

Oak Ridge Reservation Educational Resource Guide



*Oak Ridge
National
Laboratory*



*Y-12 National
Security Complex*



East Tennessee Technology Park

**A publication of the
Oak Ridge Site Specific
Advisory Board**



Introduction

The Oak Ridge Reservation Educational Resource Guide is authored by the Stewardship Committee's Education Task Team of the Oak Ridge Site Specific Advisory Board (ORSSAB). The guide received input from teachers, students, the general public, and committee members. The guide was written to introduce the concepts and issues of radiological and chemical contamination, environmental management, and stewardship to middle and high school students, so that as adults they can influence the environmental management and long-term stewardship decisions of the future.

This guide provides materials and resources for introducing the legacy of waste generated and the scope of the environmental problems resulting from World War II and the Cold War. A variety of media resources (videos, web sites, speakers, and documents) are identified that may be used as teaching tools to account for different learning styles among students and different teaching styles among teachers. The age level and suitability of the material for students are indicated where appropriate.

The guide includes:

- A list of the addresses and phone numbers of **Local Information Resources** where information can be obtained, such as: Department of Energy Information Center, Tennessee Department of Environment and Conservation, and the ORSSAB Support Office.
- A list of **National Resources** including web sites for general background information on science and radiation. This list also includes specific web sites for government information, legacy waste information, Department of Energy information, and stewardship information.
- The **Speakers' Bureaus** offer a diverse number of topics, contact names, and phone numbers for scheduling dynamic volunteer speakers.
- The **Video Library** offers a broad range of videos ranging from 5 minutes in length to two hours. The level of video material varies from introductory to detailed and covers historical cultural, scientific, and technological issues.
- A list of **Reference Books and Documents** is provided for covering the background and current issues of the Department of Energy's activities.
- The **Periodicals and Newsletters** section highlights a variety of local and national resources.
- **Resource Kits** describes two valuable tools educators can use to go into more depth on radiation and stewardship issues.
- **Department of Energy Fact Sheets** summarize the key aspects of the Oak Ridge Reservation Cleanup program.

The committee will periodically review and update the material printed in this guide. The committee welcomes comments, constructive criticism, suggestions, additions, and deletions, and we encourage feedback from teachers and students within the classroom. Improvement of the guide depends on the dialogue we establish with users of the guide.

The authors of this guide would like to express the faith we have that the next generation will accept the environmental management stewardship "baton," that they will become publicly aware and publicly involved, and they will accept the responsibility of ensuring a safe and healthy environment for those living and working in the Oak Ridge area.

About ORSSAB

Formed in 1995, the Oak Ridge Site Specific Advisory Board (ORSSAB) is an independent, federally appointed citizens' panel that provides advice and recommendations to the U.S. Department of Energy on its Oak Ridge Environmental Management Program. The board is committed to reflecting the concerns of the communities impacted by environmental management of the Oak Ridge Reservation and to serving as a communications link between the public and the Department of Energy.

The Board is composed of 20 members, chosen to reflect the diversity of gender, race, occupation, views, and interests of persons living near the Oak Ridge Reservation. Members serve on a voluntary basis, without compensation.

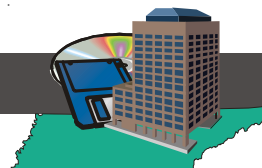
All monthly board and committee meetings are open to the public and are advertised in the Oak Ridger, at the DOE Information Center in Oak Ridge (865-241-4780), and on the board's web site (www.oakridge.doe.gov/em/ssab). Board meetings are also posted in the Federal Register and are video recorded and broadcast on local cable television stations. Information about the board is available on the web site and by calling the ORSSAB support office at 865-576-1590.



FY 2005 ORSSAB members, ex officios, and student representatives. Standing, left to right: Steve McCracken (Deputy Designated Federal Official), Dave Adler (DOE Ex Officio), Kerry Trammell (Chair), John Kennerly, Christopher Smith, Zach Ludwig (Student Representative), Luther Gibson, John Million, Ben Adams, Donna Campbell, Rhonda Bogard (Secretary), Bob McLeod (Vice Chair), Connie Jones (EPA Ex Officio), John Owsley (TDEC Ex Officio), Dick Berry. Seated, left to right: Pat Halsey (Federal Coordinator), Heather Cothron, Luis Revilla, Dave Mosby, Norman Mulvenon, Katie Meersman (Student Representative), Linda Murawski, Jake Alexander. Not pictured: Amy DeMint, Pat Hill, Jennifer Carignan (Student Representative).

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Local Information Resources



American Museum of Science and Energy (AMSE)

Address: 300 South Tulane Avenue
Oak Ridge, TN 37830
Phone: (865) 576-3200
Web: <http://www.amse.org>
E-mail: information@amse.org
Hours: Monday - Saturday 9 a.m. to 5 p.m.
Sunday 1 p.m. to 5 p.m.

The American Museum of Science and Energy's Education Department has developed educational programs based on four primary goals with thematic subdivisions:

- Process of Science
- Concepts of Science
- Habits of Mind
- Science in Society

The following exhibit areas support these goals: Oak Ridge Story, Exploration Station, Energy, Y-12 and National Defense, Earth's Energy Resources, and the World of the Atom.

The museum's programs and tours of the exhibit can be scheduled for group reservations.

DOE Information Center

Address: 475 Oak Ridge Turnpike
Oak Ridge, TN 37831
Phone: (865) 241-4780
E-mail: doeic@comcast.net
Web: http://www.oakridge.doe.gov/info_cntr
Hours: Monday-Friday 8 a.m. to 5 p.m.

The public can visit the DOE Information Center and search for useful documents with staff assistance. The public may inspect and copy documents in person or request them via phone, fax, e-mail, or U.S. Mail. There is no fee for copies of documents.

The Information Center is operated to satisfy the requirements of the Freedom of Information Act (FOIA), which requires access to all federal agency records except those prohibited from release by exemptions.

Collections include environment, safety, and health-related information, declassified and historical records, documents of administrative and general public interest, and procurement related records.

The center also serves as a public repository for documents related to Comprehensive Environmental Response, Compensation, and Liability Act cleanup of the Oak Ridge Reservation. The center is a storehouse for documents related to Environmental Management Program activities. It keeps major documents leading

up to a Record of Decision as determined by the Federal Facility

Agreement for the Oak Ridge Reservation. Some of the documents include: remedial investigation/feasibility studies, remedial action or removal action work plans, and proposed plans. The center also has information on the End Use Working Group, Bechtel Jacobs contracting, and the Site Specific Advisory Board. Several newsletters are available, such as the DOE Public Involvement News. Over 60 fact sheets on various Environmental Management projects providing an abundance of information on a wide variety of topics are also available.

Oak Ridge Public Library

Address: 1401 Oak Ridge Turnpike
Oak Ridge, TN 37830
Phone: (865) 425-3457
Web: <http://www.ci.oak-ridge.tn.us/lib-html/orlib.htm>
Hours: Monday-Thursday 10 a.m. to 9 p.m.
Friday 10 a.m. to 6 p.m.
Saturday 9 a.m. to 6 p.m.
Closed Sunday

The Oak Ridge Public Library keeps public notice records from DOE, Oak Ridge Health Studies, and other organizations; selected DOE public review documents; and selected permit applications and reapplications. The Oak Ridge Room offers a good selection of early historical documentation about Oak Ridge, including site maps and blueprints. Oak Ridge Room materials are catalogued separately from the main collection. Library information and search resources are available at the library's web site.

Tennessee Department of Environment and Conservation (TDEC)

Address: 761 Emory Valley Road
Oak Ridge, TN 37830
Phone: (865) 481-0995
Fax: (865) 482-1835
Web: <http://www.state.tn.us/environment>

The primary objectives of the TDEC are to assist in cleanup decisions and to assure the citizens of Tennessee that their health, safety, and environment are being protected during environmental restoration and ongoing activities at the Oak Ridge Reservation (ORR). The purpose of the TDEC Department of Energy (DOE) Division is to ensure that the environmental impacts associated with past and present activities at the DOE ORR are thoroughly investigated and maintained.

Local Information Resources (cont.)

University of Tennessee Library (UTK) Reference Room/Government Documents

Address: 1015 Volunteer Boulevard
Knoxville, TN 37996-1000
Phone: (865) 974-4171
Web: <http://www.lib.utk.edu/gpo/govdoc.html>
Hours: Monday-Thursday 7:30 a.m. to midnight
Friday 7:30 a.m. to 6 p.m.
Saturday 10 a.m. to 6 p.m.
Sunday 1 p.m. to midnight
Hours vary during the summer and between semesters

UTK is part of the Federal Depository Library Program, which provides free public access to U.S. government information by distributing information products produced by federal agencies to depository libraries located throughout the nation. Maps and Geographic Information System materials from federal agencies are sent to the UTK Map Library. Other depository libraries in the area include the UTK Law Library and Knox County Public Library.

Volunteers in Education Team (VET)

Address: Volunteers in Education Team
ORAU MS-19
P.O. Box 117
Oak Ridge, TN 37831-0117
Alex Boerner, VET Committee Chair
Phone: (865) 574-0951
Fax: (865) 241-3497
E-mail: vet@orau.gov
Web: <http://www.orau.org/invest/vet/vet.htm>

The Oak Ridge Associated Universities (ORAU) Volunteers in Education Team (VET) is a group of ORAU employees who volunteer their time to help enhance education in East Tennessee. VET supports science, mathematics, technology, and computer science education and the development of professional skills of K-12 students and teachers in East Tennessee through a variety of activities and donations.

Local Web Sites



Bechtel/Jacobs Company

<http://www.bechteljacobs.com>

Bechtel Jacobs Company L.L.C. is the management and integration contractor for the U.S. Department of Energy's Oak Ridge Operations Office, located in Oak Ridge. The company is responsible for environmental cleanup management and management of depleted uranium hexafluoride cylinders in Oak Ridge, Tennessee, and Paducah, Kentucky. Bechtel Jacobs Company supports DOE in a reindustrialization program to find commercial uses for Oak Ridge Reservation facilities that no longer have a mission.

BWXT Y-12

<http://www.y12.doe.gov/bwxt/home.html>

BWXT Y-12, LLC, a BWXT-Bechtel Enterprise, is the managing contractor of the Y-12 National Security Complex. Y-12 has developed expertise in many aspects of defense related capability and manufacturing technology. When combined with the research and development at ORNL, the skill and knowledge found at Y-12 form a formidable resource for the nation's industrial community.

DOE Information Center

http://www.oakridge.doe.gov/info_cntr

See Page 1 for details about the Information Center.

DOE Oak Ridge Operations

<http://www.oakridge.doe.gov>

The site presents Oak Ridge Operations' major programs in science, environmental management, assets utilization and uranium programs.

DOE Oak Ridge Environmental Management Site

<http://www.oakridge.doe.gov/em>

This site provides an overview of the EM Program and links to press releases and the stakeholder calendar. This compilation of links is a good local resource for stakeholders. Environmental Management (EM) is one of the largest Oak Ridge programs, with cleanup programs underway to correct the legacy waste remaining from up to 50 years of energy research and weapons production as well as an aggressive effort to manage currently generated wastes.

Ed Westcott Photography

<http://sunsite.utk.edu/westcott>

This web site provides a link to an online exhibit of photographs by Ed Westcott during the years 1942 to 1946 in the "secret city" of Oak Ridge, Tennessee. He

had a double role as government documentarian and civilian photojournalist.

ETTP Reindustrialization

<http://www.ettpreuse.com>

The U.S. Department of Energy's East Tennessee Technology Park (ETTP) is getting a second life through a unique process called Reindustrialization. Part of the vast complex, located in Oak Ridge, is available for lease. Facilities, equipment, and reusable materials are available to companies interested in leasing, performing cleanup work, or recycling.

Learn all about reindustrialization and how it works at this web site.

Key Figures in the Manhattan Project

<http://www.me.utexas.edu/~uer/manhattan/people.html>

This site provides short biographies of important and essential scientists involved in the research and development of the Manhattan Project. The biographies are concisely placed in scientific, political and sociological context. The list of figures includes Leo Szilard, Albert Einstein, Glen Seaborg, Neils Bohr, Richard Feynman, Enrico Fermi, J.R. Oppenheimer, and General Leslie Groves.

