



# Program Update

October–December 2012

Welcome to the October–December 2012 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](mailto:lm@hq.doe.gov).

## Goal 1

### Saw What? Saw-Whet!

For the second year in a row, in early November, the Fernald Preserve in Ohio hosted a Northern Saw-Whet Owl banding demonstration by master bander, Tim Tolford. Bird banding is a technique used to study wild birds by attaching a tag to their leg to identify them. Identification helps researchers track and study their habits. Banding increases knowledge of the Saw-Whet's life and the demonstration helped participants understand the importance of banding to studying the distribution of bird populations. Due to the number of attendees in 2011, the demonstration was expanded to two nights this year and was attended by 97 interested participants.

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A Northern Saw-Whet Owl is captured for banding during the banding demonstration at the Fernald Preserve in Ohio in November.

## Goal 2

### LM Communication and Stakeholder Satisfaction Independent Survey

The U.S. Department of Energy Office of Legacy Management has completed the stakeholder satisfaction survey. Thanks to everyone who participated in the survey. We are in the process of reviewing your responses in order to address your comments, suggestions, and concerns. The summary survey report will be available on the LM website in January 2013. ♦



### Goal 2

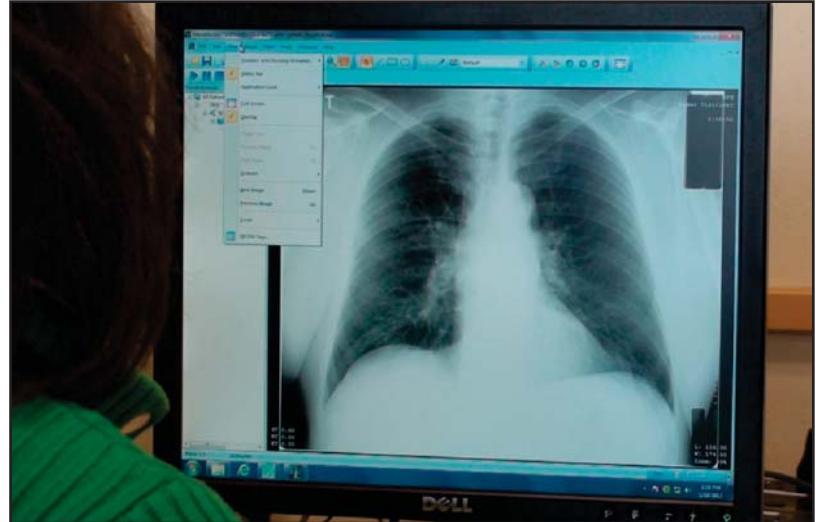
#### LM Completes X-Ray Film Digitization Project

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) has successfully completed a project to digitize nearly 400,000 medical x-rays of former DOE contractor employees.

The x-rays, from the Rocky Flats and Grand Junction, Colorado; Fernald, Mound, and Ashtabula, Ohio; and Pinellas, Florida; sites, are needed to support medical compensation claims and must be kept for long-term preservation.

The digitizing process involved converting the x-ray images to electronic format to ensure the record's readability for their entire retention period. LM received National Archives and Records Administration concurrence that the x-ray images have been converted to an acceptable digital format for Federal records.

Digitizing was performed by Source HOV in Louisville, Kentucky, and Grand Junction, Colorado. LM worked with the digitizing vendor to securely manage the transfer of significant volumes of x-ray materials and digital files.



Nearly 400,000 x-rays of former DOE contractor employees have been digitized to support LM records retention requirements.

With digitizing completed, the digital images have been uploaded to the LM electronic recordkeeping system, along with metadata about each image to enhance the ability to retrieve the digitized records.

The electronic availability of these x-rays will expedite information retrieval to support LM records requests and ensure long-term records preservation. ♦

### Goal 4

#### LM Receives Sustainability Award

The Office of Legacy Management (LM) was one of 20 U.S. Department of Energy (DOE) organizations to receive a DOE 2012 Sustainability Award on September 27, 2012. The 20 winners were selected from among 137 submissions by a panel of judges that included representatives from DOE and General Services Administration. LM's submission, titled "Not Just Your Average EMS," was entered under the category of Environmental Management Systems, or EMS. This category recognized the most effective and innovative programs to implement EMS at Federal facilities in accordance with Executive Order 13148, *Greening the Government Through Leadership in Environmental Management*. The submissions were

evaluated on the organization's implementation of facility-level EMS, which should include measurable environmental goals, objectives, and targets; full integration of the EMS into the infrastructure and culture of the site/facility, including management performance, and decision-making processes; and use of quantitative or qualitative consideration of the full range (cradle to grave) of environmental costs and impacts of certain activities or procurement.

