

Goal 1: Protect human health and the environment through effective and efficient long-term surveillance and maintenance

Long-Term/Annual Measure

Reduce the cost of performing long-term surveillance and monitoring activities at sites managed by LM while meeting all regulatory requirements to protect human health and the environment. Reduction is measured in percent from the life-cycle baseline. Goal is a 2 percent reduction below the baseline for fiscal years (FYs) 2007–2011, increasing to a 10 percent reduction by 2015.

By FY 2015, demonstrate a reduction in risk at LM sites by employing sound project management, engineering, and science-based solutions for long-term surveillance and maintenance.

DOE's environmental legacy responsibilities stem primarily from the activities of DOE and predecessor agencies, particularly during World War II and the Cold War. When LM was established on December 15, 2003, it became responsible for more than 30 sites where active environmental remediation was completed. LM is currently responsible for 82 sites in 28 states and the Commonwealth of Puerto Rico where active environmental remediation has been completed. The majority of the sites under

LM responsibility are either former uranium milling sites covered under the Uranium Mill Tailings Radiation Control Act (UMTRCA) or sites associated with the original Manhattan Project. The Manhattan Project sites are considered part of the Formerly Utilized Sites Remedial Action Program (FUSRAP).

Sites that came under LM responsibility also include the Weldon Spring site in St. Charles County, Missouri; the Monticello site in Utah; and the Young - Rainey Science, Technology, and Research Center in Largo, Florida (Pinellas site). LM immediately began the transition process of programs and responsibilities for the long-term surveillance and maintenance of the Rocky Flats, Colorado, and Fernald, Ohio, sites from the Office of Environmental Management (EM).

Human health and the environment are protected at LM sites through effective environmental surveillance and maintenance. This often involves cooperative partnerships with stakeholders and state, Tribal, and local governments. Site inspections and monitoring are conducted in accordance with site-specific long-term surveillance and maintenance plans and procedures established by DOE to comply with license requirements. Each site inspection is performed to verify the integrity of visible features at the site; to identify changes or new conditions that may affect the long-term performance of the site; and to determine the need for maintenance, follow-up, contingency inspections, or corrective action.

FY 2004

Started with 33 Sites, Ended with 63 Sites

- Transferred the administration and maintenance of the Rocky Flats Public Reading Room at the Rocky Flats site to LM in April. This was the first official transfer of an EM closure site responsibility to LM.



Tour of Laboratory for Energy-Related Health Research (LEHR) grounds at the University of California, Davis.

FY 2005

Started with 63 Sites, Ended with 67 Sites

- Finalized the *Weldon Spring Site Long-Term Surveillance and Maintenance Plan* and the *Explanation of Significant Differences for Institutional Controls*.
- Installed required biomonitoring devices at the Monticello site in accordance with the *Record of Decision for Operable Unit III*. The first samples were collected in May and June for benthic organisms.
- Initiated construction of the Monument Valley, Arizona, site land farming pilot study facilities. The pilot study demonstrated the effectiveness of phytoremediation as a means to remediate groundwater and provide a safe product for other beneficial uses on the Navajo Nation property.
- Expanded the groundwater extraction systems at the Shiprock, New Mexico, and Tuba City, Arizona, sites. Additional wells were installed and a new method of rejuvenating existing wells was developed and implemented. These actions resulted in a significant increase in the productivity of the overall extraction capability and expedited the treatment of contaminated groundwater at both sites.
- Received acceptance from the U.S. Nuclear Regulatory Commission (NRC) of DOE's revisions to the draft *Long-Term Surveillance Plan* for the Shirley Basin South, Wyoming, site. This acceptance officially established DOE as the custodian and long-term caretaker of the site under DOE's general license as specified in Title 10 *Code of Federal Regulations (CFR) Part 40*.
- Submitted the *4.5 Acre Site Remedial Action Plan Addendum* to the Florida Department of Environmental Protection for the Pinellas site. The addendum presented the proposed final action for the 4.5 Acre site. In this addendum, DOE proposed closure of the site using the Global Risk Based Corrective Action standards adopted by the State of Florida. This was one of the first sites to utilize this new provision which significantly reduced the time and cost of completing remediation at this site.



Seymour, Connecticut, site.

