Office of Legacy Management **The First** Fifteen Years

2003 - 2018November 2018



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Office of Legacy Management

The First Fifteen Years 2003-2018

November 2018



Letter from the Director

We are pleased you have chosen to read *The First 15 Years* report from the U.S. Department of Energy (DOE) Office of Legacy Management (LM). In 2003, Congress mandated DOE to provide a long-term sustainable solution to the nation's World War II and Cold War environmental waste legacy. DOE established LM to do that work.

In December 2016, I became the third director of LM since its creation 15 years ago. While I already held LM in high regard, over the past two years my appreciation for the importance of the work that we do has only grown. We are committed to protecting human health and the environment within communities that made sacrifices for this nation during a critical period in our history.



Over the past 15 years, the long-term surveillance and maintenance responsibilities of LM have expanded — from 33 sites originally in 2003 to 92 sites today. We project we will be responsible for 118 sites by 2025. We have also significantly expanded our outreach and educational efforts with stakeholders and communities in proximity to our sites. In an exciting development, we have taken over DOE responsibilities for the Manhattan Project National Historical Park, working in collaboration with the U.S. National Park Service.

This report represents a detailed account of LM activities from 2003 to 2018 in protecting the environment, managing information, ensuring continued retirement benefits for former contractor workers, managing legacy land for beneficial reuse, and engaging communities.

The First 15 Years is organized around LM's six goals:

- Goal 1: Protect human health and the environment
- Goal 2: Preserve, protect, and share records and information
- Goal 3: Meet commitments to the contractor workforce
- Goal 4: Optimize the use of land and assets
- Goal 5: Sustain management excellence
- Goal 6: Engage the public, governments, and interested parties

For each goal, this report details LM's significant responsibilities and achievements, and describes some of the major milestones during this period. We have analyzed data related to each goal to give you an overview of the work we've completed. This document serves as a starting point for describing LM's important role in continuing to meet remaining legacy responsibilities at nearly 100 sites across the country.

The best of our work is yet to come as we learn more about these sites and work with the experts in our industry to provide the highest quality of long-term surveillance of these legacy sites.

Sincerely,

Carmelo Melendez

Director, Office of Legacy Management

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Mission, Vision, and Operating Principles

Mission Statement

The mission of the U.S. Department of Energy Office of Legacy Management is to fulfill the Department's post-closure responsibilities and ensure the future protection of human health and the environment.

Vision

The Department's legacy workforce, communities, and the environment are well-protected and served.

- Consistent and effective long-term surveillance and maintenance (LTS&M) protects people and the environment.
- The public has easy access to relevant records and information.
- Because we work together, stakeholders, tribal nations, and state and local governments trust us.
- The department's former contractor workforce receives mandated benefits on time.
- People are treated fairly and have meaningful involvement in decision-making.

Functions

LM supports its mission statement and vision through seven main functions:

- 1. We protect human health and the environment through effective and efficient LTS&M.
- 2. We preserve and protect legacy records and information and make them accessible to the public.
- 3. We support an effective and efficient workforce structured to accomplish departmental missions.
- 4. We implement departmental policy concerning continuity of worker pension and medical benefits.
- 5. We manage legacy land and assets, emphasizing safety, reuse, and disposition.
- 6. We mitigate community impacts resulting from the cleanup of legacy waste and changing departmental missions.
- 7. We actively act as liaison and coordinate all policy issues with appropriate departmental organizations.



Organizational Key Values

People

- People are our most important resource.
- We respect and use our experience and skills and appreciate our diversity.

Safety

• We protect our human and material resources and promote safe work practices within the office and at our sites.

Business Excellence

• We are fiscally responsible and actively pursue best business practices.

Communication

 We share information freely across all levels of the organization and take full advantage of the strengths of our virtual organization.

Leadership and Teamwork

- We encourage leadership and teamwork at all levels of the organization.
- We value active participation and demonstrate respect for each other.

Customer Focus

 We openly communicate with all our customers in a timely manner and actively seek opportunities to improve our services.

Environmental Stewardship

 We consult with our communities to make informed decisions that comply with environmental laws, regulations, and agreements; support environmental justice; and demonstrate respect for the environment.

Integrity

• We use ethical practices in the performance of our mission and strive to ensure that the integrity that we have built is not compromised.

Monument Valley, Arizona, Processing Site

Summary of Goals and Objectives

Goal 1. Protect Human Health and the Environment



Objectives

- Comply with environmental laws and regulations related to radioactive and hazardous materials in preparation for receiving sites into LM.
- 2. Reduce health risks related to post-closure activities in a cost-effective manner.
- 3. Improve the long-term sustainability of environmental remedies.
- 4. Address the environmental legacy of defense-related uranium mine and mill sites.

Goal 2. Preserve, Protect, and Share Records and Information



Objectives

- 1. Protect and maintain legacy records.
- 2. Make information more accessible.
- 3. Preserve Yucca Mountain Project science and information.

Goal 3. Meet Commitments to the Contractor Workforce

Objectives

- 1. Ensure prudent funding of former contractor workers' retirement benefits.
- 2. Shelter former contractor workers' retirement benefits from risks.

Goal 4. Optimize the Use of Land and Assets



- 1. Enhance sustainable environmental performance for facilities and personal property, and account for climate change in LM site management.
- 2. Optimize public use of federal lands and properties.
- 3. Transfer excess real and personal government property.
- 4. Manage the Uranium Leasing Program (ULP).

Goal 5. Sustain Management Excellence

Objectives

- 1. Develop and maintain high standards for planning, budget, acquisition, and project management.
- 2. Sustain a talented, diverse, inclusive, and performance-driven federal workforce.
- 3. Improve the efficiency and effectiveness of administrative actions.

Goal 6. Engage the Public, Governments, and Interested Parties



Objectives

- 1. Engage the public in our program, projects, and site activities.
- 2. Work effectively with local, state, and federal governments and nonprofit organizations.
- 3. Consult, collaborate, and partner with the people and governments of tribal nations.
- 4. Support development of the Manhattan Project National Historical Park.
- 5. Implement Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, within DOE.





Uranium Issues Open House Monument Valley, Arizona, Processing Site





Protect Human Health and the Environment

During World War II and the Cold War, U.S. government defense programs used uranium, plutonium, and other radioactive material to build a nuclear arsenal. While nuclear weapons production contributed to the defense of the nation, it also left contamination at sites across the country. Recognizing the need to cleanup these hazards and protect human health and the environment, DOE created the Office of Environmental Management (EM) in 1989. However, DOE realized that despite the comprehensive cleanup efforts, some contamination would remain indefinitely at some sites. To reduce the potential risks to human health and the environment, a federal organization was needed to monitor these sites over the long term.

