

2018

# ANNUAL HISTORICAL SUMMARY

MANAGING TODAY'S CHANGE, PROTECTING TOMORROW'S FUTURE



U.S. DEPARTMENT OF

**ENERGY**Legacy  
Management

Valley of the Gods, Utah

<https://energy.gov/lm>

GOAL 1



Protect Human  
Health and the  
Environment

GOAL 2



Preserve, Protect,  
and Share Records  
and Information

GOAL 3



Safeguard Former  
Contractor Workers  
Retirement Benefits

GOAL 4



Sustainably  
Manage and  
Optimize the Use  
of Land and Assets

GOAL 5



Sustain  
Management  
Excellence

GOAL 6



Engage the Public,  
Governments, and  
Interested Parties





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*Long-Term Stewardship Conference attendees learn about the operations of the Moab UMTRA Project.*



## Purpose of this Document

This document records significant accomplishments achieved by the U.S. Department of Energy (DOE or Department) Office of Legacy Management (LM) during calendar year 2018. The intent is to provide a record for future generations who are interested in the work completed throughout the year. LM will note any data reflected by the fiscal year (as opposed to the calendar year) when applicable throughout the document. Budget information, identified within the document, reflects the October 1 through September 30 fiscal year (FY).


Annual historical summaries highlight a selection of the many activities LM performs during calendar years. They offer stakeholders information about recent work conducted by LM. Future historians and researchers can use the summaries to place the activities of LM into larger contexts, such as the history of DOE.

## Overview of the U.S. Department of Energy Office of Legacy Management

DOE is committed to managing its responsibilities associated with the legacy of World War II and the Cold War. This legacy includes radioactive and chemical waste, environmental contamination, and hazardous materials at over 100 sites across the United States and the territory of Puerto Rico. DOE has taken major steps toward fulfilling its commitments to clean up this environmental legacy by successfully implementing an accelerated environmental remediation program.

Congress established LM on December 15, 2003. LM's role is to meet the Department's post-closure responsibilities by providing long-term surveillance and maintenance (LTS&M), records management, benefits continuity, property management, and land use planning. As of the end of calendar year 2018, LM managed 92 legacy sites in 28 states and Puerto Rico. In addition to stewardship responsibilities at legacy sites, LM maintains five radiometric calibration facilities, manages the Uranium Leasing Program (ULP), and the Defense-Related Uranium Mines (DRUM) program. LM also incorporates improvements in scientific understanding and technology applications through the Applied Studies and Technology program and manages the LM Business Center Records Storage Facility, which is a certified National Archives and Records Administration repository.

LM uses a support contractor (LMS) to ensure consistency and accountability for protecting human health and the environment at various legacy sites, preserving records, managing land and assets, sustaining management excellence, and engaging stakeholders. Navarro Research and Engineering, Inc. (Navarro) is the current primary support contractor.



*U.S. Department of Energy, Washington, DC.*

## LM Mission and Vision

### *Mission Statement*

*Fulfill the Department of Energy'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 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 safeguards former contractor workforce retirement benefits through prudent, timely funding.
- People are treated fairly and have meaningful involvement.





## LM Goals and Objectives

Managing Today's Change, Protecting Tomorrow's Future



### **Goal 1 – Protect Human Health and the Environment**

- Comply with environmental laws and regulations related to radioactive and hazardous materials, to prepare for receiving sites into LM.
- Reduce post-closure-related health risks in a cost-effective manner.
- Improve the long-term sustainability of environmental remedies.
- Address the environmental legacy of defense-related uranium mines and milling sites.



### **Goal 2 – Preserve, Protect, and Share Records and Information**

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



### **Goal 3 – Safeguard Former Contractor Workers' Retirement Benefits**

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



### **Goal 4 – Sustainably Manage and Optimize the Use of Land and Assets**

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



### **Goal 5 – Sustain Management Excellence**

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



### **Goal 6 – Engage the Public, Governments, and Interested Parties**

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



## GOAL 1: Protect Human Health and the Environment

As of the end of calendar year 2018, LM managed 92 legacy sites in 28 states and Puerto Rico. LM implements long-term care plans that are designed to protect public health and the environment. These plans are site specific and comply with environmental laws and regulations.

### Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA)

#### *Fernald Preserve, Ohio, Site*

##### **Converted Advanced Wastewater Treatment (CAWWT) Facility Updated**

In January, LM updated equipment used at the Fernald site to treat groundwater and wastewater at the CAWWT facility. LM maintains and optimizes the system and associated extraction-well network and infrastructure as needed. In 2018, Fernald made the following updates:

- Installed skid-mounted multimedia filter and ion-exchange treatment equipment to replace the old and failing treatment system.
- Connected the associated piping, electrical, fiber-optic communication, and process-control systems.
- Replaced facility heating and ventilation systems.

##### **LM Partnered with Savannah River National Laboratory (SRNL) at Fernald Preserve**

LM signed an inter-entity work order with lead lab [SRNL](#) to provide technical assistance on the refurbishment of the backwash basin at the Fernald Preserve. The backwash basin is used to collect wastewater from the site before it is treated at the CAWWT. SRNL will produce a report with technical recommendations allowing LM to refurbish the backwash basin in an efficient and cost-effective manner.

#### *Laboratory for Energy-Related Health Research (LEHR), California, Site*

LM received a U.S. Environmental Protection Agency (EPA) protectiveness determination letter on October 29 that agreed the remedy at the LEHR site is protective of human health the environment. EPA agreed with LM's determination (based on the results of a multiyear evaluation issued in the 5-Year Review Addendum on July 31) that vapor-forming compounds in DOE areas do not present an unacceptable risk under current or potential future land use scenarios. The California Department of Toxic Substances Control and Central Valley Region Water Quality Control Board also concurred with this finding.

#### *Mound, Ohio, Site*

In September, LM completed a four-year enhanced attenuation (EA) field demonstration at the Operable Unit 1 (OU-1) area of the Mound site. The approved remedy in the CERCLA Record of Decision requires operation of a groundwater pump and treatment (P&T) system to remediate volatile organic compound (VOC) contaminants in the groundwater. In 2014, EPA and Ohio EPA approved placing the P&T system on standby while the field demonstration was underway. Results demonstrated that naturally occurring microorganisms are effectively degrading VOCs in the groundwater. This has the potential to accelerate remediation of the groundwater at OU-1. EPA and Ohio EPA have approved continued standby of the OU-1 P&T system while LM continues to monitor groundwater and the performance of the natural attenuation mechanisms already in place. Next year LM and the regulators may evaluate alternatives to replace the P&T remedy, including use of natural attenuation, to decrease VOC concentrations in OU-1 groundwater.

*Mound, Ohio, Site.*





## *Monticello, Utah, Disposal/Processing Site*

LM completed a closure strategy paper for the Monticello site, proposing monitored natural attenuation as the preferred remediation path for managing uranium ground and surface water going forward. LM submitted the paper in June and will begin negotiations with EPA and the Utah Department of Environmental Quality. If the regulators approve the closure strategy, LM will stop pumping groundwater and remove the permeable reactive barrier but continue its institutional controls management. Approval takes years to achieve, so LM will continue meeting the current requirements until further notice. LM believes it has controlled any risks the site may pose through institutional controls and deed restrictions. Ending the current remediation regime could offer some advantages by:

- Reducing spending of taxpayer dollars.
- Decreasing disturbance on private property.
- Allowing more natural flow through the aquifer.
- Reducing the government's footprint on the site.

The regulators will review LM's paper and negotiate on monitoring, which LM will continue in perpetuity. Negotiations could take two to five years.

## *Pinellas, Florida, Site*

LM held its first semiannual groundwater-sampling event from February through March. Sampling focused on the Building 100 Area and the 4.5-Acre Site. Groundwater sampling is part of LM's stewardship role in post-remediation site monitoring. Sampling ensures that groundwater levels remain within the industry-accepted control limits for safe drinking water.

- Two abandoned vaults with groundwater extraction wells remained on the site. Open, abandoned wells can pose safety hazards, so LM followed industry guidelines to plug wells that no longer serve a purpose. Per direction from the Southwest Florida Water Management District, LM filled the wells with cement grout. This action marks the removal of the last obsolete water extraction and treatment infrastructure LM operated on the site.
- Since LM stopped its groundwater extraction and treatment process, it decommissioned the associated equipment. Some of the decommissioning work included transporting equipment to local recycling facilities for disposal. This included the operations equipment used in the extraction and treatment processes.



*Monticello, Utah, Disposal/Processing Site.*





## *Rocky Flats Site, Colorado*

### **Rocky Flats Groundwater Nitrate Treatment System Upgrade**

Interim testing of the The Solar Ponds Plume Treatment System (SPPTS) full-scale, nitrate treatment lagoon was completed, and the lagoon was converted from test status to full-scale operation in December. Design and operation of the full-scale test lagoon was based on successful bench- and pilot-scale tests performed in prior years. The full-scale test began in 2016, when the original two treatment cells of the SPPTS were converted to the full-scale test lagoon to evaluate the long-term application of this approach to treating nitrate in groundwater processed by this system. By the end of testing in late 2018, the lagoon consistently treated elevated concentrations of nitrate in the influent groundwater to concentrations that were below the detection limit. Minor upgrades are being made to convert the full-scale test component to a treatment unit that should better achieve long-term requirements. Temporary and test parts were replaced with parts that are designed to withstand years of operation and items that had become worn or were no longer useful were replaced or removed.

## *Weldon Spring, Missouri, Site*

### **LM Preserves Prairies by Prescribed Burning**

On March 15, LM performed a prescribed burn at Howell Prairie located within the Weldon Spring site. Howell Prairie is unique in Missouri because less than 1 percent of historic prairie acreage in the state still exists. This diverse ecosystem supports pollinator species and provides a buffer around the site's 41-acre disposal cell. The prairie stabilizes soils and protects against erosion within the surrounding 15,000 acres of state-owned conservation lands. The 2018 burn follows burns conducted in 2006, 2009, 2010, and 2017. Periodic fires preserve prairies and the wildlife they support. Historically, prairie fires advanced across the Midwest landscape for miles. Today, human intervention usually suppresses uncontrolled burning for safety and other reasons. LM expects the prescribed burning will benefit Howell Prairie by:

- Reducing undesirable plant species.
- Returning nutrients back into the soil.
- Increasing density and diversity of more than 80 native species of grasses and wildflowers during regrowth.
- Reducing fuel loads that could potentially lead to major wildfires.



*Weldon Spring, Missouri, Site.*



## Formerly Utilized Sites Remedial Action Program (FUSRAP)

### 2018 LM and U.S. Army Corps of Engineers (USACE) FUSRAP Partnership Meeting

From October 23 through 25, LM hosted USACE staff from across the country at LM's Westminster, Colorado, office for the USACE fall FUSRAP meeting. This is the third annual Joint FUSRAP Partnership meeting between the two organizations. During the first day and a half, USACE staff discussed their FY 2019 planning and execution activities, while the rest of the meeting was dedicated to interagency discussions on important FUSRAP issues and opportunities. More than 40 participants attended the meetings with the goal of developing and maintaining collaborative interagency relationships with contractor and federal personnel responsible for all phases of the program.


These annual meetings enhance each agency's perspective on long-term stewardship needs and site-disposition opportunities, while providing a forum for discussing ongoing program issues and collaborating on solutions. The information shared at these meetings will assist in ensuring timely and cost-effective site transfers to LM, while supporting the Department's mission to protect human health and the environment.

Multiple opportunities for continued collaboration were identified and agreed upon during the October 2018 meetings, including continued discussion and finalization of the Data Management Working Group guidance document, planning for disposition of the DOE-owned FUSRAP sites, LM attendance at USACE public meetings, and site visits to the active FUSRAP sites.

### *Colonie, New York, Site*

#### **Cleanup Completed – Transition to DOE Begins**

LM received the Site Closeout Report for the Colonie site, from the U.S. Army Corps of New York District Office Engineers on June 18. The New York State Department of Environmental Conservation concurred on the closeout report and agreed that cleanup is complete. Receiving this report began the two-year site transition to LM. The site should transfer in June 2020. The Colonie site is an 11.2-acre, DOE-owned, vacant property located near Albany, New York. LM's activities at the site will include routine inspections, monitoring and maintenance, and responding to stakeholder inquiries. LM has engaged with the town of Colonie and other local stakeholders to discuss reuse opportunities for the site that will positively affect the local economy while also ensuring that people and the environment remain protected.



