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FY 2008

Cleanup Progress

U.S. DEPARTMENT OF ENERGY

Annual Report to the Oak Ridge Community

About the cover: The photo featured on the cover shows the demolition of the northwest bridge of the K-25 Building, which was the first demolition work performed on the building.

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:

Safety. Performance. Cleanup. Closure. The accomplishments of the Oak Ridge Office's Environmental Management (EM) Program during 2008 are significant as we make progress cleaning up the environmental legacy found on the Oak Ridge Reservation.

Our major effort in 2008 was continuing cleanup of the East Tennessee Technology Park (ETTP). We are beginning to demolish the massive K-25 Building, which consists of 44 acres under one roof. In 2009, demolition of this building, shut down since 1964, will be fully under way. Nets and barriers were installed in FY 2008 to make pre-demolition work inside the building safer. The building's northwest bridge has already been demolished. We plan to completely demolish the K-25 Building by late 2010.

ETTP has seen many changes during the past few years as several facilities were demolished, including the K-1401 Building, a 10-acre, WWII-era maintenance facility. The footprint of this site is now grass, which provides space for future private sector use as we transition the ETTP site into an industrial park. Our Reindustrialization Program is facilitating that transition. The program has transitioned the ETTP fire station and the site's water treatment facility to the City of Oak Ridge. It also transferred two land parcels, totaling approximately 23 acres, to the Community Reuse Organization of East Tennessee. These actions help support economic growth on the west end of Oak Ridge.

Also on the Reservation, workers completed removal of nuclear fuel from the Molten Salt Reactor Experiment facility at Oak Ridge National Laboratory (ORNL), while planning was under way to remove more than 14,000 tons of scrap metal from the Y-12 Old Salvage Yard. In the one remaining off-site cleanup project, workers completed field cleanup work at the Witherspoon 1630 site in South Knoxville.

We look forward to seeing the progress that will be made in FY 2009 as the K-25 west wing demolition advances. Environmental cleanup is essential to DOE's missions in Oak Ridge. In fact, we are concurrently planning for additional cleanup work beyond our current scope through the Integrated Facility Disposition Program. This program includes facilities at both ORNL and the Y-12 National Security Complex that are determined to be excess. By eventually removing them, space will be made available for growth in our current and future mission activities. More importantly, demolition of these buildings will allow the Environmental Management program to address more areas of significant contamination and improve worker safety.

Our cleanup program provides a safer, healthier environment and paves the way for economic and DOE mission growth. The following pages highlight our FY 2008 accomplishments, reflecting our $522 million investment in the EM Program and the labor of many talented people. Included is the work of the Oak Ridge Site Specific Advisory Board, composed of citizen volunteers, who provided 17 recommendations in FY 2008 on our cleanup activities.

Our cleanup program is truly the result of a team effort, and involvement of the public is an important part of that team work. We appreciate the input you provide and look forward to continuing this momentum, leading to even more accomplishments in 2009.

EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

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.

ETTP

East Tennessee Technology Park: The former K-25 Gaseous Diffusion Plant.

ESD

Explanation of Significant Differences: An Explanation of Significant Differences documents necessary changes to an existing Record of Decision.

FFA

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.

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.

RmA

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.

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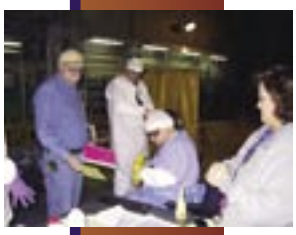

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Introduction

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

In 2008, the program focused on cleanup efforts at East Tennessee Technology Park. Significant progress has been made in cleaning up large gaseous diffusion buildings, various facilities, and soils at this site. Cleanup efforts also continued at the other Oak Ridge Reservation sites and the David Witherspoon Inc. 1630 site in South Knoxville.

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.

East Tennessee Technology Park

Heritage Center

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 Activities Begin on the K-25 Building

The first demolition activity on the K-25 Building has been successfully completed. The northwest bridge that connected the west wing to the base of the U-shaped structure has been removed.

The K-25 Building, built during the Manhattan Project, covers 1.64 million ft^2 and contains 540 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.

The bridge housed pipes that transferred uranium as it was undergoing enrichment between building wings. Workers demolished the two-story, 143,000-ft^3 structure using excavators and other heavy equipment.

The bridge removal paves the way for demolition of the west wing, which is scheduled to begin in FY 2009. Demolition of both wings of the building is scheduled to be completed at the end of 2010.

Activities that have been under way to prepare the K-25 Building for demolition include process system stabilization by foaming, removal and segmentation of high-risk components, removal of transite panels, and shipment of converters off site for disposal. Measures have also been taken to improve the safety of workers, including the installation of nets and barriers to add protection from falling debris.

Additional activities completed in FY 2008 include completing removal of excess materials and completing plans to demolish the West Wing.

Excess material removal addresses the non-process materials—such as laboratory equipment, centrifuge equipment, Atomic Vapor Laser Isotope Separation equipment, drums of chemicals and nickel—from inside and outside of Buildings K-25 and K-27. About 98% of the excess materials has been removed as of September 2008.

Demolition of the northwest bridge of the K-25 Building marks the first actual demolition activities on the building.

Workers unbolt a beam on the K-25 Building northwest bridge so that it can be removed.

The photo above shows the location of the northwest bridge, and pictured right is the area after the bridge was removed.

Crews are removing the external stairwells in preparation for demolition of the west wing of the K-25 Building. A total of 24 stairwells were slated for demolition on the west wing.

Nets and Barriers Protection Completed

The Ironworkers Local 384 installed the last of the nets and barriers protection in the K-25 Building in September 2008. The project entailed the installation of more than 85,000 pieces of rebar—enough to wrap around the building 60 times. The nets and barriers protection will make working in the building safer as personnel prepare it for demolition. Workers below pose with the last piece of corrugated metal to be installed. These barriers were placed beneath the building's deteriorating operating floor to protect workers on the cell floor below from possible falling debris.

K-1401 Demolition Completed

Slab Demolished, Basement Backfilled

The decontamination and demolition of Building K-1401, a 500,000 ft^2 structure in the center of ETTP, was completed at the end of FY 2007, and personnel have since been busy backfilling the basement area and pulling up the concrete slabs of K-1401, the K-1008 change houses, and K-1020.

Project personnel shipped and disposed of more than 50 million pounds of demolition debris as part of the project.

