U.S. DEPARTMENT OF ENERGY | Legacy Management

Program Update

October–December 2016

Welcome to the October–December 2016 issue of the U.S. Department of Energy (DOE) Office of Legacy Management (LM) Program Update. *This publication is designed to provide a status of activities within LM. Please direct all comments and inquiries to lm@hq.doe.gov.*

New LM Director Appointed

Carmelo Melendez, Director, U.S. Department of Energy Office of Legacy Management

In December 2016, Carmelo Melendez was selected as the new Director for the U.S. Department of Energy (DOE) Office of Legacy Management (LM). As Director, he will provide the leadership to continue to fulfill the Energy Department's post-closure responsibilities and ensure the future protection of human health and the environment.

Director Melendez comes to LM after serving as the Director of the Office of Asset Management within the DOE Office of Management and as the DOE Senior Real Property Officer. He has also served DOE within the Office of Environmental Management, the Office of Engineering and Construction Management, and the Office of Acquisition and Project Management. He was instrumental in carrying out several DOE Laboratory Operations Board initiatives, transferring several properties for community economic development, and improving the way DOE manages real property, personal property, and fleet property to support DOE's field mission and national laboratories. He has been a career member of the Senior Executive Service, Vice Chairman of the National Academies' Federal Facilities Council, and a member of the U.S. Office of Management and Budget's Real Property Advisory Council.

Director Melendez retired as Commander in the U.S. Navy Civil Engineer Corps and has served in numerous positions in the U.S. Departments of Defense, Energy, and State, specializing in acquisition management, civil affairs, construction management, expeditionary engineering, facilities engineering, and financial management. He received a bachelor of science degree in mechanical engineering from the University of Puerto Rico, a master of business administration in financial management from Southern New Hampshire University, a master of engineering in civil and environmental engineering from the University of Florida, and a doctoral engineer degree in engineering management from George Washington University.

Acting Director for LM, Thomas Pauling, has returned to his prior position as Deputy Director and is assisting Director Melendez in leading the LM team. ❖

Inside this Update:

Goal 6

A Decade of Difference at Fernald

The U.S. Department of Energy (DOE) celebrated "Weapons to Wetlands: A Decade of Difference" at the Fernald Preserve on October 29, 2016. This date marked 10 years since the transition from environmental cleanup to ongoing site maintenance, ecological restoration, and monitoring under the DOE Office of Legacy Management (LM). The event attracted former site workers, neighbors, regulators, activist groups, contractors, and others who gathered to recognize the 10-year anniversary of the successful cleanup mission and subsequent transition to LM. Close to 400 people enjoyed the tours, displays, speeches, and comradery at the "Weapons to Wetlands: A Decade of Difference" event.

Speakers and guests noted a spirit of pride and cooperation that helped make the site's cleanup and following ecological restoration successful. Reaching the stakeholders' collaborative goal to transition the land to a community asset was reason to celebrate. Over two decades of building demolitions, soil remediation, site restoration, and other work transformed the 1,050-acre former uranium production plant into today's Fernald Preserve with its natural wetland, prairie, and forest habitats. The site now serves as a community asset and LM continues groundwater cleanup, onsite disposal facility maintenance, ecological restoration, environmental monitoring, and facilitating public access. The Fernald Preserve is an example of how an industrial site can be restored with native trees, prairie grasses, and wetlands that support and encourage wildlife habitat.

As a community asset, site amenities support the education of current and future generations—a task accomplished through the shared vision of DOE, regulators, and the community.

Guest speakers for the special event included representatives from DOE, current and former stakeholder groups, site contractors, regulators involved in the cleanup, and the Cold War Patriots (CWP). CWP presented a special recognition of the National Day of Remembrance for nuclear weapons program workers, which takes place on October 30 every year.

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Visitors view the Fernald Preserve from the production area overlook, one of the tour van stops for the Decade of Difference event.

The Fernald Preserve Decade of Difference was held October 29.

Goal 6

Manhattan Project National Historical Park Comes to LM

In November 2016, the U.S. Department of Energy (DOE) assigned its Office of Legacy Management (LM) with responsibilities for the Manhattan Project National Historical Park (MAPR- the four-letter identifier given by the National Park Service). "The Office of Legacy Management is excited to join the team and we're looking forward to contributing to its continuing success," LM Acting Director, Thomas Pauling, said.

Established November 10, 2015, MAPR is managed through a collaborative partnership by the U.S. National Park Service (NPS) and DOE to preserve, interpret, and facilitate access to key historic resources associated with the Manhattan Project. The Manhattan Project was a massive national mobilization to produce a deployable atomic weapon during World War II. The project culminated with the United States dropping atomic weapons on Hiroshima and Nagasaki, Japan. Coordinated by the U.S. Army, Manhattan Project activities were dispersed to numerous locations across the United States. 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.

NPS provides administration, interpretation, and education at the three park sites, and supplies technical assistance to support resource preservation. DOE performs management, operation, maintenance, and preservation for the historic Manhattan Project sites currently under its jurisdiction. The two agencies collaborate in identification and development of partnership arrangements and other strategies to tell the complete story of the Manhattan Project and its legacy.

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A Decade of Difference at Fernald

"The Fernald Preserve is an amazing place. I see how this site has grown, changed, and healed itself and we did it all together," said Lisa Crawford, a former Fernald Citizens Advisory Board member with Fernald Residents for Environmental Safety and Health and current Fernald Community Alliance member. According to Crawford, the Fernald Preserve has "become a huge community asset that carries on the legacy of Fernald." ❖

Feed Materials Production Center, circa 1987.

Fernald Preserve, circa 2010.

Fernald Preserve
A Decade of Difference
2006–2016
U.S. DEPARTMENT OF ENERGY

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Manhattan Project National Historical Park Comes to LM

"Everyone involved with the park from DOE, the National Park Service, and our community partners has put a lot of work into the Manhattan Project National Historical Park over the past year, and it shows," observed Pauling. This past November, Tracy Atkins joined LM as the principal DOE representative for MAPR. NPS named Kris Kirby as the permanent park superintendent.

First-year accomplishments

Hanford

- Eliminated the age requirement for access to all park facilities and increased available tour seating by 40 percent to 14,000 seats
- Worked with partners to enable recreational opportunities inside the park for the first time, including a full-scale choral concert and 20-mile bike ride
- Piloted an agreement with a local company to bring its own buses to B Reactor and hire Hanford-trained guides, resulting in more visitors at no additional government cost

Oak Ridge

- Expanded Oak Ridge Reservation facility access for park interpretive events, including the Secrecy, Security, and Spies education program at the DOE Historical Gatehouses; bike tours on DOE greenways; and special tours for Girl Scouts and Girls, Inc., at the X-10 Graphite Reactor
- Doubled the days for bus tours to more than 120 days a year

Los Alamos

- Formed an agreement between NPS and the U.S. National Nuclear Security Administration for historic preservation work on park and park-eligible buildings
- Finalized smartphone apps to support park interpretations at Los Alamos park properties
- Sampled for industrial hygiene at properties for worker access and historic preservation work in park and park-eligible buildings ❖

NPS visitors of all ages can visit the B Reactor at the Hanford, Washington, site.