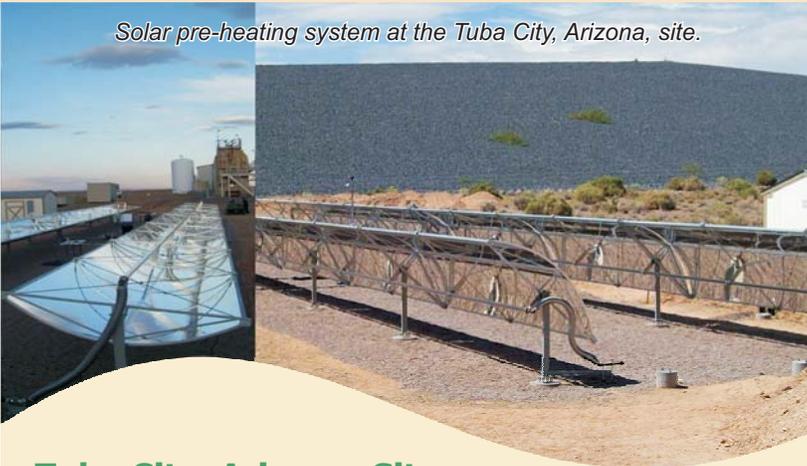


Site inspection at Bayo Canyon, New Mexico.

Formerly Utilized Sites Remedial Action Program (FUSRAP)

The FUSRAP sites are in varying stages of completion. Prior to the transfer of remedial action responsibility of the FUSRAP sites from DOE to the U.S. Army Corps of Engineers (USACE) in October 1997, DOE had completed 25 of the identified 46 sites. Since that time, USACE has successfully remediated and transferred five sites to LM for long-term surveillance and maintenance. Since 1997, seven new sites have been added to FUSRAP, either by Congressional direction or based on the possibility of radiological contamination from Manhattan Engineering District or early Atomic Energy Commission activities.

Solar pre-heating system at the Tuba City, Arizona, site.



Tuba City, Arizona, Site

An active solar-powered pre-heating system at the Tuba City UMTRCA site has partially replaced the electrical power requirements for the remediation system. The Tuba City plant treats contaminated groundwater in a state-of-the-art evaporation facility which produces clean water. The solar-powered system replaces approximately 30 percent of the heat energy required by the system boiler, resulting in a payback period of approximately 11 years. The system will also assist DOE in attaining the goals of the *Transformational Energy Action Management (TEAM)* Initiative, issued in 2007 by the Secretary, which calls for DOE to lead all Government Agencies in energy efficiency by utilizing alternative energy sources to the maximum extent practicable at DOE sites, as well as reducing overall energy consumption by 30 percent.

FY 2007

Started with 70 Sites, Ended with 71 Sites

- Exceeded the performance goal of a 2 percent reduction for surveillance and maintenance costs while meeting all regulatory requirements, and successfully conducting all scheduled site inspections.
- Achieved a safety record better than the DOE average. Successfully implemented Title 10 CFR Part 851 ahead of schedule.
- Provided accurate and timely testimony to the House Oversight and Government Reform Committee on DOE's role in the remediation of uranium contaminated sites on the Navajo Nation.
- Integrated the Secretary's TEAM Initiative into LM's environmental management system. The initiative is designed to improve LM's efforts to set and track goals in a variety of areas including energy and water conservation, environmentally preferable purchasing, and "green" buildings.
- Reached agreement with the State of Colorado and the U.S. Environmental Protection Agency (EPA) on the *Rocky Flats Legacy Management Agreement*, which documents DOE's responsibility to ensure that the CERCLA remedy remains protective.

FY 2006

Started 67 with Sites, Ended with 70 Sites

- Held joint public meetings with EM in Alaska and Mississippi to announce the transfer of the Amchitka, Alaska, and Salmon, Mississippi, sites, and all other Nevada Offsites from EM to LM.
- Installed data loggers at several remote sites to conduct groundwater monitoring and record results electronically.
- Assisted EM in completing the Corrective Action Decision/Record of Decision (CAD/ROD) for the Rocky Flats Plant that determined the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) final remedy.

FY 2008

Started with 71 Sites, Ended with 82 Sites

- Released the *Tritium Transport at the Rulison Site, a Nuclear-Stimulated Low-Permeability Natural Gas Reservoir* report, a potential contamination transport model for the Rulison historic nuclear detonation site in Colorado.
- Presented the results of the *Rulison Site Contamination Transport Model* report at a public informational session hosted by the Colorado Oil and Gas Conservation Commission.
- Constructed an active solar-powered pre-heating system at the Tuba City site. The solar-powered system replaces approximately 30 percent of the heat energy required by the system boiler, resulting in a payback period of approximately 11 years.

Environmental Justice

Environmental justice means fair treatment and meaningful involvement of all people, regardless of race, ethnicity, culture, income, or education level with respect to development, implementation, and enforcement of environmental laws, regulations, and policies.

On February 11, 1994, the President signed Executive Order (EO) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations."