The LM EMS is unique in that LM and the Legacy Management Support contractor have joint responsibility. The scope of the EMS covers 57 LM

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**U.S. Department of Energy  
Office of Legacy Management**

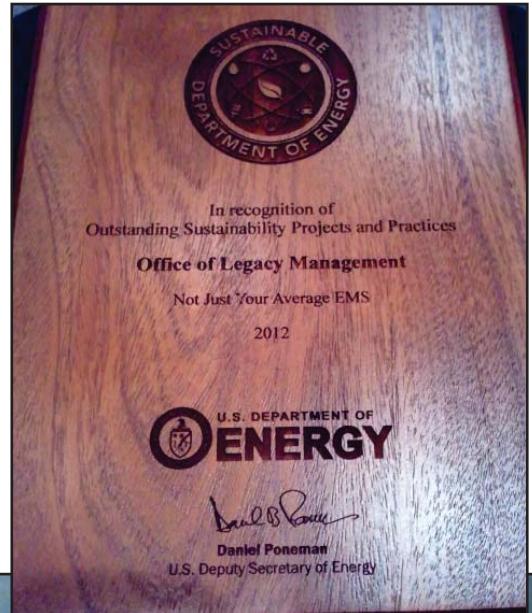
## Program Update

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### LM Receives Sustainability Award

employees and 373 contractor employees. LM's EMS is an employee-driven, cross-cutting system that is integrated into all activities, no matter how small. Even though LM's mission entails performing a wide range of jobs at sites across the nation with a relatively small work force, LM manages to function as one systematic entity to keep workers safe, protect the public and the environment, and serve as good stewards. ♦

*LM was one of 20 winners selected to receive a DOE 2012 Sustainability Award in September 2012. LM's submission, titled "Not Just Your Average EMS," was entered under the category of Environmental Management Systems.*



*Award ceremony (left to right): Melvin G. Williams, Jr., Associate Deputy Secretary, U.S. Department of Energy (DOE); Mary Sizemore, Environmental Management System (EMS) Coordinator, Office of Legacy Management (LM) contractor; Tracy Ribeiro, EMS Coordinator, LM; Tom Pauling, Director of Site Operations, LM; Dave Geiser, Director, LM; and Jennifer MacDonald, Director, Sustainability Performance Office, DOE.*



### Goal 2

#### LM Sees Increase in Information Requests

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) maintains unclassified records pertaining to the more than 100 sites associated with America's Cold War nuclear legacy. The records are maintained at the LM Business Center records storage facility and at other Federal records storage centers in support of LM Goal 2: preserve, protect, and share records and information.

Information from these record holdings are shared with LM stakeholders following several formal request processes. Stakeholder requests include Freedom of Information Act (FOIA) requests, Privacy Act requests, information requests pertaining to Energy Employees Occupational Illness Compensation Program Act (EEOICPA) claims, and routine requests.

LM has experienced an increase in the number of formal stakeholder information requests for fiscal year (FY) 2012. During FY 2012, LM received nearly 1,500 requests, an increase over FY 2011, as noted in the chart on page 14. The FY 2012 total is, however, in line with the average number of requests for the previous four FYs and is much less than FY 2007, when more than 2,700 requests were received.

In addition to the year-over-year increase in LM's requests for information for FY 2012, LM's trending statistics reflect activity for various types of requests and by LM legacy sites.

Total requests for FY 2012 include 50 FOIA and 43 Privacy Act requests, more than 900 EEOICPA claims, and more than 400 routine requests. For each category, the request volume is consistent with volumes recorded for FYs 2008 through 2011.

When compiled by site, LM received the largest number of requests for information on the Rocky Flats, Colorado, site. LM received 466 requests pertaining to Rocky Flats in FY 2012. The Rocky Flats request volume reflects a more than 7 percent increase over FY 2011 request volumes for the site, mostly due to an increase in EEOICPA claims submitted for former Rocky Flats workers. The second largest number of requests for FY 2012 was for information related to the Fernald, Ohio, site.

FOIA requests are fulfilled under the FOIA (5 U.S. Code 552), "Public information; agency rules, opinion, orders, records, and proceedings" that allows any person the right to request Federal agency records. DOE must disclose records in response to FOIA requests, except for certain information that may be withheld under FOIA exemptions. Information in a FOIA response may be redacted to prevent the release of personally identifiable information about individuals or to prevent the disclosure of Classified information or other information under dissemination control.