NPS and DOE staff learn about the history of Y-12 during Oak Ridge, Tennessee, site tour.

LM staff join a demonstration of a new app that supports interpretation of the Manhattan National Historical Park in Los Alamos.

Goal 6

Endangered American Burying Beetles at the Fernald Preserve

For the last 4 years, the Fernald Preserve in Ohio has worked with the U.S. Fish and Wildlife Service (USFWS) and the Cincinnati Zoo to release populations of the federally endangered American burying beetle (*Nicrophorus americanus*) on the site. The effort is part of a USFWS recovery plan for the beetle. The U.S. Department of Energy Office of Legacy Management (LM) signed a cooperative agreement with USFWS for a 5-year American burying beetle release project at the Fernald Preserve. These large, colorful beetles are important decomposers in the ecosystem. They search for small dead animals the size of a mourning dove or a chipmunk to lay their eggs on to provide a food source for their young.

When the endangered beetle release occurs onsite, up to 120 pairs of male and female beetles are gently buried in holes—each with a rat carcass—with the hope the beetles will reproduce. Since the 5-year project began, follow-up monitoring revealed numerous larvae in release holes every year, but no teneral (first-year adult) beetles had been observed later in the summer. However, in August 2016, two teneral beetles were captured at two different locations. In order to discern the young, teneral beetles from the older, spring-released adults, the spring pairs were marked before release. This is the first time post-release adults have been discovered in Ohio. Even with this exciting find, it is too early to tell if a population has been established at the Fernald site. The hope is that these new teneral beetles will over-winter in the soil and re-emerge in the spring to breed. If adult beetles are found next year before the next scheduled release of beetle pairs in spring 2017, it will be an indicator that the 2016 offspring have become established, and the release efforts were successful. ❖

Adult American burying beetle prior to release in spring 2016.

Teneral American burying beetles were discovered during August 30, 2016, monitoring activities.

Fernald Preserve, Ohio.

Goal 5

Successful Inaugural Year for the LM Knowledge Management Initiative

In common with the federal government as a whole, the U.S. Department of Energy Office of Legacy Management (LM) must address the serious challenge of an aging workforce. As of May 2016, the average age of LM's federal staff was 49, with over one-third of the staff and a majority of the managers eligible for retirement. LM is keenly aware of the importance of knowledge management to its success. With so many retirement-eligible staff, maintaining and preserving mission-critical LM knowledge is of vital importance.

Knowledge Management Initiative team members at a workshop.

To prevent the loss of knowledge and expertise that employees have gained over the years, LM assigned a team last spring to lead a Knowledge Management Initiative (KMI). Knowledge management (KM) comprises a range of strategies and practices an organization uses to identify, create, represent, distribute, and adopt insights and experiences.

The KMI team has had a productive first year. They completed "KM 101" training to get up to speed on the current state of the field. They held a 3-day strategic planning workshop to assess LM's current KM and develop short-term and long-term goals. They also began conducting KM interviews with retiring managers.

During this past summer's LM All-Hands Training, the KMI team sought organization-wide input and assessment of the current state of LM's knowledge management. The team facilitated breakout group discussions to capture and evaluate current practices. LM staff was also surveyed to create a prioritized list of issues that the organization can address over the next year. A KM assessment and recommendations report will be submitted to LM's management team as a result of these efforts.

As the first year of the initiative nears completion, the KMI team plans to continue its marketing efforts to improve organizational awareness of KM and help reinforce a knowledge-sharing culture within LM.

The 2016 KMI team members were Padraic Benson, Leslie Biagas, Darina Castillo, John Chinkhota, Angelita Denny, Karen Edson, Shelly Gutierrez, Joshua Linard, Jeffrey Murl, Jason Nguyen, Matthew Olsen, and Erika Valencia. Tony Carter served as the management team liaison. KMI had a successful year due to the valuable contributions made by all LM employees. ❖

LM employees participate in a knowledge management assessment.

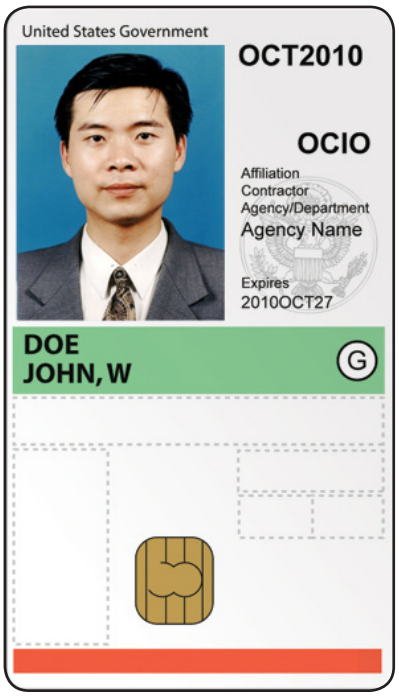
Goals 2

LM Implements Multifactor Authentication Capability

In accordance with the unclassified *Federal Identity, Credential, and Access Management (FICAM) Roadmap Implementation Guidance*, the U.S. Department of Energy Office of Legacy Management (LM) is in compliance with federal laws and has increased its networks and data security. Identity, credentials, and access management are security disciplines that enable the right individual to access the right resource, at the right time, for the right reason.

Each employee first participates in a standardized government identity management process, including a background check managed by the U.S. Office of Personnel Management. Each LM employee is then issued a Personal Identity Verification (PIV) card and they establish a personal identification number (PIN). Together, the PIV and PIN create a multifactor authentication credential of the individual's identity.

Each credential is next tied to a single digital identity. This process of credential management, which can be utilized within, and across, agency boundaries, associates a digital identity with authoritative proof of that claimed identity.



Personal Identity Verification card.

Finally, logical and physical access systems are configured to use authentication of a user's PIV and PIN to grant or deny access to resources. This allows an organization to ensure only permitted individuals have access to protected resources. It also ensures that individuals can more efficiently access required protected resources.