*Colonie, New York, Site.*





## Uranium Mill Tailings Radiation Control Act (UMTRCA)

### *Durango, Colorado, Disposal Site*

LM met with La Plata County officials on June 21 in Durango to learn more about options for handling suspect residual radioactive materials (RRM) generated from properties beyond a uranium mill site boundary. The RRM is from locations where mill tailings were used for fill and concrete before the risks associated with it were understood. The Colorado congressional delegation is interested in establishing a temporary storage facility for the suspect RRM before the material is transported for final disposal in the cell near Grand Junction, Colorado. LM advised La Plata County and the city of Durango on siting locations that will meet their requirements.

### *Grand Junction, Colorado, Disposal Site*

#### **Increased Activity at the Grand Junction Disposal Site**

This was a busy year at the Grand Junction disposal site. The site opened for subcontractor equipment mobilization and inspections in late July. For approximately three weeks, materials stockpiled from the Durango, Colorado, Disposal Site; the Grand Junction LM office facility; and the Tuba City, Arizona, Disposal Site were crushed and blended together to place in the disposal cell. In early August, the city of Grand Junction began delivering RRM to the cell. Approximately, 4,000 cubic yards were received over a three-week period. During this time, additional materials from the city's ongoing Seventh Street sewer line repair project were also identified and delivered to the cell. The waste material was placed in 12-inch lifts, moisture conditioned, and compacted. Once compacted, a co-polymer sealant was applied over the entire open portion of the cell to control dust and erosion, while also stabilizing the newly placed material. All perimeter roads were final graded, and the site was shut down for the winter months.

### *Tuba City, Arizona, Disposal Site*

LM completed a series of groundwater studies at the Tuba City disposal site to gain more information about uranium contamination and find new ways to manage the site more efficiently. LM is responsible for ensuring that the selected groundwater compliance strategy at the Tuba City disposal site continues to be protective of human health and the environment. There is no known domestic, industrial, or agricultural use of groundwater from the contaminated region of the aquifer. Nearby residences receive water from the Navajo Tribal Utility Authority.

- LM tested groundwater wells to determine how the aquifer responds to remediation and if hydraulic conductivity affects the groundwater remediation system.
- Geochemical tests on how uranium contamination moves within the groundwater and if subsurface uranium contamination is providing an ongoing source of groundwater contamination.



*Durango, Colorado, Disposal Site.*



*Tuba City, Arizona, Disposal Site.*



## *Texas Transition Sites*

### **LM Completes Long-Term Stewardship Plans (LTSPs) for Two UMTRCA Transition Sites in Texas**

LM completed an FY 2018 LM-2 milestone to prepare LTSPs for two UMTRCA Title II transition sites in Texas. The LTSPs, required by the U.S. Nuclear Regulatory Commission (NRC), detail how LM will perform LTS&M of the sites. Texas is an agreement state, which provides it with authorization to regulate uranium production and waste. As such, it is responsible for generating the request for license termination, which happens through submittal of a completion review report (CRR) to the NRC for each site. After CRR approval, LM will transmit the LTSPs for NRC review and concurrence. Submitting the LTSPs to Texas is a step in having the two sites transferred to LM for post-closure care.

## **DOE DEFENSE DECONTAMINATION AND DECOMMISSIONING (D&D) PROGRAM**

### **LM has Partnered with the USACE at the Piqua, Ohio, Decommissioned Reactor Site**

LM has executed an interagency agreement with USACE to evaluate a long-term path forward for the decommissioned reactor site in Piqua. The facility is owned by DOE and has been leased to the city of Piqua since 1969. DOE is responsible for long-term stewardship of the facilities and for the safeguard and protection of residual radiological contamination that resides in the decommissioned reactor. DOE is exploring long-term stewardship options with the city and site stakeholders, and will conduct the necessary evaluations to support any future decisions.

## **COLLABORATIVE EFFORTS**

### **New Agreement Expands Support for DOE Long-Term Stewardship**

LM signed a Memorandum of Understanding on March 1, establishing the [SRNL](#) as the "Lead Lab" for technical support to both the LM and the DOE Office of Environmental Management (EM) missions.

- The agreement establishes a close relationship with the national labs to align their technical expertise to the specific technical challenges faced by LM and EM.
- The agreement allows SRNL to integrate and synchronize support from all the laboratories and included the establishment of an online tool that supports energy-related research that helps LM collaborate with SRNL.

### **LM and USACE Agree to Share Resources and Services Nationwide**

On June 26, LM signed a nine-year Memorandum of Agreement with USACE to supplement its support services contract and expand upon an already effective program utilizing the competencies of DOE in long-term stewardship and USACE's extensive experience in environmental cleanup and project management.

- The agreement allows LM to utilize interagency agreements with USACE to receive commercial goods or services conveniently and cheaply.
- It enables LM to take advantage of nationwide assets throughout multiple USACE districts and offices.



*Lloyd Caldwell, director of Military Programs for the U.S. Army Corps of Engineers, and Carmelo Melendez, director of the Office of Legacy Management, sign a Memorandum of Agreement at USACE headquarters in Washington, DC.*





## **CULTURAL RESOURCE MANAGEMENT**

### **NATIONAL HISTORIC PRESERVATION ACT (NHPA) OF 1966 COMPLIANCE**

Section 106 of the NHPA requires federal agencies to consider the effects of their work on historic properties. Agencies must allow the Advisory Council on Historic Preservation a reasonable opportunity to comment. If the responsible federal agency determines its work could potentially affect historic properties, it must consult with the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO).

LM initiated the Section 106 consultation process 30 times in 2018. LM completed the majority of these consultations in 2018. None of these consultation efforts resulted in any findings of adverse effect to historic property. Some consultations involved both SHPOs and THPOs, some undertakings required more than one letter on the topic, and some SHPOs were consulted for more than one site in 2018. For example, the Colorado SHPO was consulted for eight different locations in 2018.

LM initiated 106 consultations with 11 SHPOs, two THPOs, and three tribes for 30 LM sites:

<b>LM Site</b>	<b>Consulted Historic Preservation Officers and Tribes</b>
Ambrosia Lake, New Mexico	New Mexico SHPO
Bear Creek, Wyoming	Wyoming SHPO
Bluewater, New Mexico	New Mexico SHPO
Conquista, Texas	Texas SHPO
Durango, Colorado	Colorado SHPO
Edgemont, South Dakota	South Dakota SHPO
Grand Junction Office Site, Colorado	Colorado SHPO
Hallam, Nebraska	Nebraska SHPO
Lakeview, Oregon	Oregon SHPO, Burns Paiute Tribe, Klamath Tribes, and Fort Bidwell Paiute Tribe
L-Bar, New Mexico	New Mexico SHPO
Maybell, Colorado	Colorado SHPO
Maybell West, Colorado	Colorado SHPO
Mexican Hat, Utah	Navajo Nation THPO
Monticello, Utah	Utah SHPO
Monument Valley, Arizona	Navajo Nation THPO
Panna Maria, Texas	Texas SHPO
Piqua, Ohio	Ohio SHPO
Ray Point, Texas	Texas SHPO
Rifle, Colorado	Colorado SHPO
Rocky Flats, Colorado	Colorado SHPO
Rocky Mountain Metropolitan Airport, Colorado*	Colorado SHPO
Sherwood, Washington	Spokane Tribe of Indians THPO
Shiprock, New Mexico	Navajo Nation THPO
Shirley Basin South, Wyoming	Wyoming SHPO

*Table continued on page 11*



# GOAL 1

Table continued from page 10

LM Site	Consulted Historic Preservation Officers and Tribes
Spook, Wyoming	Wyoming SHPO
Trencher & Pre-Gondola Plowshare Sites, Montana	Montana SHPO
Tuba City, Arizona	Navajo Nation THPO
Uranium Leasing Program	Colorado SHPO
Utah, Utah, Plowshare Site	Utah SHPO
Weldon Spring, Missouri	Missouri SHPO



Shirley Basin South, Wyoming, Disposal Site.



Lakeview, Oregon, Disposal Site.

LM conducts archaeological surveys to identify prehistoric and historic archaeological resources that could be affected by an undertaking when necessary. LM completed four archaeological surveys and one archaeological monitoring effort in 2018.

- A large survey was completed at the Monument Valley, Arizona, Processing Site where 534 acres of land were subjected to new survey and an additional 1,711 acres of previously surveyed land were updated due to the age of the initial survey. One new site was identified in the new survey area. The Navajo Nation Historic Preservation Department (NNHPD) concurred with the findings of the archaeological report, which will be used to support the development of consultation material in support of additional groundwater monitoring at this location.
- A large survey was completed at the Shiprock, New Mexico, Disposal Site that involved updating 903 acres of land, most of which had previously been surveyed in 1980. However, the survey data were out-of-date. No new archaeological sites were found at Shiprock. However, four previously identified archaeological sites were revisited and reverified. The NNHPD concurred with the findings of the archaeological report, which will be used to support the consultation needed for the proposed removal of a 10-acre evaporation pond at this location.
- A 4.6-acre archaeological survey was completed at the Shirley Basin South, Wyoming, Disposal Site in support of a study of the soil forming factors at that location. No new sites were identified.
- A 0.5-acre survey was completed at the Rocky Mountain Regional Airport to support construction of a new DOE parking facility at that location. No new sites were found.
- Finally, archaeological monitoring was completed at the Lakeview, Oregon, Disposal Site to support the study of the soil forming factors at that location. A completion report was provided to the Oregon SHPO and interested tribes in the area regarding the monitoring effort. No new sites were identified.

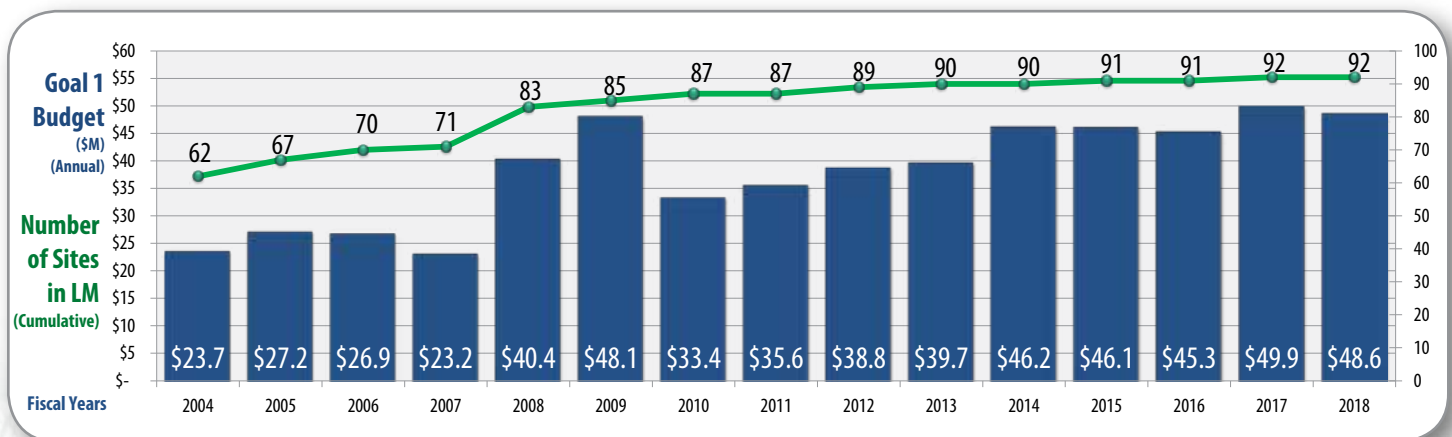




Section 110 of the NHPA of 1966 asks all federal agencies to establish historic preservation programs for the identification, evaluation, and protection of historic properties. LM completed two historic building surveys of decommissioned nuclear reactors in 2018: Hallam, Nebraska, and Site A/Plot M, Illinois.

- LM completed the initial Section 110 consultation for the Hallam, Nebraska site with the Nebraska SHPO. LM recommended that the Hallam decommissioned reactor building be considered historic property. The Nebraska SHPO concurred.
- LM is continuing to consult with the Ohio SHPO regarding the decommissioned reactor in Piqua. The consultation is to address the future of the reactor building, which was determined by LM to be historic property in 2017.

## Goal 1 Budget



*Site A/Plot M, Illinois,  
Decommissioned Reactor Site.*



# GOAL 2

## Goal 2: Preserve, Protect, and Share Records and Information

This year, LM balanced adopting new technologies while transferring records to the National Archives and Records Administration (NARA) for retention and disposal of records that met retention guidelines. LM will continue to monitor its records collections so they provide the most value possible.