Most of the slab debris was placed as backfill in the K-1401 basement area. The basement is 210 feet wide x 340 feet long x 16.5 feet deep, for a total of 43,633 yd^3 of volume requiring backfilling.

Backfilling, final site grading, and seeding are planned for completion in early FY 2009. The building, one of the original Manhattan Project structures, was used to condition processing equipment before it was installed in the K-25 uranium-enrichment plant. The facility later became the maintenance hub for the K-25 Site, and was used most recently by private sector tenants as part of the site's reindustrialization effort.

Building K-1401 before demolition

The slab debris, left, provides suitable backfill material for the K-1401 basement. Below, Foreman Becky Phillips and Project Manager Lydia Birk discuss slab demolition at the site.

Debris from the demolition of the K-1401 Building was transported by truck to be disposed at the CERCLA Waste Disposal Facility near the Y-12 Complex.

ETTP Demolition Activities

Changing Site Landscape

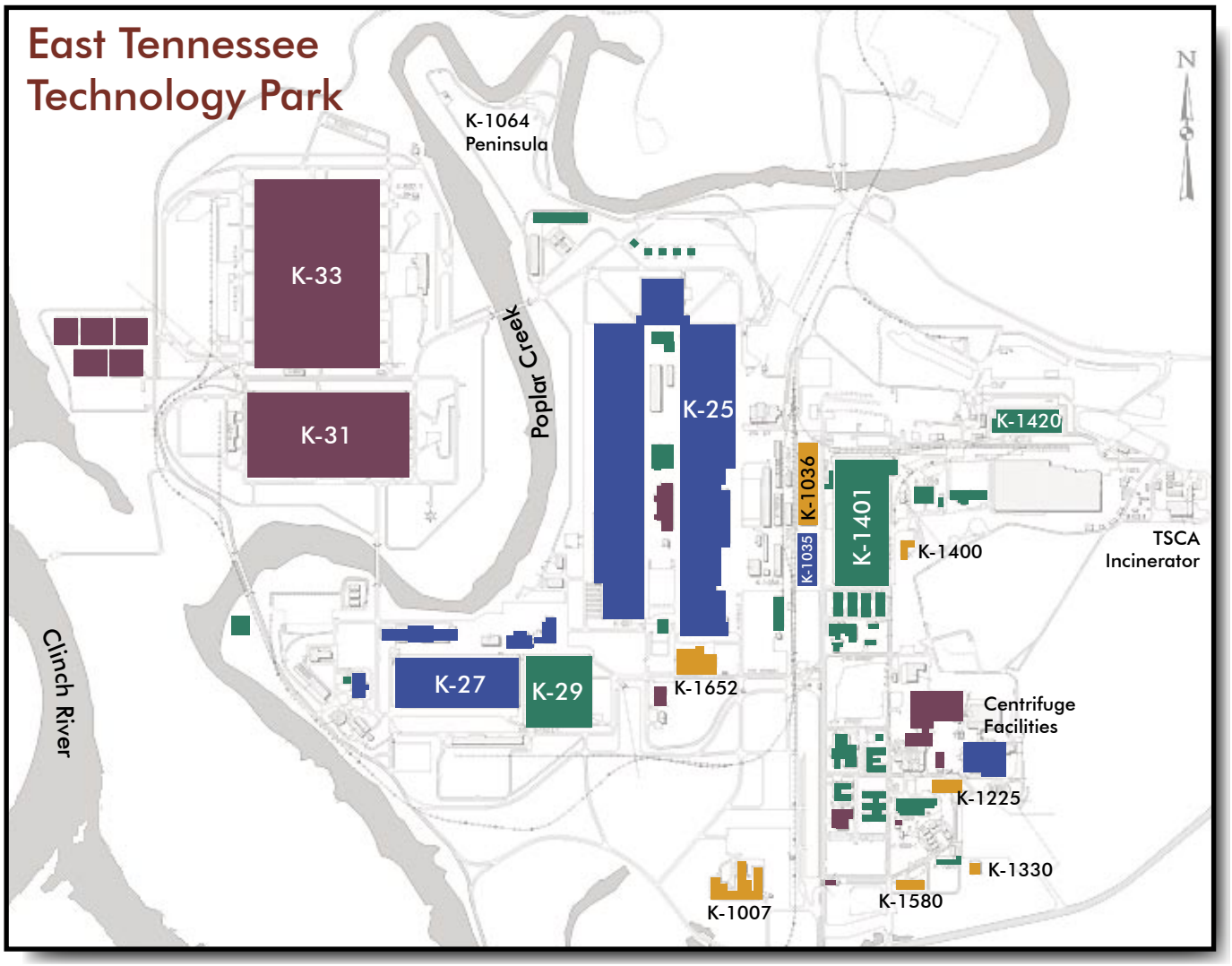
As demolition activities continue at ETTP, the landscape at the site continues to change.

Most buildings at ETTP, except for property transfer candidates, are scheduled for demolition. The facilities that will remain will be transferred for potential title transfer to private sector organizations under the Reindustrialization Program.

Eight major facilities (which include some complexes of multiple small buildings) and two land parcels at the former gaseous diffusion plant have been transferred. Building demolition is being performed through several projects:

- K-25/K-27 Buildings,
- 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
- K-29/K-31/K-33 Buildings Decontamination.

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.



Demolished | Equipment removal/ pre-demolition | Transferred | Potential Reuse

K-25/K-27 Buildings

As discussed previously, the K-25 Building is being prepared for demolition, which is expected to be completed in 2010. Demolition and disposal of the K-27 Building is scheduled to start in April 2015 and be completed in April 2016.

Group I: Auxiliary Facilities

In FY 1997, DOE signed an Action Memorandum (AM) 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 AM 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 AM 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 AM to demolish the approximately 500 remaining facilities. In FY 2008, three predominantly uncontaminated facilities and 15 low-risk/low-complexity facilities were demolished. In the Poplar Creek area, asbestos abatement was completed in K-633, K-131, K-631, K-1231, and K-413; chemical treatment was completed in K-633 and the K-27/K-633 tie line; characterization was completed in K-413, K-1231, K-1233, K-633, and K-633/K-27 tie line; chemical treatment was completed on all facilities and 80% of the tie lines associated with hydrofluoric acid distribution to the uranium processing facilities, and the remaining uranium hexafluoride cylinders from Building K-33 were disposed. Demolition of the K-413 Building was initiated and is 50% complete.

