC) Watershed is being conducted in stages under Records of Decision using a phased approach. Phase 1 addresses remediation of mercury-contaminated soil, sediment, and groundwater discharges that contribute contamination to surface water.

The initial project of the Phase 1 ROD, construction of the Big Springs Water Treatment System, was completed in 2006. The system has been fully operational since September 2006, removing mercury from local spring and sump waters that discharge to UEFPC.

With ARRA funding, cleanup and repair of storm sewers in the West End Mercury Area (historic mercury use area) was initiated in FY 2009. The initial phase, videotaping the storm sewer system, has been completed and the videotape has been evaluated.

An Engineering Study Report that documents the results has been completed and submitted to the regulatory agencies for their comment. Future phases of this action will include the removal of contaminated sediments from the storm sewers and relining or replacement of leaking sewer sections. This action is part of three actions identified in the Phase 1 ROD to limit mercury migration by hydraulically isolating the West End Mercury Area. A Characterization Plan for the 81-10 Area, the site of a historic mercury recovery process, has been prepared and submitted to the regulatory agencies for comment.

The focus of the second phase is remediation of the balance of contaminated soil, scrap, and buried materials within the Y-12 Complex. Decisions regarding final land use and final goals for surface water, groundwater, and soils will be addressed in future decision documents. The Phase 2 ROD was approved by all FFA parties in April 2006.

The initial project of the Phase 2 ROD is remediation of the Y-12 Old Salvage Yard. The Y-12 Old Salvage Yard Project started in 2009 using ARRA funding (see article on next page). In addition, a Remedial Action Work Plan for remediation of all contaminated soils at the Y-12 Complex has been submitted to the regulatory agencies for comment and approval.

A video assessment of the West End Mercury Area storm sewer system provides important data on the condition of the sewer lines.

Y-12 Salvage Yard

Y-12 Salvage Yard Being Remediated

Cleanup of the 7-acre Y-12 Complex Old Salvage Yard was initiated in May 2009. The salvage yard is located both within and outside the high security area of the Y-12 National Security Complex. ARRA funds are being used to clean up the site.

The scrap at the salvage yard is generally contaminated with depleted uranium. Before 1995, the site received scrap into open piles. Since 1995, and prior to shutdown, procedures required that all scrap metal be placed inside containers. On October 12, 1999, the salvage yard ceased operations.

Sanitary waste is being sent to the Y-12 Landfill. When cleanup operations began, the yard contained more than 31,000 yd^3 of scrap metal. A total of 133 B-25 boxes of radioactive waste that had been previously containerized was sent to the Nevada Test Site. A Waste Handling Plan is being prepared for submission to the regulators to allow disposal of radioactive waste from the salvage yard at EMWMF. Complete disposition of all material is expected by June 2011.

Time-Critical Removal Actions Planned

ARRA funding was received in FY 2009 to expedite removal of legacy wastes and building demolition at the Y-12 National Security Complex. Two CERCLA Time-Critical Removal Actions were initiated to remove legacy wastes from the Alpha 5 and Beta 4 buildings and to demolish some of the Biology Complex Buildings.

Alpha 5 legacy waste materials

A Waste Handling Plan has been prepared for submission to the regulators to allow disposition of Alpha 5 wastes at EMWMF. Selected wastes are being packaged for shipment to the Nevada Test Site, while wastes meeting the Y-12 Landfill waste acceptance criteria are being disposed at that facility.

Completion of legacy material disposition from these facilities is anticipated by September 2011. Deactivation of the Biology Complex Facilities (Buildings 9769, 9211, 9220, 9224, and 9735) has been initiated. Demolition of these facilities is expected by September 2011.

Beta 4 legacy waste materials

Waste Management and Off-Site

Wastes on the Oak Ridge Reservation are being disposed in a variety of ways. Much of the waste is going into the on-site Environmental Management Waste Management Facility. Wastewater is treated in the Central Neutralization Facility at ETTP, and radioactive PCBs and other hazardous wastes are incinerated in ETTP's Toxic Substances Control Act Incinerator.