### LM SAVES MONEY BY AVOIDING UNNEEDED DIGITIZATION COSTS

#### Records Modernization

LM is modernizing its records management policies and practices to become a more digital workplace. This work meets the presidential directive to develop a framework for modern records management practices. The directive's stated goal promotes openness and reducing long-term costs by transitioning to a digital government.

LM has already implemented part of the goal by:

- Analyzing more than 10,000 boxes of permanent LM records and identifying 4,500 boxes that are eligible for transfer to NARA by December 2022, in current paper format, before permanent record digitizing requirement is in effect.
- Dispositioned or purged 8,592 records from Documentum in FY 2018.
- Results in LM saving taxpayers an estimated \$2 million by avoiding unneeded digitization costs for transferred records.



#### LM Conducted Records Emergency Tabletop Exercise in Grand Junction, Colorado

LM federal records staff and LMS staff conducted an annual emergency preparedness exercise, practicing how to respond in the event of a disaster that would affect LM records in storage facilities or records stored locally in offices. Historically, the exercise was held at the LM Business Center in Morgantown, West Virginia. This year's exercise, held at the LM office in Grand Junction, centered on protecting records in the event of localized flooding based on a real-life event — a flood that occurred at the LM Grand Junction office in the 1990s. Some of the lessons learned during the exercise included:

- Evacuating records involves palletizing and wrapping records boxes and file cabinets and relocating them on trucks to a safe area.
- Identifying necessary security measures for any relocated records to ensure personally identifiable information or other sensitive information is protected.
- Ensuring that the Emergency Management Team is apprised of records locations and any requirements for handling them in the event of an emergency.
- Prioritizing records so site personnel can easily and readily identify essential records that should be relocated first.
- Updating appropriate LM procedures and forms.



*Records Management contractor employees, Barbara Beerends and Shawn Hawkins, review files at the Grand Junction, Colorado, office.*

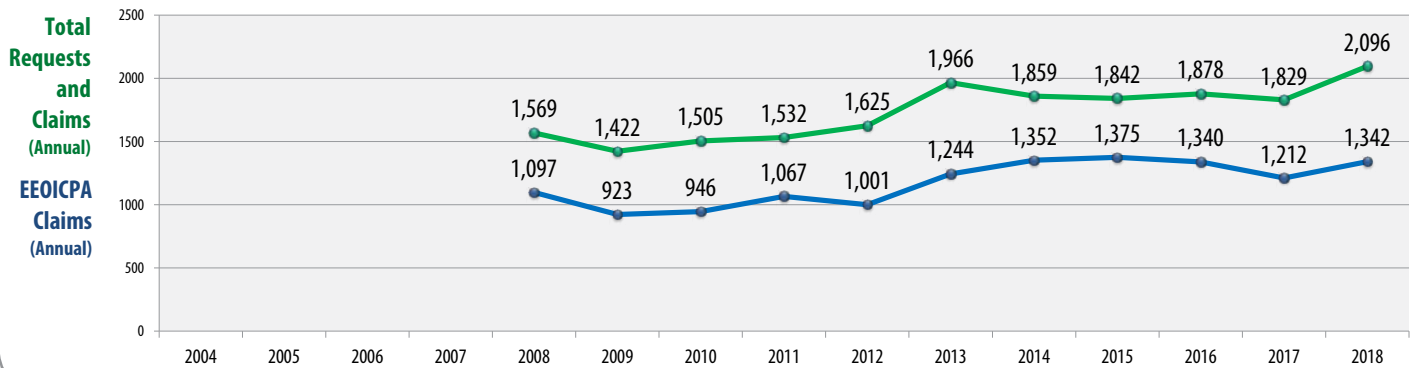




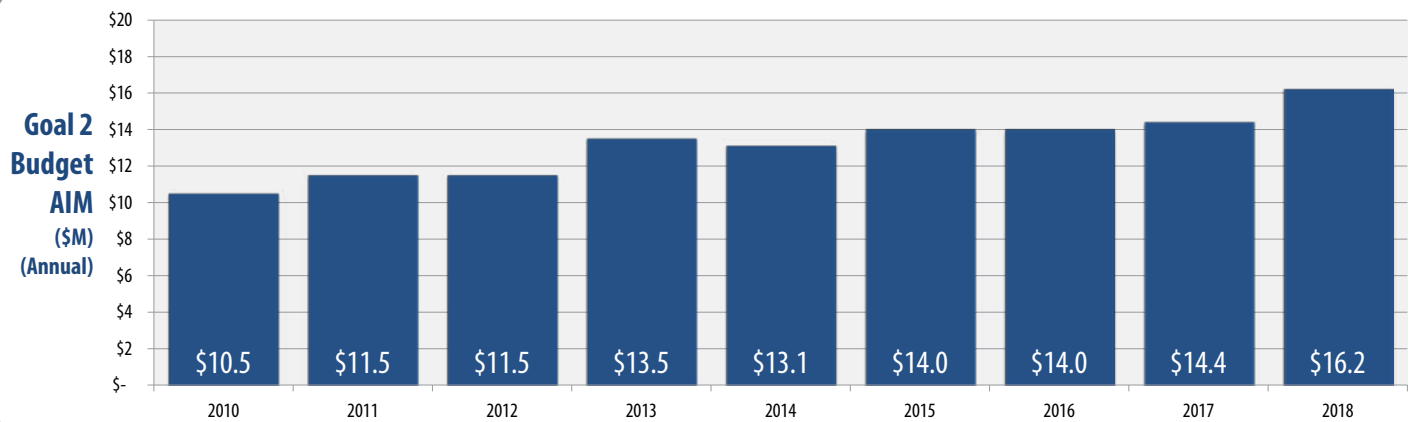
### Pinellas, Florida, Site Files and Records Dispositioning

LMS staff at the Pinellas site spent several months screening all on-site, hard-copy files to identify records and determine the proper disposition or relocation for each. LM shipped all records to the appropriate locations, while also archiving, relocating, recycling, or destroying other records in accordance with DOE protocol.

**Combined Freedom of Information Act (FOIA), Privacy Act, and Energy Employees Occupational Illness Compensation Program Act (EEOICPA) Information Requests by Year**



### GOAL 2 BUDGET



Pinellas Plant, circa 1960s.



# GOAL 3

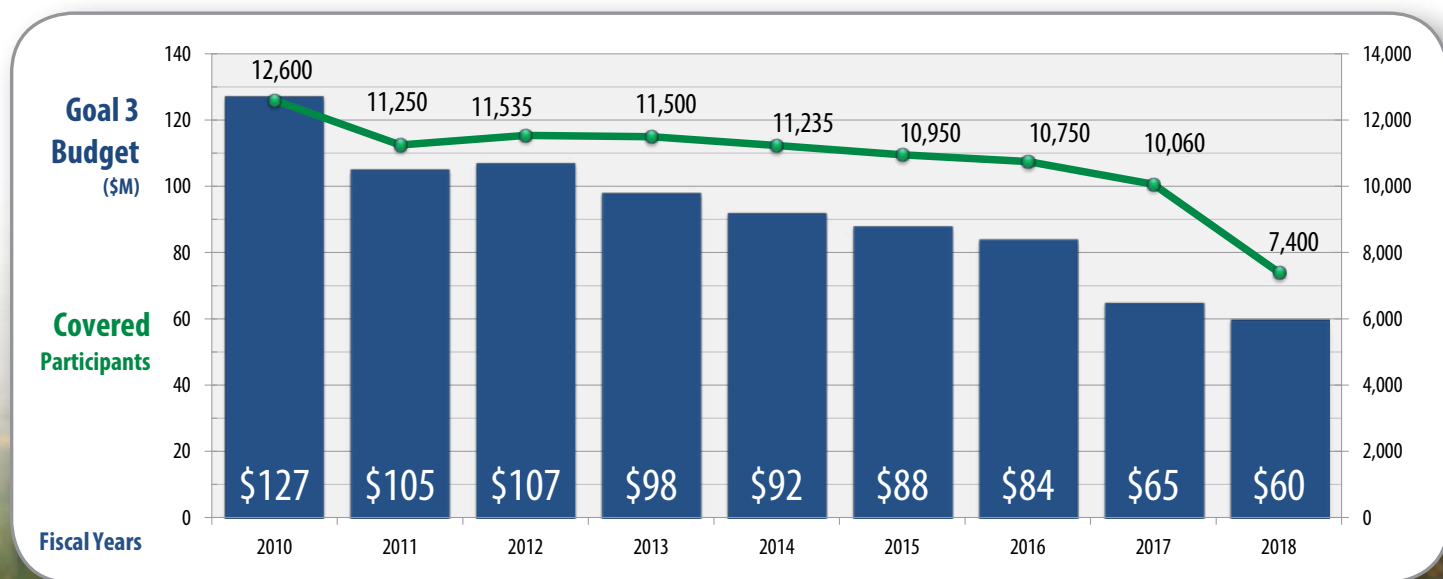
## Goal 3: Safeguard Former Contractor Workers Retirement Benefits

LM funds pensions, health insurance, and life insurance for over 10,000 former workers and their spouses. Most of the beneficiaries of these programs live in Colorado, Florida, Kentucky, and Ohio.

### *LM Annuitized Mound, Ohio, Site Pension Fund, Returns \$4.25 Million to Department*

On September 14, LM — in conjunction with Washington River Protection Solutions (WRPS), a contractor with the Hanford, Washington, Office of River Protection — successfully removed approximately \$200 million from DOE's long-term financial liabilities by annuitizing the Mound Employees' Pension Plan. Due to the funded status of the plan at the time of annuitization, LM and WRPS returned \$4.25 million to the Department; this was the first time the Department received funds back after a pension plan was annuitized. The Rocky Flats, Colorado, pension plan annuitization is in process. LM is committed to safeguarding former contractor workers' retirement benefits. By supporting contractors' efforts to terminate pension plans, LM is able to keep their promise to Cold War retirees and their spouses while using taxpayer dollars more prudently and efficiently.

### GOAL 3 BUDGET



Fernald Preserve, Ohio.





## Goal 4: Sustainably Manage and Optimize the Use of Land and Assets

While LM provides technical site management, it is also a steward of the land through sustainable management of land and assets. Where possible, LM supports beneficial reuse so that former sites can turn into community assets.

### *LM's Support Services Contractor Leased the Fox Building in Grand Junction, Colorado*

LMS secured additional office space at the Fox Building located on Main Street in Grand Junction. The new space houses contractors working in the Stakeholder Engagement department. LM needed the additional space at the DOE compound in Grand Junction to support new hires.

### *LM Added Office Building in Grand Junction, Colorado*

The LM office in Grand Junction executed an interagency agreement with USACE for the design and renovation of an office building. On April 11, LM acquired an 18,900-square-foot building (referred to as "Building 7") through a no-cost, federal-to-federal transfer with the U.S. Army Reserve. USACE will provide engineering and construction services, utilizing existing contracts with nationally known providers.

### *Westminster, Colorado, Office Recognized in EPA ENERGY STAR Program*

In July, LM relocated its Westminster office to a newly built, energy-efficient, multi-tenant building. The lease terms were agreeable to the Department and ensure quality space at a reasonable cost for at least the next 10 years.

- The Westminster office is a participant in the ENERGY STAR Charter Tenant Space program and committed to energy efficiency and cost reduction.
- The Westminster office space was recognized as one of 50 participants meeting the energy design criteria set by EPA, and was the only federal participant to receive the recognition.



*G. Earle Gardner, area facility operations specialist for U.S. Army Reserve contractor Versar, hands the keys to Building 7 over to Polly Robinson, LM realty specialist.*



*Fox Building located on Main Street in Grand Junction, Colorado.*



# GOAL 4



*Gasbuggy, New Mexico, Site.*



*Central Nevada Test Area, Nevada, Site.*



*Beneficial reuse at Wayne, New Jersey, Site.*

## ***LM Continues Its Work to Preserve Historical Landmarks***

In 2018, LM began developing a nomination of the Gasbuggy, New Mexico, Site for the National Register's official list of historic places. Gasbuggy was part of Operation Plowshare, a program that explored peaceful uses for nuclear energy. Gasbuggy researchers wanted to determine if nuclear explosions could help stimulate the flow of natural gas. The underground nuclear tests created radioactive natural gas and contaminated the surface and subsurface. The government cleaned up the site and now continues to provide long-term monitoring.