Multifactor authentication has:

- Improved security by providing the highest assurance of user identity and strong authentication for those accessing agency resources
- Reduced administrative burden and cost by requiring less effort from administrators to manage user accounts and access privileges, resulting in lower life-cycle costs
- Increased compliance by enabling detection and resolution of conflicting access privileges within and across network resources
- Increased customer satisfaction and convenience by providing consumer's ease of use with the ability to access resources with a credential and PIN, versus having to remember numerous usernames and passwords

LM is pleased to announce we recently completed the foundational pieces to enhance our data and information system security. ❖

Goal 6

DOE Grand Junction Office Lauded for Historic Preservation

The U.S. Department of Energy (DOE) Grand Junction Office (GJO) will be honored for its dedication to historic preservation at a History Colorado awards ceremony February 1, 2017, in Denver. GJO is one of seven 2016 recipients of the Stephen H. Hart Award, named for Colorado's first State Historic Preservation Officer.

GJO was singled out further as the winner of the State Historic Preservation Officer Award. This award is personally selected by History Colorado's executive director and recognizes a person, project, or program that enriched and educated others about Colorado's history and heritage.

"The Department of Energy's Grand Junction Office in Mesa County is an invaluable historic resource because of its role in the development of the atomic bomb during World War II and for nuclear weapons research conducted throughout the Cold War," said Steve W. Turner, architect, executive director of History Colorado, and State Historic Preservation Officer. "I'm incredibly proud to offer the State Historic Preservation Officer's Award for the office's [July 26, 2016, listing on] the National Register of Historic Places." Authorized by the National Historic Preservation Act of 1966, the U.S. National Park Service National Register of Historic Places is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archaeological resources.

Jon Maraschin, Riverview Technology Corporation Executive Director, and Dr. April Gil, GJO Manager, at the November 1, 2016, employee celebration of the GJO listing on the National Register of Historic Places.

"We've found that due to the secrecy of the Manhattan Project and the Cold War, many are unaware of the significant contributions people working at the Grand Junction Office made to the nation's atomic legacy and to scientific advancements over the past nearly 75 years," said Dr. April Gil, GJO Manager. "We are thrilled to share their stories and to shine a light on their accomplishments."

GJO's work on the Colorado Plateau has been continuous through predecessor agencies, including the U.S. Army Corps of Engineers (USACE); the U.S. Atomic Energy Commission (AEC); the Energy Research and Development Administration; and DOE's Office of Environmental Management and Office of Legacy Management (LM). In March 1943, USACE Second Lieutenant Philip Leahy, a civil engineer, was ordered to halt his work relocating the first nuclear reactor—Chicago Pile 1—and board a train at Chicago's Union Station. He disembarked in Grand Junction, on the high-desert western edge of Colorado, in proximity to remote uranium and vanadium mines.

With a letter emphasizing military priority and signed by Manhattan Project leader General Leslie R. Groves—"To whom it may concern: If this officer should ask for help, please assist"—Lieutenant Leahy followed top secret orders to build a uranium refinery near Grand Junction and oversee construction of uranium recovery plants in Uravan and Durango. Though the mission was secret and hidden as a continuation of refining steel-strengthening vanadium for the war effort, the real goal was to enrich uranium to fuel atomic bombs.

There were much richer deposits of uranium ore in Canada and the Belgian Congo, but General Groves insisted on a secure domestic supply, in case foreign shipments were intercepted by enemy forces.

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DOE Grand Junction Office Lauded for Historic Preservation

About 14.2 percent of the uranium used by the Manhattan Project was from Colorado Plateau ore. The uranium was concentrated into uranium oxide, or "yellow cake," and shipped by rail to a facility in Tonawanda, New York, for further processing. The Manhattan Project culminated with the United States dropping two atomic bombs over Japan.

In August 1947, then-civilian Leahy became the first manager of the AEC's Colorado Raw Materials Office at the same site south of Grand Junction on the Gunnison River. During the Cold War, the office was the center of an exploration and extraction boom in uranium-ore prospecting, mining, and refining for the production of America's nuclear military arsenal and for the domestic nuclear industry.

In 2001, DOE transferred 46 acres of the original 55.71-acre site to the Riverview Technology Corporation (RTC), a business-development nonprofit organization sponsored by Mesa County and the City of Grand Junction. The majority of the RTC site is included on the National Register of Historic Places listing. LM still works from leased offices onsite.

The log cabin that served as the original refinery office during the Manhattan Project-era is planned to open as a learning center in 2018, in conjunction with GJO's 75th anniversary. "Preserving the log cabin and opening it to the public has required a dedicated cooperation between the landowner [RTC] and DOE," Dr. Gil said. "In particular, this project was championed tirelessly by Dick Dayvault, who passed away in 2015. Dick would be so pleased to see how others have taken up his cause to share the history and science of our site with future generations."

Richard "Dick" Dayvault, a geologist and reclamation specialist, supported DOE for 35 years and was an expert in the region's geology and paleontology. ❖

Location of the Grand Junction, Colorado, Site.

Building 12 addition to the log cabin in 1948.

Goal 6

Bill Coors Recognized for Historic Role in Manhattan Project

On December 2, 2016, U.S. Department of Energy Office of Legacy Management Acting Director Thomas Pauling, presented William Kistler "Bill" Coors with the Energy Secretary's Appreciation Award in Golden, Colorado. The award recognizes Mr. Coors' historic role in providing critical insulators to the U.S. Army Corps of Engineers Manhattan Engineer District (also known as the Manhattan Project) during World War II.

While Mr. Coors may be best known for his beer brewed in the Rocky Mountains, few know about his contribution to World War II and the Cold War. In January 1943, General Leslie Groves, head of the Manhattan Project, met with Y-12 Plant operators in Oak Ridge, Tennessee, and insisted that the first calutrons needed to be built and operational within 7 months. The enormous calutrons were needed for electro-magnetically separating fissionable isotopes of uranium-235 from naturally occurring uranium, for use in atomic weapons. With such a tight schedule to build an untested technology, the Y-12 project experienced setbacks with insulators constantly breaking down due to the extremely high-voltage used by the calutrons.

Left to right: Colin Colverson, Oak Ridge Site Representative and Office of General Counsel; Padraic Benson, LM Historian; Tracy Atkins, LM Principal Representative for the Manhattan Project National Historical Park; Thomas Pauling, LM Acting Director. Seated: Bill Coors.

Searching for a solution, Richard Condit from the Berkeley Lawrence Radiation Laboratory telephoned Mr. Coors of the Coors Porcelain Company in Golden. The company had the experience, expertise, and capacity to make the desperately needed, large quantities of high-quality ceramic insulators capable of handling the tremendous electrical loads produced by the calutrons. Mr. Coors accepted the request and immediately got to work.

Although Mr. Coors had no idea what his insulators were being used for, they arguably saved the Y-12 project from failure. By February 1944, Y-12 began sending uranium-235 to Los Alamos, New Mexico, to create the nation's first atomic weapons.