In 2003, DOE created the Office of Legacy Management (LM) to provide long-term surveillance and maintenance (LTS&M) at 33 sites. LM grew quickly as additional sites were cleaned up and transferred to the program. As of April 2018, LM has responsibility for 92 sites.

The major scope of our LTS&M work involves:

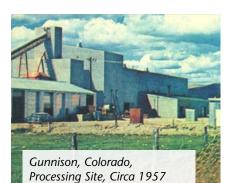
- Routine site inspections
- Environmental monitoring
- Implementing environmental remediation strategies
- Site maintenance
- Institutional controls, such as land use restrictions and well-drilling prohibitions

LM sites fall under a variety of authorities and programs:

- Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978 — federal law that addresses the cleanup of waste piles created by uranium mills.
- Formerly Utilized Sites Remedial Action Program (FUSRAP)

 addresses radiological contamination at privately-owned sites (primarily) that conducted work for the Manhattan Project and the U.S. Atomic Energy Commission (AEC).
- Defense Decontamination and Decommissioning (D&D) Program — focuses on radiological contamination at federally owned sites that conducted work for the Manhattan Project and the AEC.





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FUSRAP Remediation Indian Orchard, Massachusetts, Site

- Nevada Offsites, (NVOs) sites involved in nuclear testing outside of the Nevada Test Site. The sites were involved in either research into peaceful uses of nuclear explosives under the Plowshare Program or experiments related to nuclear weapons treaty verification under the Vela Uniform program.
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 — federal law, commonly referred to as "Superfund," which addresses hazardous wastes.
- Resource Conservation and Recovery Act (RCRA) federal law that addresses wastes throughout their life cycle, "from cradle to grave."
- Nuclear Waste Policy Act of 1982, Section 151 law that addresses sites where low-level radioactive contamination was remediated by the site owner under the U.S. Nuclear Regulatory Commission (NRC) Site Decommissioning Management Program and that can be transferred to the federal government.
- Other various regulatory drivers affecting individual sites.

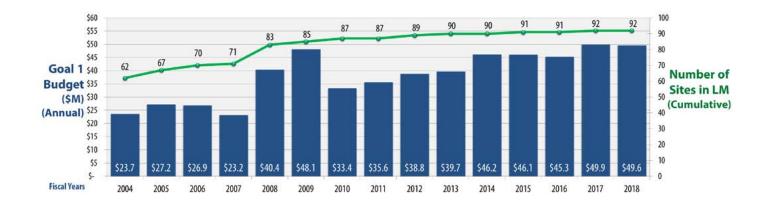
LM is committed to protecting human health and the environment. We continue to monitor legacy sites and use the most current data available to make sound management decisions. We have implemented long-term studies to track how contaminants respond to our remediation strategies. Our Applied Science and Technology (AS&T) program performs applied research and laboratory-scale demonstrations of soil and groundwater remediation and treatment technologies. We continue to work with other federal agencies and industry experts to share best practices. For instance, within the past five years, LM has participated in a multiagency program to assess risks associated with 2,500 former defense-related uranium mines.

KEY MILESTONES

FY 2003	The U.S. Department of Energy (DOE) created the Office of Legacy Management (LM) to provide long-term surveillance and maintenance (LTS&M) at 33 sites.
FY 2003	Began coordinated research efforts at the Rifle, Colorado, Disposal/ Processing Site, resulting in over 300 peer reviewed publications.
FY 2004	Supported the state of Colorado and city of Durango by transferring the former Durango, Colorado, Disposal Site into a park for the community.
FY 2004	Transitioned the L-Bar, New Mexico, Disposal Site, a Title II site, into the program for long-term stewardship.



Construction Work Shiprock, New Mexico, Disposal Site



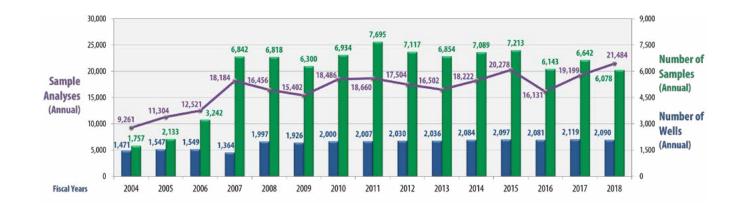


Pronghorn Antelope Rocky Flats, Colorado, Site

- **FY 2004** DOE entered into the Consolidated Audit Program, which assesses commercially operated analytical environmental laboratories based on contractual and applicable regulatory requirements. LM has three qualified DOECAP auditors and participates in about three audits each year.
- **FY 2004** Entered into a cooperative agreement with Gunnison County to provide domestic water via a water line extension to residents affected by the Gunnison, Colorado, Processing site.
- **FY 2005** Finalized LTS&M Plan and Explanation of Significant Differences regarding institutional controls for the Weldon Spring, Missouri, Site.
- **FY 2005** Expanded groundwater extraction systems to improve productivity at the Shiprock, New Mexico, and Tuba City, Arizona, disposal sites.
- **FY 2005** Transitioned the Shirley Basin South, Wyoming, Disposal Site, a Title II site, into the program for long-term stewardship.
- FY 2005 DOE funded (with the Colorado Department of Public Health and Environment) extensions to the domestic water supply system at the Gunnison, Colorado, Processing site.
- **FY 2006** Contributed to the DOE Analytical Services Program and the DOE Consolidated Audit Program by participating in independent audits of analytical environmental laboratories and commercial waste treatment, storage, and disposal facilities.
- **FY 2006** Cosponsored the development of the Visual Sample Plan, which is a defensible sampling plan based on statistical sampling theory and statistical analysis of sample results to support confident decision-making.
- **FY 2006** Implemented System Operation and Analysis at Remote Sites (SOARS) telemetry data and installed data loggers at several remote sites to conduct groundwater monitoring and record results electronically.
- **FY 2006** Removed 18,000 pounds of contaminants at the Pinellas County, Florida, Site using an electrothermal dynamic stripping process.
- **FY 2007** Began study of an approach to enhancing hydrological performance of final covers for disposal cells at the Grand Junction, Colorado, Disposal/Processing Site.

