U.S. DEPARTMENT OF ENERGY | Legacy Management

# Program Update

## April–June 2014

*Welcome to the April–June 2014 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.*

*Goal 4*

## Optimizing the Use of Federal Lands Through Disposition

The foundation of the U.S. Department of Energy (DOE) Office of Legacy Management's (LM) Goal 4, "Optimize the use of land and assets," is to establish environmentally sound and protective land uses on LM sites. LM believes there can be beneficial uses of land even though regulatory or other land-use restrictions may be needed. As part of Goal 4, LM will make its lands available for government, public, and private uses, provided such uses maintain cleanup efforts and are consistent with the site remedies, the tenets of sustainability, and the best resource-management practices. The preferred reuse option is disposition, which transfers property to others for beneficial reuse and reduces DOE's overall acreage footprint.

*Parcels dispositioned by LM will become part of the U.S. Fish and Wildlife's Rocky Flats National Wildlife Refuge in Colorado.*

In February 2007, LM set goals to achieve and sustain organizational excellence, as part of its designation as a High-Performing Organization (HPO), LM determined that the goals for dispositions needed to be measurable. In its second HPO proposal in 2012, LM program goals included disposition of five additional federal properties between fiscal year (FY) 2012 and FY 2016. LM is well on its way to meeting and exceeding this goal. The General Services Administration sold a parcel at the Monticello, Utah, Site to the City of Monticello, via Quitclaim Deed, in December 2013. Four parcels at the Rocky Flats, Colorado, Site were jurisdictionally transferred from LM to the U.S. Fish and Wildlife Service in February 2014 for inclusion in the Rocky Flats National Wildlife Refuge. With the disposition of these five parcels, LM removed approximately 757 acres of land from its inventory and succeeded in an early fulfillment of its goal to disposition five federal properties. LM is striving to exceed that goal with at least two more dispositions by the end of FY 2016.

LM considers land transfers to be the most beneficial to all parties. Removing remediated properties from DOE's long-term surveillance and maintenance responsibilities through disposition is one of LM's primary goals. Transfers return land to local tax rolls, restore property for productive use, and reduce the federal footprint (as mandated by

Continued on page 13

### Inside this Update:

*Goal 1*

## The Old Rifle Snowmaking Experience

Two professional snowmakers from the Aspen Skiing Company began broadcasting snow at 4:30 on a cold 2014 February morning in western Colorado. This event was unusual because the snow was not broadcast onto a lofty ski slope high in the Rocky Mountains, nor was it produced for skiers. It was a critical component of a sophisticated, scientific experiment to investigate infiltration of water into floodplain sediments.

Scientists at the U.S. Department of Energy (DOE) Lawrence Berkeley National Laboratory (LBNL) conducted the experiment, which was the brainchild of Dr. Kenneth H. Williams, a geological staff scientist in LBNL's Earth Science Division. Ken is the lead field scientist for DOE's Office of Science (SC), overseeing a variety of research activities at the Old Rifle processing site in Colorado. DOE Office of Legacy Management (LM) has supported SC on these and numerous other activities during the past 12 years through a Work for Others agreement, providing scientists a field location at the Rifle site to conduct experiments on the Colorado River floodplain. In turn, LM benefits from the resulting state-of-the-art research. Rich Bush is the LM technical lead for the program.

One of the activities of greatest interest to LM is the development of a floodplain-scale understanding of hydrological and biogeochemical processes that govern contaminant mobility and plume persistence within the Rifle aquifer, and others like it throughout the intermountain west. LBNL is trying to answer important questions, such as why uranium associated with floodplain sediments and groundwater persists at levels above allowable concentration limits. Predictions made over a decade ago using standard flow and transport modeling indicated that residual uranium in the Old Rifle aquifer should have flushed into the nearby Colorado River by now, and levels remaining in groundwater should be below the regulatory limit. To the contrary, groundwater concentrations have remained nearly constant—a phenomenon observed at other floodplain sites within the LM portfolio. A refined understanding of the chemically and biologically mediated mechanisms that affect the mobility of uranium and other metals in such systems is an important goal.

Addressing these mechanisms requires basic information, such as when, how much, and what form of annual precipitation is actually infiltrating into the subsurface and groundwater rather than evaporating into the atmosphere. Such infiltration is thought to be most important during the late winter and early spring snowmelts, when temperatures are mild and plant growth is largely suppressed. In contrast, large summer thunderstorms occur during periods of high

Continued on page 14

*Snow blowing at the Old Rifle, Colorado, Processing Site. (Photograph courtesy Ken Williams, LBNL)*