Mr. Coors celebrated his 100th birthday in August 2016. ❖

Goal 6

LM and Navajo AML/UMTRA Win Best Science Award at Festival

Curiosities peaked at the Discovery Festival, hosted by Big Brothers Big Sisters, in Farmington, New Mexico, October 7 and 8, 2016. The event promotes science, technology, engineering, and math (STEM) careers. Proceeds from the festival provide mentoring opportunities and scholarships for area youth.

At a collaborative display with Navajo Abandoned Mine Lands/Uranium Mill Tailings Remedial Action (AML/UMTRA), students asked U.S. Department of Energy (DOE) Office of Legacy Management (LM) representatives questions like, "What is uranium?" and "How does it work?" Big Brothers Big Sisters recognized the agencies' shared booth with the Best Science Award.

"This was a great event with Navajo AML/UMTRA," said Angelita Denny, LM Site Manager. Navajo AML/UMTRA educated students about the importance, and danger, of abandoned mines. Using posters, photos, rocks, and high-tech tools, they described mine reclamation processes and taught students basic geology.

LM contractors shared how uranium formed in the Monument Valley, Utah, area. Students conducted experiments using a hands-on groundwater contamination model. LM's Energy Superheroes-themed photo booth—complete with signs, capes, swords, and masks—was another hit. Students donned costumes and held signs that read "I love science @ DOE" and "Future College Student."

Students smile for the camera at the Energy Superheroes-themed photo booth set up by LM and Navajo AML/UMTRA at the Discovery Festival.

Karen Edson, LM Public Participation Specialist, took photos of the students, capturing their smiles and excitement about science. The students were provided digital copies of their photos to share on social media or with their families.

Local schools transported students to the arena for the 2-day event. Hundreds of students toured the festival and listened to presentations. During the second day of the event, community members and families attended and LM and Navajo AML/UMTRA answered questions.

"It's important to educate and encourage students on STEM opportunities," said Denny. Several participants, including the Williams and Raytheon companies and San Juan College, had engaging presentations, which included virtual reality headsets, drilling concepts, and petri dishes of known diseases.

LM will continue to participate in outreach events to share information about its work and provide the public an opportunity for two-way dialogue. Edson reflected, "America's Cold War legacy story doesn't end. The American people can create a future that is safe and protective of our environment. DOE is committed to help do that." ❖

Angelita Denny, LM Site Manager, and Gilbert Dayzie, Navajo AML/UMTRA receive Best Science Award for a collaborative booth at the Discovery Festival in Farmington, New Mexico.

Goal 2

LM Responds to Increase in Records Requests

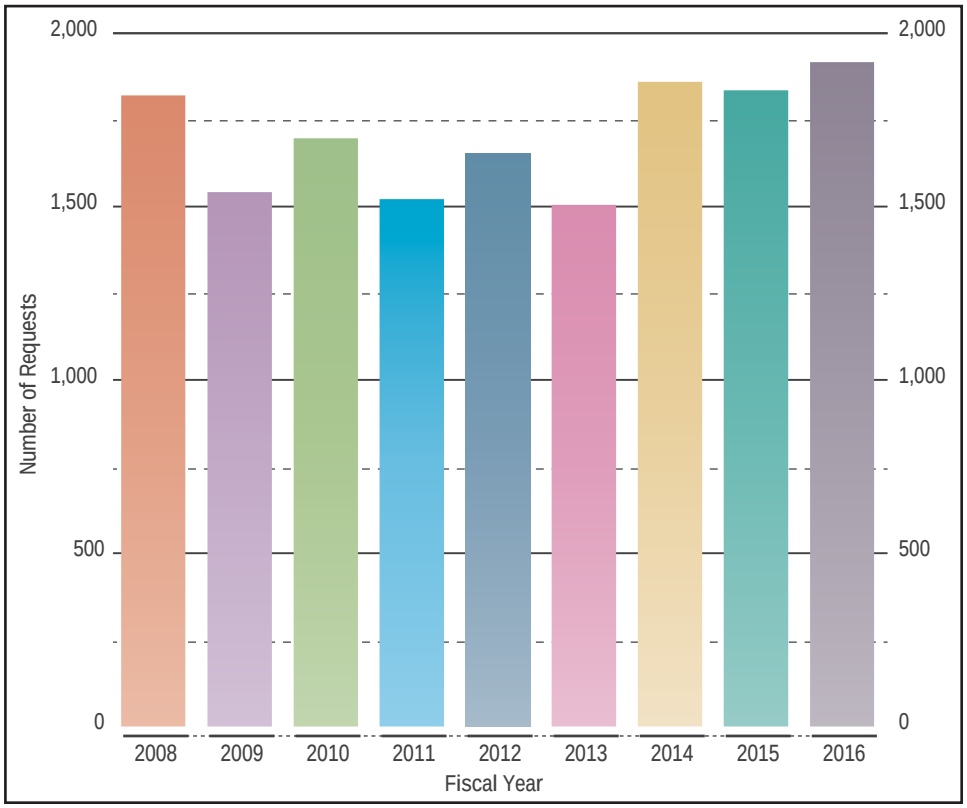
The U.S. Department of Energy Office of Legacy Management (LM) continues to see an elevated number of records requests for information being processed at each of its site offices. LM's overall requests volume has risen for the last 3 years.

During fiscal year (FY) ending September 30, 2016, LM processed 1,878 stakeholder requests for information regarding Freedom of Information Act (FOIA), Privacy Act, and Energy Employee's Occupational Illness Compensation Program Act (EEOICPA) claims.

Personnel at the LM Grand Junction, Colorado, office were especially busy with increased FOIA requests pertaining to Formerly Utilized Sites Remedial Action Program (FUSRAP) activities, and increased requests for former Pinellas County, Florida, Site workers' records.

Heightened public interest regarding the West Lake Landfill (not a FUSRAP site) in Missouri contributed to the increase in FUSRAP FOIA requests activity.

The majority of LM records requests continue to be regarding EEOICPA. LM responded to more than 1,300 EEOICPA requests in FY 2016. LM expects to stay busy managing records and responding to stakeholder records requests in FY 2017. ❖



Combined FOIA, Privacy Act, and EEOICPA information requests by year.

Jeff Tack, Records Management Specialist at the LM Grand Junction, Colorado, office performs a records search.

Goals 4 and 6

Grand Junction Amphitheater Groundbreaking Highlights Reuse of Former Uranium Mill Site

Dr. April Gil, U.S. Department of Energy (DOE) Office of Legacy Management (LM) Grand Junction, Colorado, Office Manager, and other local dignitaries turned shovels of symbolic "yellow dirt" at a city park along the Colorado River as part of the November 9, 2016, Las Colonias Amphitheater groundbreaking ceremony. The 130-acre park once housed a private mill (operated by Climax Uranium Company) that sold uranium to the U.S. Atomic Energy Commission (AEC). The mill produced tons of radioactive tailings that were used in local residential and commercial buildings, streets, and utility lines. The site has been remediated, but residual groundwater contamination remains. LM and the City of Grand Junction have developed restrictions on property use to protect the public from the contamination.