FY 2008	Released the Sampling and Analysis Plan for U.S. Department of Energy Office of Legacy Management Sites, which provides detailed procedures for collecting field samples in a consistent and technically defensible manner.
FY 2008	Accepted site management responsibility for 12 additional sites including the Fernald, Ohio, Site; and eight Nevada Offsites.
FY 2008	Planted vegetation at 12 drilling mud disposal sites on the Amchitka, Alaska, Site to improve cell performance and durability.
FY 2008	Coordinated with four other federal agencies to develop a Five-Year Plan to address uranium contamination in consultation with Navajo Nation Environmental Protection Agency.
FY 2009	Completed first dam breach project at Rocky Flats, Colorado, Site to reduce LTS&M costs and help preserve wetlands and habitat.
FY 2009	Removed over 2,500 cubic yards of contaminated soil at the Pinellas County, Florida, Site.
FY 2009	Completed institutional control assessment addressing soils supplemental standards and groundwater protection measures at the Riverton, Wyoming, Processing Site.
FY 2010	Finalized the Gasbuggy, New Mexico, Site interagency agreement with energy developers and the Jicarilla Apache Nation regarding collaboration and commitment to manage protectiveness.
FY 2010	Transitioned the Maybell West, Colorado, Disposal Site, a Title II site, into the program for long-term stewardship.
FY 2010	Sponsored LTS&M conference in Grand Junction, Colorado.
FY 2012	Finalized agreement with the Northern Arapaho Tribe to ensure safe drinking water at the Riverton, Wyoming, Processing Site.
FY 2012	Completed first phase of second dam breach project (two dams) at the Rocky Flats, Colorado, Site.
FY 2013	Completed CERCLA Natural Resource Damage process at the Rocky Flats, Colorado, Site.
FY 2013	Finalized Wind River Environmental Quality Commission agreement to facilitate effective collaboration between DOE and the Arapaho and Shoshone Joint Council.
FY 2013	Expanded solar power for treating groundwater at the Rocky Flats, Colorado, Site.





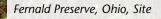


- **FY 2014** Implemented groundwater cleanup operation changes at the Fernald Preserve, Ohio, Site to increase the effectiveness of the ongoing operation and shorten cleanup times for a portion of the aquifer.
- **FY 2014** Remediated five test holes at the Chariot, Alaska, Site.
- **FY 2014** Assessed damage at the Amchitka, Alaska, Site after an earthquake on June 23, 2014.
- **FY 2015** Enhanced bioremediation efforts at the Pinellas County, Florida, Site.
- **FY 2015** Established new institutional control guidance.
- **FY 2015** Saved over \$286,000 at the Fernald Preserve, Ohio, Site by increasing program efficiency.
- **FY 2016** Received Site Rehabilitation Completion Orders from the Florida Department of Environmental Protection for two areas at the Pinellas County, Florida, Site marking the completion of cleanup activities for these two areas.

- **FY 2016** Began study of Riverton, Wyoming, Processing Site soil contaminants to determine the effect of two floods (2010 and 2016) on the uranium contamination in soils.
- **FY 2016** Improved groundwater discharge estimations at the Tuba City, Arizona, Disposal site through unmanned aircraft systems.
- **FY 2016** Sponsored interpretive signage along the Animas River to inform the public about the Durango, Colorado, Disposal Site.
- **FY 2016** AS&T scientists presented on cover performance and enhanced natural attenuation research at the International Atomic Energy Agency.
- **FY 2017** Monitored disposal cell changes using light detection and ranging (LiDAR) technology at multiple sites.
- **FY 2017** Initiated renovation of the wastewater treatment system to increase efficiencies at the Fernald Preserve, Ohio, Site.
- **FY 2017** Led an environmental remediation technologies working group to develop a Wiki tool for member countries to search within an environmental remediation technology database.
- **FY 2017** Removed pond at Durango, Colorado, Disposal Site.
- **FY 2018** Implemented second year of the Abandoned Uranium Mine Working Group's Five-Year Action Plan.



LiDAR Survey Mexican Hat, Utah, Disposal Site



Preserve, Protect, and Share Records and Information

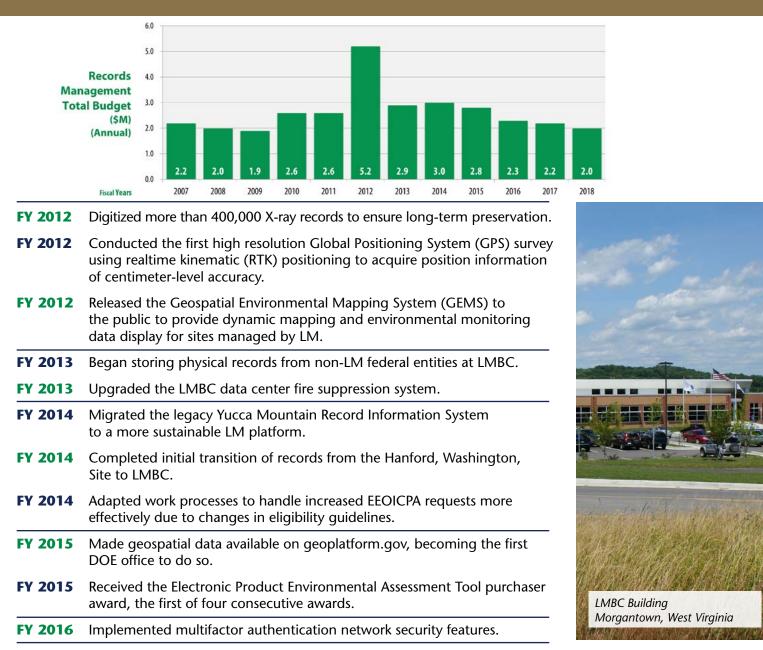
LM recognizes the importance of maintaining records documenting site history, as well as the work that its predecessor organizations completed. The records we preserve also include information about the organization, and its functions, policies, decisions, procedures, operations, and activities. In LM, records are crucial for protecting the interests of the public.

When LM stood up in 2003, many of the records relevant to the sites were held at federal records centers and DOE facilities at locations across the U.S. Rather than manage records in multiple locations, we decided it would be more cost-effective and efficient to manage records within a single facility. We designed the Legacy Management Business Center (LMBC) in Morgantown, West Virginia, as the primary storage space for LM records. The LMBC is a National Archives and Records Administration (NARA)-certified records storage facility and its primary data center.

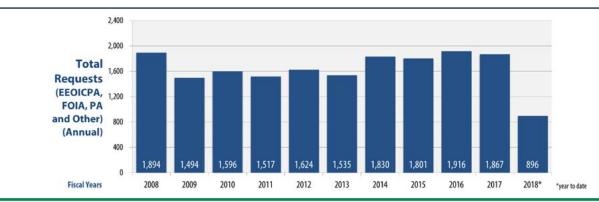
The first 10 years of LM's records work involved compiling, sorting, and preserving the records related to our work. Over the past five years, we have worked toward providing more records online and making records more accessible to users. Rather than searching stacks of hard copy records in person, we have digitized our records and made our geospatial data available on geoplatform.gov. This allows users to access data about LM sites from almost anywhere in the world. This work has resulted in valuable cost savings for DOE and facilitated the public's access to our information.

We continue to see a steady number of records requests. In 2008, LM received 1,894 records requests. In fiscal year (FY) 2017, we processed 1,867 requests. The majority of records requests refer to the Energy Employees Occupational Illness Compensation Policy Act (EEOICPA). Former workers need these records to receive compensation for certain illnesses that are related to their nuclear weapons-related work.