Oak Ridge Site Specific Advisory Board (ORSSAB)

<http://www.oakridge.doe.gov/em/ssab>

The ORSSAB web site offers a wealth of information about the board's activities, including a schedule of upcoming ORSSAB meetings, text of recommendations made to the Department of Energy, monthly meeting minutes, ORSSAB publications, member biographies, and much more. The Oak Ridge Reservation Educational Resource Guide is available in the Publications section in PDF format.

Oak Ridge National Laboratory

<http://www.ornl.gov>

Oak Ridge National Laboratory (ORNL) is a multiprogram science and technology laboratory managed for the U.S. Department of Energy by UT-Battelle, L.L.C. Scientists and engineers at ORNL conduct basic and applied research and development to create scientific knowledge and technological solutions that strengthen the nation's leadership in key areas of science; increase the availability of clean, abundant energy; restore and protect the environment; and contribute to national security.

Local Web Sites (cont.)

Oak Ridge National Laboratory History *

<http://www.ornl.gov/history>

This web page has links to several excellent ORNL general documents and technical reports discussing Oak Ridge history and nuclear science development. There is an excellent link to a time line discussing the major nuclear/historical developments by decades.

Tennessee Department of Environment and Conservation DOE Oversight Division

<http://www.state.tn.us/environment/doeo>

This site provides an overview of TDEC programs, Tennessee Oversight Agreement, activities and reports, and links to other pertinent sites.

UT-Battelle Management Contractor for DOE's Oak Ridge National Laboratory

<http://www.ut-battelle.org/>

A not for profit company, known as UT-Battelle, has been established for the sole purpose of managing and operating the Oak Ridge National Laboratory (ORNL). Both UT and Battelle are committed to serving the U.S. DOE by enhancing ORNL's leadership in scientific research, laboratory operations, and community service.

Volunteers in Education Team

<http://www.ornl.gov/invest/vet/vet.htm>

This site is for parents, students, and teachers and provides an excellent resource for lesson plans, educational games, interactive activities, educational materials, free software and so much more. There are links to career search, education and resources, especially for parents, government agencies, history lessons, science and energy, virtual learning and others.

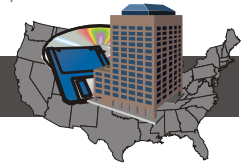
Y-12 National Security Complex

<http://www.y12.doe.gov>

Operated by BWXT Y-12, L.L.C., the Department of Energy's Y-12 National Security Complex is a manufacturing facility that plays an integral role in DOE's nuclear weapons complex.

Y-12 DOE Defense Program has developed a forward-looking, responsive program which meets the U.S. Department of Energy's requirements in support of U.S. nuclear defense policies. Learn about Y-12 yesterday, today, and tomorrow, its missions and much more at this site.

* Excellent resource sites for teachers and classroom material.



Center for Environmental Management Information (CEMI)

Address: P.O. Box 23769
Washington, DC 20026-3769
Phone: 1-800-7-EM DATA (1-800-736-3282)
Web: <http://web.em.doe.gov/public/cemi.html>
E-mail: eminfo@cemi.org
Hours: 9 a.m. to 6 p.m.

Established in 1993, CEMI serves as DOE's primary source for information on the EM Program. CEMI offers three primary services: (1) a library and resource center; (2) publications, exhibits, and briefings; and (3) World-Wide Web design, support, and outreach.

The library is located one block from DOE Headquarters in Washington, DC. It offers both general and technical publications, videos, and some specialized teaching materials; a toll-free phone number; a computer terminal for on-line research; and a distribution system that provides materials to the public free of charge. It is staffed with information specialists who are trained to answer callers' questions and assist them with their research. CEMI also serves as a point of contact and refers callers to other information centers or DOE offices, as needed. CEMI maintains a library of the most up-to-date program materials available; documents, pamphlets, news clippings, records of decision, environmental impact statements, and videos. Each document is logged into CEMI's text base and is made available to the public within 48 hours of the time it was received.

CEMI provides information on EM initiatives through publications and exhibits and produces a quarterly newsletter, EM Progress, that publicizes waste cleanup efforts and opportunities for public involvement around the nation.

CEMI developed and maintains EM's Internet site. The EM home page contains CEMI's publication order form, which customers can use to submit their information requests.

Government Printing Office (GPO)

Address: Office of Congressional, Legislative,
and Public Affairs (General inquiries)
Washington, D.C. 20402
Web: <http://www.gpoaccess.gov>
Phone: (202) 512-1880
Fax: (202) 512-2250

GPO produces and procures printed and electronic publications for Congress and the individual departments and establishments of the federal government. It catalogs, distributes, and sells government publications in printed and electronic formats. It administers the Federal Depository Library

Program through which a comprehensive range of government publications is made available for the free use by the public in 1400 libraries throughout the country. GPO also provides online access to more than 70 databases of federal government publications, including the Congressional Record, Code of Federal Regulations, and the Federal Register.

National Technical Information Service (NTIS)

Address: Technology Administration
U.S. Department of Commerce
Springfield, VA 22161
Phone: 1-800-553-NTIS (6847)
Fax: (703) 605-6900
Web: <http://www.ntis.gov>

NTIS is the federal government's central source for the sale of scientific, technical, engineering, and related business information produced by or for the U.S. Government and complementary material from international sources. Nearly 3 million products are available from NTIS. The collection of titles includes business and management studies, international marketing reports, material and chemical science data, technology innovations, and training tools. Information is available in various formats: printed reports, CD-ROMS, computer tapes and diskettes, online, audio cassettes, videocassettes, and microfiche. For more information, call Pat McNutt, NTIS Collection Management Solutions, at (703) 605-6543.



Atomic Archive

<http://www.atomicarchive.com>

This web site reviews the complex historical events giving rise to the research and development of the atomic bomb. It also explores the science and consequences of a nuclear bomb. The site has links to informative nuclear science pages, information on historical documents, treaties, a nuclear history timeline, historical photographs, animations and an almanac with a collection of data, nuclear stockpiles and facilities.

Ben's Guide, Government Printing Office

<http://bensguide.gpo.gov/index.html>*

This site contains links about our nation, historical documents, branches of government, how laws are made, national versus state government, election process, citizenship, the national high school debate topic, games and activities, glossary, and U.S. Government Web Sites for students in grades K-12.

Cold War International History Project, Woodrow Wilson International Center for Scholars

<http://cwihip.si.edu/>

This web page is responsible for disseminating new information and perspectives on the history of the Cold War with emphasis on new findings from previously inaccessible sources from the former Communist world.

DOE Headquarter's Environmental Management Site *

<http://www.em.doe.gov>

This site provides an overview of the Environmental Management program across the country with links to every state. There are also links to press releases, budget, laws and regulations, publications plus many others. The link called "Interested Audiences - Teachers and Students" provides teaching resources.

DOE Information Bridge

<http://www.osti.gov/bridge>

The Information Bridge provides an open source to full-text and bibliographic records of Department of Energy (DOE) research and development reports in physics, chemistry, materials, biology, energy technologies, engineering, computer and information science, and renewable energy.

DOE's OpenNet Home Page *

<http://www.osti.gov/opennet/>

The OpenNet web page provides information on DOE's openness policy, openness press conferences

and additional openness information and resources. The web site also provides searching capabilities and links to the DOE's Openness Historical Records and Historical Weapons film databases.

DOE Web Site*

<http://www.energy.gov>

This site provides an overview of the Department of Energy. This site has a "School" link with topics about energy efficiency, environmental quality, national security, science & technology, and sources & production with resources for teachers.

EPA

<http://www.epa.gov>

EPA's site is a gold mine for information seekers. Environmental publications, statistics, research databases, and general information are all available at this site. Use www.epa.gov/epahome/educational.htm* to find curriculum resources and activities to use in the classroom on different topics.

Radiation Protection Web Site sponsored by EPA*

<http://www.epa.gov/radiation>

This site assists the public in understanding radiation, becoming aware of radiation sources, protecting people and the environment, managing radioactive materials and waste, responding to accidents and emergencies, and cleaning up radioactive sites.

There is a link to a section especially designed for students and teachers. A radiation resource kit can be ordered for free online at www.nsc.org/ehc/rad.htm.

FedWorld

<http://www.fedworld.gov>

If it's U.S. government related, you can probably get there from here. Links to the White House and Congress make it easy to zip off e-mail messages to elected officials, and you can also access almost any other U.S. government agency or program you're interested in. You can browse databases, download forms, purchase reports, and link to scores of related sites all from this one web page.

Health Physics Society Documents *

<http://www.hps.org/documents/>

The Health Physics Society's document page provides links to PowerPoint presentations and PDF files on a variety of topics (e.g., radiation, food irradiation, what we know and what we don't know about radiation health effects, radiation standards for site cleanup and

National Web Sites (cont.)

restoration). The web page provides approximately 50 links to various topic presentations/papers.

Jefferson Lab

<http://education.jlab.org>

Jefferson Lab has an excellent Science Education home page. It has links for teachers, resources, student zone, and games and puzzles.

The Jefferson Lab has a Science Series Video Lending Library with an extensive selection of videos in the following areas: Biology and Medicine, Engineering and Applications, Environment and Earth Science, Jefferson Lab/CEBAF, and Physics and Chemistry.

Address: Jefferson Lab Science Education
12000 Jefferson Ave., MS-16C
Newport News, VA 23606

Phone: (757) 269-7560

Fax: (757) 269-5065

Office of Scientific and Technical Information (OSTI)

<http://www.osti.gov>

OSTI is responsible for leading DOE's Technical Information Management Program. It provides direction and coordination for the dissemination of scientific and technical information resulting from

DOE research and development and environmental programs. OSTI created and maintains the DOE Information Bridge and is a good jumping-off point for several EM-related sites, such as the DOE Research and Development Accomplishment Database and Energy Files: the Virtual Library of Energy Science and Technology.

Radwaste Teacher's Corner *

<http://www.radwaste.org/teacher.htm>

The purpose of this web page is to assist teachers in preparing lessons and assignments on nuclear and radiation related topics. It includes links to educators' associations, nuclear education programs, nuclear facts and figures, nuclear history, famous people, classroom projects, classroom tools, museums, photo gallery, general science education and other resources. (Approximately 350 links).

* Excellent resource sites for teachers and classroom material.

Stewardship Web Sites



CRESP, Re: Stewardship Issues at DOE sites

<http://www.cresp.org>

The Consortium for Risk Evaluation with Stakeholder Participation (CRESP) web site lists CRESP publications pertinent to stewardship issues at Department of Energy sites in the following subject areas: future land use, economic considerations and biomonitoring for stewardship.

DOE Office of Legacy Management

<http://www.lm.doe.gov>

Legacy Management was established as a new DOE office in December 2003. The mission of the office is to manage the DOE's responsibilities and ensure the future protection of human health and the environment at closed DOE sites. The office has control and custody for legacy land, structures, and facilities and is responsible for maintaining them at risk levels suitable for their long-term use. Functions of the office include long-term surveillance and maintenance (also referred to as long-term stewardship) of DOE facilities where remediation measures have been substantially completed.

Energy Community Alliances Media Advisory on Stewardship

<http://www.eli.org>

The web page provides a link to the report "Role of Local Governments in Long Term Stewardship" (3/9/2001). ECA and ELI issued the report outlining the difficulties DOE and state, local and tribal governments have in managing contaminated lands. The report examines the capacity of local governments to participate in long term stewardship. Three case studies are presented including Oak Ridge.

Joint Institute for Energy and Environment

<http://www.jiee.org>

Joint Institute for Energy and Environment (JIEE) was established by ORNL, TVA, and UT to conduct collaborative research related to energy, environment, and economics. In August 2002 JIEE published "DOE Legacy Waste Cleanup and Stewardship: Beyond the Top to Bottom Review" by Milton Russell. This 58 page document summarizes in easy to understand language a set of propositions and framework that should guide DOE in formulating its mission and implementing its waste management responsibilities. The report "holds that the nuclear waste legacy presents a daunting technical/economic challenge wrapped up in a set of values . . . The values span generations; hazardous nuclear waste is not a problem to be solved, but instead is a situation to be managed - in perpetuity."

LTS in Nuclear Weapons Complex - A State's Perspective

<http://ndep.nv.gov/lts/states.htm>

Department of Energy Long Term Stewardship Press news web page sponsored by the National Governors' Association and the Federal Facilities Task Force. This page provides links to current news items relative to long term stewardship and federal facilities.