"The Department of Energy views this park as part of our commitment to ensure the public and the environment are protected from contamination from the Manhattan Project and the Cold War," said Dr. Gil. "The beneficial reuse of this property will ensure it is cared for and protected for generations to come."

Dr. Gil praised the advocacy of the Colorado Department of Public Health and Environment, calling them "historical champions" for their cooperation with DOE in the cleanup of the riverfront property, which is the southern gateway to the city.

The name Las Colonias is Spanish for "the colonies" and references the neighborhood of farm workers who labored in fields to supply a sugar beet processing plant that was built at the site in 1899. After the collapse of the sugar beet industry, Climax Uranium Company operated a vanadium and uranium mill on the property from 1950 to 1970, producing 2.2 million tons of radioactive tailings. Those sandy mill tailings, were readily available to the public and contractors for fill material and as a component of concrete and mortar until 1966. Some 300,000 tons of Climax mill tailings were used in more than 4,000 vicinity properties. The mill site qualified for remedial action under Title I of the 1978 Uranium Mill Tailings Radiation Control Act. Surface remediation of the mill site and contaminated vicinity properties began in the mid-1980s. DOE conducted radiological surveys at all vicinity properties and remediated those where mill-site-related radium-226 or radon levels exceeded established maximum concentration limits. Contaminated materials were stored temporarily at the old mill site.

Dr. April Gil, LM (right), with Grand Junction City Councilors and others at a November 9, 2016, ceremonial groundbreaking for an amphitheater on a 130-acre, riverfront city park. DOE cleaned up the contaminated site following its 20-year use as a uranium mill.

Construction of the Cheney disposal cell—now referred to as the Grand Junction disposal site—began in 1990. By the end of 1994, approximately 4.4 million cubic yards of contaminated materials, including vicinity property materials in temporary storage at the mill site, were transported to the disposal cell 18 miles southeast of Grand Junction. DOE completed vicinity property cleanup in 1998. LM continues to monitor groundwater at the mill site via four wells.

According to the City of Grand Junction's Master Plan for Las Colonias Park, the amphitheater will have sloped lawn seating for varied crowd sizes and a 40- by 60-foot covered stage. Nearby park features include an 18-hole disc golf course, a native arboretum, and a playground. Future amenities could include a 5-acre dog park and a boat ramp on the Colorado River. ❖

Goal 4

Meeting Beneficial Reuse Goals

Supporting the U.S. Department of Energy Office of Legacy Management (LM) *2016–2025 Strategic Plan*, LM programs implement beneficial uses at sites it manages. This aligns with LM's Goal 4, "Sustainably manage and optimize the use of land and assets." This year, LM met one of its major Goal 4 milestones by utilizing 42 percent of its eligible sites for beneficial reuse. As part of its High Performing Organization proposal in 2012, LM had set a goal of 39 percent.

Examples of reuse at LM sites include grazing and haying agreements, educational activities, a wetlands preserve and visitor center at the Fernald Preserve in Ohio, and a native prairie restoration and interpretive center at the Weldon Spring, Missouri, Site. In order to meet its reuse goal over the last 2 years, LM focused on identifying opportunities for two other types of reuse: conservation and historic preservation and interpretation.

In 2016, LM conducted conservation reuse screenings at 54 LM sites—and 18 sites that are scheduled to transition to LM by 2025—to identify LM sites with potential to incorporate conservation reuse into future land-planning strategies. Conservation reuse is defined as the use of existing LM land holdings for natural resource protection; habitat enhancement; species preservation; ecosystem restoration; and other protective, noncommercial activities. LM will be working with site managers to evaluate the screening results and identify potential actions that may be taken to enhance ecological and conservation reuses at those sites.

LM's conservation reuse screening coincided with issuance of a new Executive Order on ecosystem services. On October 7, 2015, the U.S. Office of Management and Budget, the Council on Environmental Quality, and the Office of Science and Technology Policy issued their *Memorandum for Executive Departments and Agencies on Incorporating Ecosystem Services into Federal Decision Making*. The memorandum "directs agencies to develop and institutionalize policies to promote consideration of ecosystem services, where appropriate and practicable, in planning, investments, and regulatory contexts." Ecosystem management is a process that aims to conserve major ecological services and restore natural resources while meeting the needs of current and future generations.

The principle objective of ecosystem management is efficient maintenance and ethical use of natural resources. LM takes pride in managing its lands in ways that protect their natural habitat.

Greater sage-grouse.

Among the first conservation reuse actions taken after the screening report publication has been LM's work to protect and stabilize greater sage-grouse populations. As part of this effort, LM is working with the U.S. Bureau of Land Management (BLM) at three Uranium Mine Tailings Radiation Control Act (UMTRCA) Title II sites in Wyoming, before they are transitioned to LM. In March 2016, LM renewed BLM right-of-way (ROW) grants at the Gas Hills East, Gas Hills North, and Split Rock sites. The ROWs contain stipulations that prohibit surface disturbance or disruptive activities in suitable greater sage-grouse habitat areas between March 15 and June 30 each year when the birds are mating at their "leks."

In Colorado, LM is working with BLM to put a similar agreement in place at its Gunnison disposal site (an UMTRCA Title I site) to protect the Gunnison sage-grouse. This species was listed by the U.S. Fish and Wildlife Service as a threatened species under the Endangered Species Act in November 2014. The Gunnison sage-grouse historically had a smaller range than the greater sage-grouse and its largest remaining populations are near the Gunnison site.

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Meeting Beneficial Reuse Goals

Prior to signing an ROW in October 2016, LM Gunnison Site Manager, Josh Linard, stated that "LM has voluntarily already taken steps to restrict its work at the site during the lek season and avoid impacting sage-grouse habitat around the disposal cell."

Along with potential conservation reuse opportunities, LM incorporates historical knowledge preservation for future generations as part of its long-term stewardship activities. Through site markers placed at former disposal facilities and visitor's centers at several large sites, LM provides insight into the activities that took place at a site prior to assuming site management, as well as calling attention to other natural and cultural features that occur at LM sites.