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

DOE signed an AM 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.

Demolition of K-413, a gaseous diffusion process support building

Groundwater

Contamination Being Addressed

A Remedial Investigation/Feasibility Study was previously submitted to EPA and the Tennessee Department of Environment and Conservation (TDEC) addressing the nature and extent of groundwater contamination, contamination of Mitchell Branch, and ecological concerns. It evaluated alternatives for remediation and provided the basis for the final remediation decision for ETTP.

In FY 2007, this document was reviewed by EPA and TDEC, and a revision was prepared and reviewed by these agencies. In FY 2008, a second revision was prepared and submitted to the EPA and TDEC for review. Also in FY 2008, plans were initiated to conduct a groundwater treatability study. This study will be conducted in FY 2009. A Proposed Plan was submitted to EPA and TDEC in FY 2007; however, it will be placed on hold until the Remedial Investigation/Feasibility Study is finalized.

Installation of the water treatment system for hexavalent chromium at Mitchell Branch

An Action Memorandum for the remediation of the K-1007 Holding Ponds, K-901-A Holding Pond, 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. Remediation activities will be conducted in FY 2009.

A time-critical Action Memorandum to address releases of hexavalent chromium to Mitchell Branch was approved in FY 2008. The selected interim action, construction of a groundwater collection system, was completed in FY 2008, and a removal action report was transmitted to the regulators. The collection and treatment of contaminated groundwater under this action continues.

ETTP Soil Remediation Efforts Continue

The soil at ETTP is to be remediated to a level that protects a future industrial work force and the underlying groundwater. Two RODs have been signed that address soil, slabs, subsurface structures, and burial grounds.

The Zone 1 ROD was signed in November 2002. Zone 1 is the 1,400-acre area surrounding ETTP outside the fence. The Zone 2 ROD was signed in April 2005. Zone 2 includes the area within the main fence of ETTP (approximately 800 acres).

In Zone 1, soil characterization continued to determine whether additional remediation is needed, and several underground storage tanks were removed in the K-770 area. In Zone 2, the characterization and remediation of the Balance of Site–Laboratories area were completed and documented.

Characterization also was completed in the Mitchell Branch Area.

Characterization continued in other areas located in the main portion of ETTP, and plans were made for the excavation in FY 2009 of the K-1070-B Burial Ground.

Reindustrialization

Transfers Continuing As Site Transforms

In FY 2008, DOE Oak Ridge Office's Reindustrialization Program transferred the K-1515 Water Treatment Plant Complex and the K-1652 Fire Station (see article on next page) to the City of Oak Ridge.

Transfer of the K-1515 Water Treatment Plant complex is part of a comprehensive plan for the City of Oak Ridge to provide potable water service to ETTP.

In addition to transferring the treatment plant, much of the water and sewer lines at the site were also transitioned to the city in FY 2008.

DOE also transferred Land Parcels ED-5 East and ED-7 to the Community Reuse Organization of East Tennessee (CROET). CROET, as a precursor to the future transfer of the K-1000 Building, demolished the former K-1028-57 Access Center.

ED-5 East is approximately 18 acres and is located near the front of the ETTP site, behind Building K-1007, a large office building previously transferred to CROET. This parcel of land is being slated for new development.

The second parcel, referred to as ED-7, is approximately 5 acres in size. ED-7 will be used for development of the Southern Appalachian Railway Museum.

Southern Appalachian Railway presently operates the Secret City Railroad from a leased location at ETTP and offers train rides through the plant and environs.

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.

The K-1515 Water Treatment Plant Complex has been transitioned to the City of Oak Ridge.

Oak Ridge Mayor Tom Beehan (left) and Gerald Boyd, manager of DOE's Oak Ridge Office sign a ceremonial deed for the city's new fire station at ETTP. Also pictured, standing, is Oak Ridge Fire Chief Mack Bailey.

Fire Station Transferred

City of Oak Ridge Now Operates Facility

As part of its reindustrialization effort, DOE has transitioned the 25,000-ft^2 ETTP fire department to the City of Oak Ridge, making it an official part of the Oak Ridge Fire Department.

With the addition of this new station, called Station No. 4, west end residents and businesses have closer access to firefighting and emergency medical services.

The transition took place after two-and-a-half years of study and negotiation. A formal ceremony turning over the fire station to the City was held May 17, 2008. Station No. 4 was previously operated by Bechtel Jacobs Company for DOE as an ETTP-site-only fire department. As part of the deal, the City received three fire engines, a rescue truck, a hazardous materials response truck, and several trailers equipped with special rescue equipment. The Fire Department also assumed operation of the DOE ambulances, which will most often be used on DOE sites but can respond off site.

K-1652 Fire Station

Oak Ridge Reservation

and Off-Site Cleanup

In addition to ETTP, DOE is cleaning up sites across the Oak Ridge Reservation, including those at Oak Ridge National Laboratory and the Y-12 National Security Complex. One major off-site project, cleanup of the David Witherspoon site in South Knoxville, is nearing completion.

Remedial Actions Defined In Bethel Valley ROD

The Bethel Valley ROD defined remedial actions for soil and sediment and included three different tasks: (1) capping at two large waste sites, (2) soil removal actions that vary in size from limited extent to large areas, and (3) removal of stream sediments from seven stretches of the stream.

The Remedial Action Work Plan (RAWP) was submitted to the regulators in FY 2008 and addresses soil and sediment characterization activities in Bethel Valley on the Oak Ridge Reservation as set forth in the Bethel Valley ROD.

The primary objectives of this RAWP are to define the scope of remediation work to be performed, identify the controls that will be implemented to protect workers and the environment, and describe the methods of accomplishment to be used to execute the work.

This RAWP further proposes a statistically based soil characterization strategy to acquire additional data, following remedial actions, to ensure that the remedial action objective requirements are met.

The Waste Handling Plan was prepared as a primary document to support requirements under the Federal Facility Agreement in FY 2008. This plan presents the methods that will be used to manage and dispose of waste materials generated.

3019 Project

To Resolve Safety, Security Issues

The U-233 Disposition Project has been developed by DOE to resolve safety and security issues associated with the continued storage of 450 kg of Uranium 233, primarily uranium oxides, in Building 3019 at ORNL.