FY 2005	Analyzed alternatives and costs for accomplishing LM's records management mission.
FY 2007	Implemented a requests tracking database to capture records requests processed.
FY 2008	Processed 1,894 requests for information associated with the Energy Employees Occupational Illness Compensation Program Act (EEOICPA) requests, Freedom of Information Act requests, Privacy Act requests, and other inquiries.
FY 2008	Created web-based, e-catalog library database system to allow users access to both traditional and nontraditional library materials.
FY 2008	Established the LM Consolidated Data Center in Morgantown, West Virginia.
FY 2009	Won the DOE Information Technology Group/Team Award for successful migration of LM services to a consolidated data center.
FY 2010	Opened the LMBC, a National Archives and Records Administration (NARA)-certified facility with 150,000 cubic feet of records storage capacity.
FY 2010	Transferred more than 50,000 cubic feet of records from federal records centers across the U.S. to LMBC.
FY 2011	Received the West Virginia state recycling award for waste minimization.
FY 2011	Consolidated DOE Office of Civilian Radioactive Waste Management data centers into existing LM locations.
FY 2012	Migrated the Yucca Mountain Records Information System (RIS) to a more sustainable LM platform.



- **FY 2017** Processed almost 1,900 records requests.
- **FY 2017** Acquired 3D printer to create and demonstrate scientific concepts at public engagements.
- **FY 2018** Implemented commercial off-the-shelf enterprise environmental data management system to manage discrete environmental data collected at LM sites.
- **FY 2018** Recertified by NARA inspectors as a Federal Record Storage facility.
- **FY 2018** Completed the migration of LM's environmental data to the environmental data collection and analysis system (EQuIS), a modern, integrated database platform.



Meet Commitments to the Contractor Workforce

Part of managing the World War II and Cold War legacy is to provide congressionally funded benefits for former DOE workers and contractors. LM has been given the responsibility to fund benefits, such as pension plans and health and life insurance policies, after the contract work ends.

In 2003, LM accepted responsibility for retirement benefits for contractors who were employed at several nuclear defense production sites. Initially, responsibility included former workers employed at the Pinellas Plant in Florida; the Grand Junction, Colorado, Site; and retired employees from the Portsmouth, Ohio, Site, and the Paducah, Kentucky, Site.



Since then, our responsibilities have grown. Today, LM also manages benefits for former workers at the Rocky Flats, Colorado, Site; Yucca Mountain, Nevada; and the Fernald and Mound, Ohio, sites. LM manages the benefits for approximately 7,400 former workers or their beneficiaries.

The most notable change to Goal 3 over the past 15 years has been the increased risks involved with paying out benefits. LM has seen rapid increases in health care costs, and the inflation of medical costs is greater than ever before. Also, wide investment market swings affect how the department values its liabilities. To meet its legal mandates, LM originally budgeted different amounts each year to meet its benefit payout requirements. This increased DOE's liabilities and the cost to the taxpayer.



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Facing these emerging challenges, LM identified responsible alternatives. LM offered former workers lump-sum buyouts and pursued conversions to insurance company annuities. Under the insurance company annuities, former workers receive benefits equal to what they would have received previously.

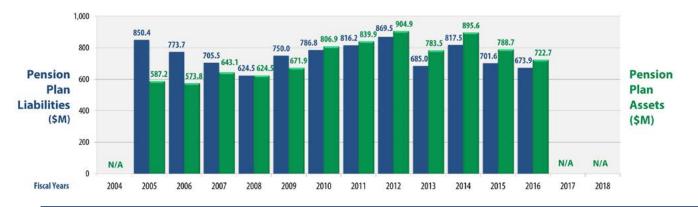
LM's information surveys have also helped to determine the information needs of former workers and directed our outreach in this area. This has helped reduce administrative costs associated with answering workers' questions. We are also offering health reimbursement arrangements for Medicare-eligible retirees.

FY 2004	Administered selected post-retirement and post-closure benefits for former contractor personnel at the Pinellas Plant in Florida.
FY 2004	Administered certain pre-existing liabilities and long-term contractor liabilities at former gaseous diffusion facilities in Paducah, Kentucky, and Portsmouth, Ohio.
FY 2006	Drafted policy that explicitly allowed contractors to budget for pension plan closeout several years prior to a site closure.
FY 2007	Analyzed contractor benefits at LM's current sites and Office of Environmental Management closure sites.
FY 2007	Supported workforce restructuring activities at eight DOE sites.
FY 2007	Supported resolution of labor issues associated with security guards at the Pantex Plant in Texas.



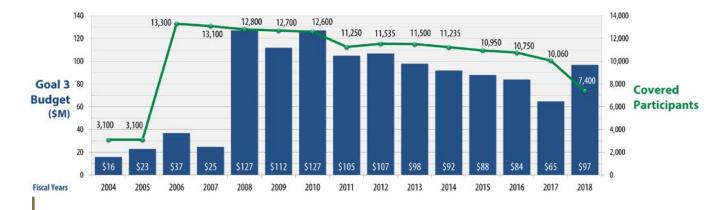




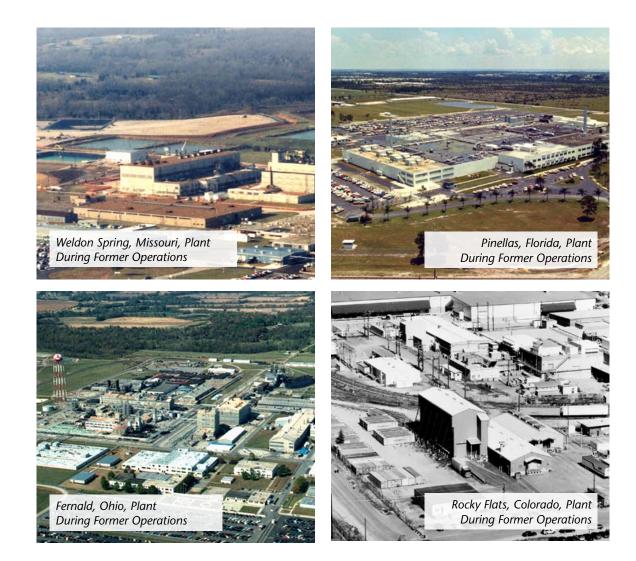


- **FY 2008** Conducted workforce restructuring training in Seattle, Washington, for federal employees and contractors.
- **FY 2009** Invested the majority of contractors' pension plan assets in long-term bonds.
- **FY 2009** Began allowing contractors to contribute additional funds to their pension plans to reduce LM's financial risk and future cost volatility.
- **FY 2011** Supported workforce restructuring transition activities for DOE cleanup contractor employees.
- **FY 2011** Forecasted that pension plan costs for fiscal year 2013 and beyond would drop to \$0.
- **FY 2012** Sponsored dependent-eligibility audits for retiree medical plans for the Rocky Flats, Colorado, Site and the Mound, Ohio, Site, resulting in \$1.7 million in savings.
- **FY 2012** Reduced pension plan liability (and assets) for former Rocky Flats, Colorado, Site workers by \$60 million by offering lump-sum buyouts.
- **FY 2012** Built business case for DOE concurrence on USA Repository Services proposal to annuitize the pension plan covering former workers on the Yucca Mountain Project, Nevada.
- **FY 2012** Hosted a workers reunion at the Fernald Preserve, Ohio, Site for more than 300 former workers from production and cleanup eras.