The Gasbuggy site in northwestern New Mexico's Carson National Forest is now in reuse due to an interest in sharing its history with the public. The Gasbuggy underground nuclear detonation in 1967 was a Plowshare Program test to demonstrate peaceful uses of nuclear devices. The test was designed to determine whether rock fracturing by a nuclear device would increase natural gas production—a forerunner of modern hydraulic fracturing. LM is responsible for long-term surveillance and maintenance of the Gasbuggy site while the surface is managed by the Carson National Forest. The U.S. Forest Service (USFS) proposed the Gasbuggy site as a Priority Heritage Asset and has begun the process of providing interpretive information to the public. USFS requested LM's assistance in understanding the history of the test. LM Historian, Padraic Benson, and LM Gasbuggy Site Manager, Jalena Dayvault, are assisting USFS to develop interpretive materials for site visitors and to nominate the site for the National Register of Historic Places. The year 2017 will be the 50th anniversary of the Gasbuggy nuclear test. Besides helping preserve the site's history, the interpretive information will preserve institutional knowledge regarding test contamination that remains in the subsurface. ❖

Gasbuggy, New Mexico, Interpretive Site.

Gasbuggy LM Site Manager, Jalena Dayvault, hikes the trails at the site with U.S. Forest Service staff.

Goal 6

LM Tribal Relations Strengthen Through Outreach

National Native American Heritage Month, November 2016, provided an opportunity to recognize the important consultation and collaboration between the U.S. Department of Energy Office of Legacy Management (LM) and Native American and Alaska Native governments and communities. As a part of its tribal work, LM conducts long-term surveillance and maintenance (LTS&M) activities, consultation, collaboration, outreach, and information sharing.

> "This month, let us celebrate the traditions, languages, and stories of Native Americans and ensure their rich histories and contributions can thrive with each passing generation. Let us continue to build on the advancements we have made, because enduring progress will depend on our dedication to honoring our trust and treaty responsibilities."
>
> *—Excerpt from President Obama's Presidential Proclamation, "National Native American Heritage Month, 2016."*

Participants learn about LM's Tuba City, Arizona, site during an October 2016 site tour.

LM performs LTS&M at sites located on, near, or historically used by seven tribal nations, including Aleut, Inupiaq, Jicarilla Apache, Northern Arapaho/ Eastern Shoshone Tribes, Hopi Tribe, and the Navajo Nation. LM's work at these sites includes addressing groundwater contamination, sampling, and environmental characterization. Cooperative agreements and grants between LM and participating Native American and Alaska Native governments and communities provide financial support for tribal technical oversight of LM activities on tribal lands. LM also actively shares information with tribal communities through other means. For instance, LM recently conducted open houses at the Tuba City, Arizona, Chapter House and Monument Valley High School in Utah, and a scoping meeting and site tour of the former Rare Metals Uranium Mill Site in Tuba City. LM is coordinating a future open house event at the Shiprock, New Mexico, site. Participation by Navajo and federal agencies is encouraged and several agencies have participated in the open houses.

LM conducts applied science studies on improving groundwater cleanup for contamination left from uranium milling on tribal lands. Using an environmentally sustainable approach, LM recently completed a long-term study on the use of native plants for remediating nitrate plumes resulting from past milling practices at the Monument Valley, Arizona, uranium processing site. Area residents and Diné College students assisted in the study by irrigating the vegetative plots and collecting data on plant growth. The successful study was representative of the collaborative efforts between LM and the Navajo Nation.

LM engaged with Native American students recently at the Science, Technology, Engineering, and Math (STEM)-oriented Discovery Festival in Farmington, New Mexico. Representatives from LM, Navarro Research and Engineering, Inc. (LM contractor), and the Navajo Abandoned Mine Lands/Uranium Mill Tailings Remedial Action (Navajo AML/UMTRA) program interacted with grade school students and parents. The purpose of this event was to spark student interest in STEM-related fields.

LM and LM contractors also work with environmental sciences classes from the Diné College campuses in Shiprock, New Mexico, and Tsaile, Arizona. The college students assist with soil and water sampling and participate in discussions on site monitoring activities. The Monument Valley site has a test bed that students use to learn soil sampling techniques. In addition, an LM support contractor

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LM Tribal Relations Strengthen Through Outreach

has been a long-time guest lecturer at Diné College. His lectures have included scientific topics, such as soil sampling methods.

LM coordinates with Native American tribes concerning cultural resource protection at its sites. Section 106 of the National Historic Preservation Act requires that LM discuss possible cultural resource effects of its projects with potentially affected Native American tribes. When planning work, LM identifies Native American tribes that might attach religious and cultural significance to potentially affected historic properties and invites them to be consulting parties.

LM also coordinates with the Navajo Nation, the Hopi Tribe, and multiple federal agencies as part of the congressionally mandated Five-Year Plan, *Federal Actions to Address Impacts of Uranium Contamination in the Navajo Nation.* The plan addresses uranium contamination within the Navajo Nation and the Hopi reservation. Federal agencies involved with the plan include the Bureau of Indian Affairs, U.S. Environmental Protection Agency, Indian Health Service, U.S. Nuclear Regulatory Commission, and the Centers for Disease Control and Prevention. Navajo agencies or departments involved with the plan are Navajo AML/UMTRA, Navajo Nation Environmental Protection Agency, Navajo Department of Health, and Navajo Nation Abandoned Uranium Mines Environmental Response Trust. The Hopi department involved with the plan is from the Office of Mining and Mineral Resources. Federal, Navajo, and Hopi agencies or departments coordinate information sharing and outreach activities to introduce tribal stakeholders to agency roles and responsibilities. The Five-Year Plan participating agencies conducted community outreach at tribal fairs in Tuba City and Window Rock, Arizona, and in Shiprock during September and October 2016.

Nationally, LM participates in the State and Tribal Government Working Group (STGWG). STGWG is composed of policy-level representatives of states and tribes that host DOE facilities or are otherwise affected by activities at DOE facilities. Its composition offers a unique perspective on issues such as long-term stewardship, tribal issues, transportation planning, nuclear waste and materials disposition, and deactivation and decommissioning activities.

LM is dedicated to honoring its responsibilities to Native American and Alaska Native governments and communities. We could not do this work effectively without conducting outreach to tribal communities and gaining valuable input and feedback from local tribal residents. ❖

Monument Valley, Arizona.

Goal 4

Rocky Flats Site Wins Presidential Award for Sustainability

The U.S. Department of Energy (DOE) Office of Legacy Management's (LM) Rocky Flats site in Colorado was honored by the White House on September 7, 2016, as a winner of a GreenGov Presidential Award. The awards recognize those in the administration who have gone to great lengths to implement innovative sustainability projects within the government.

LM was awarded the Keeping it Clean Award for developing an innovative groundwater treatment system at the former Rocky Flats, Colorado, nuclear weapons production facility. Faced with the need to treat groundwater with no access to electrical line power, the system was designed to run on battery power and recharge with solar power. This design enhances safety, improves groundwater treatment reliability, reduces long-term maintenance and costs, and reduces waste.