The project addresses safety issues that were identified by the Defense Nuclear Facilities Safety Board in Recommendation 97-1, "Safe Storage of Uranium-233."

Down-blending this material to a stable oxide is expected to begin in 2012 once facility modifications and new processing equipment is in place.

The objective of the project is to process the U-233 inventory to a form suitable for final disposal, thereby reducing costs at ORNL.

In October 2007, the project completed a readiness assessment to allow receipt of the remaining sodium fluoride traps from the MSRE facility. Due to delays in design completion during 2008, the project has experienced a slippage in the schedule.

The revised schedule indicates dismantlement and construction activities to support new processing equipment are to begin in FY 2009.

Using a glove box, a worker at MSRE raises a salt probe that had been inserted into the salt to melt it.

Nuclear Fuel Removed

From MSRE Facility

The last of the nuclear fuel was removed from its storage tank at the Molten Salt Reactor Experiment (MSRE) facility in FY 2008.

Completion of this work marked the end of a highly technical project involving the chemical defueling of the MSRE reactor.

The reactor, originally built in the 1960s, had set idle for almost 40 years before decommissioning activities were initiated. The fuel removal involved melting the fuel mixture with temperatures as high as 475 degrees Celsius, injecting highly reactive fluorine, and removing the gas mixture containing the uranium.

The MSRE facility operated from 1965 to 1969 to test the molten salt concept. Unlike most current commercial reactors that have fuel confined to fuel rods, the MSRE facility was fueled by molten salt that flowed through the reactor chamber, where the nuclear chain reaction produced heat.

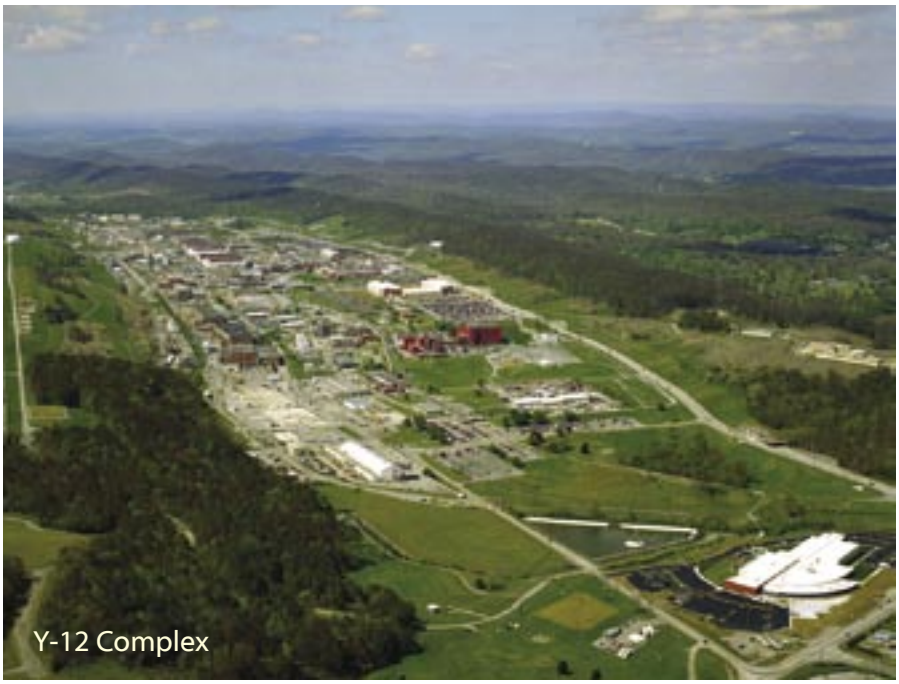
When the reactor was shut down, the molten salt was drained into two fuel salt storage tanks, where it solidified.

A flush salt, similar in composition to the fuel salt but without the uranium, was recirculated through the reactor and drained into a third storage tank and solidified. All three storage tanks are located in an underground, concrete-shielded drain tank cell adjacent to the reactor cell.

Workers are removing the bottom plate from the salt probe housing in order to access the salt probe.

UEFPC Watershed

ROD Supports Remediation Decisions


Y-12 Complex

Remediation of the Upper East Fork Poplar Creek (UEFPC) Watershed is being conducted in stages using a phased approach. Phase 1 addresses interim actions for 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.

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 parties in April 2006. The initial project of the Phase 2 ROD is remediation of the Y-12 Salvage Yard.

Planning Under Way To Remediate

Y-12 Old Salvage Yard

Approximately 14,446 tons of scrap metal at the Y-12 Complex Old Salvage Yard (OSY) require removal and disposal in an approved location.

The scrap is generally contaminated with depleted uranium. Before 1995, the OSY 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 Y-12 OSY ceased operations. The OSY is located both within and outside the high security area of the Y-12 National Security Complex.

The portion within the high security area is approximately 160,000 ft^2 and has two piles containing 3,670 tons of scrap plus about 850 containers that contain scrap metal. The portion outside of the high security area is also approximately 160,000 ft^2 and has three piles containing 5,030 tons of scrap plus about 250 containers that contain scrap metal.

The OSY will be remediated under CERCLA. In 2008, the Remedial Design Report/Remedial Action Work Plan and the Waste Handling Plan, which are Federal Facility Agreement (FFA) milestone documents needed to plan the remediation, were

submitted by DOE to the Tennessee Department of Environment and Conservation (TDEC) and the Environmental Protection Agency (EPA) for approval. Procurement planning was also initiated by DOE in 2008 to support establishment of a remediation contract.

The remedial action contractor will be required to develop a comprehensive schedule for the overall effort, including all activities required to accomplish the scrap removal.

More than 14,000 tons of waste are stored at the Y-12 Old Salvage Yard.

Remediation Planned for

Bear Creek Burial Grounds

DOE has submitted to EPA and TDEC the initial drafts of the Focused Feasibility Study (FFS) and Proposed Plan (PP) for remediation of the Bear Creek Burial Grounds (BCBG) at the Y-12 National Security Complex .

The BCBG operated from 1955 to 1993, primarily for the disposal of depleted uranium wastes and other industrial wastes from nuclear weapons production operations at the Y-12 Complex. The FFS and PP documents develop and evaluate alternatives for remediation of buried waste and contaminated soils at the BCBG, and build upon the Remedial Investigation (RI) and Feasibility Study (FS) for the overall Bear Creek Valley that were issued in 1997. The scope of this focused action does not include groundwater, which will be addressed in a future decision.