TSCA Incinerator Treats More Than 1.8 Million Pounds of Waste

The Toxic Substances Control Act (TSCA) Incinerator, located at ETTP, treated 1.822 million pounds of waste in FY 2009 (1.680 million pounds of liquid waste and 142,129 pounds of solid waste).

The TSCA Incinerator is a one-of-a-kind thermal treatment unit. It has played a key role in treatment of radioactive PCB and hazardous wastes (mixed wastes) from the Oak Ridge Reservation, as well as other facilities across the DOE complex, thus facilitating compliance with regulatory and site closure milestones. The facility, located on the eastern edge of the ETTP site, has operated since 1991 and has treated more than 34 million pounds of waste since inception.

DOE is planning to shut down the TSCA Incinerator in early FY 2010 after incinerating the remaining liquid waste inventory and material generated during the liquid closure activities. Closure activities at the Incinerator will continue into FY 2010 to remove residual waste such as sludge, ash, and scrubber packing material.

After FY 2009, DOE will demolish this facility under the CERCLA Removal Action for the remaining facilities at ETTP.

TSCA Incinerator

Waste Disposal Operations Continue

The Environmental Management Waste Management Facility (EMWMF), located in east Bear Creek Valley near the Y-12 Complex, was selected as the remedy for disposal of waste resulting from CERCLA cleanup actions on the Oak Ridge Reservation. This remedy called for the detailed design, construction, operation, and closure of a 1.7 million yd^3 disposal facility.

The facility currently consists of four disposal cells with a fifth cell under construction at the end of FY September 2009 (see article on next page).

Cell construction at EMWMF

EMWMF is an engineered landfill that accepts low-level radioactive and hazardous wastes that meet specific waste acceptance criteria developed in accordance with agreements with state and federal regulators. Waste types that qualify for disposal include soil, dried sludge and sediment, solidified wastes, stabilized waste, building debris, scrap equipment, and secondary waste such as personal protective equipment.

During FY 2009, EMWMF operations collected, analyzed, and dispositioned approximately 3.4 million gallons of leachate at the ORNL Liquids and Gases Treatment Facility. An additional 8.9 million gallons of contact water was collected and analyzed. After determining that it met the release criteria, the water was released to the sediment basin. Operating practices also effectively controlled site erosion and sediments.

EMWMF received approximately 14,700 truckloads of waste accounting for approximately 173,600 tons during FY 2009. Projects that have disposed of waste at EMWMF during the fiscal year include the following:

- David Witherspoon, Inc. 1630 Site Remedial Action Project;
- K-25/K-27 Project, including hazardous materials abatement, excess materials removal, and K-25 Building (west wing) demolition debris and equipment; and
- ETTP Decontamination and Decommissioning Project, including K-1401, K-1066-G Scrapyard, K-1070-B Burial Ground, and K-1035 demolition debris.

Concurrent with the activities at EMWMF, DOE also operates solid waste disposal facilities called the Oak Ridge Reservation Landfills (ORRL), which are located near the Y-12 Complex.

The ORRL are engineered facilities permitted by the State Division of Solid Waste for the disposal of sanitary, industrial, construction, and demolition waste that meet the waste acceptance criteria for each landfill. In FY 2009, more than 145,000 yd^3 of industrial, construction/demolition, classified, and spoil material waste were disposed.

Operation of the ORRL generated more than 1.6 million gallons of leachate that was collected, monitored, and discharged to the Oak Ridge sewer system.

EMWMF and ORRL are serving the disposal needs of the Oak Ridge Reservation cleanup program as well as the active missions of ORNL and the Y-12 Complex.

Landfills Being Expanded

EMWMF and Landfill V of ORRL are being expanded with funding from ARRA.

At EMWMF, the amount of capacity remaining in Cells 2 3, and 4 continues to diminish.

To ensure the continuity of disposal capacity for ORR cleanup waste, Cell 5 was redesigned to enable a sixth cell to be added if appropriate regulatory approvals are secured. Construction of Cell 5 began in May 2009.