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An LM contractor at the LM Business Center prepares documents to respond to a request for LM-related information.



An LM contractor initiates a review of a records box at the LM Business Center while researching an information request.



### Goal 4

#### LM FIMS Database

Several U.S. Department of Energy (DOE) Office of Legacy Management (LM) projects were completed and updated in the Facilities Information Management System (FIMS) this year. FIMS is DOE's real property database that stores data related to land and anything permanently affixed to it, such as buildings, fences, and roads. Projects updated in FIMS in 2012 included demolition at the Weldon Spring, Missouri, Site; road construction at the Grand Junction, Colorado, Disposal Site; and a cool roof installation at the Fernald Preserve, Ohio, offsite administrative building. Information on elements of projects like these is input into FIMS, which converts it into data.

LM FIMS currently tracks detailed information for 33 buildings (including 4 real property trailers), 246 other structures and facilities, and 261 different land instruments that are owned, leased, or withdrawn. This data is relied upon by DOE Headquarters for making management decisions related to the condition, maintenance, and disposition of real property. The data is reported to the Federal Real Property Profile, which is managed by the General Services Administration, Office of Management and Budget, Congress, and the taxpayers.

DOE Headquarters offices are responsible for, or sponsor, this data and use it in their decision-making processes. The Office of Energy Efficiency and Renewable Energy sponsors sustainability and utility metering data. The Office of Science sponsors data related to the operating status and utilization of assets. The Office of the Chief Financial Officer sponsors deferred maintenance and actual maintenance data.

Most of the remaining data elements are sponsored by the Office of Management (MA). The Office of Acquisition and Project Management, working under MA, directs FIMS database efforts.

FIMS is an internal database that is not available to the public, but stakeholders of LM facilities may be exposed to FIMS data indirectly through public meetings and news stories. FIMS data-driven reports can show statistical trends that may appear in presentations and broadcasts. Maintenance spending, asset utilization, and future repair needs are examples of trends that may be examined by authors and presenters. ♦



A road is improved at the Grand Junction, Colorado, Disposal Site.



A building is demolished at the Weldon Spring, Missouri, Site.



An innovative cool roof installation increased energy efficiency at the Fernald Preserve, Ohio, offsite administrative building.



**Goal 1**

**Environmental Justice Activities**

**Sixth Annual National Conference on Health Disparities**

The Sixth Annual National Conference on Health Disparities, Reducing Health Disparities through Sustaining and Strengthening Healthy Communities, was held in Little Rock, Arkansas, November 28 through December 1, 2012, at The Peabody Little Rock. Like its five predecessors, the 2012 conference focused on policies and programs to reduce health disparities among minority and low-income populations. Presenters emphasized the role of social determinants, personal responsibility, and prevention in initiatives that reduce disparities.

Over time, our nation's healthcare providers and policy makers have come to understand that the well-being of each American impacts the well-being of all Americans. Hence, this conference is important to all Americans, and not just our nation's minority citizens. Truly healthy communities and their citizen leaders recognize the related roles of human health, environmental quality, environmental justice, and economic development in community development and well being.

*Speaker Dr. Daniel Rahn at the Health Disparities Conference.*

This year, former president Bill Clinton recorded a personal video message for the participants, showing his support and engagement in reducing health disparities for all Americans. Additional presenters included Congressman James Clyburn (D-SC); Congressperson Donna Christensen (D-VI); Rex Lee Jim, Vice President, Navajo Nation; Congressman Raul Grijalva (D-AZ); and Jocelyn Elders, M.D., former U.S. Surgeon General during the Clinton Administration; among many others.

For additional details, please go to <http://buildinghealthycommunities2012.com>. ♦



**EPA Office of Enforcement and Compliance Assurance Honor Awards Ceremony**

The U.S. Environmental Protection Agency's (EPA) Office of Enforcement and Compliance Assurance Honor Awards Ceremony was held in Washington, DC, on December 13, 2012, at the EPA Headquarters Hearing Room. The awards ceremony is a time for EPA to celebrate and reflect on the extraordinary achievements, accomplishments, and contributions of employees at Headquarters and across the nation.

The efforts of individuals and teams honored exemplify the work being done by EPA in several areas. These areas include pursuing vigorous enforcement against sources with violations that have a significant impact on health and a clean environment; ramping up innovative strategies to solve pollution problems; and achieving better compliance, reduced pollution, and improved transparency through advances in monitoring and information technologies, called Next Generation Compliance.