The proposed remedial actions for the BCBG constitute the second major phase of remediation activities for the Bear Creek Valley watershed. The ROD for Phase I Remedial Actions in Bear Creek Valley was issued in 2000 and focused on remedial action decisions for specific areas of Bear Creek Valley thought to be the major contributors to surface water contamination in Bear Creek, including the S-3 Site and the Boneyard/Burnyard in the Oil Landfarm Area. Remedial actions at the Boneyard/Burnyard were completed in 2003 and have been successful in reducing releases of contaminants.

While uranium releases to surface water in Bear Creek have been declining in recent years, the uranium levels still exceed goals established in the Phase I ROD. Recent data indicate the BCBG to be a much more significant contributor of contamination to Bear Creek than previously thought, primarily via surface water discharges at North Tributary 8 (NT-8). Remedial alternatives considered for the BCBG include a range of technologies for containment (hydrologic isolation), in situ treatment, or excavation of buried wastes; and collection of shallow groundwater for in situ passive treatment or ex situ wastewater treatment.

Comments from EPA, TDEC, and other stakeholders will be carefully considered and incorporated into the final remedy selection decision. The initial draft of the ROD for BCBG is expected to be issued by September 2009.

Witherspoon Project

Nearing Completion

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 facilities in South Knoxville.

DOE has been remediating two DWI sites: 901 and 1630. Work on the 901 site is complete, and remediation activities at the 1630 site are expected to be completed ahead of schedule and under budget.

Acres of brush and trees have been removed, surveyors have laid out planned excavation areas, and soil excavation was initiated. Trucks began removing waste from the 1630 site in December 2006.

At the end of FY 2008, more than 90% of all contaminated soil and debris had been excavated and shipped to the CERCLA Waste Facility. The amount that has been disposed equates to almost 8,700 truck loads of material.

Approximately 600 yd^3 of Resource Conservation and Recovery Act-characteristic soil was treated on site and sent to the CERCLA Waste Facility, saving nearly $1 million over disposal in an out-of-state facility. An additional 40,000 yd^3 of debris was found, and because of the presence of small items that could not be sent to the CERCLA Waste Facility, the debris was carefully sorted before shipment. Despite the unplanned additional volumes and sorting requirements, the project is anticipated to be completed 9 months ahead of schedule and several million dollars under budget.

Excavation at the Witherspoon 1630 Site

Waste Management

Oak Ridge Reservation

Wastes on the Oak Ridge Reservation are being disposed in a variety of ways. Much of the waste is going into the on-site CERCLA Waste Facility, which was opened to receive waste from Reservation cleanup. Wastewater is treated in the Central Neutralization Facility at ETTP, and radioactive PCBs and other hazardous wastes are incinerated in ETTP's TSCA Incinerator.

TSCA Control Room

TSCA Incinerator

Treats 1 Million Pounds of Waste

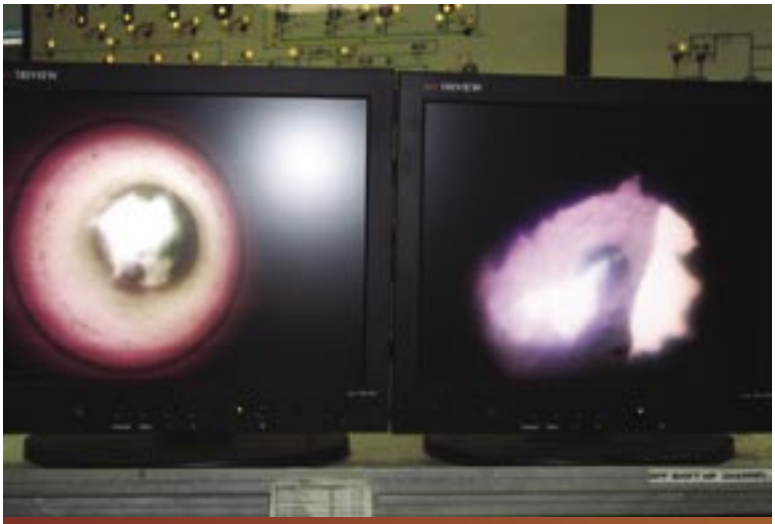
The Toxic Substances Control Act (TSCA) Incinerator, located at ETTP, treated 1.03 million pounds of waste in FY 2008 (0.91 million pounds of liquid waste and 118,000 pounds of solid waste).

The TSCA Incinerator is a one-of-a-kind thermal treatment unit. It plays 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 30 million pounds of waste since inception.

DOE is planning to incinerate more than 2 million pounds of waste in the TSCA Incinerator in FY 2009. The treatment quantities include fuel oil rinses of the tank farm as the incinerator initiates closure activities for its final year of operation.

Closure activities will continue into FY 2010 to remove residual waste such as the internal refractory, sludge, ash, and scrubber packing material.

After FY 2009, DOE will use alternative treatment processes.



Monitors in the control room showing waste burning inside the TSCA Incinerator

Disposal Continues

At Reservation Waste Facilities

The on-site CERCLA Waste Facility, located in east Bear Creek Valley, 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.

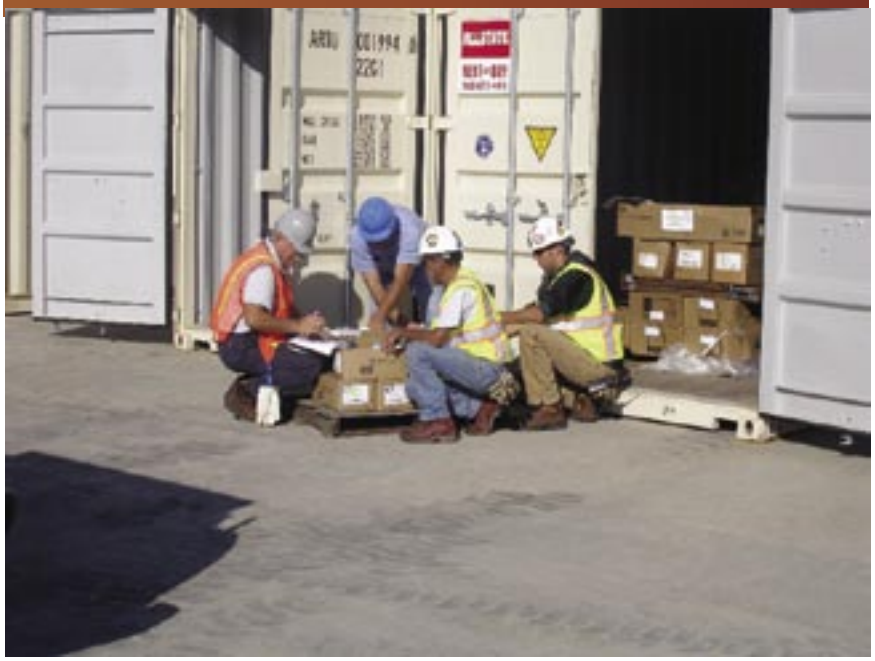
The facility currently consists of four disposal cells with a fifth cell to be constructed that will bring the total disposal capacity up to that approved in the Record of Decision.