Rocky Flats Citizens Advisory Board

<http://www.rfcab.org/toolbox.pdf>

Rocky Flats CAB's Stewardship Working Group has prepared a report (June 2002) titled "The Rocky Flats Stewardship Toolbox: Tools for Long-Term Planning." The document provides an analytical matrix designed to help decision-makers ensure that long-term stewardship requirements are thoroughly considered during remedy selection process.



Oak Ridge Site Specific Advisory Board Speakers' Bureau

Contact: Oak Ridge Site Specific Advisory Board
P.O. Box 2001, EM-91
Oak Ridge, TN 37831
Phone: (865) 576-1590 or 1-800-382-6938
Fax: (865) 574-3521
E-mail: osbornepl@oro.doe.gov
Web: www.oakridge.doe.gov/em/ssab

The Oak Ridge Site Specific Advisory Board Speakers' Bureau provides presentations to local civic, educational, and governmental organizations to encourage participation in board activities and to educate and communicate with local stakeholders about the board and DOE's environmental management activities.

Y-12 National Security Complex Speakers' Bureau

Contact: Ellen Boatner
Y-12 Public Affairs
Phone: (865) 574-1643
Web: www.y12.doe.gov

The Department of Energy's (DOE) Y-12 National Security Complex is a manufacturing facility that plays an integral role in the National Nuclear Security Administration Nuclear Weapons Complex. Y-12's DOE Defense Program has developed a forward-looking, responsive program which meets the DOE's requirements in support of U.S. nuclear defense policies. There are also many other capabilities at the Y-12 Plant, such as research and development, environmental restoration, and modernization.

Schools, clubs, and organizations in the area may learn about the Y-12 National Security Complex from guest speakers provided by the BWXT Y-12 Speakers' Bureau.

Staff members for BWXT Y-12 are available, free of charge, to discuss their work in such areas as safety, environmental protection and compliance, information technology, engineering, emergency management, national defense and modernization of the Y-12 Complex.

Speakers are available for many other subject areas, including professional and career areas.

Oak Ridge National Laboratory Speakers' Bureau

Contact: Fred Strohl
ORNL's Office of Communications and
Community Outreach
Phone: (865) 574-4165
E-mail: strohlhf@ornl.gov
Web: www.ornl.gov/news/cco/speakers.htm

Advanced notice of one month for scheduling is requested. There is no charge.

The missions of the Department of Energy (DOE) Oak Ridge

installations touch many areas of vital public interest and concerns including energy supply and demand, basic and applied scientific research, technological innovation and economic development, environmental protection, environmental management, technology transferring, and human health to name a few.

As a result, Oak Ridge National Laboratory (ORNL) staff members are called upon frequently to discuss their work and its importance to the nation. To meet this interest, a centralized Speakers' Bureau was established in 1975. Since then, it has served as a focal point for arrangements between outside organizations seeking speakers and company staff members who have volunteered their services within the limits of available time and program commitments.

Below are listed six major topic areas with subtopics. For each subtopic listed, there are many presentations that can be provided for that particular topic.

1. Energy Production and End-Use Technologies:

These topics generally refer to energy and energy-use and production issues, as well as opportunities in the area of renewable energy.

- Building Technology & Energy Efficiency
- Energy Security
- Fuel Economy Strategies
- Future Energy Issues
- Future of Energy in the 21st Century
- Hybrid Lighting
- National Transportation Research Center
- New Opportunities In Fossil Energy
- Renewable Energy Sources
- Vision 2020 for the Petrochemical Industry

2. Biological and Environmental Science & Technology:

Most of these topics deal with issues covering environment and biology, including a lot of related research taking place throughout the Oak Ridge Reservation area. Topics about mice and the human genome are currently popular at ORNL. There is a lot of material here that students can appreciate.

- Biomass Research
- Biotechnology and Algae
- Designer Genes
- Forest Health In A Changing Chemical and Physical Climate
- Future of Climate Change
- Global Warming
- ORNL's Biomass Initiative
- Public Acceptance of Waste Management Technologies
- Southern Appalachian Man and the Biosphere Program

Speaker's Bureau (cont.)

- Spaceship Earth: Our Restless Planet
- Status of the Human Genome Project
- The Legacy of Waste and How to Deal With It
- Using Mice to Determine What Genes Do
- Vet Perspective On Laboratory Animal Studies
- Wildlife As Sentinels of Contamination

3. Advanced Materials Synthesis, Processing Characterization:

These topics deal more with transportation, lighter metals and national security. The most interesting topics for students are enforcement and forensics.

- Advanced Materials Research
- Improving National Defense Logistics
- Law Enforcement and Forensics
- New Automobiles and Fuels for Cleaner Transportation

4. Nuclear Science:

The most highly recommended topic is the Spallation Neutron Source topic. It is a facility under construction that will become one of the primary programs of ORNL for years to come. The history of neutron science dates to Manhattan Project days when the Graphite Reactor was the focus of this work.

- DOE's Nuclear Criticality Safety Program
- Nuclear Technology Sciences
- Preventing the Proliferation of Nuclear Weapons
- Spallation Neutron Source

5. Computational Science & Advanced Computing:

This is another interesting topic area for students. Robotics is especially good.

- Computer Visualization
- Crystallography and Its Influence On Art
- Robotics Research
- The Making of a Star

6. Technology Transfer & ORNL Partnerships:

These topics describe how ORNL works with industry to put ORNL technology to work in the public sector. "Upgrading ORNL Facilities" delves into the unique partnerships being created to expand private investment at ORNL.

- How ORNL Supports Entrepreneurs
- Technology Transfer and Economic Development in East Tennessee
- Upgrading ORNL Facilities

7. All About ORNL:

The talk on engineering careers is good for older high school students.

- Careers: What Do Engineers Do? (youth)
- Early History of ORNL
- How to Tap ORNL User Facilities
- Human Resources: Managing Conflict Resolution, Conflict and Diversity
- Scientific Recruiting and Employment
- The new AMSE
- Workforce Diversity

Oak Ridge Institute for Science and Education (ORISE) Speakers' Bureau

Contact: Pam Bonee
Speakers' Bureau Coordinator
Oak Ridge Associated Universities
P.O. Box 117, MS 44
Oak Ridge, TN 37831
Phone: (865) 576-3147
Fax: (865) 241-2923
E-mail: speakers@orau.gov <http://www.orau.org/speakers>

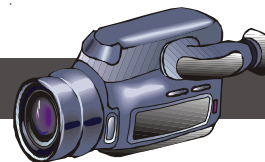
The ORISE Speakers' Bureau is a community resource designed to help area schools, organizations, and businesses have access to subject matter experts. Topics include, but are not limited to:

- Clinical Care of the Radiation Patient
- Crisis Communication
- Diversity Awareness and Minority Issues
- Emergency Preparedness
- Enhanced School Safety
- Environmental Law
- Environmental Assessments & Site Verification
- Health Physics
- Information Technology
- Management and Business Issues
- ORAU and ORISE: What we do
- Radiation Accidents
- REAC/TS: An International Resource
- Safety and Emergency Management
- Science and Education
- The NSF Graduate Research Fellowship Program
- Strategic Planning
- Worker Health
- Workplace Violence

Volunteers in Education Team (VET)

Contact: Alex Boerner
VET Committee Chair
ORAU MS-19
P.O. Box 117
Oak Ridge, TN 37831-0117
Phone: (865) 574-0951
Fax: (865) 241-3497
E-mail: vet@orau.gov
Web: www.orau.org/invest/vet/vet.htm

The Oak Ridge Associated Universities (ORAU) Volunteers in Education Team (VET) is a group of ORAU employees who volunteer their time to help enhance education in East Tennessee. VET supports science, mathematics, technology, and computer science education and the development of professional skills of K-12 students and teachers in East Tennessee through a variety of activities and donations.



Videos are available to borrow by contacting the DOE Information Center by phone at (865) 241-4780 or by e-mail at doaic@comcast.net.

HISTORY

Building Bombs: The Legacy (PBS, NEA)
(48 minutes)

The video introduces Aiken, South Carolina and the Department of Energy's Savannah River Site. The history of the Savannah River Site is reviewed emphasizing the construction of the plant for bomb materials and the early handling and disposal of the hazardous and radioactive waste on site. The video proceeds to discuss the "down side of nuclear prosperity" and the "high yield hangover of a forty year binge." The radioactive contaminants of greatest concern are plutonium and tritium necessary for the manufacture of hydrogen bombs. Some discussion revolves around the adequacy of environmental laws, Department of Energy's oversight and DuPont's compliance. Possible worker exposure and worker sickness is presented. Some pertinent questions addressed: What does cleanup mean? What should it cost? Who can be trusted to keep watch?

Modern Marvels: The Manhattan Project
(50 minutes)

This video draws on government files, archival footage, and the memories of many surviving team members to tell the extraordinary story of the Manhattan Project. The video provides an in-depth portrait of one of the most impressive scientific, engineering, and manufacturing projects in human history, made all the more compelling because of its ethical implications. In just 28 months, the United States created a nationwide industry that consumed \$30 billion in today's dollars and one-tenth of the nation's electricity, and delivered the deadliest weapon that mankind had ever conceived. Yet when the scientists and dignitaries gathered in that remote desert nearly 60 years ago, few had any real idea of what they had created. Among the people interviewed for this program are General Paul Tibbets, who piloted the *Enola Gay* over Hiroshima, the past and present directors of the Oak Ridge National Laboratory, and the official Manhattan Project photographer.

ENVIRONMENTAL MANAGEMENT

Environmental Management: An Overview
(19 minutes)

DOE's Environmental Management Program Office of Waste Management develops policy and program guidance related to waste management issues and

coordinates, integrates, and oversees the national Waste Management Program to protect people and the environment by providing a safe, effective, and efficient system to minimize, treat, store, and dispose of DOE wastes in a timely manner.

Environmental Management Program Integration Initiation; Achieving DOE's Accelerated Cleanup
(14 minutes)

This video gives an overview of DOE's innovative program to accelerate cleanup of radioactive and hazardous wastes at its sites around the nation.

Meeting the Challenge: Environmental Restoration and Waste Management (16 minutes)

This video gives a history and current activities of Y-12, Oak Ridge National Laboratory and East Tennessee Technology Park. It also tells about the waste management practices that are being used to clean up the legacy waste that was left behind following the Manhattan project.

OAK RIDGE FACILITIES

Oak Ridge Gaseous Diffusion Plant (ORGDP) - 40 years: An Enriching Experience (20 minutes)

This video describes a reminiscent overview of the history of ORGDP from the 1940s to the 1980s shortly before the plant was shut down and turned into an environmental cleanup site. It does not address the criteria of environmental management and regulations, but it may be of interest to area students from a historical perspective.

The History of K-25 (10 minutes)

This videotape gives an excellent overview of the history and mission of the Oak Ridge Gaseous Diffusion Plant.

Bringing Science to Life (21 minutes)

This videotape gives an excellent picture of the varied scientific research and development missions of Oak Ridge National Laboratory.

What We Do At Y-12 (11 minutes)

This video, although not specifically dealing with any environmental or regulatory matters, provides an overview of the Y-12 National Security Complex and the importance of its mission to the nation.

Video Library (cont.)

WASTE MANAGEMENT

Envirocare (10 minutes)

The video presents a description of the commercial radioactive waste disposal site located in Clive, Nevada. The video briefly addresses the history of the need for Envirocare and the selection of Clive as the site for Envirocare. It defines and describes the four types of wastes accepted at Envirocare and the separate disposal of each of these waste types. The video addresses the transportation means and routes to Envirocare and subsequent handling of waste once it reaches Envirocare (sampling, analysis, treatment of bags/drums, barrels/boxes). A discussion of the physical aspects of the landfill includes “cut and cover” of cells, low permeability embankments, etc.

Focus Area Videos (40 minutes)

High Level Waste Tank Remediation; Mixed Waste Characterization, Treatment, & Disposal; Landfill Stabilization Contaminant Plume Containment & Remediation; Facility Transitioning, Decommissioning, & Final Disposition

Half Lives Nuclear Wastes (56 minutes)

No review available.

Managing the Nation's Nuclear Waste (120 minutes)

No review available.

Oak Ridge East Fork Poplar Creek Sampling (14 minutes)

The East Fork Poplar Creek, located on the Oak Ridge Reservation in TN, contains mercury and other metals in its waters. Discovered in 1983, these releases are thought to have occurred in the late 1950s or early 1960s. The effects these discoveries have had on the surrounding area and the site are discussed. A detailed synopsis of the sampling process is given. Information is also provided on worker safety and health issues.