By the end of FY 2009, all of the geologic buffer had been placed and the berms had been constructed, making Cell 5 ready to receive the clay necessary to build the low permeability liner.

Cell 5 construction will continue through the winter and spring to enable the facility to be ready to receive waste in August 2010. Cell 5 will bring the total facility capacity to just under 1,700,000 yd^3.

An Explanation of Significant Differences (ESD) to EMWMF's Record of Decision was drafted for Cell 6. The ESD details necessary changes to the Record of Decision. The design for Cell 6 was started in anticipation of a favorable decision on the ESD and to position the project to start construction in the Spring 2010 if funding can be obtained. The capacity of EMWMF will increase to 2,200,000 yd^3 with the addition of Cell 6.

The ORRL Landfill V is used for disposal of sanitary, industrial, construction, and demolition waste. Expansion of the landfill, located near the Y-12 Complex, will increase capacity by 385,000 yd^3 to provide more capacity for the increased cleanup work on the Reservation. The expansion also includes upgrading and refurbishing support facilities.

Liner being placed in Cell 5 at EMWMF

Environmental Management Waste Management Facility

RFIDs Improve Shipping Efficiency

Radio Frequency Identification Devices (RFIDs) are being used for waste shipments to EMWMF to eliminate paperwork and decrease shipment cycle time.

With the RFID, a truck identification number and tare weight are programmed on an RFID tag on the truck. The data on the tag is read by RFID towers.

This system provides real-time data tracking, eliminates errors associated with manual data entry, provides important information to study and improve cycle times, and improves physical security control of materials being transported over the haul road.

The RFID tower (yellow device) reads the shipping information on trucks.

Millions of Gallons of Wastewater Treated at Reservation Facilities

The Central Neutralization Facility located at ETTP treated 13.7 million gallons of wastewater in FY 2009. The facility is ETTP's primary wastewater treatment facility and processes both hazardous and nonhazardous waste streams arising from multiple waste treatment facilities and remediation projects.

The facility removes heavy metals and suspended solids from the wastewater, adjusts pH, and discharges the treated effluent into the Clinch River. Sludge from the treatment facility is treated, packaged, and disposed offsite.

With the shutdown of the TSCA Incinerator, the Central Neutralization Facility will be operated at a reduced capacity on day shift only instead of the current 24/7 operation. The main waste stream will be the hexavalent chromium-contaminated groundwater collected from Mitchell Branch. The facility will also continue to treat wastewaters generated at the TSCA Incinerator until the facility shutdown is accomplished.

At ORNL, approximately 130 million gallons of wastewater were treated and released at the Process Waste Treatment Complex. In addition, the liquid low-level waste evaporator at ORNL treated 130,700 gallons of such waste. A total of 2.3 billion m^3 of gaseous waste were treated at the ORNL 3039 Stack Facility.

These waste treatment activities supported both EM and Office of Science mission activities in a safe and compliant manner during FY 2009.

The National Nuclear Security Administration (NNSA) at the Y-12 Complex treated 135.5 million gallons of contaminated ground/sump water at the Groundwater Treatment Facility, the Central Mercury Treatment System, Big Springs Water Treatment System, and the East End Volatile Organic Compounds Treatment System. The Big Springs Water Treatment System treated 115.3 million gallons of mercury-contaminated groundwater and realized an annual savings of $10,000 by optimizing the treatment system to reduce filter change-out and disposal.

The East End Volatile Organic Compound Treatment System treated 15.1 million gallons of contaminated groundwater. The West End Treatment Facility and the Central Pollution Control Facility at the Y-12 Complex processed 847,000 gallons of wastewater primarily in support of NNSA operational activities.

The Central Pollution Control Facility also downblended more than 30,000 gallons of enriched wastewaters using legacy and newly generated uranium oxides from on-site storage.