The CERCLA Waste Facility 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 2008, the CERCLA Waste Facility operations collected, analyzed, and dispositioned approximately 1.8 million gallons of leachate at the ORNL Liquids and Gases Treatment Facility. An additional 6.1 million gallons of contact water were collected and analyzed, and after determining that the volumes met the release criteria, were released to the sediment basin. Operating practices also effectively controlled site erosion and sediments.

The CERCLA Waste Facility received approximately 6,500 truckloads of waste accounting for approximately 89,000 tons during FY 2008. Projects that have disposed of waste at the CERCLA Waste Fa-

Disposal operations at Cell 3 (above), and CERCLA Waste Facility site personnel completing pre-job checklist (below)



cility 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-1030 demolition debris;
- ETTP Decontamination and Decommissioning Project, including K-1401, K-1420, and K-413 demolition debris, Balance of Site Laboratory soils and debris, and K-1070-B Burial Ground waste;
- Upper East Fork Poplar Creek Project, including the Jack Case Center Force Main debris; and
- Melton Valley Project, including Molten Salt Reactor Experiment secondary waste.

Concurrent with the activities at the CERCLA Waste Facility, 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 TDEC 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 2008, more than 129,000 yd^3 of industrial, construction/demolition, classified, and spoil material waste were disposed.

Operation of the ORRL generated more than 817,000 gallons of leachate that was collected, monitored, and discharged to the Oak Ridge sewer system.

The CERCLA Waste Facility and the Oak Ridge Reservation Landfills are serving the disposal needs of the Oak Ridge Reservation cleanup program as well as the active missions of the Y-12 Complex and ORNL.

Expansion Planned

At CERCLA Waste Facility

Waste disposal operations at the CERCLA Waste Facility continued in Cells 2 and 3, while Cell 4 currently remains unused. As waste placement continues toward Cell 4, focus will be shifted to expanding the facility. The design for Cell 5 is complete and has been approved by the regulators. However, a conceptual design was done that alters Cell 5 so that it could be built onto later if the extra capacity is needed and the appropriate regulator approvals can be secured via the CERCLA documentation process.

Timing for the start of construction of additional CERCLA Waste Facility capacity will depend on how quickly the existing capacity is forecast to be consumed as the cleanup program continues. This timing also determines the viability of pursuing any alternative other than the current design of Cell 5.

CERCLA Waste Facility, with a view of the haul road winding through the Reservation.

A total of 11.7 million gallons of wastewater was treated at the Central Neutralization Facility in FY 2008.

Millions of Gallons of Wastewater Treated

The Central Neutralization Facility located at ETTP treated 11.7 million gallons of wastewater in FY 2008. 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 off-site.

At ORNL, approximately 120 million gallons of wastewater were treated and released at the Process Waste Treatment Complex. In addition, the liquid LLW evaporator at ORNL treated 125,000 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 2008.

The National Nuclear Security Administration program at the Y-12 Complex treated 122.5 million gallons of ground/sump water at the Groundwater Treatment Facility, East End Mercury Treatment System, Central Mercury Treatment System, and East End Volatile Organic Compound System.

The East End Mercury Treatment System was decommissioned in December 2006 after the sump water being treated was rerouted to the Big Spring Water Treatment System. The East End Mercury Treatment System was demolished and disposed.

At the Big Spring Water Treatment System, 108.7 million gallons of ground/sump water was processed. In addition, approximately 1 million gallons of methanol-contaminated ground/sump water that was put into inventory in the West End Tankage in FY 2006 was completely dispositioned by controlled metering of the water into the Oak Ridge sewage treatment plant.

The West End Treatment Facility and the Central Pollution Control Facility at the Y-12 Complex processed 416,000 gallons of wastewater, primarily in support of National Nuclear Security Administration operational activities. This wastewater included hazardous materials such as cyanide, mercury, cadmium, chromium, and uranium. The hazardous materials end up in the sludge generated from wastewater treatment. The sludge is disposed off-site.

First CH-TRU shipment

TWPC Processing

CH- and RH-TRU Wastes

In 1998, DOE entered into a fixed-price privatization contract with Foster Wheeler Environmental Corporation to construct a processing facility for four primarily transuranic (TRU) waste streams, operate it, and ultimately decontaminate and decommission it.

Construction of the facility, now referred to as the TRU Waste Processing Center (TWPC), was completed in FY 2004. Shortly afterward, the plant processed 429,000 gallons of liquid supernate, which was evaporated to isolate solids and disposed of as Low-Level Waste (LLW).

In 2006, because of many uncertainties about the waste characteristics and changing requirements, the privatization contract was converted to a cost-plus-fixed-fee model deemed more suitable. The contract was novated to EnergX TN LLC in January 2008.

The new contract includes processing and packaging for the three remaining waste streams stored at ORNL—Contact Handled (CH) TRU solids/debris, Remote-Handled (RH) TRU solids/debris, and RH TRU sludge—for disposal at the Waste Isolation Pilot Plant (WIPP) in New Mexico or the Nevada Test Site (for LLW segregated from TRU waste streams).

The facility was originally designed and constructed to treat and dispose of 900 m^3 of RH-TRU sludge, 550 m^3 of RH-TRU/alpha LLW solids, 1,600 m^3 of RH LLW supernate, and 1,000 m^3 of CH-TRU/alpha LLW solids. The latest forecast has been updated to include 2,000 m^3 of RH sludge, 600 m^3 of RH-TRU solids, and 1,500 m^3 of CH-TRU solids.