Oak Ridge East Fork Poplar Creek (6 minutes)

Cleanup of East Fork Poplar Creek. This video deals with community involvement in working out a plan with DOE to cleanup the creek in the most cost effective way. Phase 1 of the project was conducted in 1992. Phase 2 was conducted in 1997.

Oak Ridge Uranium Waste Minimization (5 minutes)

The video discusses the current method at DOE's Y-12 Plant in Oak Ridge for disposing of radioactive uranium by-products safely. The goal is to make the process much more efficient.

Safety First: Transportation of Radioactive Materials (22 minutes)

The video reviews the history of transporting hazardous waste materials. Radioactivity is defined and transportation regulations and safety measures are listed. The video also addresses generated waste and the reduction of new waste at all DOE sites. This video deals with the progress of the EM's Waste Management program. The video defines hazardous materials and radioactive materials and discusses them from the perspective of usefulness. It introduces the topics radiation risk, radioactivity in nature, materials packaging categories, federal safety standards, transportation and emergency preparedness. The video setting is a high school class with students initiating questions.

What's Happening in Waste Management? (18 minutes)

For more than 45 years, the primary mission of DOE and its predecessor agencies has been to maintain a secure national defense through nuclear weapons production, which resulted in the generation of radioactive and hazardous wastes. As the defense mission of DOE began to change from nuclear weapons production to weapons stewardship and energy research, increased attention was given to waste management and environmental restoration.

RADIATION

A Look at Radiation (10 minutes)

No review available.

Managing Radiation (10 minutes)

No review available.

The Radioactive Waste of Karen Kramer (30 minutes)

No review available.

ENVIRONMENTAL LAWS AND REGULATIONS

Our Actions - Our Environment (10 minutes)

This videotape provides a good overview of environmental laws and regulations and relates actions at work to actions at home.

Waste Management Complying with the Law: What is Waste? (11 minutes)

This tape deals specifically with regulations and laws applying to government facilities in the area of waste.

Video Library (cont.)

Waste Management Complying with the Law: Management of Hazardous Waste (11 minutes)

This tape deals specifically with regulations and laws applying to government facilities in the area of hazardous waste.

Waste Management Complying with the Law: Long-Term Storage (12 minutes)

This tape deals specifically with regulations and laws applying to government facilities in the area of long-term storage of various kinds of waste.

Waste Management Complying with the Law: Pollution Prevention (12 minutes)

This tape deals specifically with regulations and laws applying to government facilities in the area of pollution prevention.

RISK

Living with Risk (13 minutes)

This is a film about all the risks we live with every day. Several local people speak of the need to enforce rules that are in existence and the need for government leaders to increase communication with the communities involved with environmental risks.

ENVIRONMENTAL JUSTICE

Strengthening the Bridge Between Economic Development and Sustainable Communities (10 minutes)

This film was edited from the environmental justice Black Caucus Forum held in Hilton Head, NC in June 1999. The video emphasizes four requirements needed to insure Environmental Justice for all people: community involvement, allocation of funds, enforcement of regulations, and policy direction and development.

CAREER OPPORTUNITIES

I Wanna Clean It Up (31 minutes)

The video delves into the widely diverse career opportunities available in the environmental field through in-depth interviews with people deeply committed to making a difference. From microbiologist to mechanical engineer to wildlife specialist, these young professionals strive to identify and clean up environment hazards that have been accumulating for years, and to develop new methods to eliminate future waste.

OTHER DOE FACILITIES

Hanford B Reactor (60 minutes)

A “home” video of a tour of the Hanford B Reactor. The tour begins in the control room with an interpreter describing the function and purpose of the instruments and panel sections in addition to a brief physical description of the reactor itself and how it operated in plutonium production. Some discussion follows on the University of Chicago reactor, Dr. Fermi, and the early history and stages of graphite reactors. Early safety measures and controls of the nuclear reaction are presented. The xenon problem in the initial nuclear reactions is explained with respect to the coordination of communication between scientists, engineers, physicists, and designers. The tour continued to other display areas with an interpreter that describes the fuel cell, the graphite block (thermal shield), masonite (biological shield), water flow, process tubes and the loading of the fuel. The water purification plant, cooling pipes, and retention basin are also described. (Note: Background sound distracting at times)

Nevada Test Site (20 minutes)

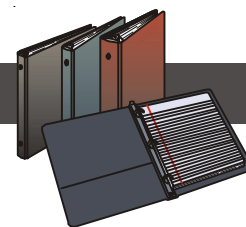
The video presents an extensive and detailed description of the Nevada Test Site (NTS). Disposal of waste at NTS landfills is discussed. Special topic research facilities include a nuclear reactor, cryogenic evaluation facility, device assembly, explosive experiments facility. NTS is one of the “guardians of nuclear readiness and response” for national and international purposes.

MISCELLANEOUS

The White Hole (11 minutes)

This amusing animated film is a wonderful commentary on our throw-away society. One day as kids play in the park, a black hole as big as a basketball suddenly appears. It gobbles up everything that comes its way. All kinds of experts, armed with the latest in modern technology, fail to come up with an explanation. Then they get a great idea: What a perfect way to get rid of all our waste! All seems fine until one day a white hole appears... Appropriate for grade levels 5-12, college, adult.

Books & Documents



Books and documents can be requested from the DOE Information Center.

Address: 475 Oak Ridge Turnpike
Oak Ridge, TN 37830

Phone: (865) 241-4780

Fax: (865) 574-3521

E-mail: doeic@comcast.net

GENERAL ENVIRONMENTAL REFERENCE DOCUMENTS

Closing the Circle on the Splitting of the Atom: The Environmental Legacy of Nuclear Weapons Production in the United States and What the Department of Energy is Doing About It, DOE, Office of Environmental Management, January 1996, DOE/EM-0266

This document describes environmental, safety, and health problems throughout the nuclear weapons complex. It includes an overview of nuclear weapons production and DOE's effort in cleaning up its wastes and by-products. Two chapters describe DOE's plans and the progress made towards solving these waste problems.

Oak Ridge, Tennessee-A Citizen's Guide to the Environment, 2001

The document was written and edited by local citizen volunteers. The guide presents an accurate and balanced view of the environmental conditions of Oak Ridge residential and business areas. It also discusses the health of Oak Ridge citizens. Past contaminant releases from the Department of Energy plants are cited. However, past releases do not pose a current risk to the city. The guide has a section on cleanup and waste management on the DOE reservation. The factual content of the guide was reviewed and verified by a number of experts.

From Cleanup to Stewardship, DOE, Office of Environmental Management, October 1999, DOE/EM-0466

This report addresses the nature of long-term stewardship at DOE sites. It describes the scope and breadth of long-term stewardship activities and why these activities are necessary. It summarizes what is currently known about end states, the number and location of DOE sites that require stewardship, the type of stewardship required, which sites are currently carrying out stewardship activities, and planning for long-term stewardship. The report outlines several issues the Department has initially identified that need to be addressed to ensure a successful transition from cleanup to long-term stewardship. There are also five appendices: (A) Dec. 1998 Lawsuit Settlement Agreement (B) Regulations governing long-term

stewardship (C) Methodology (D) Glossary of Terms (E) Site Profiles. Available on the web at <http://www.em.doe.gov/lts> (Stewardship Information Center, Reports on Long Term Stewardship).

Understanding Radioactive Waste, 4th Edition, Murray, Raymond L., 1994, Battelle Press, 505 King Avenue, Columbus, Ohio 43201. Phone: (614) 424-6393 or 1-800-451-3543

This book presents facts about all aspects of radioactive wastes in a simple, clear and unbiased Manner. The information is intended for students and other interested or concerned members of the public.

TECHNICAL DOCUMENTS

Linking Legacies: Connecting the Cold War Nuclear Weapons Production Processes to Their Environmental Consequences, DOE, Office of Environmental Management, January 1997, DOE/EM-0319

In the aftermath of the Cold War, the United States has begun addressing the environmental consequences of five decades of nuclear weapons production. This report responds to The National Defense Authorization Act for Fiscal Year 1995 and it is DOE's first comprehensive analysis of the sources of waste and contamination generated by the production of nuclear weapons. It also contains information on the missions and functions of nuclear weapons facilities, and on the inventories of waste and materials remaining at these facilities. The document discusses the extent and characteristics of contamination in and around these facilities.

Oak Ridge Reservation Annual Site Environmental Report, DOE, Office of Environmental Management, issued annually

This document is prepared annually to summarize environmental activities, primarily environmental monitoring activities, on the Oak Ridge Reservation and within its surrounding area. A summary of the report is written by Karns High School students. The annual report and the summary are electronically available at <http://www.ornl.gov/aser> or www.ornl.gov/Env_Rpt.

Remediation Effectiveness Report/CERCLA Five Year Review for the U.S. Department of Energy, Oak Ridge Reservation, Oak Ridge, Tennessee, DOE, Office of Environmental Management, issued annually

The Remediation Effectiveness Report (RER) is a Federal Facility Agreement document intended to

Books & Documents (cont.)

collate all ORR CERCLA decision requirements, compare pre- and post-remediation conditions at CERCLA sites, and present the results of any required post-decision monitoring.

Federal Facility Agreement Annual Progress Report, DOE, Office of Environmental Management, issued annually

This annual progress report satisfies the requirements for the Environmental Management Program by the Oak Ridge Federal Facility Agreement (FFA) to ensure that environmental impacts associated with the ORR are thoroughly investigated and remediated to protect the public health and welfare and the environment. The FFA was established with the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the Tennessee Department of Environment and Conservation.

As required by the FFA, this document contains project descriptions, progress report data, document delivery status, and current contractor lists for East Tennessee Technology Park, the Y-12 National Security Complex, and the Oak Ridge National Laboratory.

The Nuclear Waste Primer: A Handbook For Citizens, League of Women Voters, 1993, Rev. ed., 1-800-225-NWPA or write to OCRWM Information Center, P.O. Box 44375, Washington, D.C. 20026

The Primer provides information about nuclear waste in the United States-what it is, where it comes from, how it has been managed, and what we can do with it in the future. The book is written for anyone interested in radioactive waste and its effects.

Final Report of the Oak Ridge Reservation End Use Working Group, Oak Ridge Site Specific Advisory Board, End Use Working Group, July 1998

The Oak Ridge Reservation End Use Working Group (EUWG), a broadly based volunteer citizens group, was formed in January 1997 to develop and evaluate guidelines and recommendations for future uses of contaminated areas following remediation on the Oak Ridge Reservation. This is the final report containing their eight recommendations.

Oak Ridge Reservation Stakeholder Report on Stewardship, Volume 1, Oak Ridge Site Specific Advisory Board, End Use Working Group, July 1998

This report describes the need for and the basic elements of a stewardship program, its application to contaminated areas on the Department of Energy (DOE) Oak Ridge Reservation, and the roles and responsibilities of stakeholders. At present, this

stewardship program applies to the DOE Oak Ridge Operation's Environmental Management Program. It also provides a summary of the key recommendations for stewardship on the Oak Ridge Reservation. The End Use Working Group Stewardship Committee in collaboration with the Stewardship Committee from the Friends of Oak Ridge National Laboratory prepared this report. Available on the web at <http://www.oakridge.doe.gov/em/ssab> (Publications).

Oak Ridge Reservation Stakeholder Report on Stewardship, Volume 2, Oak Ridge Site Specific Advisory Board, Stewardship Working Group, December 1999

The recommendations in this report supplement the recommendations in the July 1998 Oak Ridge Reservation Stakeholder Report on Stewardship. More detail and a number of additional comments, conclusions and recommendations are contained throughout the text and appendices. The recommendations in this report apply only to the contaminated areas on the Oak Ridge Reservation. While the basic elements of stewardship discussed in Volume 2 (i.e., authority and funding, stewards, operations, physical and institutional controls, information and research) remain much the same as in Volume 1, the relationship among these elements are more fully developed in this report. Some of the unresolved issues associated with stewardship are treated more explicitly than in Volume 1 (e.g., stewardship requirements in CERCLA documents, CERCLA five-year review). Available on the web at <http://www.oakridge.doe.gov/em/ssab> (Publications).