Central Neutralization Facility

Transuranic Waste Facility

TRU Waste Treatment Continues

Transuranic radioactive waste, or TRU, is one of several types of waste handled on the Oak Ridge Reservation. Transuranic waste contains man-made elements heavier than uranium, such as plutonium, hence the name "trans" or "beyond" uranium.

TRU waste material is generally associated with the human manipulation of fissionable material dating back to the Manhattan Project and primarily consists of clothing, tools, rags, residues, soil, and debris.

The TRU Waste Processing Center's function is to characterize and package TRU waste for transportation and disposition at DOE's Waste Isolation Pilot Plant (WIPP) in New Mexico, which provides permanent isolation and disposal in underground salt caverns.

Any mixed low-level waste or low-level waste processed from the TRU waste inventory is prepared for compliant disposal at the Nevada Test Site.

Currently, two waste streams, CH-TRU solids and RH-TRU solids, are being processed at the TWPC. ARRA funding was provided to the TWPC to accelerate the project scope. This increase in funding allowed for early startup of a second shift at the site, resulting in an increase in CH-TRU and RH-TRU production that will be realized during the next few years.

During FY 2009, the TWPC processed 15.7 m^3 of the RH-TRU waste, reaching a total of 20.7 m^3 of processed waste. The TWPC also met another milestone by completing the first shipment of processed RH-TRU waste to WIPP in February 2009.

The TWPC shipped a total of 3.8 m^3 of RH-TRU waste to WIPP in FY 2009. It also completed significant RH hot cell processing improvements.

During FY 2009, the Central Characterization Project, working with the assistance of TWPC personnel, continued the development of documentation required for certification of TRU waste for shipment to WIPP.

Processing of the final waste stream, RH sludge, is scheduled to begin in 2013.

Witherspoon Project Completed

From the early 1950s until 1984, DOE and its predecessors sold scrap radioactive and hazardous materials from its Oak Ridge operations to local permitted dealers in Oak Ridge and Knoxville, Tenn. One of those scrap dealers was David Witherspoon Inc. (DWI), which owned and operated two facilities in South Knoxville.

The two sites are known as the DWI 901 and 1630 sites. The DWI 901 site cleanup and restoration was completed in November 2006, and then the focus shifted to cleanup of the DWI 1630 site. That site consisted of contaminated soil, scrap, and an on-site landfill. The cleanup work involved removing the contaminated material outside of the landfill and recovering/contouring the landfill cap.

By the end of the first quarter of FY 2009, all contaminated soil and debris outside of the on-site landfill had been excavated, processed, and transported to EMWMF. The quantity of waste transported to the Oak Ridge facility was approximately 140,000 yd^3. This amount equates to 9,400 truck loads and was 40,000 yd^3 greater than anticipated primarily due to deep disposal immediately adjacent to, but outside of, the landfill limits. The additional 40,000 yd^3 of waste required specific sorting and segregation to meet the disposal requirements of EMWMF.

Another 800 yd^3 of contaminated soil required on-site treatment to meet the requirements of EMWMF. Despite the additional waste and additional treatment requirement, the DWI 1630 project was completed six months ahead of schedule and approximately $4M under the budgeted cost.

Final backfill and site restoration was completed in February 2009. An estimated 110,000 yd^3 of backfill was required to restore the site with proper contours to promote appropriate drainage. Of the 110,000 yd^3 of fill, 25,000 yd^3 were used to recontour an existing landfill cap on site.

One of the Witherspoon sites before remediation

After remediation

IFDP Planning Continues

The Integrated Facility Disposition Program (IFDP) is a cooperative effort among DOE organizations to eliminate the high-risk legacies of the Manhattan Project and Cold War, complete the environmental cleanup mission, and enable ongoing modernization of ORNL and the Y-12 Complex. IFDP planning continued in FY 2009.

EM is the DOE lead for IFDP. The Office of Science (SC), Office of Nuclear Energy (NE), and the National Nuclear Security Administration (NNSA) support the IFDP and continue to work collaboratively with EM to plan the project.