Currently, two waste streams—CH-TRU solids and RH-TRU solids—are being processed. CH processing began in December 2005. In FY 2008, the TWPC exceeded the TDEC Site Treatment Plan CH processing goal by reaching a cumulative total of 313 m^3 of processed waste.

Another important Site Treatment Plan milestone was met with the first shipments of processed CH-TRU waste to the WIPP in late September. An additional major accomplishment related to CH-TRU waste operations was the construction, readiness preparations, and operational commissioning of a 1,200-drum-capacity temporary storage facility.

Processing of RH debris waste began in May of 2008, following successful build-out and start-up of a major hot cell. During 2008, approximately 10 m^3 of RH TRU waste were received, and approximately 5 m^3 were processed.

Cans of RH-TRU waste being processed in the Hot Cell

During FY 2008 the Central Characterization Project, working with the assistance of TWPC personnel, continued the development of Acceptable Knowledge documentation required for certification of TRU waste for shipment to WIPP. Acceptable Knowledge reports were completed and approved for two CH-TRU and one RH-TRU waste streams.

Processing of the final waste stream, RH sludge, is scheduled to begin in 2013. In 2008, sludge characterization, bench scale testing of final form product, process technique, sequence definition, and conceptual design were accomplished.

IFDP Planning Under Way

To Enable Modernization Efforts

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 2008.

IFDP will assist in the modernization efforts at ORNL (below) and the Y-12 Complex.

The DOE lead for IFDP is the Office of Environmental Management (EM). 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.

DOE approved the IFDP Critical Decision-0 (CD-0), Mission Need Statement, in July 2007. 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 Environmental Management 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.

Public Involvement

Oak Ridge Reservation

The public is involved in all cleanup decision 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

Solicited on a Number of Issues

DOE solicited comments on a variety of significant cleanup/remediation documents and plans in FY 2008. Items to which the public provided input include the following:

- Environmental Assessment that evaluated the potential impacts of advancing the technology transfer mission at ORNL by establishing the Oak Ridge Science and Technology Project;
- Hazardous waste permit to allow a storage facility at ETTP to continue storing and treating hazardous waste;
- Hazardous waste permit to allow ORNL to continue to store and treat hazardous and mixed waste in containers at its facility on Bethel Valley Road;
- Covenant Deferral Request for the transfer of Building K-1501-H&L to CROET;
- Covenant Deferral Request for the transfer of K-1008-F to CROET;
- Notice of a revised proposed policy on providing technical and financial assistance for training of public safety officials to state and Indian tribes through whose jurisdiction DOE plans to transport spent nuclear fuel or high-level radioactive waste;
- Environmental Assessment that evaluates the potential environmental impacts of proceeding with a modernization initiative at ORNL;
- Permit modification to allow additional treatment options and additional storage of mixed waste at the Transuranic Waste Processing Center;
- Waste characterization program for radioactive, contact-handled transuranic waste at ORNL that would be shipped to the Waste Isolation Pilot Plant in New Mexico; and
- Environmental Assessment on the disposition of radioactively contaminated nickel located at ETTP.

ORSSAB Assists DOE

on Several Key Reservation Issues

The Oak Ridge Site Specific Advisory Board (ORSSAB) posted several key accomplishments in FY 2008 in its mission to provide informed advice and recommendations to DOE on its Oak Ridge EM program and to involve the public in environmental decision-making. ORSSAB is an independent, volunteer, federally appointed citizens' panel formed in 1995.

Oral History Initiative

Under the direction of the ORSSAB Executive Committee, an Oral History Ad Hoc Subcommittee was established to determine if community support existed for the preservation of Oak Ridge oral history.

In October 2007, ORSSAB sponsored a workshop to consider ways to consolidate existing Oak Ridge oral histories in one manageable location and how to continue gathering oral histories for future use. Thirty people representing a variety of agencies and interests participated in the workshop at the DOE Information Center. About 275 oral history interviews have been conducted to date with Oak Ridge scientists, engineers, community leaders, and residents, but there is no central location housing all of the existing tapes, and no mechanism exists to manage an active oral history program in terms of cataloguing and transcribing tapes, identifying and interviewing people, and providing access to material to researchers and other interested parties.

The workshop was intended to help resolve several issues, including:

- What is the definition of an oral history?
- What are sources of funding?
- Should a permanent group be formed to oversee the program?
- What existing regulations/legislative acts control or influence an oral history program?
- Who are the individuals who need to be interviewed in the future?
- What format of the end product will be most desired and easy to access?
- What organization will handle transcribing oral histories that have not yet been transcribed?

FY 2009 ORSSAB members, liaisons, and student representatives. Seated, from left: Gloria Mei, Claire Campbell (Student Representative), Tim Myrick, Steve McCracken (DOE Deputy Designated Federal Officer), Miranda Clower (Student Representative), Ron Murphree. Standing, left to right: Steve Stow, Darrell Akins, Lance Mezga, Steve Dixon (Chair), Steve Mead, Kevin Westervelt, Betty Jones, Bob Olson, Maggie Owen, Darryl Bonner, Sondra Sarten, Pat Halsey (DOE Federal Coordinator), Ed Juarez, David Martin, Ted Lundy (Vice Chair), Charles Jensen. Not pictured: Dave Adler (DOE Liaison), Bill Bass, John Coffman (Secretary), Connie Jones (EPA Liaison) John Owsley (TDEC Liaison).

In spring 2008 the seeds sown at the workshop flowered into a comprehensive oral history program called the "Center for Oak Ridge Oral History," and the ORSSAB's role ceased except to have a seat on the steering committee.

Headquartered at the Oak Ridge Public Library, the program is being led by a steering committee that includes representatives from DOE Oak Ridge, ORSSAB, the Oak Ridge Public Library, the National Nuclear Security Administration/Y-12, the DOE Office of Science and Technical Information, the Tennessee State Library and Archives, the American Museum of Science and Energy, the City of Oak Ridge, the Tennessee Valley Authority, and the University of Tennessee.

Material contained in oral histories will offer invaluable information to EM when determining the scope and the data necessary to approach areas of the Oak Ridge Reservation requiring remediation or in determining if an area does not require remediation.

Oak Ridge Public Library Director Kathy McNeilly, right, and Pat Halsey, the Federal Coordinator for the ORSSAB, talk with a visitor about the new Center for Oak Ridge Oral History at the 2008 Secret City Festival.