Status Report to the Public, Tennessee Department of Environment and Conservation, DOE Oversight Division, issued annually

This report presents mission-related activities on the Oak Ridge Reservation by DOE.

Periodicals & Newsletters



LOCAL PERIODICALS & NEWSLETTERS

BWX TYmes

The BWX TYmes is a newsletter published for employees and friends of Y-12 National Security Complex. BWX TYmes 60th anniversary issue (Volume 3, #2, February 2003) presents a brief history of Y-12. The history offers anecdotes, background on General Leslie Groves, information on women and the war, unique skills and contributions of the Y-12 plant.

Web : <http://www1.y12.doe.gov/scripts/y12/bwxtymes.cfm>

ORNL Reporter

The ORNL Reporter is a newsletter published for employees and retirees of Oak Ridge National Laboratory. The ORNL Reporter, #5, January / February 2003 is the ORNL 60th anniversary issue. The issue reviews the naming and numbering of the buildings at ORNL and recalls transportation to ORNL in the early years. The early conditions and atmosphere of ORNL is presented in an anecdotal manner in this issue.

Web : <http://www.ornl.gov/reporter>

Advocate Newsletter

Published quarterly by the Oak Ridge Site Specific Advisory Board (ORSSAB), the newsletter provides information about the ORSSAB's current activities, including advice and recommendations provided to the Department of Energy's (DOE) Environmental Management (EM) Program. It also highlights recent activities that the board has been studying pertaining to the DOE EM program. The Advocate is free.

Address: Oak Ridge Site Specific Advisory Board
P.O. Box 2001, EM-91
Oak Ridge, TN 37831

Phone: (865) 576-1590 or 1-800-382-6938

Fax: (865) 574-3521

E-mail: osbornepl@oro.doe.gov

Web: <http://www.oakridge.doe.gov/em/ssab>

Public Involvement News

Published monthly by the DOE-Oak Ridge Operations Office of Public Affairs, Public Involvement News is a primary source of information for Oak Ridge stakeholders. The newsletter provides information on public meetings, document comment periods, and the CERCLA Administrative Record. In addition, the newsletter publishes DOE announcements and additional public involvement opportunities. The monthly meeting calendar lists important meetings, events, and public comment period dates. Public Involvement News is free.

Phone: (865) 576-4006 or 1-800-382-6938

NATIONAL PERIODICALS & NEWSLETTERS

DOE Pulse

Every 2 weeks, *DOE Pulse* "highlights work being done at DOE's national laboratories...cutting-edge research spanning DOE's science, energy, national security, and environmental quality missions." No charge, available only on the internet. Notification by e-mail of updates available.

Contact: Jeff Sherwood

Phone: (202)586-5806

E-mail: jeff.sherwood@hq.doe.gov

Web : http://www.ornl.gov/news/pulse/pulse_home.htm

DOE This Month

Published monthly for DOE employees and affiliates and available to others by paid subscription. Private sector orders through:

Address: U.S. Department of Energy
Office of Public Affairs, PA-40
Washington, DC 20585

Phone: (202) 586-2050

E-mail: doe.thismonth@hq.doe.gov

Available online free of charge at:

Web: <http://www.energy.gov> (subscriptions, online newsletters).

Inside Energy

An exclusive weekly report on the U.S. Department of Energy published by McGraw-Hill. Check publisher for cost. Published Weekly

Address: Energy & Business
Newsletters: Two Penn Plaza
New York, NY 10121-2298

Phone: 1-800-223-6180

Phone: (212) 904-6410

Fax: (212) 904-2723

E-mail: subscribe@mehenergy.com

Web: <http://www.platts.com>

Nuclear Waste News

Covers current international issues on nuclear waste generation, packaging, transportation, processing, research, and disposal. Check publisher for cost.

Published weekly at:

Address: Business Publishers
8737 Colesville Rd., Suite 1100
Silver Spring, MD 20910-3928

Web: <http://www.bpinews.com/enviro/pages/nwn.cfm>

Periodicals & Newsletters (cont.)

Risk

The official journal of the Risk Assessment & Policy Association, *Risk* is a "refereed, interdisciplinary quarterly that explores public and private efforts to manage science and technology for net reduction in the probability, severity, and aversive quality of health, safety and environmental impacts of natural and artificial hazards." Published quarterly/Check publisher for cost.

Address: Risk
Franklin Pierce Law Center
2 White Street
Concord, NH 03301
Phone: (603) 228-1541
Fax: (603) 224-3342
E-mail: cruh@fplc.edu
Web: <http://www.piercelaw.edu/RISK/RskINDEX.htm>

RISK Newsletter

A quarterly publication of the Society for Risk Analysis.

Contact: Risk Newsletter
1313 Dolly Madison Blvd., Suite 402
McLean, VA 22101
Phone: (703) 790-1745
E-mail: sra@burkinc.com
Available free of charge online at:
Web: <http://www.sra.org/newsletter.php>

EPA NEWSLETTERS

A listing and description of more than 50 newsletters published by EPA is available at www.epa.gov/epahome/newslett.htm, or send e-mail to public-access@epamail.epa.gov to subscribe.

ESAVE (Environmental Stewardship and Value Engineering formerly Pollution Prevention Advisor)

Published by the U.S. Department of Energy, Office of Defense Programs. The newsletter highlights successful pollution prevention strategies, technologies, programs, and projects that have been implemented throughout the weapons complex and private industry. It provides technical details and points of contacts for innovative approaches that have applications at other sites endeavoring to incorporate environmental stewardship and value engineering into their operations. No charge, published 3 times a year. Sign up on the internet at www.mer-inc.com.

Resource Kits



Understanding Radiation: A Resource Kit

How big a risk does radiation pose to our families, our environment and to future generations? What should individuals and society do to ensure that the benefits of radiation are not outweighed by the risks? These questions and others are answered in "Understanding Radiation: A Resource Kit " that is now available free to high school teachers to help educate students about radiation and risk.

The *Understanding Radiation Resource Kit* contains:

- Two 10-minute videos: *A Look at Radiation*, an overview of radiation as part of our everyday lives; and *Managing Radiation*, a look at how federal, state, and local agencies manage radiation.
- Guidebook, *Understanding Radiation In Our World* - a 60-plus page book with in-depth discussion of radiation related issues.
- A Companion Guide for high school science teachers with suggested classroom activities and a lesson plan on radiation-related risk (aligned with learning goals in national science education standards).
- Overheads and Handouts - a set of overheads (16) and handouts (14) for use in conjunction with the risk-analysis lesson plan.
- "Nuclear Science Wall Chart" - an 11" x 14" poster summarizing nuclear science issues (produced by the Contemporary Physics Education Project and the Lawrence Berkeley National Laboratory).

This kit was developed through a cooperative agreement between the National Safety Council's Environmental Health Center and the U.S. Environmental Protection Agency.

Ordering Information

To order your *Understanding Radiation Kit*, (the kit is available at no charge, but postage must be paid in advance by the recipient) mail or fax the following information: name, school, address, phone, e-mail, and grade taught.

Address: Understanding Radiation Kit
National Safety Council/Environmental
Health Center
1025 Connecticut Avenue, NW #1200
Washington, DC 20036
Fax: (202) 293-0032
E-mail: cohend@nsc.org
Web: <http://www.nsc.org/ehc/rad.htm>

Stewardship Educational Resource Kit

This kit was developed by the Oak Ridge Site Specific Advisory Board to introduce long-term stewardship principles to high school students. The kit contains:

- Copies of the Student Summary of the Oak Ridge Reservation Stakeholder Report on Stewardship, the Oak Ridge Reservation Educational Resource Guide, and the 2002 Annual Site Environmental Report Summary
- A CD-ROM with text of key Oak Ridge Reservation environmental documents
- Oak Ridge Reservation map
- Notebook containing:
 - Lesson plans and overheads
 - Case study
 - "Why Stewardship?" presentation overheads
 - Resources (bibliography, stewardship references and web sites, glossary, historical photos CD-ROM, word search puzzles and mazes, abbreviations list, fact sheets)

Ordering Information

The kit is available at no charge to educators.
Address: Oak Ridge Site Specific Advisory Board
P.O. Box 2001, EM-91
Oak Ridge, TN 37831
Phone: (865) 576-1590
Fax: (865) 574-3521
E-mail: osbornepl@oro.doe.gov

Fact Sheets



Below is a listing of the DOE fact sheets that are available at the DOE Information Center (865-241-4780). Following this list are seven fact sheets that provide you with a broad overview of the Oak Ridge Reservation:

1. East Tennessee Technology Park
2. Oak Ridge National Laboratory
3. Y-12 National Security Complex
4. Oak Ridge Site Specific Advisory Board
5. Federal Facility Agreement
6. Administrative Record for the Oak Ridge Environmental Management Program
7. Oak Ridge Accelerated Cleanup Plan

General

Administrative Record for the Oak Ridge Environmental Management Program (March 2003)
Balance of Reservation Closure Project (April 2004)*
Common Acronyms (April 2004)*
Decontamination & Decommissioning Program (March 2002)
Environmental Laws and Regulations (April 2004)*
Federal Facility Agreement (February 2003)
Key Contacts for the Oak Ridge Environmental Management Program (April 2004)*
Key Contacts for the Paducah Project (January 2004)
Key Contacts for the Portsmouth Project (January 2004)
Lower Watts Bar Reservoir Remedial Action (April 2003)
National Environmental Policy Act (April 2003)
Oak Ridge Accelerated Cleanup Plan (March 2003)
Oak Ridge Site Specific Advisory Board (July 2003)
Public Involvement Information Resources (April 2004)*
Remediation Effectiveness Report (September 2001)
What Is Environmental Justice? (Spring 1997)

East Tennessee Technology Park (ETTP)

Action Memorandum for Removal of Remaining ETTP Facilities (June 2003)
ETTP Ponds Project (October 2002)
ETTP (April 2004)*
Decontaminating and Decommissioning ETTP Gaseous Diffusion Buildings (March 2003)
ETTP Auxiliary Facilities Demolition Project: Group 1 Buildings (August 2001)
ETTP Auxiliary Facilities Demolition Project: Group 2 Buildings (April 2003)
ETTP Zone 1 Record of Decision (March 2003)
K-1070-A Burial Ground Project (October 2002)
K-1070-C/D and Mitchell Branch Plumes (Oct. 2002)
K-1070-C/D G-Pit and Concrete Pad (Oct. 2002)
K-1085 Drum Removal Project (October 2002)
K-1401/K-1420 Sumps Project (February 2002)
K-1417-B Drum Storage Yard (Feb. 2002)

K-25/K-27 Building Demolition Project (March 2003)
Quick Facts - ETTP (March 2003)

Oak Ridge National Laboratory (ORNL)

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***Also available on the web at:**

www.bechteljacobs.com/ettp_factsheets.shtml

East Tennessee Technology Park



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East Tennessee Technology Park at a Glance

- The Oak Ridge Gaseous Diffusion Plant began operations in World War II as part of the Manhattan Project. Its original mission was to produce uranium enriched in the 235U isotope for use in atomic weapons. The plant produced enriched uranium for the commercial nuclear power industry from 1945 to 1985 and was permanently shut down in 1987. Restoration of the environment, decontamination and decommissioning of the facilities, and management of the legacy wastes have since been major activities. Reindustrialization of the site began in 1996, and the East Tennessee Technology Park (ETTP) was established at the site in 1997.
- ETTP is located in the Roane County portion of Oak Ridge, Tennessee, approximately 13 miles west of downtown.
- The U.S. Department of Energy's (DOE's) long-term goal for ETTP is to convert the site into a private industrial park. The site is undergoing environmental cleanup, which is now expected to be completed on an accelerated schedule. The new accelerated closure plan will achieve cleanup eight years ahead of the original plan and, therefore, reduce environmental and safety risks more quickly and will save in maintenance costs. The reuse of key site facilities through title transfer is part of the closure plan for the site.
- The accelerated cleanup approach offers uncontaminated buildings, suitable for immediate private industrial use, for title transfer to the

Community Reuse Organization of East Tennessee (CROET). CROET then subleases this property to private industry. It also recruits business to the area. Any facilities at ETTP that remain unused will be demolished and, after cleanup analysis, the land will be cleared and made available for future commercial use.