FY 2013	Completed audits of post-retirement benefits plans covering retirees from the Fernald Preserve, Ohio, and Pinellas County, Florida, sites.
FY 2013	DOE concurred on contractor's proposal to convert Fernald Preserve, Ohio, Site pension plan into insurance company annuities.
FY 2014	Honored former Fernald Preserve, Ohio, Site nuclear weapons program workers on the National Day of Remembrance for Nuclear Weapons Program Workers.
FY 2017	Managed pension and post-retirement benefits program consisting of 10,060 participants.
FY 2018	LM annuitized the Mound Employees' Pension Plan with help from contractor Washington River Protection Solutions. This removed an estimated \$200 million from DOE's long-term financial liabilities. It will return \$4.25 million to the Department.



Optimize Use of Land and Assets

When site cleanup began, DOE's long-term goal was to transition land back to communities wherever possible. LM has created Beneficial Reuse Management Plans and redefined the reuse program, so over 95 percent of LM sites have incorporated reuse.

LM prioritizes disposal — the sale or transfer — of federally owned LM properties as the first option for reuse. We manage a number of sites that are adjacent to other federal and state public lands. In 2007, DOE transferred 3,953 acres of the Rocky Flats, Colorado, Site to the U.S. Fish and Wildlife Service as part of a national wildlife refuge. In 2014, LM transferred an additional 756 acres of the Rocky Flats site to the U.S. Fish and Wildlife Service.



We screen current and future sites for conservation and

recreational use opportunities. The city of Grand Junction's master plan included revitalizing a neglected riverfront area that was once the site of a former uranium mill. The reuse of the land as Las Colonias Park restores the banks of the Colorado River, celebrates the history of the area, creates outdoor recreational events, and provides economic vitality in the River District. LM awarded a grant to the city to help with construction of an outdoor amphitheater, which opened in 2017, and to assist the city with development of the park. Now, the park can host concerts and other community events. The city plans to develop the site further by adding a dog park and zoning the area for business opportunities.



The Fernald Preserve, Ohio, Site — a 1,050-acre former uranium processing facility — is a prime example of beneficial reuse. DOE restored much of the site to its presettlement condition with grasslands, wetlands, and hiking trails. The Fernald Preserve Visitors Center helps tell the story of the site from a time before it was developed as a weapons complex site, to its cleanup and reuse today.

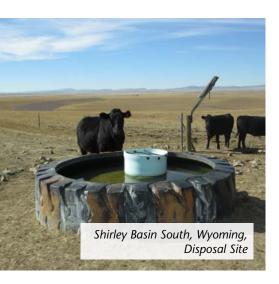
Another aspect of Goal 4 and LM's work is the Uranium Leasing Program (ULP). We manage 31 lease tracts in western Colorado, where private companies can mine uranium and vanadium. LM leases ULP tracts on a competitive-bid basis to mining companies that operate under terms of agreements. The companies pay annual and production royalties to the U.S. Department of the Treasury. We completed a Programmatic Environmental Impact Statement (PEIS) for the ULP in 2014. The result of the PEIS is that LM plans to manage exploration, mine development, mining, and reclamation for an additional 10 years.

DOE will only implement the Record of Decision for the ULP when the U.S. District Court for the District of Colorado has dissolved an injunction issued on October 18, 2011, which froze lease activities at 31 tracts until this evaluation process was completed. DOE will evaluate the lease tracts on a case-by-case basis, and the leases will be modified as needed in the implementation of this decision.



Fernald Preserve, Ohio, Site







- **FY 2004** Placed 474 acres into reuse at the L-Bar, New Mexico, Disposal Site for livestock grazing.
- **FY 2005** Donated laboratory equipment and supplies worth more than \$690,000 to colleges and universities throughout the country.
- **FY 2006** Collaborated with the Borough of Canonsburg for Chartiers Creek stream bank preservation at the Canonsburg, Pennsylvania, Disposal Site.
- **FY 2007** Placed 1,527 acres into reuse at the Shirley Basin South, Wyoming, Disposal Site for livestock grazing.
- **FY 2007** Disposed of the 6-acre Wayne, New Jersey, Site to Wayne Township for recreational use.
- **FY 2007** Assisted the Office of Environmental Management in the transfer of nearly 4,000 acres of the Rocky Flats, Colorado, Site to the U.S. Department of the Interior for use as a national wildlife refuge.
- **FY 2008** Opened a Leadership in Energy and Environmental Design (LEED) Platinum Visitor Center and 7 miles of trails for community use at the Fernald Preserve, Ohio, Site.
- **FY 2009** Recycled the sanitary sewer treatment plant at the Mound, Ohio, Site.
- FY 2009 Disposed of portions of the following properties for private, economic, and other development purposes: Canonsburg, Pennsylvania, Disposal Site; New Brunswick, New Jersey, Site; Grand Junction, Colorado, Site; Salmon, Mississippi, Site; and Monticello, Utah, Disposal and Processing Sites.
- FY 2011 Placed the following sites into agricultural reuse by dedicating some of the land for livestock grazing or haying purposes: Bears Creek, Wyoming, Site; Falls City, Texas, Disposal Site; Edgemont, South Dakota, Disposal Site; and Spook, Wyoming, Disposal Site.
- **FY 2012** Increased LM's reuse portfolio focusing on energy development by building a 285-kilowatt solar photovoltaic system at the Tuba City, Arizona, Disposal Site.
- **FY 2012** Partnered with Colorado Mesa University to explore environmental challenges at the Grand Junction, Colorado, Disposal/Processing Site.
- **FY 2012** Received two LEED certification awards from the Green Building Council for design and construction of LMBC (first double-gold building in West Virginia).