## ***Central Nevada Test Area Land Withdrawal Application Approved***

LM applied for a land withdrawal near the Central Nevada Test Site. The Federal Register published LM's application in May. Before this application, Nye County approved a permanent land withdrawal of 640 acres. This new withdrawal will remove 361 acres, which totals 1,001 acres of removed land from public use near the site. Withdrawing land from public use falls under Public Land Order 4338. The 1967 order prevents public access to the site's remaining underground contamination. The restriction would do the following:

- Prevent access to subsurface materials, including groundwater.
- Maintain protectiveness of the original detonation site.

The withdrawal is for 20 years. LM would need approval from Nevada's congressional leadership to secure a permanent withdrawal.

## **BENEFICIAL REUSE**

LM's Beneficial Reuse Program promotes potential reuse opportunities associated with the diverse mix of LM sites and assets. Beneficial reuse refers to the productive use of an LM-managed site that no longer pertains to the DOE mission after remediation (either completed by LM or another entity), while still remaining protective of human health and the environment. Reuse activities maintain protective use of lands and remedies, including real property revitalization and land disposal.

## ***Beneficial Reuse Management Plan***

In July, LM issued the *Beneficial Reuse Management Plan* that identifies, summarizes, and explains LM's beneficial reuse criteria, screening, and general procedures. The plan provides the framework for the Beneficial Reuse Program, including the goals, objectives, and metrics under which LM measures program implementation. Two main elements for reuse are:

- Protectiveness — activities are compatible with long-term maintenance and ensure protection of public health and the environment.
- Environmentally sound — activities retain good stewardship of natural resources.





### ***Mound Development Corporation Accepts Three More Mound Parcels***

Cooperative efforts by LM and the Mound Development Corporation (MDC) at the Mound, Ohio, Site continue to successfully transition property to the privately owned Mound Business Park. On January 5, MDC accepted an LM quitclaim deed to accept ownership of three of the remaining four parcels at the site. MDC and LM continue to discuss transferring a portion of the final Parcel 9. Transferring title of these three parcels to MDC was a major accomplishment for both DOE and MDC.

### ***Ceremony Breaks Ground for New Business Park in Grand Junction, Colorado***

On March 30, Acting UMTRCA/Nevada Off Sites team leader, Mark Kautsky, spoke briefly at a groundbreaking celebration for the Las Colonias Business Park in Grand Junction. The business park repurposes a former uranium processing site, which was cleaned up as part of UMTRCA. Remediating 4,000 vicinity properties and transitioning the property into a former processing site ended in 1998. Remediation included transporting 4.4 million tons of spent mill tailings to a licensed disposal facility southeast of Grand Junction. The city of Grand Junction's master plan for Las Colonias Park includes an amphitheater and other attractions.



*Dignitaries invited to turn a ceremonial shovel of soil at the March 30 Riverfront at Las Colonias Park Groundbreaking Ceremony included Mark Kautsky with LM (second from right), local business leaders, Grand Junction City Council members, Colorado Lieutenant Governor Donna Lynne (third from left), U.S. Senator Michael Bennet (far left), and U.S. Congressman Scott Tipton (seventh from right).*

### ***Defense-Related Uranium Mines (DRUM) Program***

The DRUM Program is a partnership between DOE, federal land management agencies, and state abandoned mine lands programs to verify and validate the condition of 2,500 mines on federal public land by 2022. These mines produced uranium ore purchased by the U.S. Atomic Energy Commission between 1947 and 1970 for defense-related purposes of the United States, and most are now abandoned.

#### **DOE Releases Its First DRUM Program Annual Report**

In August, LM released its [\*Defense-Related Uranium Mines FY 2017 Annual Report\*](#).

The report summarizes LM's activities during its first year of the program.

Achievements included:

- Forming interagency partnerships.
- Implementing field inventory and environmental sampling projects at DRUM sites in western Colorado and eastern Utah.
- Developing risk-scoring assessments to determine physical hazards — as well as potential chemical and radiological risks — posed by the mines.





# GOAL 4

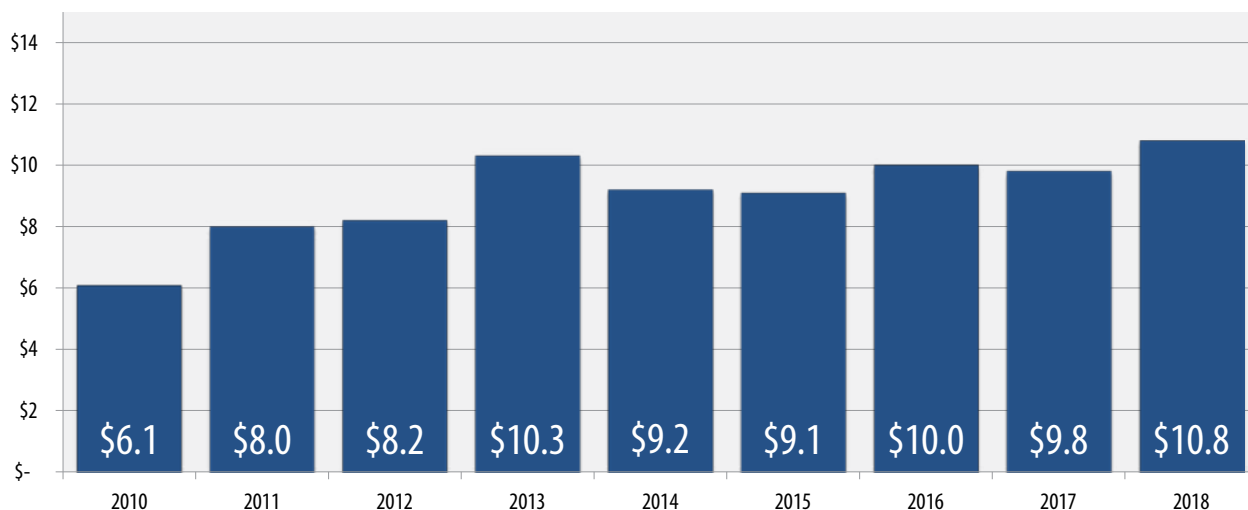
Other accomplishments during 2018 included:

- Creating an internal database that would merge data points from the 4,225 DRUM sites identified into one connected webpage for internal users. In previous years, the data did not integrate well because it came in a variety of formats used by different agencies. Now, internal users can access data on specific mines to help LM and its partner agencies prioritize cleanup and closure of the mines that pose the greatest risks to public health and the environment.
- Delivering a presentation on the DRUM Program at the Uranium Recovery Workshop, sponsored by the National Mining Association, on June 4 and 5 in Denver, Colorado. Representatives from the mining industry, government agencies, and regulatory community attending expressed significant interest in risk analysis and radiological methodology.
- Publishing an article in June's edition of *Health Physics*, a monthly peer-reviewed medical journal, focused on radiation safety and healthcare applications. The article titled *Establishing Radiological Screening Levels for Defense-Related Uranium Mine (DRUM) Sites on BLM Land Using a Recreational Future-Use Scenario* describes the results of analysis to develop risk-screening criterion appropriate to recreational user exposure scenarios on public lands. LM's five-year program to verify and validate DRUM sites focuses on mines that are located on federal public land in the United States, such as those managed by the U.S. Bureau of Land Management (BLM).



## GOAL 4 BUDGET

**Goal 4  
Budget**  
Asset  
Management  
(\$K)  
(Annual)



FY 2008–2011 from congressional justification files.

FY 2012–2017 budget authority total from September final reports; amounts verified with congressional justification files.





## Goal 5: Sustain Management Excellence

Goal 5 focuses on internal management and is led by LM Director Carmelo Melendez. In his second year in the program, he has continued to establish a strategic path forward. LM could not effectively conduct its work without the efforts of federal and contractor staff members. LM strives to implement best practices as they apply to the organization.

### LM Released Its 2019 Budget Request

On February 12, LM released its FY 2019 budget request of \$159 million. The request is a \$4.5 million increase in funding from FY 2017. The amount of funding requested is sufficient for LM to address its anticipated increase in sites and expansion of responsibilities.



*LM Director Carmelo Melendez*

### LM Director's Travel

Carmelo Melendez traveled to south Texas in March to visit four former uranium mill sites. The trip was part of a larger initiative by Melendez to become familiar with LM sites around the nation. Melendez visited the following sites:

- Falls City, Texas, Disposal Site (UMTRCA Title I)
- Conquista, Texas, Disposal Site (UMTRCA II)
- Ray Point, Texas, Disposal Site (UMTRCA Title II)
- Panna Maria, Texas, Disposal Site (UMTRCA Title II)

Conquista, Ray Point, and Panna Maria will transition from private ownership to LM under UMTRCA Title II when remedial action is complete. At the Title II sites, Melendez discussed site operations, land use issues, and health and safety protections with representatives from Rio Grande Resources (the licensee for the Panna Maria site), ExxonMobil (the licensee for the Ray Point site), and ConocoPhillips (the licensee for the Conquista site).



*LM Director Carmelo Melendez (right) toured the Conquista, Texas, Disposal Site.*



*Panna Maria, Texas, Disposal Site. Approximately 6.8 million tons of uranium ore were processed at the former mill, which shut down in 1992. Site reclamation was completed in 2015. The site is expected to transfer to LM for long-term surveillance and maintenance in 2020.*



# GOAL 5

In addition to his visits to the Texas UMTRCA sites, Director Melendez:

- Joined the DRUM and Uranium Leasing Program teams on visits to their Colorado project sites in April.
- Joined the FUSRAP team in May for a tour that took him from upstate New York to Maryland to visit six former Manhattan Project sites that are being remediated by USACE.
- Toured all 12 of LM's current and future UMTRCA sites in Wyoming with both stakeholders and regulators in June.

In addition to site visits, Melendez spoke at the combined Intergovernmental Meeting with DOE in Texas, as well as the at the 2018 National Environmental Justice Conference and Training Program in Washington, DC, on April 25.

## *Instructional Design Team to Introduce Upgraded Approach to Training*

The LMS Instructional Design Team used the Analysis, Design, Development, Implementation, and Evaluation method (commonly referred to as "the ADDIE method") to redesign its training courses. This work helps LMS reinvigorate course content based on feedback from both employees and subject matter experts. The Training department incorporated upgraded Storyline e-learning software into the process. Storyline will allow Training staff to use more creativity in revising course content. Employees should expect more animation and interaction in their training courses in the future. Some e-learning courses that will be available include:

- Site-Specific Awareness Briefings.
- EC100 – Environmental Management System General Awareness.
- EC114 – Cultural Resource Management.

## *Human Capital Management*

- The Executive Operations Team was created by combining Human Resources and Coordination, Operations, and Guidance into a single team.
- The Communication, Education, and Outreach Team was created to allow LM to be more efficient, proactive, effective, and responsive to planned and unplanned events while implementing a communications, education, and outreach program.
- The Asset Management Team moved from the Office of Site Operations to the Office of Business Operations.
- Environment, Safety, and Health, and Quality Assurance (ESH&Q) consolidated under the Office of Site Operations.







## NEW LM HIRES

**Bruce Akers** was raised in American Falls, Idaho. After graduating from high school, he joined the U.S. Army, where he served for 23 years of active duty and later retired in 1996. He is a graduate of Columbus University in Georgia, with a Bachelor of Arts in political science. He has worked as logistics manager specialist with the DOE National Nuclear Security Administration at Fort Chaffee, Arkansas; organizational property management officer with DOE Nuclear Energy at Idaho Falls, Idaho; and government property administrator with the Department of the Army at the Iowa Army Ammunition Plant in Middletown, Iowa. His current position is with LM in Grand Junction, Colorado, as the organizational property management officer.

**Dante Tan** joined the Office of Site Operations as an environmental protection specialist after working for the DOE Office of Asset Management as an industrial property manager. Prior to joining federal service, Tan served in the U.S. Navy Seabees for 25 years, participating in numerous expeditionary engagements from Operation Desert Shield to the global war on terrorism, as well as humanitarian and consequence-management missions. During his military service, Tan worked as an oceanographic surveyor, geotechnical engineer, quality control inspector, radiation safety officer, construction inspector, asbestos program manager, environmental and natural resources program coordinator, and military and technical training instructor, while achieving designations as master training specialist and Seabee combat warfare specialist. After retiring from naval service in 2008 as a senior chief, he worked for various Department of Defense components as space planner, project manager, facilities manager, and operations coordinator. Tan has a Bachelor of Science in aeronautical engineering from the State University of New York and master's degrees in management and human resources development from Webster University.