Executive Order 12898

EO 12898 directed 11 Federal agencies to develop an environmental justice strategy. It also called for the establishment of a Federal Interagency Working Group (IWG) on environmental justice. The main focus of IWG is to promote collaboration among stakeholders and Tribal communities to achieve solutions that result in environmental improvements, economic development, and neighborhood revitalization.

The EO also tasked the Federal agencies to develop interagency model projects on environmental justice that evidence cooperation among Federal agencies. DOE is an active member of the IWG and collaborates with other agencies to conduct model environmental justice projects.

LM's Environmental Justice Role

Environmental justice activities are conducted by a wide variety of organizations in DOE including the Office of Energy Efficiency and Renewable Energy Resources, the National Nuclear Security Administration, and the Power Administrations. LM has three primary roles within DOE relative to environmental justice. The first role is to provide overall leadership and coordination across DOE. In this capacity LM leads the development of DOE-wide strategic planning for environmental justice and coordinates implementation of policies and activities across DOE program and field offices. The second role is to fund and manage a core set of environmental justice activities such as community capacity building and grants to institutions to support higher education. The third role is to participate in broader communication efforts outside DOE. In this capacity LM provides DOE's representative to the Interagency Working Group on environmental justice and sponsors the annual *State of Environmental Justice in America Conference*.

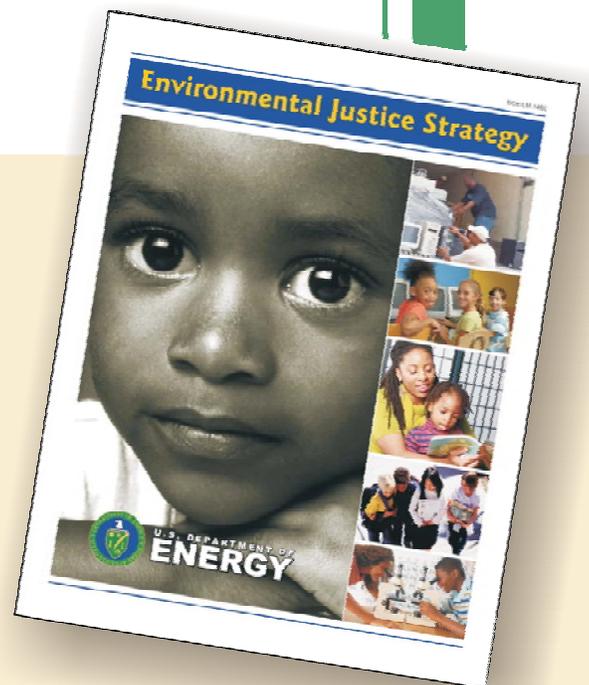
DOE's Environmental Justice Goals

Goal 1: Identify and address programs, policies, and activities of the Department [DOE] that may have disproportionately high and adverse human health or environmental effects on minority, Tribal, and low-income populations.

Goal 2: Enhance the credibility and public trust of the Department [DOE] by making public participation a fundamental component of all program operations, planning activities, and decision-making processes.

Goal 3: Improve research and data collection methods relating to human health and the environment of minority, Tribal, and low-income populations.

Goal 4: Further management leadership by integrating environmental justice with activities and processes related to human health and the environment.



The Environmental Justice Strategy was distributed in 2008.



Dr. Kenneth Sajwan, Professor and Director of Environmental Science Program at Savannah State University, explains the principles of a flow injection analyzer to interns.

Environmental Justice Strategy

In response to the EO, a DOE task force prepared and published the *Environmental Justice Strategy* in 1995. This strategy focused attention on:

- Human health and the environment in low-income communities and communities of color.
- Public participation in decision-making.
- Capacity building programs.
- Technical support for community technology centers.

In November 2007, DOE re-established the Environmental Justice Task Force to review the 1995 *Environmental Justice Strategy* and to make updates where warranted. The revised *Environmental Justice Strategy* integrates the requirements of the EO into DOE operations.

Environmental Justice Activities

At the core of environmental justice is the concept that all stakeholders must have an opportunity to present their views. DOE has numerous programs to promote environmental justice and public involvement. Even though some activities are complex and technical, stakeholders are encouraged to participate as much as they can, as permitted by law. Often, small towns; rural areas; and minority, Tribal, and low-income communities have limited abilities to participate in environmental decision-making because they lack access to information, technology, expertise, and decision makers.