Part of the IFDP scope is already in the existing EM Baseline, and the remainder is newly identified work, including the deactivation and decommissioning of additional excess facilities that will be transferred from SC, NE, and NNSA. IFDP scope includes:

- decontamination and decommissioning of excess facilities;
- treatment and disposition of legacy materials/waste, including remote-handled and transuranic materials/waste;
- soil and groundwater remedial actions;
- reconfiguration of waste management facilities and utilities at ORNL and Y-12;
- surveillance and maintenance of excess facilities; and
- waste treatment and disposal operations.

The IFDP CD-1 package, Alternative Selection and Cost Range, was submitted to DOE Headquarters for review in June 2008 and was approved by the Assistant Secretary for EM on November 17, 2008.

The approved cost range for the Program is $9.4 billion to $14.5 billion. The schedule range for completion of the work is FY 2036-2039. The Oak Ridge Office now moves toward assembling the CD-2 data package, which consists of a life cycle baseline that will be submitted to DOE Headquarters for approval.

IFDP will assist the Y-12 Complex and ORNL with reconfiguration of waste management facilities and utilities.

Public Involvement

The public is involved in all cleanup decisions made by DOE. To keep the public informed, DOE provides information to the public through a variety of outlets, including fact sheets, public notices in newspapers, meetings, the monthly *Public Involvement News* newsletter, and other publications.

Public Comments Sought on Variety of Significant Issues

Comments were solicited on a variety of significant cleanup/remediation documents and plans in FY 2009. Issues to which the public provided input include the following:

- Draft Global Nuclear Energy Partnership Programmatic Environmental Impact Statement, which provides an analysis of the potential environmental consequences of the reasonable alternatives to support expansion of domestic and international nuclear energy production;
- Proposed approval of the radioactive, remote-handled transuranic waste characterization program implemented by the Central Characterization Project in Oak Ridge;
- Revision of DOE's Freedom of Information Act regulations, which streamlines DOE's procedures for determining the releasability of information and updates the requirement for reproduction of the documents;
- Proposal for major modifications to the Federal Facility Agreement that would add new Integrated Facility Disposition Program work scope and extend the EM cleanup completion time frame;
- Parcel ED-8 Covenant Deferral Request, which addresses the transfer of approximately 91 acres located in the southern portion of ETTP to Heritage Center LLC;
- Tennessee Air Pollution Control Regulations permit request for Building 3019 at ORNL;
- National Resource Damage Assessment Evaluation of Contaminant-Related Losses in Watts Bar Reservoir and Gains from the Black Oak Ridge Conservation Easement;
- K-792 Switchyard Covenant Deferral Request, which addresses the transfer of the switchyard to Heritage Center LLC;
- Request for Proposal to sell approximately 15,300 tons of radiologically contaminated nickel scrap recovered from enrichment operations in Oak Ridge and Paducah, Kentucky; and
- Environmental Impact Statement for the long-term management and storage of elemental mercury, which will evaluate alternatives for a storage facility.

To keep the public informed about comment periods and other matters related to cleanup activities on the Oak Ridge Reservation, DOE publishes a monthly newsletter called *Public Involvement News*. DOE also keeps the public informed by publishing notices in local newspapers and conducting public meetings.

ORSSAB Provides Input on Several Key Reservation Issues

The Oak Ridge Site Specific Advisory Board (ORSSAB) is an independent, volunteer, federally appointed citizens' advisory panel charged with providing DOE Oak Ridge with advice and recommendations on its environmental cleanup operations on the Oak Ridge Reservation. It has been actively involved in that role since the board's inception in 1995.

ORSSAB continued its mission with a number of activities during FY 2009.

Support for IFDP and ARRA

ORSSAB was actively involved in two major programs that had significant impact on the Oak Ridge EM program and will continue to have ramifications for years to come: the Integrated Facility Disposition Program (IFDP) and the American Recovery and Reinvestment Act (ARRA).