**Kyle Brown** was raised in Tacoma, Washington. A few years after completing high school, he joined the U.S. Army as an information technology (IT) personnel. During his time in the service, he worked as an intern for Drug Enforcement Administration in Seattle, Washington, where he gained experience as a telecommunication specialist working closely with federal agents and maintaining their evidence room. Thereafter, Brown worked as civilian IT personnel for the U.S. Air Force on Joint Base Lewis-McCord and later worked for the U.S. Department of the Interior (DOI) as an IT specialist as well. During his time at DOI, he obtained his bachelor's degree in cybersecurity at Champlain College. Brown has nearly nine years of IT experience. He currently holds a position as an IT specialist working for DOE in Grand Junction, Colorado.

## RETIREMENTS

During 2018, five employees retired: a deputy director, two team leaders, and two staff members.

## APPOINTMENTS

**Peter O'Konski** was appointed as LM's deputy director. Before joining LM, he was director of the Office of Administration, where he was responsible for logistics and facility operations at the complexes located in Forrestal, Washington, and Germantown, Maryland, as well as other mission-critical functions, including facility operations, space management, safety and health, printing, media production, graphics, transportation, and international travel. Prior to this position, O'Konski was director of facility policy and professional development within the Office of Engineering and Construction Management, where he was responsible for development of DOE facility management policy, which emphasized maintenance, master planning, and life-cycle cost management of the Department's \$100 billion real property portfolio. He also led the Department's Project Management Career Development Program to include policy formulation, Certification Review Board activities, and course development.



*Peter O'Konski,  
LM Deputy Director*

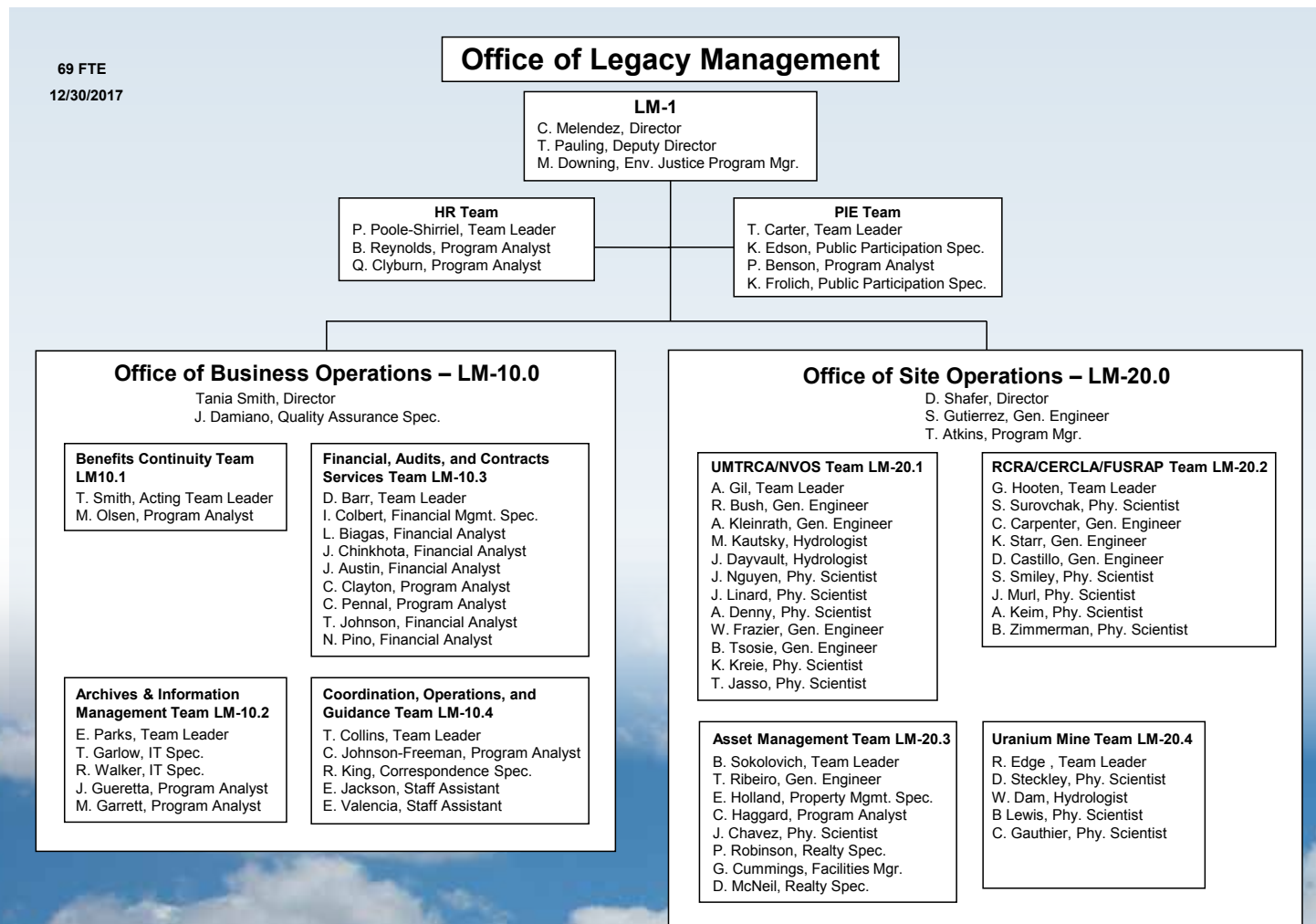


*The L-Bar, New Mexico, Disposal Site.*



# GOAL 5

## LM ORGANIZATION CHART, JANUARY 1, 2018



Rocky Flats Site, Colorado.





## LM ORGANIZATION CHART, DECEMBER 31, 2018

64 FTE

12/19/2018

### Office of Legacy Management

#### LM 1

C. Melendez, Director  
M. Downing, Env. Justice Program Mgr.

#### LM 2

P. OKonski, Deputy Director  
T. Atkins, Program Mgr.  
T. Carter, Senior Policy Adv.

#### Executive Operations Team - LM 4

P. Poole-Shirriel, Team Leader  
C. Johnson-Freeman, Program Analyst  
R. King, Correspondence Spec.  
E. Jackson, Staff Assistant  
E. Valencia, Staff Assistant  
Q. Clyburn, Program Analyst

#### Communications, Education, and Outreach Team - LM 3

K. Edson, Public Participation Spec.  
P. Benson, Program Analyst  
K. Frolich, Public Participation Spec.

### Office of Business Operations - LM 10

T. Smith-Taylor, Director  
T. Collins – Bus.Ops.Spec.

#### Archives & Information Management Team - LM 11

E. Parks, Team Leader  
T. Garlow, IT Spec.  
R. Walker, IT Spec.  
M. Garrett, Program Analyst  
J. Linard, Program Analyst  
K. Brown, IT Spec.

#### Financial, Audits, and Contracts Services Team - LM 12

I. Colbert, Financial Mgmt. Spec.  
J. Chinkhota, Financial Analyst  
J. Austin, Financial Analyst  
T. Johnson, Financial Analyst  
N. Pino, Financial Analyst  
J. Gueretta, Management Analyst

#### Asset Management Team - LM 13

B. Sokolovich, Team Leader  
E. Holland, Property Mgmt. Spec.  
C. Haggard, Program Analyst  
J. Chavez, Phy. Scientist  
P. Robinson, Realty Spec.  
G. Cummings, Facilities Mgr.  
D. McNeil, Realty Spec.  
O. Akers, Ind. Prop. Mgr.

### Office of Site Operations - LM 20

D. Shafer, Director  
D. Tan, EPS Site Ops.

#### ESHQ Group

S. Gutierrez, Gen. Engineer  
J. Damiano, Quality Assurance Spec.  
T. Ribeiro, Env Protections Spec.

#### UMTRCA/NVOS Team - LM 21

A. Kleinrath, Gen. Engineer  
M. Kautsky, Hydrologist  
J. Dayvault, Hydrologist  
J. Nguyen, Phy. Scientist  
A. Denny, Phy. Scientist  
W. Frazier, Gen. Engineer  
B. Tsosie, Gen. Engineer  
K. Kreie, Phy. Scientist  
T. Jasso, Phy. Scientist  
D. Barr, Phy. Scientist

#### RCRA/CERCLA/FUSRAP Team - LM 22

G. Hooten, Team Leader  
S. Surovchak, Phy. Scientist  
C. Carpenter, Gen. Engineer  
K. Starr, Gen. Engineer  
D. Castillo, Gen. Engineer  
S. Smiley, Phy. Scientist  
J. Murl, Phy. Scientist  
A. Keim, Phy. Scientist  
B. Zimmerman, Phy. Scientist

#### Uranium Mine Team - LM 23

D. Steckley, Phy. Scientist  
W. Dam, Hydrologist  
B. Lewis, Phy. Scientist  
C. Gauthier, Phy. Scientist



# GOAL 5

## LM PRESENTS PHILIP C. LEAHY AWARD TO STAFF MEMBERS

In June 2017, LM established the Philip C. Leahy Award to recognize employees who are outstanding team players. Leahy set up what is now LM's Grand Junction office as part of the Manhattan Project, and later served as the site's first manager under the U.S. Atomic Energy Commission.

The 2018 recipients were:

- **Tracy Atkins**
- **Padraic Benson**
- **Ingrid Colbert**
- **Jonathan Damiano**
- **Karen Edson**
- **Edwin Parks**

LM recognized **Jonathan Damiano** as **Employee of the Year**.



*LM Director Carmelo Melendez, right, presents the Employee of the Year award to Jonathan Damiano.*

*Phillip C. Leahy Memorial Park at the Grand Junction, Colorado, office.*





## SELECTED PROGRAM AWARDS AND RECOGNITION

### Defense-Related Uranium Mines Team Paper Receives “Superior” Rating

Waste Management Symposia (WMS) recognized LM's DRUM Team program with “Superior” and “Paper of Note” ratings on July 2. The paper is [Department of Energy Legacy Management Progress on Defense-Related Uranium Mines Program](#) written by Russel Edge (LM) and John Elmer (LMS). The authors submitted the paper for the Waste Management Conference in Phoenix, Arizona, in March. Elmer presented the paper at the WMS conference held March 18 through 22. Waste Management recognizes “Superior” and “Paper of Note” papers to award authors for the contributions they make toward advancing radioactive waste and material management. WMS awarded the Edge and Elmer paper the superior level rating because their work demonstrates superb knowledge and understanding, and lays the foundation for future waste management endeavors.

### LM Awarded with Electronic Product Environmental Assessment Tool (EPEAT) Purchaser Award

The Green Electronics Council awarded its EPEAT Purchaser Award to LM on June 21. The EPEAT Purchaser Award recognizes organizations for their excellence in sustainable procurement of electronic equipment. LM successfully implemented policy for environmentally preferable electronic equipment procurement, including vendor contract specifications requiring that all office equipment achieve bronze registration or better in the EPEAT system. Such purchases significantly reduce LM's overall carbon footprint on the environment.



### LM Site Named a Greenspace Gem

On September 22, the Fernald Preserve was recognized as a regional “Greenspace Gem” by the Greater Cincinnati Green Umbrella organization, a regional environmental sustainability alliance. Green Umbrella utilizes the “Greenspace Gems” as a way to raise awareness of regional greenspaces and the strategies used to protect them.



Above: High school students hike from one natural resource testing location to another during the Envirothon at the Fernald Preserve in April 2017. Inset: Butler Soil and Water Conservation District letter naming Fernald Preserve the Conservation Educator of the Year.



## GOAL 5

### ***Environmental Justice Program Manager Awarded Honorary Doctorate***

Allen University in Columbia, South Carolina, awarded LM's Environmental Justice (EJ) Program Manager Melinda Downing an honorary doctorate degree in May. She has worked for the federal government for more than 40 years. Downing's work stems from the 1994 signing of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. Downing coordinates EJ-related issue resolution at LM sites. She partners with the Alaska Natives, among others, to work toward EJ. She works with other community groups, including the Community Leaders Institute, to further EJ awareness. As the DOE senior staff representative on the Federal Interagency Working Group on Environmental Justice, Downing has helped coordinate three made-for-TV dialogues about environmental impacts on vulnerable populations. Allen University President Dr. Ernest McNealy stated, "[Downing] has been a champion for the full participation of minority-serving institutions." LM Director Melendez described her as "one of the finest public servants I have had the privilege to learn from in my 30 years of federal service."