*Goal 1*

## DOE Partners with Other Federal Agencies Working on the Wind River Indian Reservation

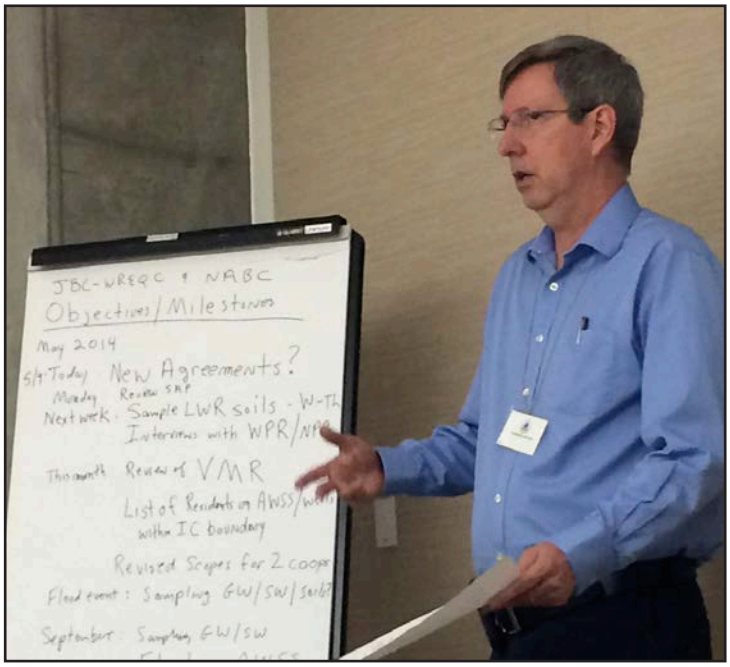
On May 8 and 9, a joint federal agency collaboration was held to discuss financial and technical assistance to Wind River Tribes in Riverton, Wyoming. Requested by staff from the U.S. Department of Energy (DOE) Office of Legacy Management (LM), the meeting was held at the U.S. Environmental Protection Agency (EPA), Region 8 offices in Denver, Colorado. Other federal agencies represented were the Bureau of Indian Affairs, U.S. Department of Agriculture, and U.S. Geological Survey. Tribal representatives from the Northern Arapaho Business Council (NABC), the Joint Business Council (JBC), and the Wind River Environmental Quality Commission (WREQC) also participated in the meeting.

The former processing site in Riverton is a Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I site, licensed to LM for long-term surveillance and maintenance. The site is within the boundaries of the Wind River Indian Reservation shared by the Northern Arapaho and Eastern Shoshone Tribes. Each tribe has its own six-member, elected Council, and together, the twelve members comprise the JBC, which is tasked with the day to day activities of jointly owned resources and joint programs of the Tribes.

DOE currently has two cooperative agreements with the Wind River Tribes. A 5-year cooperative agreement with NABC provides potable water to the community via the Alternative Water Supply System (AWSS). The JBC–DOE cooperative agreement administered by WREQC provides oversight and outreach support.

Multiple federal agencies support the Wind River Tribes. In 2012, total federal expenditures for the joint programs exceeded $21 million. Personnel and equipment supplied by the supporting agencies are shared by the Tribes for administration of federal, and other, programs. The percent of resources used by each program must be accounted for by the recipients.

Matt Parker, DOE Office of Management (MA) Contracting Officer and Darryl Groves, MA Contract Specialist, provided an overview of the process and document requirements for cooperative agreements. Bill Dam, LM Riverton Site Manager, talked about DOE's requirements for financial assistance, including technical evaluation of cost proposals.




*LM Site Manager, Bill Dam, presenting objectives and milestones.*

An overview of federal funding standards that are common to all was delivered by Paul Felz, EPA Audit Coordinator, who also introduced the Cooperative Audit Resolution and Oversight Initiative (CAROI) document. CAROI was created to provide guidance and resolve audit findings of oversight issues through open dialogue, and to assist with the early detection of potential issues. The goal is to encourage communication and foster collaboration among all levels of government, allowing agencies to accept alternative documentation to support cost questions, while ensuring no harm to government interests.

Changes to federal cost standards under Title 2 *Code of Federal Regulations* Part 200—which were intended to reduce administrative burden, waste, fraud, and abuse—were discussed. The new rules and procedures provide for more straightforward internal controls.

To assist with our common goals, a dynamic web tool, MAX Information System, was introduced. MAX can be used by the Tribes to share and receive information with federal agencies. Administered by the U.S. Office of Management and Budget (OMB), MAX supports communication and collaboration between federal agencies and funding recipients. In addition to functions that help to meet documentation requirements for audits, MAX capabilities can be used for work plans and to streamline multiple

Continued on page 15

*Goal 4*

## Fernald Preserve Attracts 50,000 Visitors

*The Fernald Preserve Visitors Center opened in August 2008.*

Gary Studer, a longtime resident of the greater Cincinnati area, is a regular visitor to the Fernald Preserve in Ohio, enjoying activities like trail walks and bird watching.

On Saturday, March 1, 2014, Gary became the 50,000th recipient of the guest services provided by the Fernald Preserve Visitors Center and its staff. In honor of the occasion he was photographed, interviewed, and presented with a gift bag of items imprinted with the Fernald Preserve logo.

*Fernald Preserve's milestone visitor, Gary Studer, enjoys the restored natural areas.*

Gary's favorite part of visiting the preserve is meeting birders, bird watching, and participating in the informative and enjoyable public programs that are offered at the site. He likes to explore new areas as they become available for public use, such as the recently opened wildlife observation blind and access path. Gary shares his appreciation for nature and the site with friends and family, who occasionally accompany him on his outings.

Since its opening in August 2008, the Fernald Preserve has offered the public a variety of services including trails, nature and history programs for all ages, a community meeting room, and educational outlets like the Cold War Era museum. The site's visitors center is open Wednesday through Saturday, and the 7 miles of walking trails that wind through acres of restored, native-Ohio habitats are available 7 days a week during daylight hours.

Today, the local community of birders comprises one of the largest groups of guests to use the nature trails at the Fernald Preserve. Restoration of expansive wetlands and grasslands invite nesting and refueling during migration by many bird species that are uncommon to the area. Recently guests have enjoyed watching the activities of Great Egrets, Eastern Meadowlarks, Wilson's Snipes, and Northern Harriers. Gary is often among the many visitors who come to the preserve armed with binoculars and cameras.

Public program activities are offered at the site on a regular basis (approximately 1,000 people attend each year), and Gary can often be found feeding his interests through participation. Working with staff, he has set up his large telescope so other visitors can experience an "astronomical extension" to one of the site's evening events, such as a Nature at Night Hike, or an Owl Prowl. The naturalists at the site are always happy to see Gary among the public program guests.