In October 2008, the board passed a recommendation supporting the DOE-Oak Ridge Critical Decision 1 document proposing the implementation of IFDP. The plan is designed to add more than 200 additional facilities at the Y-12 National Security Complex and ORNL to the existing Oak Ridge EM baseline and extend EM's mission to clean up the Reservation as far out as 2039.

In late 2008, DOE Oak Ridge received approval to baseline IFDP. With that approval, the Federal Facility Agreement (FFA), which guides the process for cleaning up the Reservation, required modification since it would have to incorporate the additional cleanup scope into the agreement.

A major modification to the FFA requires a public meeting to explain the changes to the agreement and allow for comment on those changes. In February 2009, ORSSAB cohosted the FFA public meeting with DOE Oak Ridge to explain how the FFA would be modified to include additional work to complete cleanup of the Oak Ridge Reservation. Following the meeting, attended by about 25 people, the board sent a letter to DOE again supporting IFDP and the modification of the FFA.

During this same time, information was coming out of Washington about the proposed stimulus package to aid the American economy. By early 2009, details of ARRA were becoming clear. Through presentations at the ORSSAB meetings in March, April, and May, the public was able to receive detailed briefings on how ARRA funding would augment the Oak Ridge EM budgets for FYs 2009–2011. ORSSAB will continue to monitor ARRA progress and keep the public involved through regular updates at its board and committee meetings.

In February 2009, ORSSAB cohosted with DOE-ORO a public meeting on proposed modifications to the Oak Ridge Federal Facility Agreement. Dave Adler, DOE FFA Project Manager, explains the proposed changes to the document.

Oral History

ORSSAB continued its involvement in Oak Ridge oral histories this year and celebrated the development of a sister organization to the one the board helped create in 2007.

Networking Oak Ridge Oral History (NOROH) is a four-agency Federal program task team formed to support the Center for Oak Ridge Oral History (COROH),

which ORSSAB took the lead role in forming two years ago. The purpose of COROH is to consolidate existing publicly available oral histories concerning the Reservation and to collect additional ones.

ORSSAB turned over day-to-day management of COROH to the Oak Ridge Public Library, but the library relies on the input from an Oral History Steering Committee, which includes an ORSSAB representative. At the end of FY 2009, the library was making space available to catalogue existing oral histories and was in the process of hiring personnel dedicated to the effort. A short video was also being produced to explain the importance of capturing the personal histories of the people who lived and worked in Oak Ridge during the days of the Manhattan Project, the Cold War, and the recent past.

ORSSAB members Betty Jones and Ron Murphree staff the ORSSAB exhibit at the 2009 Secret City Festival. ORSSAB set a record in FY 2009 for the number of outreach activities to the public.

The creation of COROH prompted DOE-Oak Ridge to establish NOROH in October 2008. NOROH's role is to identify and make available staffing and resources necessary to work in partnership with COROH. This team will ensure that Federal and contractor technical/scientific oral histories will be captured and made available to COROH for public access when possible or kept and maintained when currently classified information is recorded.

NOROH will develop an implementation plan to support the goal of interviewing current and former DOE staff who were involved in key programs throughout the history of the site. A list of key programs to be supported will be prioritized and approved by the program managers for the DOE Office of Science, the National Nuclear Security Administration, the Office of Scientific and Technical Information, and EM.

Community Outreach

ORSSAB posted a record year in FY 2009 in its mission to inform and involve the public in the Oak Ridge EM program. Through its monthly board meetings, which are open to the public and broadcast on local cable channels, the board strives to provide meaningful opportunities for dialogue between the surrounding communities and EM.

Key accomplishments include setting a new record for presentations to local media, civic organizations, schools, and elected officials (22 events) and a new record for news releases (15). The board also instituted a program this year to provide local newspapers with quarterly guest editorials. Interaction with local media representatives was a cornerstone of the board's outreach program this year, with meetings with reporters and editors from six area newspapers to discuss how the board can work more effectively with news organizations to get the word out about ORSSAB and the DOE EM program.