- Bechtel Jacobs Company LLC, the Oak Ridge Reservation cleanup contractor for DOE, employs about 550 people at ETTP. Two other prime contractors at ETTP employ about 1,000 more people: BNFL Inc., which is responsible for decontamination and decommissioning (D&D) of three large process buildings (approximately 900 people); and Operations Management International, Inc., which manages, operates, maintains, and rehabilitates utility systems and infrastructure at ETTP (approximately 100 employees). About 400 additional people work for companies leasing space on-site for private commercial purposes.

Environmental Cleanup Projects

K-25/K-27 D&D Project

Following a public meeting in August 2001 and public review that ended in September 2001, the DOE Oak Ridge Operations Manager approved an Action Memorandum in February 2002 that selected a cleanup alternative for the K-25 and K-27 buildings at ETTP. The Environmental Protection Agency and the Tennessee Department of Environment and Conservation have endorsed this action. The alternative chosen involves sending radioactive wastes that meet the acceptance criteria to the new

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Environmental Management Waste Management Facility (EMWMF), located near the Y-12 National Security Complex, and sending other radioactive waste to the Nevada Test Site. D&D project activities that will be implemented under the preferred alternative include characterization, hazardous material removal, equipment removal, building demolition, waste and material disposition, and site stabilization. The demolition process will leave the basement slabs and retaining walls in place in a structurally sound condition. The slab and underground soil and utilities will be address in a future Record of Decision for the ETTP site. The estimated cost for this alternative is \$294 million with completion by the end of 2008. The footprint of the U-shaped K-25 Building occupies about 40 acres near the center of ETTP. The K-27 Building is a rectangular building that occupies approximately 374,000 square feet. Except for shape and size, the two buildings are similar with respect to materials and construction techniques. Both buildings have radioactive contamination and hazardous materials that are contained by the building structures. DOE recognizes that the K-25 Building played an important part in the history of the Manhattan Project and desires to preserve its history. Following the National Historic Preservation Act, DOE is consulting with state, federal, and local historic preservation officials to identify options. Completion of the consultation will result in a Memorandum of Agreement that identifies actions that will interpret the historical significance of the K-25 Building.

ETTP Auxiliary Facilities Demolition Project: Group 1 Buildings

DOE has completed the demolition of five buildings at ETTP, known collectively as the Group 1 Buildings. The Group 1 Buildings include the K-725 Beryllium Building and the nearby K-724 Storage Building, the K-1131 Feed and Tails Building, the K-1410 Plating Facility, and the adjacent K-1031 Warehouse. These auxiliary facilities were selected for dismantlement because of their poor physical condition, proximity to surface water or other structures, expense of surveillance and maintenance activities, or a combination of these. Demolition was completed in April 1999.

ETTP Group 2 Buildings, Main Plant Demolition

DOE has completed the demolition of 10 facilities, known collectively as the Group II Buildings Phase I project. The facilities include the K-1045-A Waste Oil Burning Pit, K-1408 Tire and Battery Shop, K-1300 Stack, K-1301 Fluorine Production Facility, K-1302 Fluorine Storage Building, K-1303 Fluorine Facility, K-1404 Acid Storage, K-1405 High Temperature Laboratory, K-1407 Laboratory and Storage Facility, and K-1413 Engineering Laboratory. Demolition was completed in September 2002.

ETTP Group 2 Buildings (K-1064 Facilities), Phase II

DOE has initiated demolition of 18 facilities located near the K-1064 Peninsula. The facilities consist of pump houses, a cooling tower (K-801-H), old storage facilities (K-1025 A-3), and miscellaneous maintenance areas.

ETTP Remaining Facilities Demolition: Group 2 Buildings

Under the Engineering Evaluation/Cost Analysis for the K-25 Auxiliary Facilities Demolition Project Group 2 Buildings, all

remaining (approximately 500) above-ground facilities, where demolition is not ongoing, will be demolished by groupings. These facilities include buildings, tanks, sheds, and other structures. Most of these facilities have actual or potential elevated concentrations of radiological and/or other hazardous substances. Demolition will include decontamination, segregation, and characterization of demolition waste streams as well as disposal in appropriate Oak Ridge Reservation or other disposal facilities.

K-1070 C/D G Pit and Concrete Pad Project

Activities at ETTP generated many types of waste, including hazardous, radioactive, and classified wastes that were disposed of at the K-1070-C/D site from 1975 to 1989. G-Pit was originally designed as an organic solvent disposal pit. The G-Pit and the Concrete Pad area were grouped together for remedial action which included a source removal at G-Pit (where the majority of the contaminant release is attributed) and capping the concrete pad at K-1071. The concrete pad was covered with a soil cap in April 1999, and the G-Pit removal was completed in January 2000. Thermal treatment of the contaminated soil was completed in April 2001, and the treated waste was disposed of in the EMWMF in April 2002.

K-1070-A Burial Ground Project

The K-1070-A Burial Ground was opened just west of the site in the 1950s to receive wastes from the gaseous diffusion plant. The one-acre burial ground was used for underground burials of unclassified, contaminated materials. Burials consisted largely of uranium-contaminated materials. DOE, with public input, selected waste removal and disposal as the cleanup alternative. Remediation work began in June 2002 and was scheduled to be completed in April 2003.

K-1070-C/D and Mitchell Branch Plumes

ETTP has two areas— K-1070-C/D and Mitchell Branch— where previous DOE operations resulted in groundwater contamination. These defined areas of groundwater containing contamination, or “plumes,” have been investigated and identified. Geological mapping shows that the Mitchell Branch plume currently extends to the lower reaches of Mitchell Branch, which feeds into Poplar Creek. Poplar Creek joins the Clinch River at the southwest corner of ETTP. Geological mapping shows that the K-1070-C/D plume is currently migrating west from the K-1070-C/D burial ground. DOE installed a groundwater collection system in the K-1070-C/D area. The groundwater is piped to the Central Neutralization Facility, where it is treated before being discharged. A groundwater collection system was also installed at Mitchell Branch.

K-1417-B Drum Storage Yard Project

The K-1417-B Drum Storage Yard was used to store stabilized pond and raw sludge generated during the gaseous diffusion process. Construction began in April 1984 when the K-1417-B Yard was graded and paved with asphalt, and facilities were constructed to fill and store drums of sludge. Drums were placed into new containers and removed from the K-1417-B Yard for safe, temporary storage. The yard was closed in May 1999.

K-1401/K-1420 Sumps Project

During past operations, Building K-1401 served as a maintenance facility to clean equipment needed in the gaseous diffusion process, and Building K-1420 was used for equipment decontamination, uranium recovery, and metal finishing. The K-1401/K-1420 Sumps removal action was a time-critical removal action designed to collect and treat contaminated groundwater from the sumps located in the basements of Buildings K-1401 and K-1420. The sumps (pits or trenches) temporarily store fluids at the lowest point of a drainage system. The drainage systems at K-1401 and K-1420 use sump pumps to remove the fluids.

Ponds Project

Two ponds at ETTP, known as K-901-A (located in the western end) and K-1007-P (located in the southern end), were used as holding ponds during past operations. Removal work at the K-901-A Pond consisted of draining the pond and removing fish and debris; this work began August 1997 and

ended January 1998. The field investigation of the K-1007-P Ponds included sampling, a human health risk assessment, and an ecological risk assessment. Although draining of this pond had been originally proposed as a removal action, a subsequent decision was made to include these ponds in future CERCLA decision documents.

Toxic Substances Control Act (TSCA) Incinerator

ETTP is also home to DOE's TSCA Incinerator, the only U.S. facility permitted to incinerate certain radioactive and/or hazardous wastes. The facility, located on the eastern edge of the site, has operated since 1991.

(Note: All actions described are subject to state and federal regulations governed by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA) and the National Environmental Policy Act (NEPA).

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

Oak Ridge National Laboratory

Melton Valley and Bethel Valley

QUICK FACTS



Oak Ridge National Laboratory at a Glance

- Oak Ridge National Laboratory (ORNL) is an internationally renowned research facility with an ongoing mission of developing technologies and products for government and civilian uses.
- The Waste Management Program at ORNL manages radioactive, hazardous, mixed and transuranic wastes in solid, liquid and gaseous forms.
- The Environmental Management Program is tasked with the investigation and remediation of several hundred contaminated areas in and around the site. Many of these contaminated areas are assigned to two major geographic groupings: Melton Valley and Bethel Valley in the White Oak Creek Watershed. The main plant area of ORNL is located in Bethel Valley (shown in photo above); a majority of ORNL's waste management areas are located in neighboring Melton Valley (not pictured).

Environmental Cleanup Projects

- Waste units at ORNL include shallow burial trenches, landfills, tanks, impoundments, seepage pits and trenches, hydrofracture wells and grout sheets, underground pipelines and associated leak sites, and structures.
- Past releases from waste units have contaminated surrounding environmental media, such as soil, sediment, surface water, and groundwater.
- The primary contaminants of concern are radionuclides such as tritium, strontium-90, and cesium-137.
- Environmental cleanup was managed in the 1990s through a series of early/removal actions. Cleanup is now proceeding primarily under comprehensive agreements called records of decision (RODs). The Melton Valley ROD (September 2000) and the Bethel Valley ROD (May 2002) specify selected, interim remedial actions for 300-plus waste units and for soil and sediment aimed at reducing contamination levels in groundwater.

Oak Ridge Environmental Management Program



- These remedial actions will cost over \$300 million to complete.
- Remedial actions specified in the Melton Valley ROD are scheduled to be completed by 2006; those in the Bethel Valley ROD are scheduled to be completed by 2014.
- Remedial actions in the Melton Valley ROD are well under way. An example is completion of the Intermediate Holding Pond soil excavation (16,800 cubic yards) in October 2002.
- About 32,000 cubic yards of contaminated soil will be removed from the ORNL main plant area and disposed on the Oak Ridge Reservation. About half of that is contaminated floodplain soil and sediment. Most of the remainder is contaminated surface soil (12,000 cubic yards), while a smaller amount, 2,000 cubic yards, is considered deep soil. The deep soil volume estimate is highly uncertain--a study is being conducted to develop a more accurate estimate.
- A total of about 78,500 cubic yards of contaminated soil will be removed from contaminated areas around the main plant area and in Melton Valley. Some of this soil will be used as contouring fill for one or more of the multilayer caps being designed for use on landfills and burial grounds to isolate the waste buried there.
- Multilayered caps are being placed on burial grounds in Melton Valley that cover more than 150 acres. These caps are designed to isolate the waste stored there and prevent the leaching of contaminants into soil and groundwater around these sites.
- More than 70 formerly used buildings are designated for decontamination and demolition. An exception is the Graphite Reactor, which has been designated as a National Historical Landmark, and will be preserved.
- Residual sediment was removed from 10 gunite tanks in the Bethel Valley ROD for later treatment, and the tanks were stabilized in place with grout. Several other FFA tanks were remediated similarly and grouted in place.
- More than 1,000 obsolete or poor-quality monitoring wells are being abandoned in place. Part of that process involves filling the wells with a grouting material to preclude further use.
- Contaminated groundwater from what is known as the Core Hole 8 plume, located in the central part of the main plant area, will be extracted by four wells and seven sumps at a combined rate of approximately 100 gallons per minute. The collected water will be treated to remove the radionuclides uranium and strontium. Existing sumps will continue to be used to collect water for removal of strontium and mercury.
- Contaminated groundwater from an area known as the Volatile Organic Compound plume will be treated by a method referred to as enhanced *in situ anaerobic bioremediation*. This means that biological agents will be used to treat the water where it is — without extraction or excavation.
- Buried transuranic wastes in 22 unlined trenches in SWSA 5N in Melton Valley will be retrieved and, where necessary, repackaged for transport to off-site disposal. This repackaging will take place at the new Transuranic Waste Processing Facility under construction in Melton Valley.

Note: All proposed actions are subject to review by state and federal regulators and the public as prescribed in the Federal Facilities Agreement for the Oak Ridge Reservation and governed by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA) and the National Environmental Policy Act (NEPA).

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

Y-12 National Security Complex

Bear Creek Valley, Upper East Fork Poplar Creek, and Chestnut Ridge



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Y-12 National Security Complex at a Glance

- The Y-12 National Security Complex is located south of Oak Ridge and covers approximately 811 acres. It was built in 1943 to process uranium for the first atomic bomb. Since then, its mission and capabilities have changed significantly.
- The Y-12 missions are surveillance of weapons through disassembly, inspection, and documentation of findings; production of hardware to support laboratory tests required for stockpile certification; dismantlement of retired weapons; modification, repair, or replacement of secondaries as required; management and storage of nuclear materials; and stewardship of required technology, critical skills, and physical assets.
- The Y-12 Complex is a manufacturing and development facility and is also a repository for the supply of enriched uranium. It is managed by the Y-12 Area Office of DOE's National Nuclear Security Administration.
- The Environmental Management Program is tasked with the investigation and remediation of contaminated areas in and around the site.