DOE conducts programs to enable members of those communities to participate effectively in the decisions that impact them. These capacity-building initiatives include:

Building Community Capacity Through Technology: A partnership with Tennessee State University and the National Urban Internet provides technical assistance to the communities near DOE sites at Oak Ridge, Tennessee, and Aiken, South Carolina. The partnership distributes surplus computers and creates technology centers to help our stakeholders address energy and environmental concerns, economic development, obstacles to education, and other challenges. This effort started with nine computers for the Hyde Park community in Augusta, Georgia; 20 computers for community groups in Savannah, Georgia; 15 computers for Keysville, Georgia; and 15 computers for Oak Ridge. Rather than giving computers directly to community groups, this effort now supports community technology centers that upgrade computers and distribute them to community groups as well as small towns and public schools. The computers, and the technology centers that refurbish them, give communities access to technical assistance and current information so that they can participate more fully in environmental decision-making. To enhance environmental justice, the partnership has donated approximately 5,000 computers to various groups.

Community Leaders' Institute: Tennessee State University and the Medical University of South Carolina collaborate with DOE and the DOE Savannah River Site to conduct the Community Leaders' Institute, a training and technical-assistance program. The Community Leaders' Institute helps community leaders address environmental and other issues in their communities. Fifteen of these multi-day workshops have been conducted in Georgia, South Carolina, and New Mexico. In addition, four grant-writing workshops have been conducted, and four made-for-TV dialogues have been created.

Dr. Samuel P. Massie Chairs of Excellence: This team comprises world-class scholars, researchers, and educators from nine Historically Black Colleges and Universities (HBCUs) and one Hispanic-Serving Institution.

The team members conduct research, advise and assist municipalities, and promote collaboration among Federal agencies, the private sector, research institutions, and other HBCUs. The program transferred from LM in 2006 and now resides in the National Nuclear Security Administration (NNSA), and is a key element of DOE's environmental justice and capacity-building efforts.

United Negro College Fund Special

Projects: DOE and the United Negro College Fund Special Projects conduct a summer internship/mentorship program for under-graduate students attending minority institutions. This program brings students to DOE laboratories for hands-on experience in environmental science and engineering. The number of students participating in the program doubled from 6 in 2004 to 12 in 2008.

State of Environmental Justice in America

Conference: This national conference brings together leaders from various sectors, and with diverse interests, to share ideas for environmental justice. The interactive forum helps generate solutions to real-life problems. Conference participants from the Government; business, industry, and community groups; Tribes; and academia network with colleagues from across the country and discuss issues with decision makers at the highest Federal level in an informal and relaxed environment. Acting Deputy Secretary Jeffrey Kupfer spoke at the May 2008 conference where he introduced the updated *Environmental Justice Strategy*, discussed elements of the strategy, and laid the foundation for two additional strategic presentations during the conference.

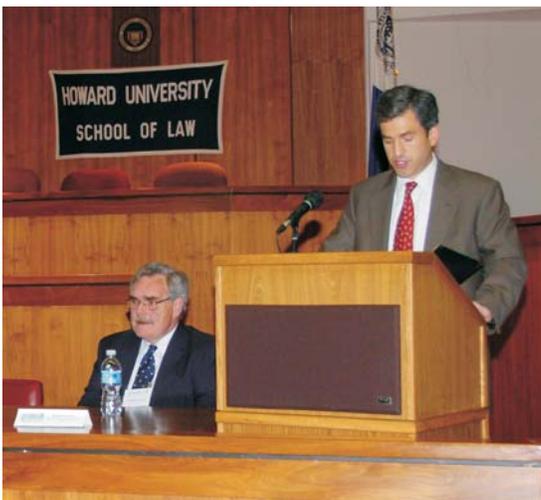


Educational opportunities in a variety of fields are available through the Environmental Justice Program.

Environmental Justice Training: These classes help DOE and contractor personnel gain a greater awareness of environmental justice issues, the communication styles of various stakeholders, and strategies for incorporating environmental justice into DOE decision-making. The classes—Public Participation, Environmental Justice, and Communicating With the Public—help personnel communicate more effectively in public meetings. They also support DOE's goal of having a transparent and inclusive decision-making process.

Savannah River Site Environmental Justice

Collaborative: The collaborative includes DOE Headquarters, the Savannah River Site, Washington Savannah River Company (the Savannah River Site's maintenance and operations contractor), EPA Headquarters and Region IV, and Savannah State University. This collaboration has helped Savannah State University develop a state-of-the-art Environmental Science Masters Program that has graduated more than 30 students, mentored more than 60 interns, coordinated a Teaching Radiation, Energy, and Technology workshop for more than 250 math and science teachers, and conducted more than 60 community outreach meetings with stakeholders in Georgia and South Carolina.



Left to right: Mike Owen, LM Director; listens as Department of Energy Acting Deputy Secretary Jeffery Kupfer speaks at the second annual State of Environmental Justice in America 2008 Conference.