Upon completion of its construction, the Fernald Visitors Center was awarded Platinum certification by the U.S. Green Building Council Leadership in Energy and Environmental Design (LEED); the first to receive such an award in the state of Ohio. Tours of the sustainable building and its infrastructure are sometimes requested by interested guests.

Remediated and restored wetland and grassland areas can be seen through the center's panoramic viewing windows. Trail access and a shaded, outdoor shelter are right outside its doors. The Cold War Era educational exhibits are considered the best in the region. The exhibits recognize former site land owners and remember the thousands of

Continued on page 17

*Goal 5*

# LM Grand Junction Office Recognized for Combined Federal Campaign Contributions

The Combined Federal Campaign (CFC) is an employee-driven, workplace campaign under the Office of Personnel Management that solicits charitable donations on behalf of qualified, nonprofit organizations.

In the last 10 years of participating in the CFC, the U.S. Department of Energy Office of Legacy Management (LM) in Grand Junction, Colorado, has averaged an impressive 77 percent participation rate. The Intermountain CFC recognized the Grand Junction office efforts in the 2012 campaign by awarding it the Silver Over-the-Top Award for increasing its total contributions by 30 percent over 2011. The Grand Junction office also earned the All-for-One Award each year from 2007 through 2013 for having the highest participation rate of any small office (7–19 employees) in Colorado. LM management would like to thank their volunteer CFC coordinators and all LM employees who contribute to the CFC—especially contributors at the Grand Junction office—for many years of generous CFC contributions.


CFC roots trace back to the late 1940s and early 1950s when on-the-job, charitable fundraising among federal employees occurred regularly throughout federal offices. However, the efforts were not well managed, lacked oversight and operating guidelines, and were only marginally successful as a result. President Eisenhower and others believed the program had potential, but it needed better oversight. Hence, President Eisenhower signed Executive Order 10728 in 1957, creating the President's Committee on Fundraising within the Federal Service, under the Civil Service Commission.

In 1961, President Kennedy issued Executive Order 10927, which changed the program by initiating efforts to incorporate payroll deductions, eliminating specific types of fundraising at designated intervals throughout the year, and eliminating the President's Committee on Fundraising. In 1964, the program became known as the Combined Federal Campaign because solicitations for all qualified, charitable organizations were combined into one effort during a 4-month period instead of specific intervals throughout the year. This approach proved to be more successful with federal employees compared to the previous approach. In the late 1970s, the Office of Personnel Management assumed control of the program, and the criteria of eligibility for charitable organizations were expanded so that federal employees had more choices for organizations they could contribute to.

Currently, there are approximately 25,000 charities nationwide that federal employees can donate to. The number of charities available to any given federal office varies by region. For instance, during the 2013 campaign, there were 719 charities to which federal employees from the intermountain region could donate, and thousands more on the national and international lists. ❖

*Goal 1*

## Renewed Importance of the Mound Site Annual Institutional Controls Assessments

*Collaboration between DOE, regulators, and the Mound Development Corporation are integral to the institutional controls at the Mound site. Gwen Hooten, LM Mound Site Manager (right), initiated the 2014 annual site walk down by presenting preliminary assessment results.*

*The annual institutional controls assessment at the Mound site includes interviews with property owners; reviews of local, county, and state records; and a physical walkdown of the site and buildings.*

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) completed its 2014 annual institutional controls (IC) assessment of the Mound site in Miamisburg, Ohio, and confirmed that the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remedies remain effective. Annual, routine IC inspections are conducted at many LM sites. However, inspections at the Mound site are anything but routine, due to its unique nature.

Remediation of the Mound site was completed in 2006. The CERCLA remedy required ICs because the site was cleaned to industrial-use standards and not approved for unrestricted use. The site's ICs are non-engineered, administrative and legal controls that minimize the potential for human exposure to contamination and protect the integrity of the cleanup remedy. The site has transitioned to a business park and is owned or leased by the Mound Development Corporation (MDC). Leased portions of the property will transfer to MDC by 2017.

Mound site ICs run with the land as restrictions and use limitations. They are designed to limit use of the site's land to industrial purposes only. Also prohibited is the removal of soil, use of groundwater, and removal or penetration of concrete floor material from several rooms in the Technical Building. ICs also allow federal and state agencies access to the site to conduct sampling and monitoring activities. These restrictions and use limitations are reviewed each year with the land owners. Beginning in 2012, land parcels and buildings have been sold or transferred to other entities. This trend is expected to continue, which makes the annual inspections more important than ever.

LM and contractor staff conducted the 2014 assessment by performing both a preliminary inspection and a site walkdown. The preliminary inspection took place in February and March and included physical inspections; interviews with the property owners; and reviews of local, county, and state records. Inspectors noted that since the 2013 inspection, construction of a new, main boulevard that traverses the site had been completed; two older buildings had been demolished; and property had been transferred to the City of Miamisburg. After completing preliminary inspections, LM led the site walkdown in April, accompanied by the U.S. Environmental Protection Agency (EPA), the Ohio EPA, the Ohio Department of Health, and the

Continued on page 18

*Goal 2*

## LM Migrates Yucca Mountain Records to New Archival Media

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) has completed a media refresh project to protect an important collection of Yucca Mountain, Nevada, Project optical storage discs. The discs were created by the DOE Office of Civilian Radioactive Waste Management and later inherited by LM.

These discs contain the bulk of the scientific records and information produced during the Yucca Mountain Project. The collection includes 1.8 million records.