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## Program Update

### Environmental Justice Activities

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#### EPA Office of Enforcement and Compliance Assurance Honor Awards Ceremony

Among those across the nation receiving the EPA Bronze Medal Award was the U.S. Department of Energy's Environmental Justice (EJ) Program Manager, Melinda Downing, along with representatives from the U.S. Departments of Health and Human Services, U.S. Department of Justice, U.S. Department of Agriculture, U.S. Department of the Interior, U.S. Department of Housing and Urban Development, U.S. Department of Transportation, and the White House Council on Environmental Quality. In addition, members of the Interagency Working Group on Environmental Justice (EJ IWG) received this award for their outstanding efforts in the reinvigoration of the EJ IWG. ♦



The EPA Office of Enforcement and Compliance Assurance presented Honor Awards at a ceremony at EPA Headquarters in December.

### SAVE THE DATE

#### 2013 National Environmental Justice Conference and Training Program

Please join us for the 2013 National Environmental Justice Conference and Training Program, April 3 to 5, 2013, co-located at the Howard University School of Law and the Marriott at Metro Center. See the Call for Abstracts for topic submission details.

[http://www.lm.doe.gov/Office\\_of\\_the\\_Director/Environmental\\_Justice/Conference\\_Files/2013\\_Conference/2013\\_Call\\_For\\_Abstracts.aspx](http://www.lm.doe.gov/Office_of_the_Director/Environmental_Justice/Conference_Files/2013_Conference/2013_Call_For_Abstracts.aspx)

[www.thenejc.org](http://www.thenejc.org)

APRIL 3–5, 2013



Jordan Allen holding the 2012 College of Sciences and Technology, and Environmental Science Program academic excellence trophies, shown with Dr. Kenneth Sajwan, Dr. Elissa Purnell, and Dr. John Lambright.

#### Savannah State University Student Wins Geological Society Award

Jordan Allen, a Savannah State University senior undergraduate student and U.S. Department of Energy (DOE) Environmental Justice grant winner, won the award for Best Student Paper for 2012 from the Geological Society of America (GSA). The award was presented at the National Association of Black Geoscientists (NABG) Annual Technology Conference, held in Washington, DC. At the Conference, held in September 2012, Jordan presented research on *Identifying High Concentration Areas of Fecal Coliform in Bayou Terrebonne, Louisiana: Measurements and Community Perspective*. Jordon's presentation was selected as the winner from over 45 presentations.

In addition to this recognition, GSA will pay for Jordan's registration to next year's Annual Conference, scheduled to be held October 2013 in Denver, Colorado. During the conference, Jordan received a personal invitation from a University of Arkansas professor to visit the graduate school program.

The Department congratulates Dr. Kenneth Sajwan, Jordon's academic advisor and professor, and other members of the faculty for providing Jordan with a strong education that is serving him well, as demonstrated by this impressive accomplishment. ♦



### Goal 1

#### Why Won't My Groundwater Plume Come Clean?

Several decades of characterization and attempted remediation have generally been unsuccessful in achieving drinking water standards at contaminated sites worldwide. In fact, few, if any, sites have been cleaned up sufficiently to allow use of the groundwater. Despite significant monetary investments by Federal agencies, such as the U.S. Army Corps of Engineers, the U.S. Department of Energy (DOE); the U.S. Department of Defense, the U.S. Department of the Interior, and the U.S. Environmental Protection Agency, and the private sector, these results indicate that groundwater remediation is a formidable issue.

Groundwater modeling was conducted on many of these sites, and in most cases, the models predicted much better cleanup results than are now observed. With the long history of modeling and observation we have available to us, we can now better determine the nature of the contaminant plumes and possible reasons for the failure of early modeling.

Most of the modeling efforts in the past relied on a single parameter called  $K_d$ , which is defined as the ratio of the contaminant in the solid phase to the contaminant in the liquid phase, to account for all interactions between groundwater and the solid geologic media in the aquifer. The interactions are complex and include such processes as adsorption to mineral surfaces, mineral precipitation and dissolution, exchange with immobile pore water, partitioning into a vapor-phase, and mineral recrystallization through aging. Some of these processes may be accentuated by microbiological activity. To properly capture all of these processes in a single  $K_d$  term is not possible, and trying to do so is part of the reason the early models made poor predictions.