According to the White House, GreenGov Presidential Awards celebrate outstanding achievement in the pursuit of President Obama's federal sustainability goals. They recognize federal, civilian, and military personnel; agency teams; agency projects; facilities; and programs. The awardees have contributed to the nation's prosperity, promoted energy security, protected the interests of taxpayers, and combated climate change to safeguard the health of our environment. ❖

Left to right: Christine Harada, Federal Chief Sustainability Officer, White House Council on Environmental Quality, presents the award certificate to Energy Department personnel attending the award ceremony in Washington, DC: Scott Surovchak, LM Rocky Flats Site Manager; Tracy Ribeiro, LM Environmental Program Manager; Tania Smith Taylor, Director, LM Office of Site Operations; and John Shonder, Director, DOE Sustainability Performance Office.

LM is continually seeking opportunities to protect natural resources and the future. One simple step we can take toward improving environmental consciousness is to distribute the *Program Update* newsletter by email instead of sending a printed copy.

Please send your email address and your first and last names to lm@hq.doe.gov so that we can update our database.

Thank you for your assistance.

Goal 5

LM Announces New Employees/Team Leader

William (Bill) J. Frazier joined the U.S. Department of Energy (DOE) Office of Legacy Management (LM) as a site manager on the LM-20.1 Environment Team in Grand Junction. He brings prior experience as a contractor working on DOE Office of Environmental Management (EM) remediation projects for the Grand Junction DOE field office, as well as LM projects.

Bill is a registered professional engineer for the State of Colorado. He has worked as an environmental scientist for the U.S. Bureau of Indian Affairs, a private consultant, a project engineer for the City of Grand Junction, and a facility engineer at the Grand Junction Veterans Affairs Medical Center. Bill is a Navy veteran (Persian Gulf War) and has a bachelor's degree in civil engineering from the University of Colorado. ❖

Tracy Atkins joined LM as the new DOE principal representative for the Manhattan Project National Historical Park. This mission's implementation was recently transferred to LM from the DOE Office of the Under Secretary for Management and Performance. Tracy has been instrumental in developing a high-performing U.S. National Park Service (NPS) and DOE team that has managed and built strong relationships with the park's three communities in Hanford, Washington; Oak Ridge, Tennessee; and Los Alamos, New Mexico.

Beginning January 2015, Tracy served as an NPS Albright Fellow and in that capacity, facilitated developing the agreement between DOE and the U.S. Department of the Interior, who established the park. She also served as the park's first interim superintendent. Most recently she served as a project manager/community planner for the NPS Denver Service Center in Colorado.

Tracy brings 8 years of federal service working for NPS and 20 years working in the private sector in facility management, planning, and construction. She holds two master's degrees, one from the University of Texas at Austin for community and regional planning, and one from Stanford University for civil engineering, construction engineering, and management. Her undergraduate degree in architectural engineering and project management is also from the University of Texas. ❖

Budimir Sokolovich has been promoted to Asset Management Team Lead as of December 12, 2016. Bud previously served as the senior realty officer for LM, since joining the organization in January 2015.

Bud has more than 20 years of real estate experience in both private and federal sectors. Prior to joining LM, Bud was a real estate contracting officer and team lead with the EM Consolidated Business Center in Cincinnati, Ohio. He began his federal career with the U.S. General Services Administration (GSA) Region 9 in San Francisco, California, where he was a realty specialist for San Jose, California, and the Hawaiian Islands from 2002 to 2004. In 2004 and 2005, he worked for GSA in Washington, DC, where he worked on U.S. Department of Defense leases.

Bud is a graduate of the University of Pittsburgh where he holds undergraduate degrees in economics and urban studies, as well as a law degree. He is also a licensed realtor in Pennsylvania. He is a DOE real estate contracting officer and has received the Real Property Administrator designation from the Building Owners and Managers Association. ❖

Goal 6

Environmental Justice Activities

Environmental Justice Academy Established at Allen University

On December 2, 2016, U.S. Environmental Protection Agency (EPA) officials in Atlanta, Georgia, met with the U.S. Department of Energy (DOE) Environmental Justice program manager; representatives from Allen University of Columbia, South Carolina; and the Medical University of South Carolina.

The purpose of the meeting was to form a partnership to integrate EPA Region 4 Environmental Justice Academy, which was recently featured at the 2016 *National Environmental Justice Conference and Training Program* as part of the newly established Environmental Justice Institute at Allen University.

Federal agency representatives, Allen University faculty members, and local community leaders.

Interagency meeting and workshop.

The EPA Environmental Justice Academy is a 9-month, hands-on public engagement learning program for actively engaged community leaders that provides the training needed to promote environmental, sustainable, and healthy communities. Additionally, the Environmental Justice Institute enables community leaders to cultivate the ability to address the burdens of environmental justice stressors through a three-step intervention process: community outreach, Community Leaders Institutes, and technical assistance workshops. May 2017 is the target date for unveiling the Environmental Justice Institute and initiating the Environmental Justice Academy at Allen University.

Founded in 1870 and established by the African Methodist Episcopal Church, Allen University is a private, Christian liberal arts institution recognized as the first Historically Black College and University in South Carolina with the mission of providing quality ministry and teacher training to newly freed slaves. Today, Allen University has grown to include 21 concentrations in eight academic majors including mathematics and natural sciences, humanities, business administration, religion, and social sciences. In addition, Allen University's Division of Mathematics and Natural Sciences provides many DOE-funded research internships and professional development programs, including cybersecurity, energy security, environmental justice, and DOE's pipeline project. ❖

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Environmental Justice Activities

American Indian Science and Engineering Society 39th Annual National Conference

The DOE Office of Legacy Management (LM) participated in the 39th annual American Indian Science and Engineering Society (AISES) National Conference, November 10 through 12, 2016, in Minneapolis, Minnesota. AISES hosts the largest annual American Indian Career and Education Expo in the country, attracting science, technology, engineering, and mathematics (STEM) students from hundreds of universities and colleges, tribal nations, corporations, and government agencies. The 3-day event focused on educational, professional and workforce development by presenting relevant keynote speakers and hosting collaborative networking and mentoring sessions to over 1,800 attendees, corporations, and federal agencies.

Established in 1977, AISES is a national nonprofit organization with the goal of providing STEM workforce and educational development for native students and professionals, while increasing the representation of American Indians, First Nations, and other indigenous peoples of North America in STEM studies and careers. Through scholarships and internships, career resources, national and regional conferences, and leadership development, AISES is the leader in STEM opportunities for American Indians. Millions of dollars in scholarship and grant funds have been awarded to its rapidly growing membership and national network, which encompasses hundreds of colleges and universities, tribal schools, professional societies, and affiliated K–12 grade schools that support American Indian, STEM-focused students.