Optical storage discs are at risk of becoming unreliable after 5 years due to chemical degradation and eventual catastrophic loss of data stored on the media. The Yucca Mountain discs, which contain a complete set of Yucca Mountain Records Information System (YMRIS) holdings, were created more than 5 years ago.

LM began to research and develop a solution that copied and transferred the YMRIS files from the current set of optical storage discs to a more reliable archive storage media. The process included selecting hardware, evaluating storage media alternatives, and developing an efficient and cost-effective data transfer process.

The established solution used two robotic units: a disc publishing system for copying the media and a second system for verifying that data was successfully transferred onto each new disc.

LM technical personnel used sample data approach to prepare the files and verify successful transfer. The disc transfers were completed at the LM Business Center in Morgantown, West Virginia. Two sets of 3,100 discs were created and verified.

The two new sets of discs meet legacy agreements and Nuclear Quality Assurance dual-storage requirements. One set of the records is now stored at the LM Business Center and the dual storage set is stored at the LM Grand Junction site in Colorado. ❖

*Top: LM Business Center contractor personnel utilize disc publishing equipment to burn and verify Yucca Mountain Records Information System holdings on archival storage media.*

*Bottom: A Records Management contractor employee at the LM Business Center prepares archived media for storage in the records storage facility.*

*Goal 2*

## Hanford Pilot Project – Early Site-Transition Activities

Successful transfer of records from the U.S. Department of Energy (DOE) Office of Environmental Management (EM) Hanford, Washington, Site to the DOE Office of Legacy Management (LM) storage facility in Morgantown, West Virginia, was accomplished because of the keen partnership between LM and the DOE Richland Operations Office (RL). LM will also assume long-term surveillance and maintenance responsibility for the Hanford site after cleanup and closure. Transfer of the site is projected for 50 years from now. However, LM and RL are actively pursuing opportunities for early site transfer. The availability of LM's state-of-the-art records storage facility makes it possible for Hanford long-term records management to be targeted as a programmatic area with early transfer potential.

Late in 2013, LM and RL started an early records transfer pilot project. A transition team led by Jeanie Gueretta, LM Program Analyst; and Pam Thurman, Hanford Site Records Officer, worked to develop a *Records Management Transition Plan for the Hanford Site,* to solidify details of the transfer.

By mid-March 2014, 786 boxes of Hanford records were received at the LM Business Center (LMBC) in Morgantown.

Records at the LMBC are stored in a modern, climate-controlled facility with the capacity to hold 150,000 cubic feet of records material.

The pilot project was the first transfer of records prior to Hanford site closeout, and moved the project toward its goal of reducing the number of records boxes stored in a federal records center.

Edwin Parks, LM Program Analyst, coordinated receipt of the Hanford records at LMBC. His assessment was that LM

Continued on page 11

*Hanford records ready for shipment to the LM Business Center.*


*LM Business Center Records Management personnel processed 786 boxes of Hanford site records at the records storage facility in Morgantown, West Virginia.*

*Goal 4*

## Collaboration and Communication: DOE and Navajo Nation Tour Uranium Mine Reclamation Sites to Share Expertise and Experiences

In February 2014, U.S. Department of Energy (DOE) Office of Legacy Management (LM) and LM Support (LMS) contractor site managers, along with Navajo Nation technical staff, visited five reclaimed uranium-mine sites on tribal lands to share expertise in the use of technical approaches for controlling and mitigating erosion. Due to the geology of the desert southwest, where many LM disposal sites are located, and the area's extreme weather, erosion can be a serious issue that damages engineered structures such as roads, building foundations, and fences.

*Gilbert Dayzie, Navajo Nation AML civil engineer, describes the flow-through design of rock-lined diversion berms to LM representatives.*

LM has four uranium mill sites on the Navajo Nation (Monument Valley and Tuba City, Arizona; Mexican Hat, Utah; and Shiprock, New Mexico) and works closely with the tribal representatives to ensure the sites are well managed and maintained. Navajo technical staff have extensive experience in addressing geotechnical challenges that are similar to those faced by LM, such as protecting disposal sites or reclaimed mines from the negative impacts of erosion. Erosion has been a serious issue on the Navajo Nation for decades, resulting in loss of grazing lands and topsoil, and the creation of gullies. The Navajo Nation has centuries of experience working with the native environment on their tribal homeland including, plants, climate, topography, and geology.

Tour participants included seven members of LM and LMS staff from the Grand Junction, Colorado, office. The office is responsible for managing several sites in the "Four Corners" region of the U.S. Representatives from the Navajo Nation Uranium Mill Tailings Remedial Action/Abandoned Mine Lands (UMTRA/AML) joined the tour.

Navajo Nation AML is funded by a levy on coal mines operating on the reservation. Historically, mining on the Navajo Nation extracted as much as 27 million tons of coal per year, and to date the agency has reclaimed over 1,100 mine sites on their tribal lands. In addition to coal mine reclamation, AML also reclaims land affected by non-coal projects, such as stabilizing uranium mine waste on tribal lands. The tour group visited sites that were remediated after uranium mining.

The tour started at the Navajo Nation AML office in Shiprock, where Gilbert Dayzie, civil engineer, provided the group with an overview of AML's design, cost estimating, procurement, and construction processes. Although the agency performs its own engineering designs for the reclamation projects, they consider and evaluate alternative design suggestions from contractors, and perform 100 percent oversight of all subcontractor construction activities at reclamation sites. Mr. Dayzie emphasized that in preparing engineering plans for erosion control, "We can't beat Mother Nature, but we can work with her." LM representatives shared an overview of the general process that they use for design and up-front preparation for construction activities.