Errors also arose because many of the early models assumed that all chemical interactions were rapid—that is, they assumed that the contaminants dissolved into the groundwater reacted with the aquifer sediments instantly upon contact. We now know that some important chemical reactions take a long time to complete and that during that time, contaminants continue to dissolve in the groundwater. This phenomenon, called “rate-limited desorption,” is best demonstrated by laboratory-based column tests using identical conditions but run at different flow rates, or column tests that have the flow stopped for a time. A

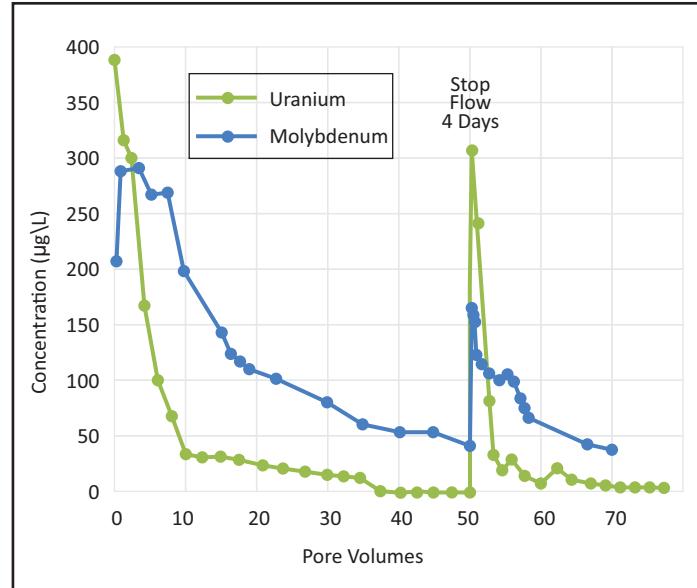


Figure 1. Results of column testing conducted in 1995 at the Monticello, Utah, East Tailings.

column test was conducted with alluvial aquifer material collected from beneath the East Tailings at the DOE Office of Legacy Management's (LM) Monticello, Utah, site. The sample for the test was collected in 1995, before the tailings were moved. Site groundwater was passed through the column, and the flow was stopped for 4 days after 50 pore volumes of water had passed through the column. (A pore volume is the volume of water required to fill the pore spaces in the column.) Uranium and molybdenum concentrations in the effluent increased substantially after restarting the flow (see Figure 1 above). This behavior clearly indicates the action of rate-limited processes that the early models would not have been able to simulate.

Because of the ramifications of predictive modeling, rate-limited processes have received considerable attention from groundwater researchers over the last decade. For example, more than 10 scientific papers have been published in the last 7 years on rate-limited desorption at DOE's Hanford, Washington, Site alone.

To help understand rate-limited processes, consider the task of laundering a jersey caked with mud. Placing the wadded-up jersey in a vat of stagnant, clean water may eventually clean it, but would require a long time, even if the water was changed out periodically. If the

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### Why Won't My Groundwater Plume Come Clean?

jersey was unfolded, it would be cleaned up a bit faster because water would have better access to the muddy creases. It would be better if the jersey was agitated, as a clothes washer does. And if a surfactant (soap) was added, the cleanup might occur within an acceptable timeframe. Agitation of the subsurface is not practical without costly excavation (a possible exception is the use of industrial ultrasonic devices—a remediation technology with limited test results to date). A variety of surfactants, and similar potions aimed at freeing contaminants from the solid aquifer material, have had positive results in the laboratory, but field application is limited by the inability to effectively disperse them through the groundwater system.

So, where do we go from here? Is groundwater cleanup a lost cause? It seems apparent that the ability to accurately predict groundwater cleanup rates is essential to making sound decisions that will protect human health and the environment. Because rate-limited processes are a major cause of the inaccuracy of predictive models, LM scientists have developed a plan that focuses on understanding these processes. More than 20 drill cores were recently collected from a uranium plume at an LM site. Samples from these cores are being analyzed to determine the magnitude and nature of rate-controlled processes in an effort to improve predictive models. ♦

### Goal 1

#### LM Continues Work with the Navajo Nation

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) continues to work with the Navajo Nation to perform long-term surveillance and maintenance (LTS&M) at four Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I sites located on the Navajo Nation. Compliance activities include monitoring and maintaining engineered disposal cells, as well as remediating groundwater.

The Navajo Nation encompasses more than 27,000 square miles in the southwestern United States. Uranium exploration, mining, and milling occurred in the Four Corners area; nearly 4 million tons of uranium ore were extracted from Navajo lands.

In 2007, DOE, along with the U.S. Environmental Protection Agency (EPA), the Bureau of Indian Affairs, the U.S. Nuclear Regulatory Commission and the Indian Health Service, developed a coordinated *Five-Year Plan* (Plan) to address the impacts of uranium contamination in consultation with the Navajo Nation. The *Five-Year Plan* is a coordinated approach by the Federal agencies to address these impacts. The Plan outlines a strategy to better understand uranium issues on the Navajo Nation and to address those that pose the highest risks first.