Most of these contaminated areas are assigned to three geographic groupings: Bear Creek Valley, which runs west from Y-12; Upper East Fork Poplar Creek (UEFPC) characterization area, which covers the main Y-12 Complex area; and Chestnut Ridge, which covers the area south of the Y-12 Plant.

Environmental Cleanup Projects

- Groundwater pump-and-treat technology is currently being used to reduce health and environmental risks posed by volatile organic compound contamination migrating off-site from Y-12. Bench scale tests of bioremediation technologies have also been performed successfully and may be used to degrade the source area and contamination plume in a subsequent action.
- The Reduction of Mercury in Plant Effluents Program has made significant progress in achieving a greater than 90 percent reduction in the release of mercury from surface waters via UEFPC. Additional actions are planned under the UEFPC Interim Surface Water Record of Decision (ROD) to reduce mercury through treatment of contaminated spring

water, repair of leaking storm sewers and removal of contaminated sediments.

- Treatability studies are currently being conducted to identify innovative technologies for treatment of soils contaminated with mercury and in situ (in place) stabilization of mercury source areas.
- The Upper East Fork Final Surface Water ROD will document decisions for final remediation of UEFPC surface water.
- The Phase 2 Bear Creek Valley ROD will document decisions for remediation of the burial grounds.
- The Phase 3 Bear Creek Valley ROD will document decisions for remediation of groundwater.
- The Chestnut Ridge ROD will document decisions for remediation of soils, surface water and groundwater.
- Hydraulic isolation at the Boneyard/Burnyard (BY/BY) was completed in November 2000. Excavation and disposal of the contaminated debris and soils started in May 2002 and was completed in October 2002. The intent of the hydraulic isolation and debris/soil removal is to reduce uranium releases to Bear Creek.
- Uranium contaminated groundwater is being treated before it enters Bear Creek by passing it through media to remove the uranium.
- Construction has been completed on the Environmental Management Waste Management Facility, which began accepting waste in May 2002.
- Current plans include the removal of up to 90,000 cubic yards of contaminated soils in the Y-12 Main Plant area. Soils remediation decisions will be made in the UEFPC Soils Remediation ROD.

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

Oak Ridge Site Specific Advisory Board



THE DEPARTMENT OF ENERGY • ENVIRONMENTAL MANAGEMENT PROGRAM • JULY 2003

The Oak Ridge Site Specific Advisory Board (ORSSAB) is an independent, nonpartisan volunteer citizens' panel that provides advice and recommendations to



the U.S. Department of Energy (DOE) on its Oak Ridge Reservation (ORR) Environmental Management (EM) Program. The group was chartered in 1995.

The Board is dedicated to providing informed recommendations and advice to DOE regarding environmental restoration, waste management, future land use of contaminated areas, and economic development of specified areas. Recommendations concerning health and safety, environmental justice, and other topics may be included as the Board determines appropriate. The Board is also committed to serving as a communication link between the public and the DOE EM Program.

The Board is composed of up to 20 members, chosen to reflect the diversity of gender, race, occupation, and interests of persons living near the ORR. Nonvoting members include representatives from the DOE Oak Ridge Operations (DOE-ORO); the U.S. Environmental

Protection Agency (EPA), Region 4; and the Tennessee Department of Environment and Conservation. These members advise the Board on their respective agency's policies and views. The Board also has two nonvoting student representatives chosen from local high schools to represent the views and interests of area youth.

What Are SSABs?

SSABs (also called Citizens Advisory Boards at some sites) were developed to involve stakeholders more directly in DOE cleanup decisions. Under the Federal Advisory Committee Act, DOE has one SSAB. Nine site boards are under the SSAB

umbrella at the following DOE sites: Fernald, Hanford, Idaho, Los Alamos, Nevada, Oak Ridge, Paducah, Rocky Flats, and Savannah River (see map below).

What Do the Local Site Boards Do?

The local site boards provide DOE with policy information, advice, and recommendations concerning environmental restoration, waste management, and technology development activities. They provide input and recommendations on difficult and sometimes controversial national and site-specific issues such as future use, risk management, cleanup levels, economic development, and budget prioritization



SSABs are chartered at 9 major DOE sites across the nation.



Oak Ridge Site Specific Advisory Board, continued

activities. Since their inception, local site boards have helped establish public trust and confidence in the EM Program and DOE.

Who Serves on the Local Site Boards?

Local site board membership, which reflects a full diversity of views, cultures, and demographics from affected communities and regions, is composed primarily of people who are directly affected by site cleanup activities. Members include stakeholders from local governments, Tribal Nations, environmental and civic groups, labor organizations, universities, industry, and other interested parties. DOE, EPA, and state governments serve as ex officio members on local boards.

What Are Local Site Board Responsibilities?

The local site board responsibilities include the following:

- Submitting advice and recommendations to DOE on key EM issues.
- Representing and voicing the diversity of community views.
- Keeping the public informed on key issues and board recommendations.

What Are DOE Responsibilities?

DOE-ORO provides administrative and technical support as well as guidance to the board on priority issues for the site. Specifically, DOE must

- keep the boards informed about key issues and upcoming decisions,
- request recommendations well in advance of DOE deadlines,
- consider and respond in a timely manner to all board recommendations, and
- provide adequate funding for administrative and technical support.

How Can You Get Involved?

ORSSAB meets monthly to hear presentations on EM activities of interest, consider recommendations to DOE presented by the various ORSSAB committees, hear input from concerned citizens, and conduct other business. All meetings are open to the public, and notices are posted on the Board's Web site at www.oakridge.doe.gov/em/ssab; at the DOE Information Center, 475 Oak Ridge Turnpike, Oak Ridge; in the *Federal Register* and area newspapers; and through the Board's 24-hour information line (865-576-4750).

Agendas and background information are also available at the DOE Information Center one week prior to each board meeting. All board meetings are video recorded, and copies of the tapes are available for public review at the DOE Information Center. The first hour of each meeting is broadcast on channel 12 in local cable television markets.

General board business is handled at the monthly Executive Committee meeting. The committee, which is composed of the elected officers of the board and the committee leaders, holds general administrative authority to set work plans and agendas, coordinate the work of committees, and transact business as may be necessary between regular meetings. ORSSAB also has several standing committees that serve as forums where EM issues are studied and debated. All committee meetings are open to all board members and the public.

All meeting times and locations are available through the ORSSAB information line, the board's web site, and the DOE Information Center.

For More Information

For more information, contact ORSSAB at (865) 576-1590, or visit the ORSSAB web site at www.oakridge.doe.gov/em/ssab.

Federal Facility Agreement



THE DEPARTMENT OF ENERGY • ENVIRONMENTAL MANAGEMENT PROGRAM • FEBRUARY 2003

Cleanup activities on or near the Oak Ridge Reservation are being performed by the U.S. Department of Energy (DOE) in accordance with relevant and appropriate state and federal laws. The U.S. Environmental Protection Agency (EPA), the Tennessee Department of Environment and Conservation (TDEC), and the public are helping DOE decide the details of cleanup.

These parties will discuss how to ensure that hazardous waste from past and present activities is thoroughly investigated and that appropriate remedial actions are taken to protect human health and the environment. Specific cleanup issues to be reviewed include requirements, schedules, public

participation, and quality assurance.

The terms for this interaction have been defined in a Federal Facility Agreement, a cooperative effort required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Representatives from DOE, EPA, and TDEC worked for two years to establish the agreement (also called the Interagency Agreement for the Oak Ridge Reservation), which was implemented on January 1, 1992, and ensures that environmental requirements are met or exceeded and that cleanup is performed as quickly and responsibly as possible.

Purposes of the Federal Facility Agreement

The general purposes of the agreement are to:

- establish a procedural framework and schedule for developing, implementing, and monitoring appropriate response actions;
- promote cooperation, exchange of information, and participation of DOE, EPA, and TDEC;
- minimize duplication of investigative and analytical work and documentation and

ensure the quality of data management;

- ensure that remedial actions will be in compliance with legislation and requirements;
- encourage quick response at hazardous waste sites;
- integrate the studies, requirements, and corrective measures of CERCLA with those of RCRA and applicable state laws; and
- ensure that a comprehensive cleanup is performed at the Oak Ridge Reservation.

A key goal of the agreement is to identify individual cleanup steps that can be performed to manage, eliminate, or reduce contamination. Early discussion of these measure, before any formal recommendations is made by DOE, will encourage cooperation among DOE, EPA, and TDEC.

The three parties involved will also confer to identify and propose, to the best of their ability, all potential laws, standards, requirements, criteria, or limitations that might apply to a particular study. These requirements are often site-specific, depending on the specific hazardous substances at a particular operable unit (the scoping boundary of a remedial response taken as one part of an overall site cleanup),



The FFA directs cleanup of the Oak Ridge Reservation, requiring close cooperation among DOE, EPA, and TDEC.



Federal Facility Agreement, continued

the particular action proposed as a remedy, and the geographic characteristics of the site. Discussion of the requirements for a particular operable unit will help DOE prepare complete reports on the site and will improve the efficiency of the study and review process.

Establishing Priorities

In February of each year, the Environmental Management (EM) Program staff begin budget preparation for the fiscal year that begins two years later. For example, budget preparation for the 2005 fiscal year will begin in February 2003. The EM staff prepares Program Baseline Summaries (PBSs), which define the projects and outlines the work to be completed on a multi-year schedule. PBSs are updated each year to reflect changes in work plans due to changes in the previous year's funding, new discoveries, regulatory requirements, etc.

The prioritization of all PBS projects to be funded is performed to allocate resources. The objective of the prioritization process is to optimize the order of projects that will facilitate completion of the cleanup program on the Reservation. The overall approach for prioritization is risk-based and focuses first on those contaminant sources that are the greatest contributors to risk.

Other factors that must be considered to achieve risk reduction are execution logic and mortgage reduction. Execution logic is the recognition that some

activities need to take place before others (a building must be demolished before underlying soils can be cost-effectively removed); that upstream sources need to be controlled before downstream resources are restored; and that costs of maintenance need to be minimized. The reduction of mortgage costs provides a dramatic benefit because of the reinvestment of these saved funds into accelerated risk reduction and reduces the amount and duration of funding needed to complete the cleanup program.

Each year as funding is allocated, the projects are re-sequenced at the funding level provided. After scheduling the projects according to prioritization and the available funding, the milestones for new activities are identified and suggested to the FFA managers for inclusion in Appendix E or J.

Public Participation

At least once a year, in preparation of DOE Oak Ridge Operations FY+2 budget request submittal, presentations are given to the public to discuss the prioritization process and the results. Opportunities are provided to comment on both. The primary focus of these meetings is the prioritization of actions.

Throughout the year, DOE project personnel present the details of their projects to various public organizations. These meetings provide an opportunity for the public to question the scope and schedule of various actions.

Additionally, before a final cleanup decision is made on any site, a public meeting is held to discuss the scope and cost of the proposed action. The public's comments provided on the Proposed Plans and DOE's responses become part of the Record of Decision. This record becomes part of the Administrative Record, which contains all documents used to decide a remedy for the operable unit. In this way, the public has an opportunity to participate in the selection of alternatives used to clean up the Oak Ridge Reservation. The Administrative Records are available for public review at the DOE Information Center, 475 Oak Ridge Turnpike, Oak Ridge, Tenn.

After the Cleanup

EPA and TDEC will review the completed remedial actions at the Reservation no less than once every five years to ensure that human health and the environment have been protected. To facilitate this process, DOE produces an annual Remediation Effectiveness Report, which is sent to EPA and TDEC for approval. This document reports the results of the monitoring performed on the Oak Ridge Reservation. This document is expanded every fifth year to satisfy the 5-year reporting requirement. These annual reports, certifying the protectiveness of the remediation work being performed, are also available to the public the Information Center.