FY 2013	Facilitated partnership with U.S. Fish and Wildlife Service and the Cincinnati Zoo and Botanical Garden to recover the American burying beetles at the Fernald Preserve, Ohio, Site under authority of the Endangered Species Act of 1973.
FY 2013	Partnered with multiple federal agencies on the development of the Draft Uranium Leasing Program Programmatic Environmental Impact Statement (ULP PEIS).
FY 2014 -2017	Disposed of portions of the following sites for private, economic, and other development purposes: Spook, Wyoming, Disposal Site; Monticello, Utah, Disposal and Processing Sites; Mound, Ohio, Site; and Rocky Flats, Colorado, Site.
FY 2014	Issued final Programmatic Environmental Impact Statement (PEIS) on the Uranium Leasing Program (ULP).
FY 2014	Submitted the Defense-Related Uranium Mines Report to Congress.
FY 2015	Participated in issuing the Land and Asset Transfer for Beneficial Reuse, documenting DOE transfers of more than 256,902 acres of land and real property.
FY 2015	Recycled a building foundation at the Weldon Spring, Ohio, Site.
FY 2016	Reached agreement with the U.S. Fish and Wildlife Service and the Ohio Environmental Protection Agency to implement a watershed protection program at the Fernald Preserve, Ohio, Site.
FY 2016	Conducted conservation reuse screenings at 54 LM sites.
FY 2016	Received the Presidential Award for Sustainability at the Rocky Flats, Colorado, Site.
FY 2017	Celebrated opening of the 130-acre Las Colonias Park by the city of Grand Junction, Colorado, on a former uranium mill site.
FY 2017	Redefined the reuse program through creation of the Beneficial Reuse Management Plan — now more than 95 percent of LM sites have incorporated reuse.
FY 2017	Created the first LM Beneficial Reuse Management Plan.
FY 2017	Established a right of way to protect the Gunnison sage grouse in Gunnison, Colorado.
FY 2017	Increased pollinator friendly best management practices acreage to 2,564 acres.
FY 2018	LM acquired Building 7 from the U.S. Army Corps of Engineers through a no cost federal-to-federal transfer in Grand Junction, Colorado.



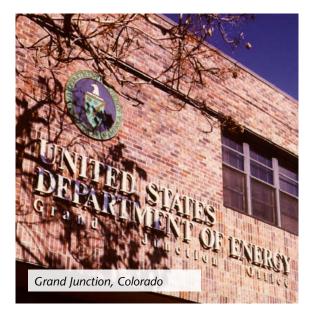
American Burying Beetle



Sustain Management Excellence

Throughout the 15 years of the program's history, we have grown our mission while removing some programs that were better served under other DOE offices. LM transferred or ended its oversight responsibility of strategic materials, workforce restructuring, labor relations and standards, and radiological assistance. Removing these responsibilities allowed LM to focus on its core mission areas.

In the early years, LM worked to integrate the different offices and functions it inherited into a coherent and efficient operation. The first five years focused on locating federal staff in places that were closer to stakeholders and other federal centers. LM had to prioritize which offices to keep open and which to close. This helped budget federal dollars into the most needed areas of the LM program.



We developed a structure that included the optimum number of federal employees, assisted by a support services contractor, in order to optimize the use of funds to support the program. As a result of this work, the Office of Management and Budget designated LM as a high-performing organization (HPO) in 2007. LM completed subsequent HPO five-year plans 2012 and 2017.

LM has also completed strategic plans in 2003, 2007, 2011, and 2015. As our needs changed, we reorganized to meet new performance measures.

FY 2003	DOE established LM with 81 federal staff located at the following locations: Washington, D.C.; Germantown, Maryland; Morgantown, West Virginia; Pittsburgh, Pennsylvania; Pinellas County, Florida; Las Vegas, Nevada; and Grand Junction, Colorado.
FY 2003	Michael Owen named as first director of LM.
FY 2005 -2008	Downsized to 58 federal staff members and removed federal staff from the offices located in: Pinellas, Florida; Germantown, Maryland; and Pittsburgh, Pennsylvania.
FY 2005	Reorganized LM into Business Operations (LM-10) and Site Operations (LM-20).
FY 2006	Developed LM's 2007–2010 Human Capital Management Plan.
FY 2007	Achieved a safety record that exceeded the DOE average.



FY 2007	Designated by the Office of Management and Budget as the second High-Performing Organization in the federal government.
FY 2008	Acquired performance-based, small business contractor S.M. Stoller Corporation to support LM's goals.
FY 2008	Contractor, S.M. Stoller Corporation, achieved 1 million safe work hour
FY 2008	LM program budget more than tripled with additional roles and responsibilities.
FY 2010	David Geiser named as second director of LM following the retirement of Michael Owen.
FY 2010	Transferred human resources services from the National Energy Technology Laboratory to Headquarters Human Resources.
FY 2010	Reorganized the environmental teams and HR/administrative teams into four areas: RCRA/CERCLA/FUSRAP sites; UMTRCA sites and NVC Human Resources team, reporting to Office of the Director; and the administrative team, reporting to the Office of Business Operations.
FY 2011	Consolidated Fernald Preserve and Mound site offices in Ohio.
FY 2011	Issued LM's 2011–2015 Human Capital Management Plan.
FY 2012	Support services contractor, S.M. Stoller Corporation, awarded Voluntary Protection Program STAR Status.
FY 2012	Developed LM's first Diversity and Inclusion Implementation Plan.
FY 2015	Released 2016–2025 Strategic Plan.
FY 2015	Completed the first support services contract.
FY 2015	Awarded second support services contract to Navarro Research and
	Awarded second support services contract to Navarro Research and Engineering, Inc.
FY 2016	
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Engage the Public, Governments, and Interested Parties

Communicating the work LM performs has always been a high priority for LM. In 2015, we recognized the need for an independent communications-focused goal. Rather than have communications programs shared across Goals 1–5, our communication efforts now all flow through Goal 6. Some of the key priorities within Goal 6 include providing outreach to stakeholders; partnering with tribal nations, nonprofit organizations, and all levels of government; supporting the Manhattan Project National Historical Park; and supporting environmental justice.

Outreach to the public, intergovernmental collaboration, and effective dialogue with tribal nations are integral to our work. Toward that end, we ramped up outreach in 2016 related to in-person communication with tribal stakeholders by holding events to answer questions about sites on or near tribal lands and sharing information of interest to stakeholders.

From the beginning, we have published a quarterly Program Update to provide updates on activities and accomplishments. We also developed a stakeholder database to distribute information to interested parties and congressional representatives.

The Fernald Preserve and Weldon Spring Interpretive Centers have supported programming for community members that help tell the history of nuclear weapons development, cleanup, and beneficial reuse. The visitor centers recently celebrated more than 50,000 and 300,000 total visitors at Fernald and Weldon Spring, respectively.

In 2007, Congress mandated LM and five other federal agencies to work together to address the imminent uranium risks on the Navajo Nation and other tribal lands. The agencies developed a Five-Year Plan with goals and objectives and metrics for what the agencies should accomplish. The first Five-Year Plan began in 2008 and a second was published in 2014. A major accomplishment of the network was coordinating a record number of outreach events on or near tribal lands. Tribal members had the opportunity to ask questions and receive personal answers to questions related to LM sites.