LM provides updates about DOE's progress in accomplishing activities specified in the Plan at

EPA Uranium Stakeholder Workshops. LM representatives will participate in the fifth workshop in April 2013, in Gallup, New Mexico. The workshop brings Navajo stakeholders together with Federal and state agencies to learn about and offer feedback on efforts which address uranium issues on the Navajo Nation. The upcoming workshop also will solicit input on the next Five-Year Plan.

DOE holds a cooperative agreement with the Navajo Nation, particularly the Navajo Abandoned Mine Lands (AML)/Uranium Mill Tailings Remedial Action (UMTRA) Department, which provides resources to assist with long-term surveillance and maintenance activities, ensure appropriate physical and administrative controls are in place, review environmental reports, perform public relations, and support other important activities related to the UMTRCA sites. The Navajo AML/UMTRA Department also implements the Navajo AML Program, which has reclaimed 913 of the 1,032 uranium mine sites on the Navajo Nation.

DOE met its commitments in the first Navajo Nation Plan, including continuing operation of existing groundwater treatment activities, performing long-term surveillance and maintenance at four UMTRCA Title I sites to ensure they remain effective, and working with

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### Goal 1

#### LM Travels to Canada for Workshop

In October, Jane Powell, Fernald Preserve Site Manager, traveled to Canada and made presentations about decommissioning and long-term stewardship of Ohio's Mound site and Fernald Preserve. The presentations were made at the Canadian Standards Association (CSA) workshop in Mississauga, Ontario, (near Toronto) and Chalk River, Ontario, Canada. These presentations were made at the invitation of both the CSA and Atomic Energy of Canada Limited (AECL).

The first part of the trip was to the CSA workshop in Mississauga. The focus of the workshop, sponsored by Ontario Power Generation, U.S. Department of Energy Office of Legacy Management (LM), and Candesco, was to exchange experience and seek Canadian consensus on approaches and best practices for the determination of the end state and cleanup criteria for decommissioned nuclear facilities. The results of the discussions will be used to generate text for a planned amendment to the CSA Standard N294-09, "Decommissioning of Facilities Containing Nuclear Substances." LM was invited to present information on how Mound and Fernald end states were determined. There were approximately 50 participants from all aspects of the Canadian nuclear industry, including the national government, power generators, uranium mines and mills, and contractors.

The second portion of the trip involved visiting Chalk River Laboratories, which are approximately 5 hours northeast of Toronto. Chalk River is a 9,100-acre site operated by AECL, located on the border between Ontario and Quebec, on the Ottawa River. The onsite reactor produces a significant proportion of the medical isotopes used worldwide; it also sponsors research work related to neutron

physics and engineering research for Canada Deuterium Uranium (commonly known as CANDU) reactors. Two presentations were made to about 65 people. The first presentation dealt with the experience of developing working relationships with the Fernald community and the role community outreach played in the Fernald cleanup. The audience was comprised of AECL technical staff and community relations managers; the site manager and staff from Whiteshell Laboratories; and members of Natural Resources Canada, the Federal oversight agency for Chalk River. The second presentation was more general, and was focused on relating the Fernald and Mound projects to the Chalk River AECL community.

Two tours of the Chalk River site were taken. The outer-area tour encompassed the past and current waste disposition and storage areas, monitoring systems, and areas where cleanup had started. The reactor-area tour included a reactor that has been shut down, as well as a discussion of the history of the older buildings in the area and how the site had evolved over time to reflect changes in its security posture.

Several workshop participants expressed the desire to visit LM sites and continue discussions. Continuing to share information about LM, and in turn learning about the status of Canadian efforts for decommissioning and the long-term stewardship issues, should prove to be both educational and worthwhile for all parties. ♦



Canadian Standards Association workshop participants discuss cleanup of decommissioned nuclear facilities.



Continued from page 1

### Saw What? Saw Whet!

Saw-Whet Owls are the smallest North American owl and are about 7 inches long and weigh between about 2.6 to 3.9 ounces. Despite their small size, they are fierce raptors, with a diet of mice, frogs, and insects.

The banding took place in the northwest corner of the preserve along Hickory Trail. Two long lanes of mist nets were set up in a wooded area with a game recorder continuously repeating a recording of the owl's calls. Mist nets are very light weight, small mesh nets used for safely capturing birds for banding. In total, seven birds were banded; four on Friday night and three on Saturday night. One of the birds banded on Friday night was caught again on Saturday night. It was possible these birds had been in the area for several days, but Mr. Tolford thought the birds caught were being attracted to the recording while migrating overhead for the winter.