Following an overview, the group toured the Shiprock disposal site (a former uranium-ore processing site), where LM is currently evaluating options to repair erosion damage

Continued on page 16

*Goal 1*

## Environmental Justice Activities

### Semi-Annual Joint DOE/DOE Contractor Environmental Attorneys' Training

The Semi-Annual Joint U.S. Department of Energy (DOE)/DOE Contractor Environmental Attorneys' Training was held May 28, 2014, at DOE Headquarters in Washington, DC. The training provides continuing legal education to field and environmental attorneys, and others, on current topics of interest.

This year's training topics included environmental conflict resolution, an update on the National Environmental Policy Act (NEPA), general remarks by the principals (including DOE and the National Nuclear Security Administration General Counsels), environmental media issues (including but not limited to environmental justice [EJ]), and lessons every environmental attorney should know. DOE, as a leader in EJ, coordinates a *National Environmental Justice Conference and Training Program* and briefs attendees at attorneys' training workshops on EJ issues.

Training sessions included remarks by DOE's EJ Program Manager, Melinda Downing. Also participating in the sessions were members of the Interagency Working Group on EJ's Title VI (Civil Rights Act of 1964) and NEPA Committees including Daria Neal, Deputy Chief, U.S. Department of Justice; and Suzi Ruhl, Senior Attorney Advisor, U.S. Environmental Protection Agency.

Approximately 60 participants attended the training that was co-sponsored by DOE and DOE Field Environmental Attorneys, and the DOE Offices of the Assistant General Counsel for Environment; Environment, Health, Safety and Security; and Legacy Management. Many of the training's participants attended by video conference or webinar. ❖

### Community Leaders Dedicated to Building and Sustaining Healthy Communities

More than 150 participants attended the 2014 Community Leaders Institute (CLI) in Montgomery, Alabama, on April 25 and 26. The event was sponsored by the Medical University of South Carolina; U.S. Department of Energy (DOE); Southeastern Virtual Institute for Health and Wellness; U.S. Department of Defense; the City of Montgomery; EcoLogic Services, Inc.; Project H.E.L.P.; Community Care Network; and Alabama State University.

The purpose of the CLI is to assist leaders in knowing how to access and obtain the information necessary for making good decisions and communicating that information to the citizenry. CLI focuses on the unique relationship between environmental protection, human health, environmental justice, and economic development.

A critical factor in the success of community development programs is a well-informed community, and CLIs continue to expand the theme of Building and Sustaining Healthy Communities. Action occurs when those with authority assume an informed and active leadership role.

Sessions for this year's CLI included discussions on the relationship between federal, state, and local governments; issues and challenges experienced by community youth, and developing resources to meet those challenges; economic and community development, housing, and transportation; and health disparities and issues. ❖


*Left to right: Honorable John Knight Jr., Maureen Neighbors, Robert Smith, and Cedric Varner.*

Continued from page 10

## Environmental Justice Activities

### Save the Date

| | | |
|---|---|---|
| ***July 23–25, 2014*** | **Teaching Radiation, Energy and Technology (TREAT) Workshop** | University of South Carolina, Aiken, SC |
| ***August 2–7, 2014*** | **25th Annual Black Youth Leadership Development Institute** | St. Simon's Island, Savannah, GA |
| ***September 24–27, 2014*** | **Congressional Black Caucus Foundation 44th Annual Legislative Conference** | Convention Center, Washington, DC |
| ***November 5–8, 2014*** | **Eight Annual Conference on Health Disparities** | Long Beach, CA |
| ***November (Day TBD)*** | **Fall Environmental Justice Federal Interagency Working Group Cabinet-Level Meeting**<br>*Hosts: U.S. Environmental Protection Agency, and White House Council on Environmental Quality* | U.S. Environmental Protection Agency Headquarters, Washington, DC |

Continued from page 8

## Hanford Pilot Project – Early Site-Transition Activities

personnel used a streamlined approach to simplify the transfer process. LM provided preprinted barcode labels to place on each box of records prior to shipment. The inventory tracking labels helped both Hanford and LM personnel ensure accuracy throughout the transfer process.

Part of the long-term stewardship mission of LM is maintaining records for legacy sites. Currently LM is managing records collections for 91 sites, including 89 long-term surveillance and maintenance sites; the Yucca Mountain, Nevada, Site; and the newly received Hanford collection.

"The pilot project went smoothly and we look forward to working with Richland to transfer additional records. Early records transfer is a win-win situation for both organizations," stated Ms. Gueretta.

Ms. Thurman concurred that the pilot project was mutually beneficial for both organizations and was successful because of their communication prior to transfer. On behalf of the Hanford site team Thurman stated, "We look forward to working with LM in the future to support the cleanup of EM sites." ❖

*Goal 1*

## LM Shares Legacy Waste Site Knowledge on an International Scale

Visitors with the International Atomic Energy Agency's (IAEA) Coordination Group for Uranium Production Legacy Sites toured the Monticello, Utah, Disposal and Processing Sites as part of a larger trip to the United States to learn from the experience of the U.S. Department of Energy (DOE) about managing wastes generated from uranium milling activities. Jason Nguyen, Monticello Site Manager with the DOE Office of Legacy Management (LM), led the tour group that consisted of representatives from Russia, Ukraine, Kyrgyzstan, Tajikistan, and the United Kingdom. In addition to their visit to the Monticello sites to learn about LM's long-term surveillance and maintenance responsibilities, the group also toured the Moab, Utah, DOE Office of Environmental Management cleanup site to garner information about DOE's active remediation process.