LM ensures that DOE complies with Executive Order 1298, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. By continuing to review, plan, and implement



commitments through the lens of environmental justice, we have made significant progress in engaging minority and low-income communities, including tribal communities, in the decision-making process. This is reflected through ongoing LTS&M activities, such as LM's participation in the second Five-Year Plan, *Federal Actions to Address Impacts of Uranium Contamination in the Navajo Nation*, as well as rehabilitation and community reuse of former defense nuclear facilities and other properties.

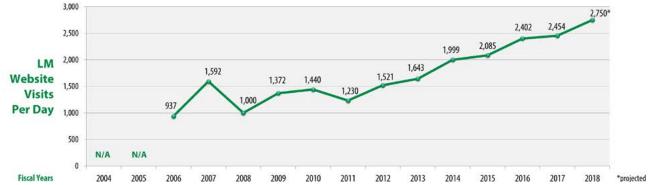
In addition to ensuring community involvement in decision-making, we also continue to pursue educational partnerships for the public, working with a variety of culturally distinct communities. The partnerships include public open house sessions at LM-managed sites, educational opportunities, student site visits, and internships that provide hands-on mentoring and work experience at LM's Grand Junction, Colorado, Site. Training sessions on tribal culture, regulations, and environmental ethics are conducted for LM staff on a regular basis. We also continue to play a key role in federal-wide efforts to provide training to all federal employees and promote a national dialogue on environmental justice.

In 2016, DOE assigned LM with responsibilities for the Manhattan Project National Historical Park (MAPR), which is managed through a collaborative partnership with the U.S. National Park Service (NPS) to preserve, interpret, and facilitate access to key historic resources associated with the Manhattan Project. MAPR incorporates three of the most significant Manhattan Project sites, each of which played an essential role: Oak Ridge, Tennessee; Los Alamos, New Mexico; and Hanford, Washington.

LM has also created a Communication, Education, and Outreach team to ensure the objectives of Goal 6 are met.

FY 2004	Developed National Stakeholder Database to track and distribute LM stakeholder information.
FY 2004	Hosted the 2004 Stakeholders Conference on Worker Transition and Legacy Benefits in Las Vegas, Nevada.
FY 2004	Published first quarterly Program Update newsletter announcing creation of LM.
FY 2004	Hosted Long-Term Surveillance and Management Conference.
FY 2005	Transferred Environmental Justice activities and the Massie Chairs of Excellence Program to LM.
FY 2005	Designed and produced first national stakeholders' exhibit to help inform stakeholders of LM's mission commitments.
FY 2005	Environmental Justice activities and the Massie Chairs of Excellence Program transferred to LM.









2000	2003 2010 2011 2012 2013 2014 2013 2010 2017 2010 projekted
FY 2006	Completed comprehensive analysis of interaction with LM stakeholders to determine effective public outreach strategies.
FY 2007	Partnered with the EPA, U.S. Bureau of Indian Affairs, NRC, Indian Health Service, and the Agency for Toxic Substances and Disease Registry to develop the first Five-Year Plan to address uranium contamination on the Navajo Nation.
FY 2008	Opened the Fernald Preserve Visitors Center.
FY 2010	Hosted the to Long-Term Stewardship Conference in Grand Junction, Colorado.
FY 2010	Hosted National Day of Remembrance ceremony for nuclear weapons workers at Weldon Spring, Missouri, Site.
FY 2011	Expanded educational, nature-based programs for local students of all grade levels at the Fernald Preserve, Ohio, Site.
FY 2013	Hosted Blue Star Memorial Dedication at Weldon Spring, Missouri, Site Interpretive Center.
FY 2013	Weldon Spring Interpretive Center recorded over 200,000 visitors since opening in 2002.
FY 2014	Celebrated 20-year anniversary of Executive Order 12898 on environmental justice.
FY 2014	Reached a total visitor count of 50,000 at the Fernald Preserve, Ohio, Site since opening of the Visitors Center in August 2008.
FY 2014	Participated in the Interagency Working Group on Environmental Justice Senior Leadership and Chiefs of Staff meeting.
FY 2014	Established second Five-Year Plan to address uranium contamination in the Navajo Nation.
FY 2015	Hosted a dedication and open house in honor of Grand Junction office founder Philip Leahy.
FY 2015	Participated in tribal training related to DOE Order 144.1 and Executive Order 12898 on environmental justice.

FY 2016	Increased number of outreach events on or near the Navajo Nation.	
FY 2016	Held the "Decade of Difference" event at the Fernald Preserve, Ohio, Site, celebrating the 10 years since the site was remediated and closed.	
FY 2016	Accepted responsibility for fulfilling DOE's responsibilities with the Manhattan Project National Historical Park, a collaborative project with the NPS, which incorporates three of the most significant Manhattan Project sites: Oak Ridge, Tennessee; Los Alamos, New Mexico; and Hanford, Washington.	The U. of Diff In hon of the for reti
FY 2016	The Grand Junction office is listed on the National Register of Historic Places.	Fluor
FY 2017	Hosted a record of more than 27,000 visitors for the year and reached a total visitor count of more than 300,000 visitors since the Weldon Spring Interpretive Center opened in August 2002.	SUP
FY 2017	Released LM's first Annual Historical Summary.	
FY 2017	Hosted Total Solar Eclipse of the Cell event at the Weldon Spring, Missouri, Site.	Copen Activities – 6:00 p.m. to 8:00 p.m. Observe the superm a telescope Experience interpret
FY 2018	Hosted the Long-Term Stewardship Conference in Grand Junction, Colorado.	and astronomy talks Attend educational I Participate in kids' of A supermoon is a coin to Earth during
FY 2018	Observed the 75th anniversary of the	Monda

- **FY 2018** Observed the 75th anniversary of the Grand Junction, Colorado, office.
- **FY 2018** Celebrated the grand opening of the Mound Cold War Discovery Center, a collaborative effort among LM, the Mound Science and Energy Museum, Mound Development Corporation, and Dayton History.
- **FY 2018** DOE and the Manhattan Project National Historical Park showcased "Women of the Manhattan Project" with presentations and events in Oak Ridge, Tennessee; Hanford, Washington; Los Alamos, New Mexico; and Grand Junction, Colorado.
- **FY 2018** Developed a display on radiation for the Eureka! McConnell Science Museum in Grand Junction, Colorado.





Our six goals drive LM, along with our people, budget, and performance measures. Meeting the challenges of the next 15 years will be possible through our commitment to our mission and through the work and commitment of the federal staff and contractors that make it possible.

Goal 1

- We will continue to ensure protectiveness of environmental remedies as we address the effects of natural forces, demographic shifts, and local and regional development.
- We plan to add approximately 31 more sites to our responsibility list by 2033, increasing the number of LM sites to approximately 123. These sites will present challenges in terms of geographic location, staffing levels, resource requirements, and resolution of new technical issues.
- We will further the ongoing studies in the Applied Science and Technology programs to gain a better understanding of the sites under our management.