This year the board also began development of new interactive displays for the ORSSAB exhibit at the American Museum of Science and Energy. The exhibit uses touch-screen kiosks, displays, and posters to tell the story of the Oak Ridge cleanup program.

Throughout the year, the board kept up an aggressive public outreach effort that included participation in the Earth Day and Secret City festivals, an ongoing program of advertisements, cable television broadcasts, and publication of the quarterly *Advocate* newsletter.

Educational Initiatives

Since 1999, when ORSSAB seated its first high school student on the board to represent the concerns

and opinions of area youth, the board has kept up a vigorous educational outreach program to help make sure that the future generations who will be the living with the cleanup decisions being made today are aware and involved in stewardship of environmental contamination that will remain on the Reservation.

In FY 2009, the board continued its efforts by working on improvements to the Stewardship Education Resource Kit it developed and launched in 2005. Two area students were seated again this year, and presentations about the EM program were made to their high school environmental classes. In addition, a special presentation was developed for area schools that presents students with five real-life cleanup scenarios and then challenges them to come up with solutions to those problems based on their evaluation of the various criteria, such as cost, risk, and technical obstacles. A program was also instituted this year to sponsor a tour of the Reservation for Oak Ridge High School students.

Historic Preservation

The question of how to best preserve the historical significance of the K-25 Building at ETTP provided ORSSAB with an active role to play again this year.

In its February 2009 "Recommendation on Alternatives to Memorialize the K-25 Building at ETTP," ORSSAB weighed in on the K-25 building historic preservation debate by recommending that DOE build an unmanned interpretive center at the site.

The board also recommended that Manhattan Project exhibits at the American Museum of Science and Energy be expanded with an interpretive center making use of existing staff, space, infrastructure, and artifacts to explain K-25's role more fully in the Manhattan Project and the Cold War.

ORSSAB's proposal would offer significant savings to other ideas generated for K-25 preservation, potentially saving hundreds of thousands of dollars a year.

The recommendations were a follow-up to recommendations made last year when consideration was given to reclaiming part of the K-25 Building's entire North Tower. Although DOE has not made a formal announcement, the agency acknowledges that the tower is not salvageable because of its deteriorated state. Cost and safety factors would be prohibitive in converting the North Tower into an interpretive center or museum.

In March 2009, ORSSAB followed up with its "Recommendation on the National Historic Preservation Act Implementation at DOE-Oak Ridge," in which it recommended that DOE initiate consultation meetings with stakeholders to allow early public input into the planning for IFDP.

DOE agreed, and in May ORSSAB participated in the two-day meeting of the consulting parties to the 2005 Memorandum of Agreement for Historic Preservation of the K-25 Building. As recommended, the second day of the meeting was dedicated to discussing facilities at ORNL and Y-12 Complex that have been identified as having historical significance and are to be preserved during the cleanup of the respective sites.

All this activity follows ORSSAB historic preservation efforts in 2008 when the board posted recommendations on "Lessons Learned from Efforts to Preserve the North Tower of the K-25 Building for Historic Purposes (July 2008)," and "Historic Preservation of K-25 Building at ETTP (March 2008)." These recommendations were preceded by a public meeting cosponsored by ORSSAB in February 2008, at which roughly 150 interested citizens were able to express their views to DOE on K-25 preservation.

ORSSAB sponsored a tour of the Oak Ridge Reservation for a group of science students from Oak Ridge High School. The students receive a briefing before touring the Environmental Sciences Division Laboratory at ORNL.

Members of ORSSAB and liaisons from DOE, EPA, and Tennessee Department of Conservation and Environment gather each year for the ORSSAB annual retreat to review accomplishments for the current fiscal year and plan activities for the coming year. In August 2009, the board met at the RT Lodge in Maryville, Tenn.