This event, and others like it at the Fernald Preserve, continue to provide educational outreach opportunities to the community ♦



A band is attached to the leg of a Northern Saw-Whet Owl during the banding demonstration at the Fernald Preserve in Ohio in November.

### Goal 5 LM Welcomes New Employee

**Emily Jackson** joined the U.S. Department of Energy Office of Legacy Management (LM) on October 10, 2012, in our Washington, DC, office. She is working as a Staff Assistant on the Human Resources/Administrative Team and provides support to LM senior management. Ms. Jackson was born and raised in Virginia and is currently residing in Fredericksburg, Virginia.

Ms. Jackson has over 20 years' experience in the administrative field and was most recently employed with the Navy Federal Credit Union. She has also worked at the U.S. Department of Justice Bureau of Alcohol, Tobacco, and Firearms as an Investigative Assistant. ♦

As environmental stewards, LM is continually seeking opportunities to protect tomorrow's 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](mailto:lm@hq.doe.gov) so that we can update our database.

Thank you for your assistance.





### Goal 4

## LM Creates Sustainable Workplaces with Environmental Benefits

In an effort to reduce energy consumption in Federal facilities by incorporating sustainable technologies and practices, the *Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding* was signed in 2006 and Executive Order (EO) 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* and EO 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, followed shortly thereafter. These documents mandate that 15 percent of Federal agencies' leased and owned building inventory greater than 5,000 gross square feet meet the High Performance and Sustainable Building (HPSB) Guiding Principles by 2015. In fiscal year (FY) 2012, the U.S. Department of Energy (DOE) Office of Legacy Management (LM) made significant strides in meeting HPSB Guiding Principles for its buildings, and by the end of FY 2013, its building portfolio will reflect meeting 71 percent of the HPSB goals, well in excess of the required 15 percent.

Currently, LM's portfolio of building inventory includes one Leadership in Energy and Environmental Design (LEED) Platinum-certified building at the Fernald Preserve, Ohio, Site. LEED is a third-party green-building rating system that was developed by the U.S. Green Building Council and has four levels of LEED certification—Platinum, Gold, Silver, and Certified. By partnering with two other building owners (lessors), LM is on track to meet—and exceed—the Federal requirement by leasing three buildings in Grand Junction, Colorado, and one in Harrison, Ohio, that will count toward meeting the 2015 HPSBs. In addition to these buildings, LM partnered with the General Services Administration to build the LEED Gold-certified LM Business Center (LMBC) in Morgantown, West Virginia. The LMBC received two LEED Gold certifications, one for Core and Shell Development and a second for Commercial Interiors.

Energy conservation measures (ECM) incorporated into these buildings will not only meet the Federal requirements, but also enhance the workplace for employees. Research focusing on human factors has found that employee perceptions and the design of the workplace enhance productivity and health benefits. When employees feel good in their environment, they

exhibit greater job satisfaction, have fewer ailments, and recover from stressful job pressures more quickly.

The integrated design of a heating and cooling system and the quality, operation, and maintenance of the equipment are major elements in keeping a building comfortable. Air movement, the thermal properties of surfaces that are touched, and relative humidity also affect the occupants' comfort. Thermal comfort is the result of a balance between the body and its environment.

One ECM of the many that LM incorporated into recent tenant improvements with building owners was upgraded mechanical systems that allow for more energy efficiency in maintaining comfortable temperatures, ventilation, and moisture control on a year-round basis. These improvements were based on energy audit recommendations. Commissioning ensures all the components work correctly together and provides an ongoing plan for preventative and predictive maintenance.

In June 2010, DOE Secretary Chu issued a memorandum encouraging the use of cool roofs on DOE buildings whenever new roof replacements were

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"Cool roof" technology was used on three sides of the offsite administrative building of the Fernald Preserve in Ohio when the old siding was removed and replaced with cool metal similar to that used on the roof.



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### LM Creates Sustainable Workplaces with Environmental Benefits

needed, unless determined uneconomical. A cool roof made of metal uses advanced paint that reflects more of the sun's heat and helps reduce cooling costs to the mechanical systems servicing the building. The Fernald Preserve, Ohio, Visitors Center and the offsite administrative building are the first in LM's portfolio of building inventory to have cool roofs, which help to optimize energy usage.

Optimizing energy at the Grand Junction, Colorado, site office was done through a renewable energy generation project where a photovoltaic array consisting of 88 230-watt panels was installed on the roof of Building 810. The 20.24 kW system offset a portion of the operating costs of the newly installed heating and cooling components in the building.