Goal 2

- We will adjust to changes in NARA records policies.
- We expect to see a decrease in requests for information responding to EEOICPA and Privacy Act requests from former workers associated with existing sites. We will add requests from our new sites.
- We will enhance our geographic information system and other IT systems. The improved systems will make our data more accessible, easier to analyze, and more useful.

Goal 3

- We expect contractors to complete the conversion of retiree pension plans through either lump-sum allotments or the purchase of insurance company annuities.
- Contractors will continue to make adjustments to health insurance plans to reflect changes in federal laws and regulations.
- We project LM funding for post-retirement benefits for existing sites will peak in 2021. Then, retiree eligibility for Medicare and mortality will outweigh increases in the cost of health care.
- We will add responsibility for the pension plans and post-retirement benefits of former contractor workers as EM completes cleanup and transfers additional closure sites to LM.

Goal 4

- We expect to achieve even more challenging federal government sustainability goals.
- We will continue to improve the beneficial reuse of property, enhance our use of institutional controls, and dispose of additional federal properties.
- We will implement the Record of Decision for the ULP.

Goal 5

- We must address the many issues (e.g., retention of knowledge) associated with our aging federal and contractor workforce.
- We will renew our HPO proposal, adding even more challenging goals and objectives, in order to sustain our designation.
- We will focus increased attention on safety as we add sites and travel additional miles for siterelated work.

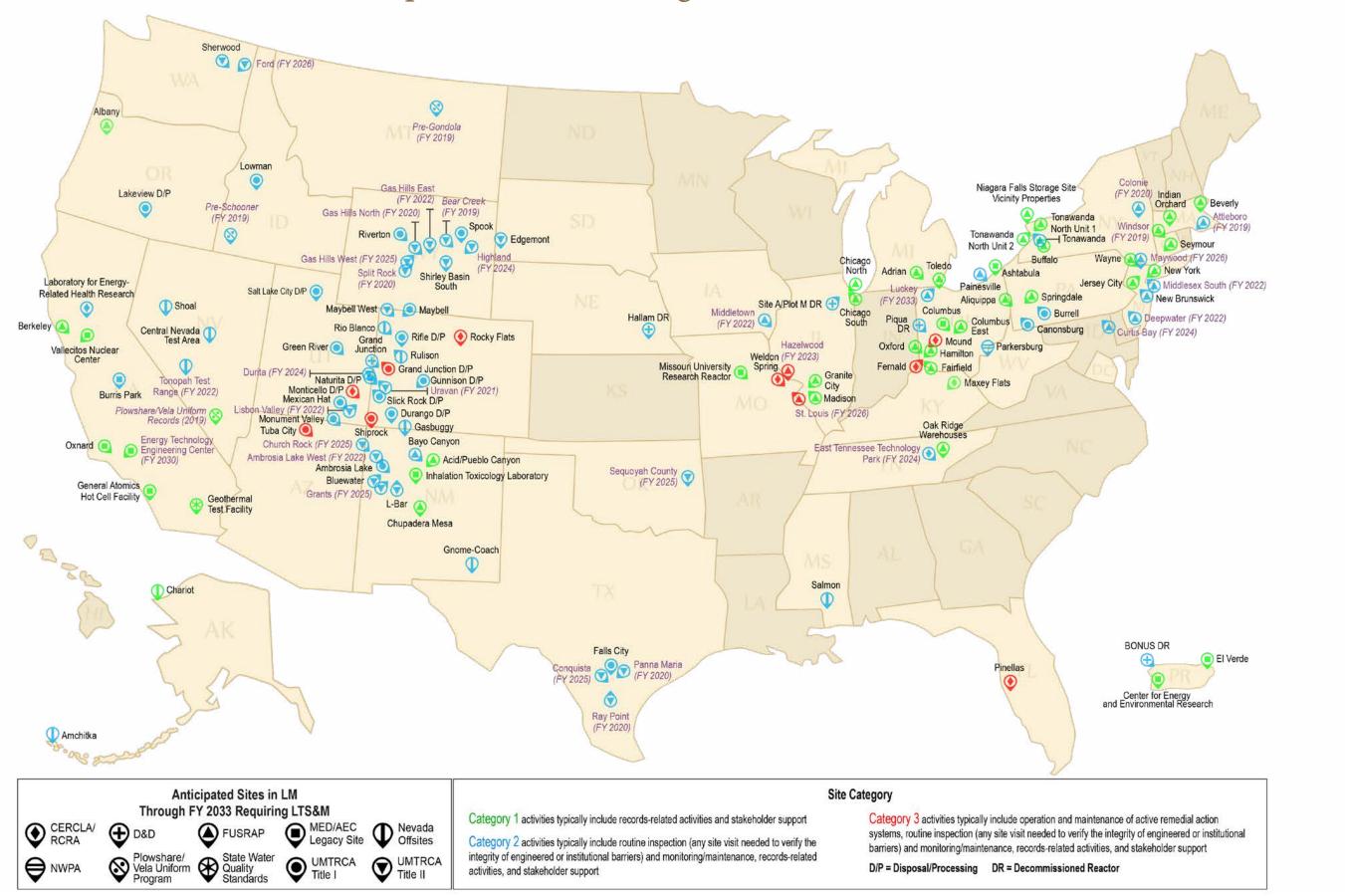
Goal 6

- We will continue to share information through outreach, interpretive centers, and social media to become a stakeholder-centric federal organization.
- We will continue the work outlined in Executive Order 12898 on environmental justice.
- We will continue to support the development of the Manhattan Project National Historical Park.

Acronym List

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
D&D	Decontamination and Decommissioning
DOE	U.S. Department of Energy
EEOICPA	Energy Employees Occupational Illness Compensation Program Act
EM	Office of Environmental Management
FIMS	Facilities Information Management System
FUSRAP	Formerly Utilized Sites Remedial Action Program
FY	Fiscal Year
НРО	High-Performing Organization
IT	Information Technology
LEED	Leadership in Energy and Environmental Design
LM	Office of Legacy Management
LMBC	Legacy Management Business Center
LMS	Legacy Management Support Contractors
LTS&M	Long-Term Surveillance and Maintenance
MAPR	Manhattan Project National Historical Park
NARA	National Archives and Records Administration
NVOs	Nevada Offsites
OMB	U.S. Office of Management and Budget
OSHA	Occupational Safety and Health Administration
PEIS	Programmatic Environmental Impact Statement
RCRA	Resource Conservation and Recovery Act
ULP	Uranium Leasing Program
UMTRCA	Uranium Mill Tailings Radiation Control Act

Anticipated LM Sites Through Fiscal Year 2033



The First Fifteen Years, 2003–2018



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