Administrative Record for the Oak Ridge Environmental Management Program



THE DEPARTMENT OF ENERGY • ENVIRONMENTAL MANAGEMENT PROGRAM • MARCH 2003

In December 1989, the U.S. Environmental Protection Agency (EPA) added the ~37,000-acre (FFA Section VIII) Oak Ridge Reservation (ORR) to the National Priorities List (NPL), which lists the nation's most critical hazardous waste sites. Cleanup of sites on the NPL is regulated by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The Department of Energy (DOE), as the landlord for ORR, acts as the lead agency in the cleanup process (also called response actions) with oversight from EPA and the Tennessee Department of Environment and Conservation (TDEC).

Section 113 of CERCLA requires DOE to create and maintain an Administrative Record (AR) for each response action (remedial or removal) on the ORR. The AR is the official body of documents that form the basis for the selection of a particular response action. A separate AR is developed for each project that will develop either a Record of Decision or an Action Memorandum.

The ORR AR Program established a standard criteria to identify the documentation that is to be included in the ARs and to help ensure consistency among

the ORR ARs. The AR contains documentation such as remedial investigation work plans, remedial investigation reports/feasibility studies, proposed plans, records of decision, engineering evaluation/cost analyses, action memoranda, DOE correspondence, EPA and TDEC correspondence, and summaries of sampling data used in the decision process.

Two terms that are commonly interchanged actually differ in meaning: AR File and AR. The AR File is a body of documents that records the decision process as it evolves. It is an active file to which documentation is added as the CERCLA decision is reached. Upon signature of the decision document selecting the response action, the AR File is closed and becomes the AR. CERCLA regulations limit the conditions under which documentation can be added to the AR subsequent to the decision being finalized.

The AR File/AR serves two primary purposes. First, under CERCLA Sect. 113 (j), judicial review is limited to the contents of the AR in question concerning the adequacy of the response that was selected. However, the limit on judicial review depends on the quality and completeness of the AR. In other words, if the AR is found to be incomplete, judicial

review can be expanded to documentation not included in the AR. Second, the AR File/AR acts as a vehicle for and record of public participation in the response selection process. CERCLA requires the lead agency to make the AR File/AR available for public inspection at or near the CERCLA site.

The ORR AR File/AR is available for public review at the DOE Information Center, 475 Oak Ridge Turnpike, Oak Ridge, phone: (865) 241-4780. DOE publishes notices in local newspapers to announce the availability of new AR Files and to invite public review at certain phases of the decision-making process. Public review opportunities may also include public meetings. Public notices regarding opportunities for public participation and significant comments from the public on a particular response action are included in the AR File/AR.

Post Decision Files are also maintained at the Information Center for each of the ARs as the remediation activities are planned and performed.

You are encouraged to visit the DOE Information Center between 8 a.m. and 5 p.m., Monday through Friday. Staff members are available to help you find information.



Oak Ridge Accelerated Cleanup Plan



THE DEPARTMENT OF ENERGY • ENVIRONMENTAL MANAGEMENT PROGRAM • MARCH 2003

The U.S. Department of Energy (DOE) plans to expedite cleanup of the Oak Ridge Reservation, shaving several years and significant costs from previous cleanup plans. Two major components of the plan, closure of the East Tennessee Technology Park (ETTP) and completion of Melton Valley cleanup at Oak Ridge National Laboratory (ORNL), are planned to be achieved ahead of previous schedules by 8 years and 9 years, respectively. This acceleration means quicker elimination of principal threats of contaminant releases to the environment on the Reservation.

Accelerated cleanup plans call for a focus on remediating the

highest risk projects first, eliminating these risks as well as high infrastructure costs. Previous cleanup plans maintained activity in multiple areas of the Reservation concurrently. Since resources were not sufficiently focused on mitigation of the highest risks to human health and the environment, the schedule for completion at ETTP and Melton Valley was extended. A strong commitment to safety will remain an integral part of any DOE cleanup plan.

Performance Management Plan

The framework for DOE's accelerated cleanup plans is

detailed in a document called the Performance Management Plan (PMP). The PMP calls for

- closing ETTP to reduce environmental and safety risks and to eliminate infrastructure costs;
- remediating Melton Valley to minimize the major off-site contaminant releases;
- disposing of legacy waste to eliminate storage costs;
- completing ongoing, high-priority risk reduction projects;
- streamlining the management and decision-making processes; and
- aligning cleanup plans with the DOE Headquarters Top-to-Bottom Review recommendations [this review looked at all aspects of cleanup to determine more efficient methods of accomplishing DOE's Environmental Management (EM) Program goals].

Strategies for Accelerating Cleanup

The PMP describes strategies for three groups of projects: ETTP, Melton Valley Burial Grounds, and all other areas on the Reservation, referred to as "Balance of Program."

Oak Ridge Reservation Without Accelerated Cleanup	Oak Ridge Reservation Under Accelerated Cleanup
Complete entire scope in 2021	Complete entire scope in 2015
Complete cleanup of ETTP in 2016	Complete cleanup of ETTP in 2008
Complete cleanup of Melton Valley in 2015	Complete cleanup of Melton Valley in 2006
Responsibility for waste from non-EM generators remains with EM	EM divested of responsibility for waste from non-EM generators
Managing year-to-year	Managing to closure end-date
Total cost of \$6.2 billion	Total cost of \$5 billion



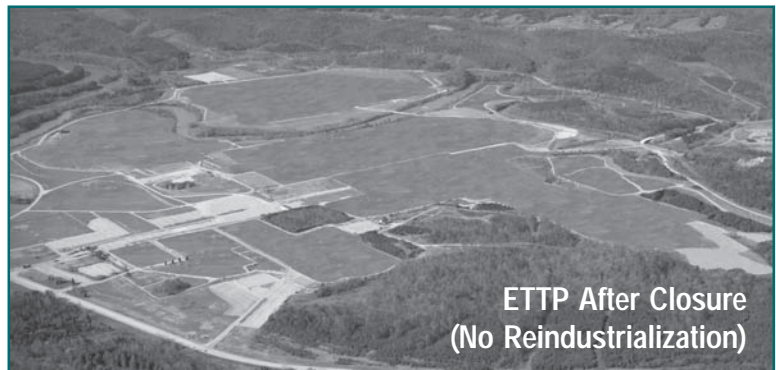
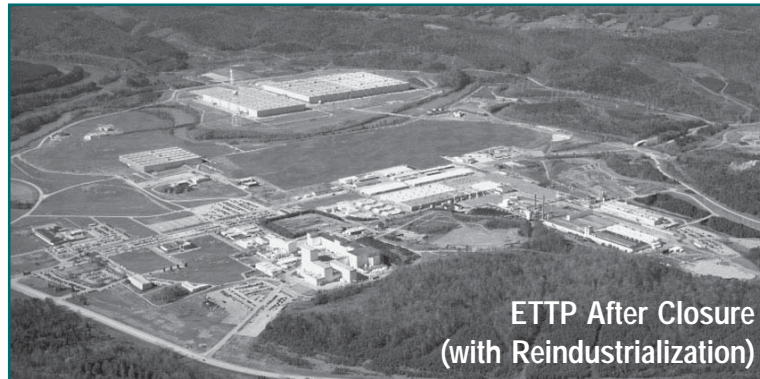
Oak Ridge Accelerated Cleanup Plan, continued

ETTP

A major focus of the PMP is the closure of ETTP. The PMP focuses on cleanup activities that will reduce risk to allow future use of ETTP as a private industrial park.

As part of accelerated cleanup, an increased emphasis will be placed on transferring ownership of facilities and land to the Community Reuse Organization of East Tennessee. Title transfer will also cement the establishment of the private industrial park. EM, Assets Utilization, and the Community Reuse Organization of East Tennessee have agreed on a list of 26 facilities/parcels that are candidates for title transfer. A title transfer schedule has been established that supports the closure plan. EM has estimated savings of more than \$100 million if title to the identified facilities is transferred.

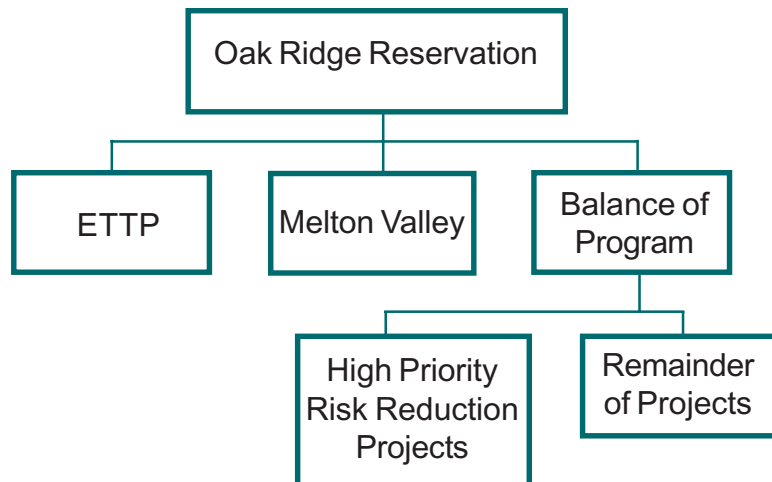
By focusing on closure, ETTP cleanup can be completed by 2008. The K-25/K-27 Buildings will be demolished 18 months



ahead of the previous schedule, operational and infrastructure maintenance costs will be reduced, and low-level waste will be disposed of by 2005.

Melton Valley Burial Grounds

Cleanup activities at the Melton Valley burial grounds will be completed by 2006. The Melton Valley burial grounds contain areas with high inventories of radioactive wastes. The accelerated plan for Melton Valley expedites the remediation activities approved in the signed Record of Decision. This plan includes hydraulic isolation of burial grounds, pits, and trenches and demolition of facilities with disposal of waste in the Environmental Management Waste Management Facility (EMWMF). In addition, the accelerated closure plan includes soil and sediment removal with disposal in the EMWMF,



Work breakdown structure for accelerated cleanup

Oak Ridge Accelerated Cleanup Plan, continued

retrieval and disposal of buried transuranic waste, and plugging and abandonment of hydro-fracture injection and monitoring wells. Accelerated closure of the Melton Valley sites will mitigate contaminant migration to the Clinch River, a major off-site surface water body, ultimately reducing existing risk to acceptable levels under federal environmental regulations.

Balance of Program

The PMP identifies a variety of other projects at the Y-12 National Security Complex and ORNL that will need to be integrated with long-term modernization and revitalization plans at those sites. It also addresses cleanup of private sites in Knoxville and Oak Ridge for which DOE has accepted responsibility. Among these projects, there are key remediation activities for areas posing the highest risk to the public that are scheduled to be completed by 2008, and the remainder are to be completed by 2015. Many of the high-priority risk reduction projects are already under way, such as removal of contaminated soil from the Y-12 Boneyard/Burnyard for disposal in the EMWMF, installation of the Building 9201-2 Water Treatment System at Upper East Fork

Poplar Creek, the Bethel Valley Groundwater Engineering Study, and removal of the Molten Salt Reactor Fuel Salts.

Changes to Work Processes

While risk reduction is the major cleanup driver, the reduction of mortgage costs provides a dramatic benefit after 2006 and 2008 due to the reinvestment of these saved funds into additional accelerated risk reduction. To facilitate the acceleration of cleanup activities, a number of substantive changes have been made to previous work processes. These changes include

- focusing ETTP reindustrialization on fewer buildings and integrating title transfer with demolition schedules;
- streamlining the regulatory document review process; and
- reevaluating the disposition of waste to identify the most cost-effective disposal and treatment options.

Regulatory Strategy

DOE and the regulatory authorities for the Oak Ridge environmental management effort, the State of Tennessee and the U. S. Environmental Protection Agency, signed a letter of

intent on May 14, 2002, that commits the parties to accelerating the cleanup activities on the Oak Ridge Reservation.

For More Information

The PMP and other documents related to accelerated cleanup can be viewed at on the DOE Oak Ridge Operations web page at www.bechteljacobs.com/doeclean.

Copies of the PMP can also be obtained at the DOE Information Center, 475 Oak Ridge Turnpike, Oak Ridge, Tennessee, 37830 (open Monday through Friday, 8 a.m. to 5 p.m.). Requests may be made in person, by phone [(865) 241-4780 or 1-800-382-6938], facsimile [(865) 574-3521], or in writing.

Requests for information may also be referred to the DOE Public Affairs Office, U.S. Department of Energy, P.O. Box 2001, Oak Ridge, Tennessee 37831, phone: (865) 576-0885; toll-free: 1-800-382-6938, option 1.