The Monticello site visit kicked off April 10, with a presentation about the LM program and another on the history of the Monticello sites, including remediation activities that have already been conducted and planned improvements to the water treatment system.

IAEA visitors gave presentations on the state of remediation efforts in each of their respective countries. Many of the countries in central Asia are facing major clean-up efforts due to uranium mining, milling, and weapons production during the Cold War.

Tours of the former Monticello mill site and disposal facilities were conducted in the afternoon. Participants heard about the extent of contamination remaining in the subsurface and about disposal cell designs and cover technologies. The unique design of the cover on the Monticello disposal cell was of particular interest to the visitors. Instead of a cover that uses riprap, or rocky, material to prevent erosion and percolation, the cover at Monticello utilizes a native plant ecosystem to perform the same functions, and has proved to be very effective.

The trip provided a great opportunity for LM to share its knowledge and experience and act as a resource for other countries as they begin to address their own legacy wastes. ❖


*LM Site Manager, Jason Nguyen, presents Monticello site history and remediation efforts to IAEA visitors.*

*An LM contractor provides details of the disposal cell design during the Monticello site tour.*

Continued from page 1

## Optimizing the Use of Federal Lands Through Disposition

President Obama's June 2010 memorandum). Transfers also have the potential to save the federal government money that would otherwise be spent to maintain the land, which also benefits the taxpayer.

After contamination has been removed from a site, LM can transfer all or portions of the property that exceed its needs. Others can obtain the excess property for uses that comply with local zoning codes or other applicable statutes. Many sites are in LM's inventory due to the presence of residual contamination and the existence of institutional controls (ICs), which are restrictions that ensure any use of the land or its resources remain protective of human health and the environment. ICs must be included in the land transfer and enforced after ownership changes. LM must include the required restrictions in the transfer documents and be guaranteed continued access to the property to monitor site conditions and to conduct any future environmental work. As an example, land-use restrictions (recreational versus residential); excavation restrictions; and access rights for environmental investigation, remediation, or other corrective actions at the Monticello site were included in the Quitclaim Deed that transferred the property to the City.

LM sites may be regulated by other federal environmental cleanup statutes including the Comprehensive Environmental Response, Compensation, and Liability Act; the Resource Conservation and Recovery Act; the Uranium Mill Tailings Radiation Control Act; the Formally Utilized Sites Remedial Action Program; and the Nuclear Waste Policy Act. Many sites are also subject to associated state regulations. In addition to ICs that are required by the regulatory authority, LM may impose other ICs on a site that provide protective "layers" if one of the required ICs fails. LM must maintain access for monitoring, inspections, and any potential remediation in the future. The Jurisdictional Transfer letter for the Rocky Flats parcels includes language that allows DOE, the U.S. Environmental Protection Agency, and the Colorado Department of Public Health and Environment access to complete any actions necessary to fulfill post-transfer environmental remediation requirements.

LM is proactively searching for disposition opportunities on the lands in its inventory. With this increased emphasis, LM will ensure regulatory approval for any dispositions, ascertain that all required restrictions are transferred during the disposition of any property, and periodically monitor the ICs to ensure that required controls are visible to necessary parties and that they are being honored by the new landowner. ❖

**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 via e-mail instead of sending a printed copy.**

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

**Thank you for your assistance.**

Continued from page 2

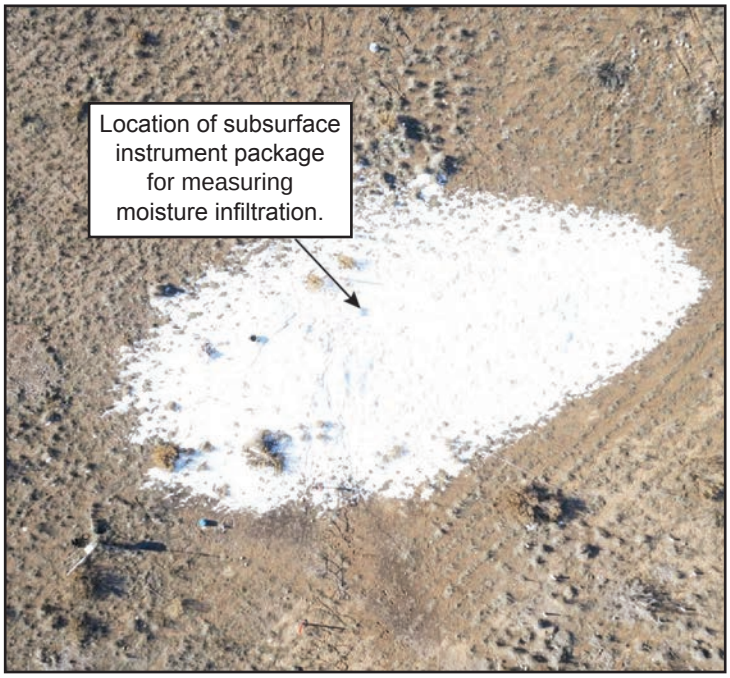
## The Old Rifle Snowmaking Experience

temperature when evapotranspiration—the combination of evaporation and plant uptake of water—is at maximum levels. Researchers also know that snow and snowmelt can deliver oxygen and other critical nutrients (through leaching) to microbes in shallow soils and sediments overlying the groundwater. Delivery of these nutrients can enable forms of microbial metabolism that lead to carbon and nitrogen turnover, as well as conversion of metals, such as uranium, from an insoluble to a soluble state. But how do you measure such parameters associated with infiltration?