ADVOCATE

Issue 35
July 2009

K-25 to Come Down; History Center to Tell the Story

ORSSAB releases its Advocate *newsletter four times a year. The newsletter is distributed to area residents, public officials, and DOE and contractor employees.*

DOE Information Center

The DOE Information Center, located at 475 Oak Ridge Turnpike, Oak Ridge, Tenn., is a one-stop information facility that maintains a collection of more than 40,000 documents involving environmental activities in Oak Ridge. The Center hosts various meetings, including the ORSSAB meetings, relevant to cleanup activities in Oak Ridge. Staff are available Monday through Friday, 8 a.m. to 5 p.m., to assist with your information needs. A web site is available for users to search for information at the Center. Go to www.oakridge.doe.gov and click on "Public Activities." Select the "Online Catalog" to begin the search.

FY 2009 Stats

Average number of visitors per month	205
Number of public meetings held	118
Total citizen inquiries	1,599
Total Number of Documents at Center	44,539

Phone: 865-241-4780

475 Oak Ridge Turnpike
Oak Ridge, Tenn.

www.oakridge.doe.gov/info_cntr

The staff of the DOE Information Center supports public involvement activities for the Oak Ridge Reservation.

Information Resources

DOE Information Center
475 Oak Ridge Turnpike
Oak Ridge, Tennessee 37830
Phone: (865) 241-4780
Fax: (865) 574-3521
E-mail: DOEIC@oro.doe.gov
Hours 8 a.m. to 5 p.m., Monday – Friday

DOE Public Affairs Office
(865) 576-0885

DOE-ORO Public Information Line
1-800-382-6938

Oak Ridge Site Specific Advisory Board
(865) 241-4583, (865) 241-4584
1-800-382-6938

Tennessee Department of Environment and Conservation
(865) 481-0995

U.S. Environmental Protection Agency
Region IV
1-800-241-1754

Agency for Toxic Substances and Disease Registry
1-888-422-8737

Internet Sites

DOE Main Web Site	www.energy.gov
DOE-ORO Home Page	www.oakridge.doe.gov
DOE-ORO Environmental Management Program	www.oakridge.doe.gov/external (Click on "Programs," then select "Environmental Management")
Oak Ridge Site Specific Advisory Board	www.oakridge.doe.gov/em/ssab
Agency for Toxic Substances and Disease Registry	www.atsdr.cdc.gov
U.S. Environmental Protection Agency	www.epa.gov/region4/
Tennessee Department of Environment and Conservation	www.state.tn.us/environment/
DOE Information Center	www.oakridge.doe.gov/info_cntr
American Recovery and Reinvestment Act	www.recovery.gov www.energy.gov/recovery

Commonly Used Acronyms

ARRA	American Recovery and Reinvestment Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CH	Contact-handled
COROH	Center for Oak Ridge Oral History
CROET	Community Reuse Organization of East Tennessee
D&D	Decontamination and decommissioning
DOE	U.S. Department of Energy
DWI	David Witherspoon Inc.
EM	Environmental Management
EMWMF	Environmental Management Waste Management Facility
EPA	U.S. Environmental Protection Agency
ESD	Explanation of Significant Differences
ETTP	East Tennessee Technology Park
FY	Fiscal year
IFDP	Integrated Facility Disposition Program
NE	DOE Office of Nuclear Energy
NNSA	National Nuclear Security Administration
NOROH	Networking Oak Ridge Oral History
ORNL	Oak Ridge National Laboratory
ORRL	Oak Ridge Reservation Landfills
ORSSAB	Oak Ridge Site Specific Advisory Board
PCB	Polychlorinated biphenyl
RCRA	Resource Conservation and Recovery Act
RDR/RAWP	Remedial Design Report/Remedial Action Work Plan
RFID	Radio Frequency Identification Device
RH	Remote-handled
ROD	Record of Decision
SC	DOE Office of Science
SWSA	Solid Waste Storage Area
TDEC	Tennessee Department of Environment and Conservation
TRU	Transuranic
TSCA	Toxic Substances Control Act
TWPC	Transuranic Waste Processing Center
UEFPC	Upper East Fork Poplar Creek
WIPP	Waste Isolation Pilot Plant in New Mexico

For more information, please contact the DOE Public Affairs Office at (865) 576-0885 or 1-800-382-6938.

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