*Melinda Downing speaks after receiving her honorary doctorate.*

### ***2017 Hurricane Response Team Awarded the Secretary of Energy's Achievement Award***

In late August, LM Director Carmelo Melendez and other members of the 2017 DOE Hurricane Response Team were awarded the Secretary of Energy's Achievement Award in recognition of their contributions to the Department and the nation. The award recognizes DOE employees and contractors who provided outstanding support to federal emergency response efforts, including the 2017 hurricane season. Individuals are recognized for their dedication and exemplary service, instrumental to helping the nation respond to and recover from energy disruption emergencies affecting the United States.

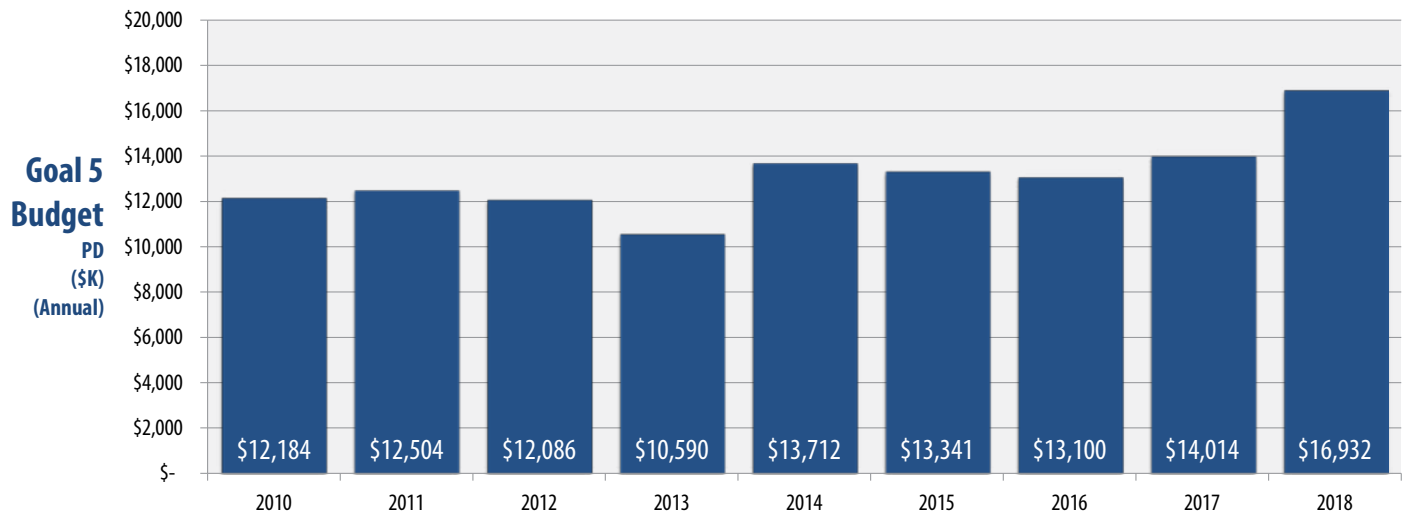


*Loíza, Puerto Rico, September 21, 2017. People in the community of Miñi Miñi wait for the water to recede. The municipality of Loíza, as well as the rest of Puerto Rico, was severely affected by category 4 Hurricane Maria. Photo: Yuisa Rios/FEMA*





## GOAL 5 BUDGET



LM staff attend the 2018 Long-Term Stewardship Conference in Grand Junction, Colorado.



# GOAL 6

## Goal 6: Engage the Public, Governments, and Interested Parties

Engaging the public, governments, and interested parties is a high priority for our agency. This is accomplished through strategic outreach, interpretive services, and participation in environmental justice efforts. Outreach often takes the form of person-to-person interaction between LM and community members at open houses, site tours, and interpretive centers.

### SELECTED OUTREACH EVENTS

Month	Category	Event	Purpose
January	Outreach	DOE National Science Bowl	Nationwide academic competition sponsored to encourage students to study science and mathematics.
January 31 – February 3	Conference	Colorado Preservation Inc.'s Saving Places Conference	Presentation on the Grand Junction office's 75-year contribution to the nation's defense program going back to the Manhattan Project.
March	Outreach	Waste Management Symposia (WM 2018)	Department of Energy Office of Legacy Management Progress on Defense-Related Uranium Mines Program.
March	Sponsorship	Community Leaders Institute Technical Assistance Workshop	To provide participants with an understanding of how to prepare and manage a good grant application.
March	Training	<i>Working Effectively with Tribal Governments and Communities</i> training	Receive training on American Indian Tribal Government interactions, DOE Policy Order 144.1, and Environmental Justice Executive Order 12898.
April	Outreach	Meeting	Updated Bluewater Valley Downstream Alliance and the Multicultural Alliance for a Safe Environment on Bluewater, New Mexico, Disposal Site activities.
April	Ceremony	Mound Cold War Discovery Center	Dayton History completed a major remodel of the Mound Cold War Discovery Center; LM funded the work. Director Melendez attended the ceremony.
April	Sponsorship	National Environmental Justice Conference and Training Program	Leaders from various sectors exchanged ideas and shared approaches to achieving environmental justice. The program focused on the needs and challenges of communities, governments, municipalities, tribes, faith-based organizations, and others with an interest in environmental justice.
May	Sponsorship	National Conference on Health Disparities	This annual conference looks at ways to reduce and eliminate health disparities in our nation. This conference focused on current events and lessons learned from previous conferences.
June	Conference	State and Tribal Government Working Group Conference	LM provided updates on the Manhattan Project National Historical Park and the Closure for Seventh Generation Report.
September	Sponsorship	Congressional Black Caucus Environmental Justice Braintrust	This annual event is part of the Congressional Black Caucus Annual Legislative Conference where panelist discuss topics that focus on the unique relationship between environmental protection, environmental justice, economic development, and human health.
October	Public Meeting	Fernald Preserve, Ohio, Annual Community Meeting	Overview of 2018 Site Environmental Report and information on current and new projects.
November	Public Outreach	"Sustainable is Obtainable" Environmental High School Day at Cincinnati State College	Fernald Preserve staff joined university faculty from the Environmental Engineering Technology Program and will partner with local business, industry, and community leaders to provide students with practical examples of how to move toward a sustainable lifestyle.
November	Meeting	International Forum on Regulatory Supervision of Legacy Sites held by the International Atomic Energy Agency	Discuss regulatory and technical issues in managing legacy nuclear sites around the world. LM presented on the Navajo Nation Five-Year Plan as an example of collaborative efforts among governments to address the impacts of past uranium extraction.

Table continued on page 30





Table continued from page 29

Month	Category	Event	Purpose
November	Meeting	Abandoned Uranium Mines Working Group semi-annual technical meeting	A consortium of federal agencies that includes the EPA, DOE, DOI, and the U.S. Department of Agriculture. The group saves taxpayer dollars by preventing duplicating efforts across agencies and by identifying and addressing high-priority mines in a cost-effective, coordinated, and well-managed fashion.
December	Technical Information Exchange	International Practice for Near Surface Disposal Facilities	Third meeting in a series between the United States (e.g., DOE, NRC), the United Kingdom, and Canada on lessons learned and best practices.

### LM Engaged Students at Science, Technology, Engineering, and Mathematics (STEM) Events

- LM participated in four STEM events sponsored by Navajo Transitional Energy Company and Navajo Abandoned Mine Lands Reclamation/Uranium Mill Tailings Remedial Action Program Department to promote STEM fields to students. STEM events also fostered a greater understanding of LM's mission and DOE's commitment to address the Cold War legacy. These events were funded through a Cooperative Agreement.
- Events were held at Shiprock High School, Kirtland High School, Greyhills Academy, and Chinle High School. On November 9, the final event was hosted at Chinle, the largest high school in the Navajo Nation, drawing in more than 1,000 high school students.
- Hands-on activities included a stormwater management exercise, application of a Geiger counter to detect and measure radiation levels, and groundwater flow modeling.

### LM Hosted Long-Term Stewardship Conference

LM hosted the 2018 Long-Term Stewardship (LTS) Conference, *Preserving the Past, Preparing for the Future: A broad perspective on long-term stewardship*, August 20 through 24 in Grand Junction, Colorado.

- The conference provided an opportunity for individuals from various organizations to exchange information and ideas related to the challenges and best practices for long-term stewardship of remediated sites.
- There were more than 350 participants from government agencies, regulatory organizations, political offices, tribal groups, and other stakeholders invested in the long-term stewardship of remediated sites and facilities across the United States and nine countries.
- More than 110 draft abstracts were submitted by 165 authors and co-authors on topics related to long-term stewardship, including science and technology, stakeholder partnerships, international perspectives, information management, beneficial reuse, continuity of stewardship, and much more.



LTS Conference attendees learn how various communities handled the economic and health fallouts caused by uranium.



## GOAL 6

### LM Staff Conducted Briefings on L-Bar, New Mexico, Disposal Site

During the week of February 26, staff from the LM Grand Junction, Colorado, office provided brief presentations to neighboring communities of the L-Bar disposal site, an UMTRCA Title II uranium ore-processing site in Cibola County.

- Information about the L-Bar site was presented to the Pueblo of Laguna community, a local Native American tribe, and to the Cebolleta Land Grant Board of Trustees, the current owners of the land surrounding the disposal site.
  - LM also met the Cebolleta Land Grant Board of Trustees newly elected officials.
- A brief site tour was conducted.
- Relationships were strengthened and communication reinforced with the local community.



*LM's Bill Frazier visits with community members about the L-Bar site.*

### Canadian Delegation Attended Annual Site Inspection of the Hallam, Nebraska, Decommissioned Reactor Site

LM hosted approximately 25 Canadian nuclear researchers, professionals, and stakeholders at the annual inspection of the decommissioned reactor site at the Sheldon Power Station in Hallam on April 4.

- The group included individuals from the Canadian Nuclear Laboratories, the Canadian Nuclear Safety Commission, several representatives from Canada's First Nations, and residents from the town of Pinawa, Manitoba.
- Attendees observed LM's annual site inspection process and gained insight into monitoring requirements and lessons learned from the buried reactor at Hallam that may be applicable to the decommissioning of the Whiteshell reactor in Canada.
- LM staff and representatives from the Nebraska Public Power District responded to a variety of questions from the Canadian group regarding site monitoring and maintenance, community awareness and involvement, environmental protectiveness, and costs.



*A group of Canadian and LM representatives attended the annual inspection of the Hallam decommissioned reactor site at the Sheldon Power Station in Hallam, Nebraska.*





## LM Met with the Alaska Department of Environmental Conservation

LM and its contractor support staff participated in a working group meeting in July to discuss with the Alaska Department of Environmental Conservation (ADEC) the clean closure of the drilling mud pits at the Amchitka, Alaska, Site that were damaged by the 2014 earthquake. LM wants to maintain protectiveness of the seven drilling mud pit disposal sites while reducing costs to the extent possible. The meeting clarified expectations ADEC had of LM for granting a cleanup decision. ADEC requested updated sampling data to supplement data collected from 1998. LM agreed to compile further analytical information and continue sampling.

## Furthering STEM for Native Americans

LMS employee Jody Waugh served as a guest instructor at Diné College in Tsaile, Arizona, on March 28. He presented lectures on plants, climate, ecology, and environmental sampling and monitoring. He also led a seminar and an environmental science field trip to LM's Monticello, Utah, Disposal Site. The work was done under the Educational Collaboration Technical Task Plan, created to strengthen STEM education. Its goals are to strengthen existing partnerships with tribal colleges and Native American graduate students, as well as to explore opportunities for new partnerships with colleges and universities.



*Diné College field trip.*

## Historical Photo Exhibit

From July 9 through October 10, LM displayed a historical photo exhibit in the lobby of the Grand Junction, Colorado, City Hall commemorating the Grand Junction office's role in the Manhattan Project, the subsequent Cold War, and post-war history of the office. The exhibit, "DOE Grand Junction Office Marks 75 Years of Contribution to the Nation's Defense Program," included images of Grand Junction and its residents during World War II, the 1950s uranium boom, cleanup, and reuse.