Dr. Tetsu Tokunaga of LBNL installed a network of vertically placed instrument packages, which can detect and record tiny changes in soil moisture, into the ground last year at the Old Rifle site to measure moisture in the unsaturated soil above the groundwater, known as the vadose zone. Dissolved metals and other ions can also be measured from samples collected from this downhole array, with changes in their concentration tracked over time and in response to infiltration events such as rain and melting snow. The artificial snow was distributed atop one of Dr. Tokunaga's downhole instrument packages.

If scientists install instruments in the ground to accurately measure changes in moisture in a given area, and distribute a known volume of water in that area, they can establish a reasonable estimate of infiltration. However, this measurement can be tricky to obtain because the influence of other atmospheric events on the infiltration is unknown.

This prompted the most creative aspect of the experiment. Added to the broadcasted snow was a tracer material that allowed investigators to understand the rate and location of subsurface flow by measuring the progress of the tracer as it infiltrated. Although water does not flow in the unsaturated zone like it does in the saturated zone, it does move as moisture through sediment pores, and its downward progress toward the water table can be measured. A good tracer does not influence how fast or where movement occurs, and the tracer should not influence the system being studied. The tracer chosen to satisfy these criteria was deuterium, a form of water. Deuterium is naturally occurring, is not radioactive, and can be detected in extremely small concentrations using analytical equipment at the field site.




*Aerial view of the deuterated snow field using the LBNL unmanned aerial vehicle. (Photo courtesy John Peterson, LBNL)*

In the pre-dawn hours, the snow machine made snow from a tank filled with 2,500 gallons of potable water spiked with a known concentration of deuterium, then broadcast the spiked snow onto the bare ground. Next, it made snow from another tank containing 2,500 gallons of potable water without the tracer, and blew a layer of snow on top of the deuterated layer. The second snow-blowing event insulated the deuterated snow and helped prevent it from evaporating into the air prior to snowmelt and infiltration.

Although the study is still in its early stages, measurements indicate that the pulse of deuterated snowmelt is making its way through the subsurface as predicted, with infiltration into the uppermost 1.5 meters (4.9 feet) occurring more rapidly than expected. As the experiment continues, researchers hope to establish the importance of the annual spring snowmelt on uranium mobility in the vadose zone and eventually into groundwater below. This should provide more clues about the persistence of uranium in groundwater at the Old Rifle processing site and how this relates to other LM sites with similar problems. ❖

Continued from page 3

## DOE Partners with Other Federal Agencies Working on the Wind River Indian Reservation

technical projects at a site. Key benefits of the tool are transparency and early detection of issues before an audit is required.

LM is in the process of building pages within MAX and plans on using it to collaborate with other agencies. However, it was emphasized that MAX will not be required. JBC agreed to use the MAX Information System.

Representatives of each federal agency explained their respective agency's relationship with the Wind River Tribes and gave a status of their current projects. Some of the initial outcomes include:

- DOE efforts to provide contract administration guidance to the tribes; and
- Changes to the payment process and payment system to improve adherence to financial assistance regulations.

Federal agencies will make every effort to be consistent and, where possible, consolidate application forms and other award documents. It was specified that recipients of federal funding are responsible for timely submission of documentation throughout the award cycle, and continuation awards are to be reviewed annually.

The meeting was a successful beginning to interaction among several federal agencies working on the Wind River Indian Reservation, for sharing requirements and processes that will facilitate awareness and avoid duplicative efforts. Advanced computer technology and future meetings at various venues will continue to strengthen partnerships. ❖


*EPA Audit Coordinator, Paul Felz, speaking about changes to federal cost standards.*

Continued from page 9

## Collaboration and Communication: DOE and Navajo Nation Tour Uranium Mine Reclamation Sites to Share Expertise and Experiences

resulting from severe summer storms. The erosion damage is of concern because site access and parts of the treatment system could be affected. LM is responsible for long-term surveillance and maintenance of disposal cells, but the work cannot take place if site access is impaired. Navajo Nation AML provided LM with several useful suggestions during the Shiprock tour, including design options and alternative installation techniques for slowing runoff rates of storm-water flow, thereby decreasing the erosive effects of running water.

*Navajo Nation and LM representatives view a Navajo Nation AML disposal cell cover at Project Area NA-0916 near Red Mesa, Arizona.*

Tour activities in the afternoon took the group to three reclaimed mine sites in the Teec Nos Pos, Arizona, Chapter area, approximately 45 miles west of the Shiprock site; all part of the "Tse Tah Problem Area." One of the sites included several reclaimed mine portals located on the face of a sandstone cliff. Reclamation incorporated diversion berms to direct surface-water flows up-gradient of the project areas. Surface-water flows on the project areas were controlled by a detention basin. This method of reclamation will cause most of the surface water to infiltrate the ground. Successful management of surface water successfully stabilizes sediments, minimizes erosion, and promotes vegetation growth.

*Tour participants gather to discuss an area of recent erosion at LM's Shiprock, New Mexico, site.*

Two other sites on the tour had disposal cells designed similar to UMTRA disposal cells. Mounded (convex) cell covers were designed to minimize erosion by allowing rainwater and sediments to wash off the cover. An inverted (concave) cap design allows the accumulation of sediments, encouraging vegetation growth and moisture retention. Navajo Nation AML representatives were interested in LM's experience with vegetated disposal cell covers and requested additional information, which has been provided.

The result of the tour and discussions was positive and provided an opportunity for Navajo Nation AML and LM to collaborate, share lessons learned and best practices, and to consider innovative and effective techniques for erosion control. AML's engineering techniques are effective for the topography of tribal lands and the desert environment, and its preference for utilizing existing site materials creates a cost savings and supports land stewardship by not importing material foreign to the area's natural system. LM will evaluate these practices in future projects.