K-25 Building Historic Preservation

At the November 2007 ORSSAB meeting, the board's Deputy Designated Federal Official Steve McCracken, requested that ORSSAB provide a recommendation to the EM program by April on the preservation plans for the K-25 Building at East Tennessee Technology Park. On February 19, 2008, ORSSAB cosponsored a public meeting, attended by about 160 people, to gather input from the public. Most of the mile-long, U-shaped building is being decontaminated in preparation for demolition. To comply with the National Historic Preservation Act, a memorandum of agreement was signed in 2005 by DOE, the City of Oak Ridge, the State of Tennessee, the Advisory Council on Historic Preservation, and the Oak Ridge Heritage and Preservation Association. The agreement calls on DOE to retain the north tower of K-25 that connected the two long 'legs,' the footprint of the U-shaped building, and the upper 10 feet of the inner basement area walls between these legs.

However, the building is rapidly deteriorating, and DOE is re-evaluating how best to preserve the historical significance of K-25. As part of its re-evaluation, DOE requested input from interested organi-

Many members of the community expressed their views at the public meeting on K-25 Building historic preservation.

zations and individuals concerning the north tower and if it should be retained for historical purposes and what steps should be taken to interpret the building's importance to the Manhattan Project. Numerous comments were generated and forwarded to DOE by ORSSAB.

ORSSAB followed up on the meeting in March 2008 by providing DOE EM with a recommendation on K-25 Building preservation. Because K-25 was allowed to deteriorate so much, the board addressed steps to prevent other buildings on the Oak Ridge Reservation with historic value from deteriorating. The board generated a follow-up recommendation on the subject in July.

ORSSAB's involvement in K-25 Building historic preservation provided a vital mechanism for DOE EM to provide the community with information and gather public input on an issue that will have long-term implications for the public and EM.

Stewardship Map

In FY 2008, ORSSAB's Stewardship Committee worked with DOE to produce a stewardship map that shows all remediated areas on the Oak Ridge Reservation and what land use controls are currently in place.

The map, which is 50 by 64 inches, was placed in the DOE Information Center for public display and use. Accompanying the map will be a notebook that includes reference to all decision documents related to each remediated area. The map will be available on the Oak Ridge Environmental Information System (www-oreis.bechteljacobs.org/oreis/help/oreishome.html). It will also be on display in the ORSSAB exhibit at the American Museum of Science and Energy.

The map is color-coded to indicate the various watershed decision areas: East Tennessee Technology Park, Melton Valley, Bethel Valley, Upper East Fork Poplar Creek, Bear Creek Valley, and Chestnut Ridge. Within each watershed area, the map indicates contamination areas and remediated areas under deed restrictions. Icons explain what land use controls are currently in place for DOE operating areas and those in place for remediated areas, such as deed restrictions, fences, signs, security patrols, monitor-

Ralph Skinner, DOE liaison to the ORSSAB Stewardship Committee, points out an area of interest during a tour of the Melton Valley remediation project.

ing, and excavation/penetration permits required. The map will be updated when necessary to show the changes where waste has been left in place on the reservation and the land use controls utilized to protect the public and workers.

Museum Exhibit

In FY 2008, ORSSAB finished a complete overhaul of its permanent exhibit at the American Museum of Science and Energy in Oak Ridge. First installed in February 2005, the exhibit uses touch-screen kiosks, displays, and posters to tell the story of the Oak Ridge EM program. The centerpiece of the exhibit is a scale model of the EM Waste Management Facility in Bear Creek Valley, which provides visitors an idea of the magnitude of the cleanup effort on the Oak Ridge Reservation.

Two touch-screen kiosks take visitors on an interactive journey through the cleanup process at the Gunite Tanks, one of the highly successful remediation projects at Oak Ridge National Laboratory.

ORSSAB's museum exhibit provides a variety of colorful posters that inform visitors about cleanup program topics, including an overview of the EM program, the challenges the program faces in Oak Ridge, and reindustrialization of the East Tennessee Technology Park. A poster explaining what ORSSAB is and what it does is featured prominently, and another explains how the remotely controlled airplane overhead was used by the cleanup program.

Seventeen Recommendations Provided to DOE

In FY 2008, the board generated thirteen local recommendations on cleanup-related issues, such as:

- conducting future verifications of cleanup,
- engineering and technology development on the Oak Ridge Reservation, and
- historic preservation of the K-25 Building at East Tennessee Technology Park.

ORSSAB also worked with the chairs of the other six SSABs that comprise the national EM SSAB to draft four joint recommendations to DOE on topics such as EM SSAB participation in the EM budget process and long-term stewardship incorporation into new EM projects and legacy waste decisions.

Complete text of all ORSSAB recommendations is available at www.oakridge.doe.gov/em/ssab/recc.htm.

Staffing the ORSSAB booth at the 2008 Secret City Festival in Oak Ridge are board members Sondra Sarten and Ted Lundy.

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 now 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 2008 Stats

Average number of visitors per month	175
Number of public meetings held	173
Total citizen inquiries	1,674
Total Number of Documents at Center	44,000

Phone: 865-241-4780 **475 Oak Ridge Turnpike** **www.oakridge.doe.gov/info_cntr**

Information Resources

DOE Information Center
475 Oak Ridge Turnpike
Oak Ridge, Tennessee 37830
Phone: (865) 241-4780
Fax: (865) 574-3521
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

Commonly Used Acronyms

EM Program

AM	action memorandum
BCBG	Bear Creek Burial Grounds
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CH	contact-handled
CNF	Central Neutralization Facility
CROET	Community Reuse Organization of East Tennessee
DOE	U.S. Department of Energy
DWI	David Witherspoon Inc.
EM	Environmental Management
EPA	U.S. Environmental Protection Agency
ETTP	East Tennessee Technology Park
FFS	Focused Feasibility Study
FY	fiscal year
IFDP	Integrated Facility Disposition Program
LLW	low-level waste
MSRE	Molten Salt Reactor Experiment
NNSA	National Nuclear Security Administration
ORNL	Oak Ridge National Laboratory
ORRL	Oak Ridge Reservation Landfills
ORSSAB	Oak Ridge Site Specific Advisory Board
OSY	Old Storage Yard (Y-12)
PCB	polychlorinated biphenyl
PP	Proposed Plan
RAWP	Remedial Action Work Plan
RH	remote-handled
ROD	Record of Decision
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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