*Above: A section of the "DOE Grand Junction Office Marks 75 Years of Contribution to the Nation's Defense Program" photo exhibit. Inset: Karen Keeler, the 1955 Miss Atomic Energy, reaches for her prize: a ton of uranium ore.*



## GOAL 6

### **Bluewater, New Mexico, Disposal Site Public Tour**

On October 25, 2018, DOE provided a public tour of the LM Bluewater disposal site. Bluewater is a former uranium ore processing site that was addressed under Title II of UMTRCA. It is located in Cibola County, approximately 9 miles northwest of Grants, New Mexico, and covers 3,300 acres. Understanding stakeholders' concerns enables LM to perform long-term stewardship duties at the Bluewater site more effectively. The tour included local community members as well as staff from the office of U.S. Senator Tom Udall of New Mexico and the New Mexico Environment Department.

### **Public Meeting of the Northern Arapaho Natural Resource Office**

On November 15, LM personnel participated in the third annual Environmental Public Meeting of the Northern Arapaho Natural Resource Office in Riverton, Wyoming. The meeting was attended by local high school students, members of the public, and organizations that work closely with the Northern Arapaho Tribe. The event provided LM with an opportunity to further engage the community about its work on the Wind River Reservation.

## **INTERPRETIVE CENTERS**

### ***Fernald Preserve, Ohio, Site***

LM held public workshops at the Fernald Preserve in June and July to gather public input for a site Master Plan. LM asked the public to suggest enhancements to current site amenities, public education, and outreach services. The LM planning effort earned media coverage from local Channel 9, WCPO. The Master Plan is a DOE-internal planning tool and any suggestions would have no effect on LM's obligation to maintain the site cleanup remedies. Implementation of any enhancements will be subject to available funding. LM plans to issue the final Master Plan in 2019.

### **Fernald Preserve Recognized as Outstanding Educational Resource**

On July 25, the Butler Soil and Water Conservation District in Butler County, Ohio, notified LM that they named the Fernald Preserve "Conservation Educator of the Year." The award recognizes the Fernald site's accomplishments in the areas of environmental remediation, natural resources conservation, and environmental education.



*Fernald Preserve, Ohio.*





## Fernald Supports Rare and Endangered Insects

A rare Ohio endangered moth, called the "unexpected cycnia," was discovered in August eating milkweed plants growing in the Visitors Center landscaping.

Environmental scientists at the Fernald Preserve have supported a recovery plan for the federally endangered American burying beetle since 2013. LM maintains a Memorandum of Agreement with the U.S. Fish and Wildlife Service and the Cincinnati Zoo to work with this species. They have released American burying beetles each spring for the past six years.

- The ultimate goal is to retrap adult beetles that have overwintered on the site, indicating a new population is successfully establishing at the preserve.
- The best results to date were seen during summer 2018 post-release monitoring. A number of offspring were observed in July and August. Parent beetles are marked prior to their spring release to make it easier for field personnel to identify offspring during summer monitoring efforts.



*American burying beetle.*

## Weldon Spring, Missouri, Site

### Weldon Spring Hosted "Monarch Madness – A Pollinator Festival"

Approximately 700 visitors attended this event on September 15. The festival included almost 40 partner organization booths, education booths, vendors, youth crafts, native-plant sale, artists, and food to engage the public. The planning committee was led by Bob Lee. Additional partners include Missourians for Monarchs, the Missouri Department of Conservation, St. Charles County Parks and Recreation, Missouri Master Naturalists, Missouri Master Gardner, Great Rivers Greenway, Ameren, and North American Butterfly Association. Weldon Spring has a thriving native prairie garden that attracts monarchs, and the festival was meant to educate attendees on how to plant gardens to attract monarchs and other pollinating insects and birds. In addition, monarchs were tagged and tested for parasites that can shorten their lifespans. The special tags are used to track migration pathways and distances. During the event, 156 monarchs were captured by children and families, and then tagged by the Missouri Department of Conservation. LM received overwhelmingly positive responses from visitors and partner organizations regarding the family activities and educational opportunities that were available at this event.

Weldon Spring, Missouri, Site visitor numbers totaled 23,560 in 2018.



*Left to right: Event exhibitors, educational activities, and native plant vendors inspired visitors to help support pollinators at home. The Missouri Department of Conservation conducted tagging activities as part of Monarch Watch international population monitoring efforts. Kids helped capture and tag monarchs to experience real citizen science at the event.*



# GOAL 6

## ENVIRONMENTAL JUSTICE

### LM Hosted the National Environmental Justice Conference and Training Program

In support of [Executive Order 12898](#), LM hosted the 12th annual Environmental Justice Conference and Training Program from April 25 through 27 in Washington, DC. More than 600 people attended. The overall theme of the conference was “Enhancing Communities through Capacity Building and Technical Assistance.” U.S. Representative for South Carolina James E. Clyburn and LM Director Carmelo Melendez provided keynote addresses.

### Community Leaders Institute Technical Assistance Workshop

DOE and the Medical University of South Carolina (MUSC) sponsored a collaborative, one-day technical assistance workshop in Farmington, New Mexico. Workshop participants gained skills needed to prepare and manage successful grant applications.

DOE and the MUSC also sponsored a Community Leaders Institute in Ladson, South Carolina. Participants gained a better understanding of the unique relationship between community development and health disparities/health issues.

### Mentoring for Environmental Scholars Boot Camp

Pre-College University and DOE conducted a four-day orientation from May 29 to June 1, for 18 students who attended minority-serving institutions or tribal colleges/universities and went on to work as summer interns at DOE laboratories.

### Environmental Justice Program Manager Leads Teaching Radiation, Energy, and Technology Workshop

DOE Environmental Justice Program Manager Melinda Downing, in conjunction with DOE’s Savannah River Operations Office, facilitated a Teaching Radiation, Energy, and Technology workshop at the University of South Carolina’s Aiken Business and Education Center the week of July 10. The goal of this workshop was to provide education, training, and experimental opportunities for Central Savannah River area school teachers. The focus was on teaching participants about environmental radiation. The EPA and U.S. Forest Service also participated in the workshop. This is one of two such workshops that DOE hosts every year.



*LM Director Carmelo Melendez gives a keynote address at the 2018 National Environmental Justice Conference and Training Program.*



*Melinda Downing (second from right) with the 2018 National Environmental Justice Conference and Training Program award recipients: Clarence Brown (left), coordinator for Mentoring for Environmental Scholars program at Pre-College University; Donna Christensen (second from left), former U.S. Representative from the U.S. Virgin Islands; Carolyn Sawyer (right), communications strategist with the Tom Sawyer Company.*

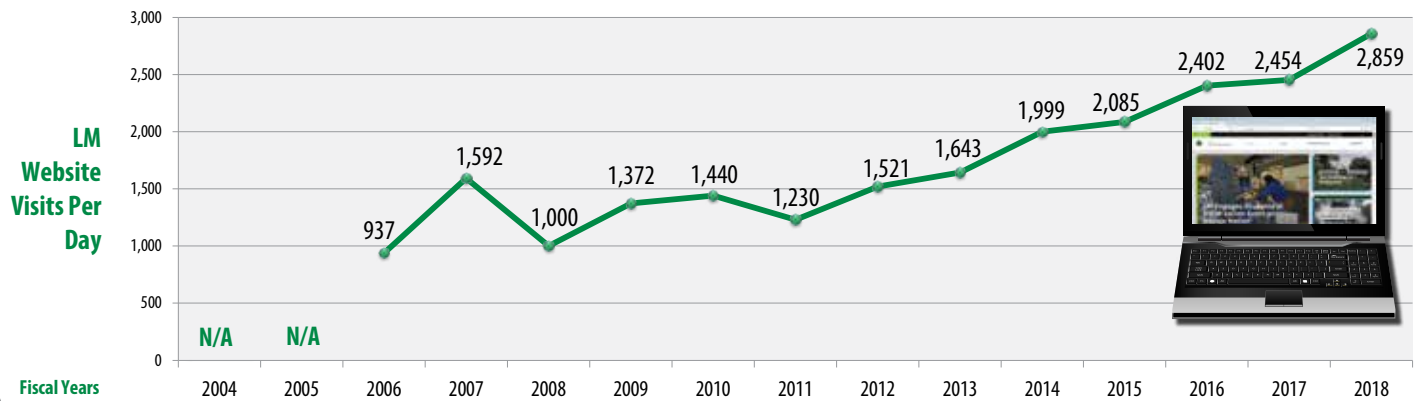


*Presentation at the TREAT Workshop by Rod Pope, EPA Region 4.*

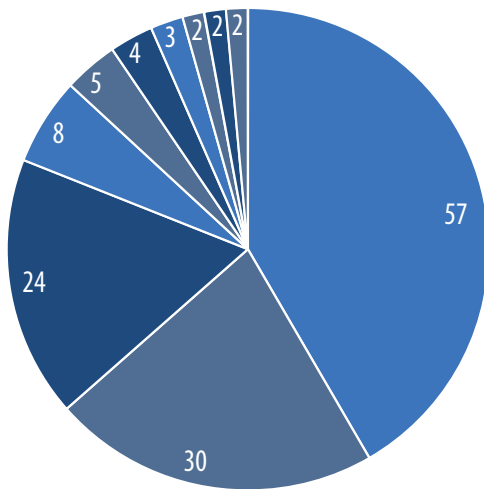




## Office of Legacy Management Website Visits Per Day



## Top 10 Areas of Media Coverage Related to LM's Work



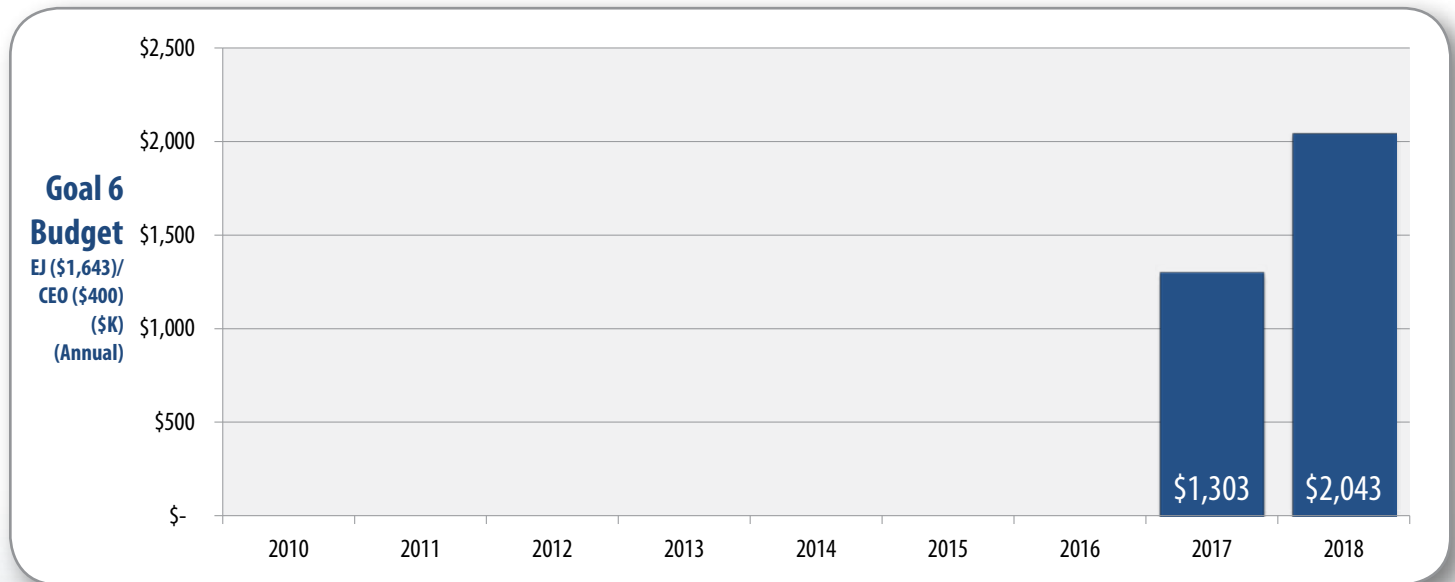
- 57 – Rocky Flats Site, Colorado
- 30 – Navajo Nation Uranium Issues
- 24 – FUSRAP
- 8 – Durango, Colorado, Disposal/Processing Site
- 5 – DRUM
- 4 – Grand Junction, Colorado, Site
- 3 – Grants, New Mexico
- 2 – Mound, Ohio, Site
- 2 – Naturita, Colorado, Disposal/Processing Site
- 2 – Weldon Spring, Missouri, Site