LM provided Navajo Nation AML with information relating to disposal cell engineering techniques that may prove to be useful for future reclamation activities. ❖

*Goal 5*

## LM Personnel Update

**Jane Powell** has joined the management team of the U.S. Department of Energy (DOE) Office of Legacy Management (LM) as the Planning, Budget, and Acquisition Team Leader. Jane has more than 30 years of experience with DOE under multiple regulatory regimes, primarily in leading and managing sites and successfully completing numerous, high-profile, multimillion-dollar remediation and waste management projects.

Jane has been responsible for management and operation of two Comprehensive Environmental Response, Compensation, and Liability Act–regulated sites in the LM program: the Fernald, Ohio, Site near Cincinnati; and the Mound, Ohio, Site, near Miamisburg. Together, these sites had an annual budget of approximately $7 million. As site manager, Jane oversaw the Fernald Preserve Visitors Center project, which was completed in June 2008. The center is U.S. Green Building Council Leadership in Energy and Environmental Design Platinum certified, the first such building in Ohio to receive the certification and only the second for DOE.

Jane works in LM's Washington, DC, office. ❖

**Teresa Collins** has joined the LM management team as the Administrative Team Leader. She oversees the day-to-day administrative operations.

Teresa has 30 years of federal government experience. To kick off her career, Teresa secured a permanent position with the U.S. Secret Service (under the U.S. Department of Treasury at that time) for 5 years as a counterfeit clerk. She then moved on to the U.S. Executive Office of the President, Office of Management and Budget to work for 12 years in the Office of Privatization and the Justice/General Services Administration branch until June 2000. Teresa came to DOE on a 6-month detail and was asked to continue her employment as a program analyst in the Office of the Chief Financial Officer, where she stayed for 10 years. In the fall of 2010, she joined LM, contributing to the federal government initiatives.

Teresa was born and raised in Washington, DC. After graduating from high school, she enrolled at the University of the District of Columbia, where she studied for 2 years, majoring in business administration.

Teresa works in the Washington, DC, office. ❖

Continued from page 4

## Fernald Preserve Attracts 50,000 Visitors

Cold War workers employed at the Fernald Feed Materials Plant during its production years. All were part of the historic effort to protect America by participating in the construction and operation of a nationwide weapons-production complex. Exhibits also detail the former site's closure and clean up, recognizing the myriad of stakeholders who were involved in the extensive effort.

Each year approximately 3,000 people make the Fernald Preserve and Visitors Center one of their experience destinations in order to learn more about the Fernald site and its history. Another 2,000 people participate in non-profit organization meetings that are hosted in the center's state-of-the-art community meeting room.

On an annual basis, an additional 2,000 to 3,500 people are offered opportunities to take part in special request programs that are tailored to meet their group's needs. Topics range from site history to ecological restoration, and local natural history.

Gary Studer, like many others, enjoys the changing landscape and the ecological recovery at this community asset that is the Fernald Preserve. ❖

## Anticipated Legacy Management Sites Through Fiscal Year (FY) 2020


Continued from page 6

## Renewed Importance of the Mound Site Annual Institutional Controls Assessments

Mound Development Corporation. The walkdown included a presentation of preliminary inspection results and a physical assessment of the site with each participant using an inspection checklist.

The annual assessment determined that ICs continue to function as designed, oversight mechanisms are working to identify possible violations of ICs, and adequate resources are available to correct or mitigate any problems if violations occur. The 2014 annual report is available via the Mound site page of the LM website under Site Documents and Links (http://www.lm.doe.gov/Mound/Documents.aspx). ❖

# Legacy Management Goals and Objectives

## Goal 1. Protect human health and the environment

**Objectives**

1. Comply with environmental laws and regulations.
2. Reduce health risks and long-term surveillance and maintenance (LTS&M) costs.
3. Partner with other Federal programs to make environmental remedies better and last longer.
4. Oversee DOE implementation of Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*.

## Goal 2. Preserve, protect, and share records and information

**Objectives**

1. Meet public expectations for outreach activities.
2. Protect records and make them accessible.
3. Protect and ensure access to information.

## Goal 3. Meet commitments to the contractor work force

**Objectives**

1. Safeguard contractor pension plans.
2. Fund contractor health and life insurance.

## Goal 4. Optimize the use of land and assets

**Objectives**

1. Optimize public use of Federal lands and properties.
2. Transfer excess government property.
3. Improve domestic uranium mining and milling operations.

## Goal 5. Sustain management excellence

**Objectives**

1. Renew LM's designation as a high performing organization (HPO).
2. Implement LM's *Human Capital Management Plan*.
3. Operate in a sustainable manner and reduce LM's carbon footprint.

U.S. DEPARTMENT OF ENERGY | Legacy Management

1000 Independence Avenue, SW
Washington, DC 20585

U.S. Department of Energy
Office of Legacy Management

# Program Update

**Please help reduce mailing costs.** In order to reduce mailing costs, please provide your current contact information, including your e-mail address, so that we can update our files and provide documents and other LM information electronically. To remove your name from the *Program Update* mailing list, send your request to the address or fax number specified below. Thank you.

## LM Public Information Update

Name _____

Organization _____

Position _____

Street Address _____

City, State, and Zip Code _____

Phone Number _____

Fax Number _____

E-Mail Address _____

## Documents Requested

1. _____
2. _____
3. _____
4. _____

**Mail:** Ms. Brenda Waters
U.S. Department of Energy Office of Legacy Management
1000 Independence Avenue, SW
Washington, DC 20585

**Fax:** (202) 586-1540
**E-Mail:** lm@hq.doe.gov
**Website:** http://energy.gov/lm