Melinda Downing, DOE Environmental Justice Program Manager, promoted and exhibited the Department's Mentorship for Environmental Scholars Program (MES). MES is a 10-week, paid summer internship that recruits qualified undergraduate students from Historically Black Colleges and Universities, Hispanic Serving Institutions, and tribal colleges. The program provides STEM laboratory research facilities and experiences. Students receive extensive professional development and training in their field of study that will pipeline them toward gainful employment within DOE.

Other DOE exhibitors included the Los Alamos National Laboratory, Idaho National Laboratory, Lawrence Livermore National Laboratory, Oak Ridge National Laboratory, and Sandia National Laboratory.

Conference sessions and activities included student research competitions, university and college tours, college student regional caucuses, a college and career opportunity fair, and over 100 sessions and events highlighting this year's themes of New Ideas, Traditional Knowledge, and A New World. Throughout the weekend, AISES incorporated native cultural elements into its programming by offering blessings, insights, and wisdom for attendees, which displayed a unique intersection of traditional and modern values in hopes of reminding attendees of their origins and their responsibility to the generations that follow.

Other attending federal agencies included:

- U.S. Department of State
- U.S. Army Corps of Engineers
- U.S. Geological Survey
- U.S. Intelligence Community
- U.S. Forest Service
- U.S. Environmental Protection Agency
- U.S. Department of Agriculture
- U.S. Nuclear Regulatory Commission ❖

Anticipated LM Sites Through Fiscal Year (FY) 2025

Anticipated Sites in LM Through FY 2025 Requiring LTS&M

- ● UMTRCA Title I
- ▲ FUSRAP
- ▼ UMTRCA Title II
- ✚ D&D
- ◆ CERCLA/RCRA
- ■ Other

Site Category

Category 1 activities typically include records-related activities and stakeholder support

Category 2 activities typically include routine inspection (any site visit needed to verify the integrity of engineered or institutional barriers) and monitoring/maintenance, records-related activities, and stakeholder support

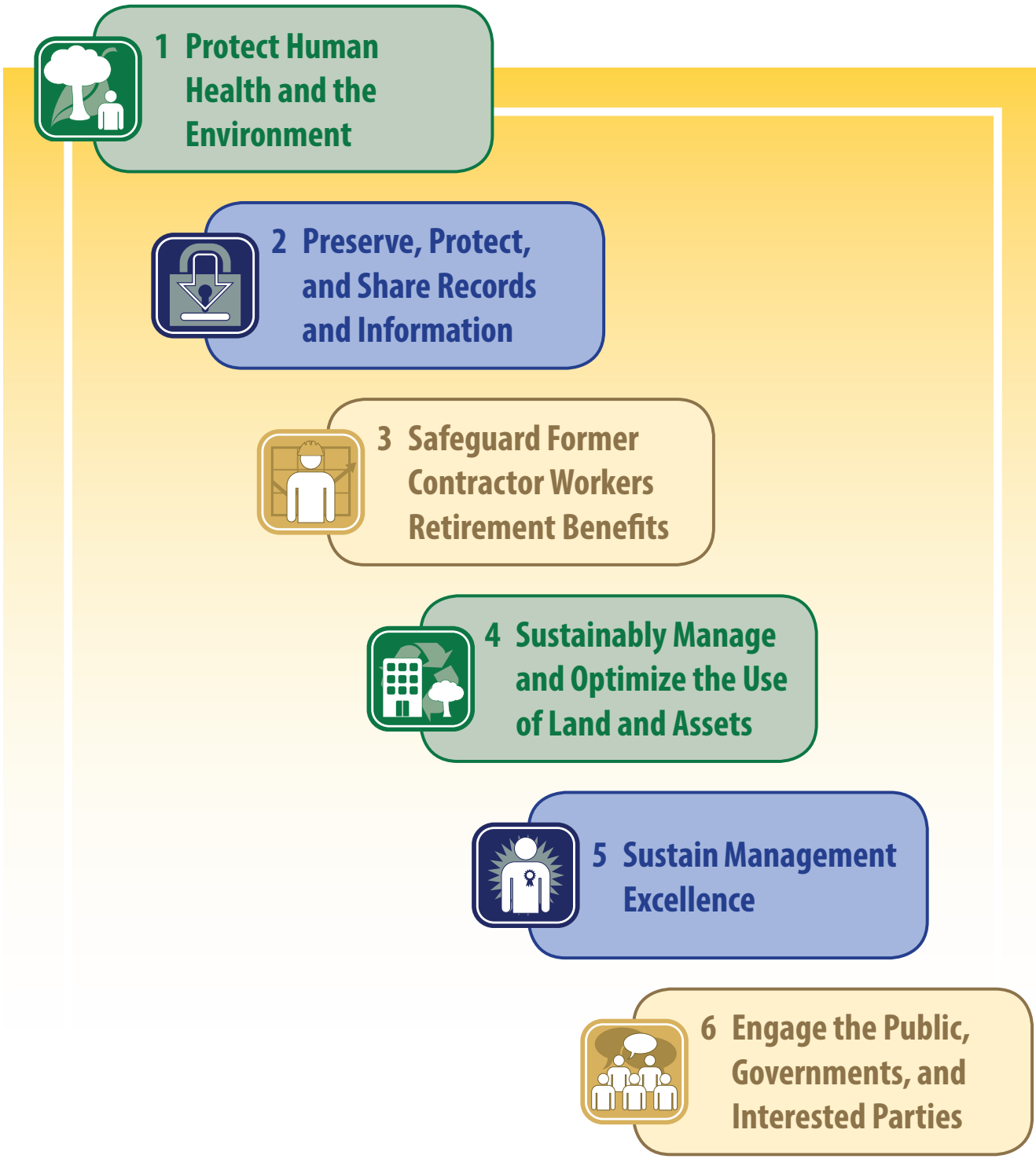
Category 3 activities typically include operation and maintenance of active remedial action systems, routine inspection (any site visit needed to verify the integrity of engineered or institutional barriers) and monitoring/maintenance, records-related activities, and stakeholder support

D/P = Disposal/Processing

DR = Decommissioned Reactor

Planned transfer dates are subject to change.

LM Goals


1 Protect Human Health and the Environment
2 Preserve, Protect, and Share Records and Information
3 Safeguard Former Contractor Workers Retirement Benefits
4 Sustainably Manage and Optimize the Use of Land and Assets
5 Sustain Management Excellence
6 Engage the Public, Governments, and Interested Parties

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Mail: Padraic Benson
U.S. Department of Energy
Office of Legacy Management
1000 Independence Avenue, SW
Washington, DC 20585

Fax: (720) 377-3829
Email: lm@hq.doe.gov
Website: http://energy.gov/lm