*Durango, Colorado, Disposal Site.*



# GOAL 6

## GOAL 6 BUDGET



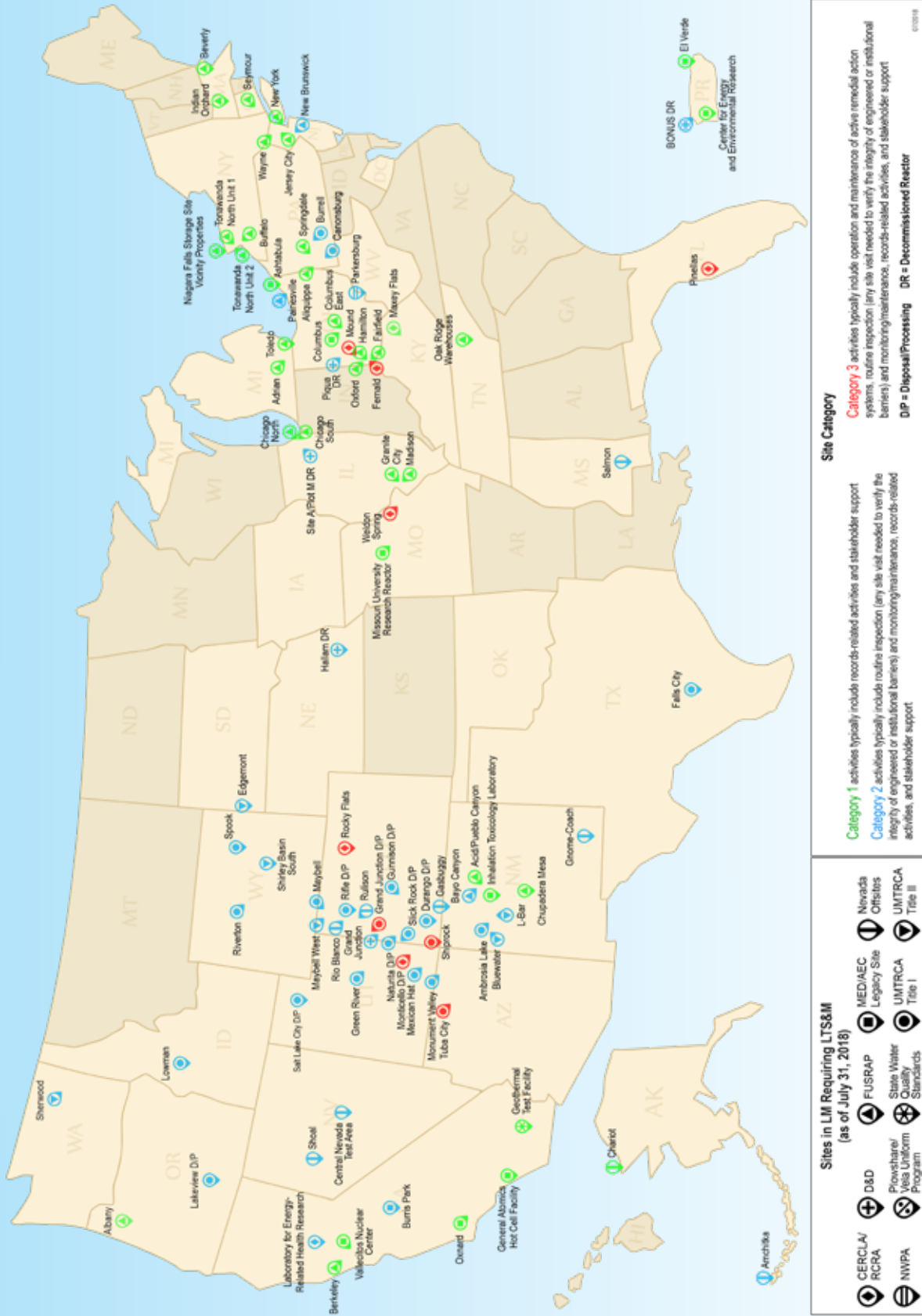
The FY 2004–2016 budget authority does not show Goal 6 as a separate line item.



Weldon Spring, Missouri, Site.



## LM Sites in 2018



## Program Update Articles by Issue

### QUARTER 1

- Goal 1: Got it Covered? Are Natural Processes Changing Engineered Disposal Cells?
- Goal 1: New Agreement Expands Support for DOE Long-Term Stewardship
- Goal 2: LM Conducts Records Emergency Tabletop Exercise in Grand Junction
- Goals 4 and 6: LM Director Visits South Texas Sites
- Goal 4: Prescribed Burning at the Weldon Spring Site
- Goal 6: Environmental Justice Activities
- Goal 6: Fernald Employees Support National Science Bowl
- Goal 6: Grand Junction Office History a Hot Topic at Colorado Conference
- Goal 6: LM NEWS Feed
- Goal 6: LM Participates in STEM-sation Day
- Goal 6: LM Representatives Join Hopi and Navajo Nation Officials at Quarterly Meeting
- Goal 6: LM Staff Attend Public Viewing of Coors Movie
- Goal 6: LM Staff Conducts Briefings on L-Bar Disposal Site
- Goal 6: Women of the Manhattan Project Honored in March



### QUARTER 2

- Goal 1: LM Director Visits East Coast Sites
- Goal 1: LM Celebrates Earth Day Across the Complex
- Goal 2: LM Embraces Energy Data Exchange for Scientific Collaboration
- Goal 2: LM continues Transition to Digital Government
- Goals 2 and 6: New Mound Cold War Discovery Center Opens for Visitors
- Goal 4: LM Acquires Office Building in Grand Junction, Colorado
- Goals 4 and 6: Grand Junction Outdoor Recreation Business Park Opens on Former Uranium Mill Site
- Goal 6: Melinda Downing Receives Honorary Doctorate from Allen University
- Goal 6: LM Connects with Students During STEM-sation Day Event
- Goal 6: 17th Annual DOE Small Business Forum & Expo
- Goal 6: Birders Enjoy Rare Sightings at Fernald Preserve
- Goal 6: LM Headquarters Employees Participate in Earth Week
- Goal 6: Environmental Justice Activities
- Goal 6: Butterfly Garden Dedication
- Goal 6: LM Meets with Environmental Groups Regarding the Bluewater Site





### QUARTER 3 - LTS CONFERENCE SPECIAL EDITION

- *Program Update* Special Edition highlighting presentations, panels, and activities during the 2018 Long-Term Stewardship Conference

### QUARTER 4

- Goal 1: LM Hosts Joint FUSRAP Meeting with USACE
- Goal 1: Increased Activity at the Grand Junction Disposal Site
- Goal 6: Butterflies and Families Come Together for Monarch Madness
- Goal 6: LM Summer Interns Gain Valuable Field Experience
- Goal 6: LM Meets with Prominent Leaders to Address Uranium Contamination on the Navajo Nation
- Goal 6: Stakeholders Get a Firsthand Look at Bluewater, New Mexico, Disposal Site During Public Tour
- Goals 2, 3, and 6: LM Engages Students at STEM-sation Event on Navajo Nation
- Goal 6: 3D Printer Enhances Communication with Stakeholders
- Goal 6: Groups Get a Sneak Peek at Atomic Legacy Cabin
- Goal 6: Jon Damiano Wins the Philip C. Leahy Award
- Goal 6: DOE Senior Leaders Tour Deactivated Former Nuclear Plant
- First 15 Years Timeline
- Goal 4: Prairie Establishment at the Burrell, Pennsylvania Disposal Site
- Goal 4: Westminster Office Recognized in EPA ENERGY STAR Program
- Goal 4: USACE to Design and Renovate New LM Office Building in Grand Junction, Colorado
- Goal 2: LM Business Center Recertified as a NARA-Compliant Storage Facility
- Goal 6: LM Director Speaks at Fall Tribal and Intergovernmental Meetings
- Goal 4: USACE to Design and Renovate New LM Office Building in Grand Junction, Colorado
- Goal 2: LM Business Center Recertified as a NARA-Compliant Storage Facility
- Goal 6: Grand Junction, Colorado, Office Celebrates 75 Years with Photo Exhibit
- Goals 1, 2, 3, and 6: Shiprock Site Manager Hosts Tour, Gives Presentation to DURAC
- Goal 6: Invertebrates Thrive at the Fernald Preserve in Ohio
- Goal 5: New Employee Bios
- Goals 4 and 6: American Burying Beetle Recovery Agreement Renewed at Fernald Preserve











## 2018: A Year in Pictures

1. Secretary Rick Perry with LM staff.
2. Milton Bluehouse, (LMS), listens to panelist Madeline Roanhorse, Department Manager for the Navajo Nation Abandoned Mine Lands program during the 2018 Long-Term Stewardship Conference.
3. LMS Safety and Health Lead Field Coordinator Scott Ficklin (left) shows visitors the protective clothing that staff must wear while performing work at the Grand Junction disposal site.
4. LMS staff engage STEM students by discussing the office's area activities.
5. Westminster interns Jacob Kohlhoff (left) and Jash Vora (right).
6. Bill Frazier (LM) and May Picel (Argonne National Laboratory) discuss the Riverton, Wyoming, Site with students at a Northern Arapaho event.
7. Participants attend a 2018 Environmental Justice workshop.
8. Bill Frazier (LM) and Gary Baur (LMS) show attendees a layout of the Grand Junction disposal cell during the 2018 Long-Term Stewardship Conference.
9. LM representatives tour the Mexican Hat, Utah, Disposal Site.
10. Abandoned Uranium Mine Working Group tour the Mount Taylor mine near Grants, New Mexico.



# ACRONYMS

## Acronym List

<b>ADEC</b>	Alaska Department of Environmental Conservation	<b>EPEAT</b>	Electronic Product Environmental Assessment Tool	<b>NNHPD</b>	Navajo Nation Historic Preservation Department
<b>BLM</b>	U.S. Bureau of Land Management	<b>ESH&amp;Q</b>	Environment, Safety, Health, and Quality	<b>NRC</b>	U.S. Nuclear Regulatory Commission
<b>CAWWT</b>	Converted Advanced Wastewater Treatment	<b>FOIA</b>	Freedom of Information Act	<b>OU-1</b>	Operable Unit 1
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act	<b>FUSRAP</b>	Formerly Utilized Sites Remedial Action Program	<b>P&amp;T</b>	Pump and Treatment
<b>CRR</b>	Completion Review Report	<b>FY</b>	Fiscal Year	<b>RCRA</b>	Resource Conservation and Recovery Act
<b>D&amp;D</b>	Decontamination and Decommissioning	<b>IT</b>	Information Technology	<b>RRM</b>	Residual Radioactive Materials
<b>DOE</b>	U.S. Department of Energy	<b>LEHR</b>	Laboratory for Energy-Related Health Research	<b>SHPO</b>	State Historic Preservation Officer
<b>DOI</b>	U.S. Department of the Interior	<b>LM</b>	Office of Legacy Management	<b>SPPTS</b>	Solar Ponds Plume Treatment System
<b>DRUM</b>	Defense-Related Uranium Mines	<b>LMS</b>	Office of Legacy Management Support	<b>SRNL</b>	Savannah River National Laboratory
<b>EA</b>	Enhanced Attenuation	<b>LTS</b>	Long-Term Stewardship	<b>STEM</b>	Science, Technology, Engineering, and Mathematics
<b>EEOICPA</b>	Energy Employees Occupational Illness Compensation Program Act	<b>LTS&amp;M</b>	Long-Term Surveillance and Maintenance	<b>THPO</b>	Tribal Historic Preservation Officer
<b>EJ</b>	Environmental Justice	<b>LTSP</b>	Long-Term Stewardship Plan	<b>ULP</b>	Uranium Leasing Program
<b>EM</b>	Office of Environmental Management	<b>MDC</b>	Mound Development Corporation	<b>UMTRCA</b>	Uranium Mill Tailings Radiation Control Act
<b>EPA</b>	U.S. Environmental Protection Agency	<b>MUSC</b>	Medical University of South Carolina	<b>USACE</b>	U.S. Army Corps of Engineers
		<b>NARA</b>	National Archives and Records Administration	<b>WRPS</b>	Washington River Protection Solutions
		<b>NHPA</b>	National Historic Preservation Act of 1966	<b>VOC</b>	Volatile Organic Compound
				<b>WMS</b>	Waste Management Symposia



Atomic Legacy Cabin at the Grand Junction, Colorado, Site.







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Legacy  
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