ECM improvements at the three Grand Junction buildings and one Ohio building included the replacement of incandescent bulbs with high-efficiency bulbs, upgrading lighting fixtures, and installing motion sensors to control lighting in appropriate areas. All individual workspaces now have controllable task lighting. The installation of new, operable, insulated windows and cellular window shades are other measures taken that enhance user satisfaction by allowing control over ventilation and day lighting, while also keeping a connection to the natural environment outdoors.

Additional indoor air quality enhancements made in LM's portfolio of building inventory included eliminating the use of odorous or irritating building materials by using low-emitting adhesives, paints, carpets, flooring containing recycled content or biobased materials, and acoustical furniture systems. The use of specialty entry mats made of recycled tires, special cleaning supplies, and chemical storage areas further reduces indoor chemicals and pollutants. Heat-producing rooms, like the copier and audiovisual rooms, were equipped with external ventilation systems to increase airflow when required.

The benefits of a sustainable workplace are important to LM both for the aesthetics and design factors that result from a good building design envelope, but also for long-term factors such as environmental, economic, health, and community benefits. Environmental benefits include enhancing and protecting ecosystems and biodiversity, improving air and water quality, reducing solid waste, and conserving natural resources. Economic benefits reduced operating costs; enhanced asset value and profits; improved employee productivity and satisfaction, and optimized life-cycle economic performance. Health and community benefits improve air, thermal, and acoustic environments; enhance occupant comfort and health; minimize the strain on local infrastructure; and contribute to overall quality of life.

Many of the energy-saving measures and building enhancements utilized by LM have only recently been completed and building occupant satisfaction hasn't been formally documented, however, positive feedback has been received from many of the workers in these buildings. LM is committed to being good stewards of the nation's resources, not just for the immediate workforce but for generations to come. ♦



Nearly 90 roof-top solar panels were installed at the Grand Junction, Colorado, site office to lower costs and reduce energy needs.



## Program Update

Continued from page 4

### LM Sees Increase in Information Requests

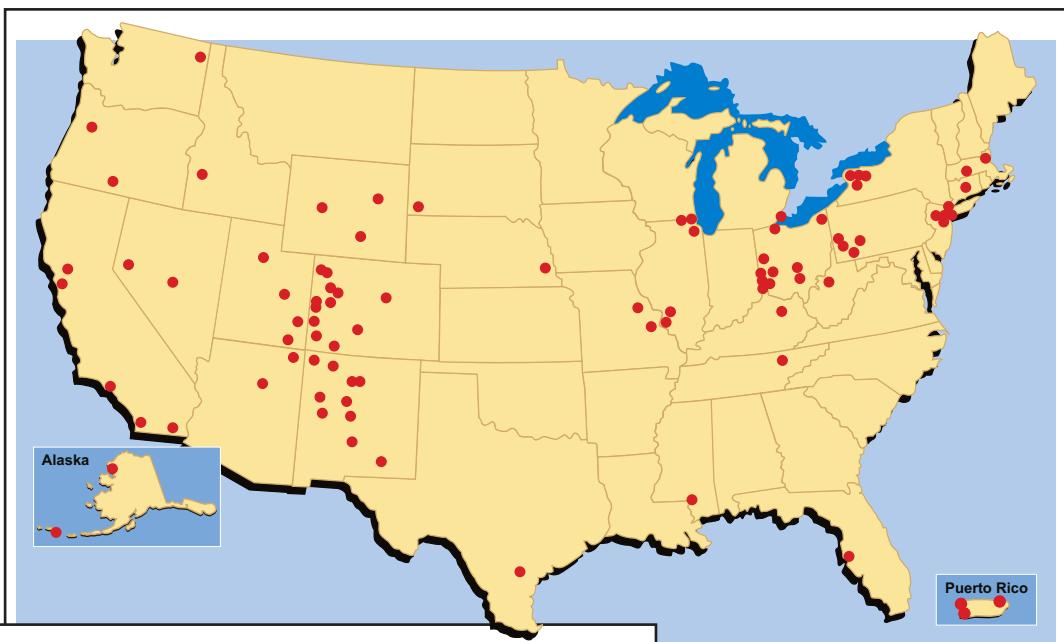
LM Privacy Act requests allow individuals to obtain information about themselves, mostly employment records of current or former contractor employees.

EEOICPA requests are received from the U.S. Department of Labor (DOL) and the National Institute for Occupational Safety and Health (NIOSH). LM's role is to provide records to DOL and NIOSH. The two agencies use the information provided to evaluate claims for compensation and health benefits for eligible DOE nuclear weapons workers and compensation to certain survivors of deceased workers.

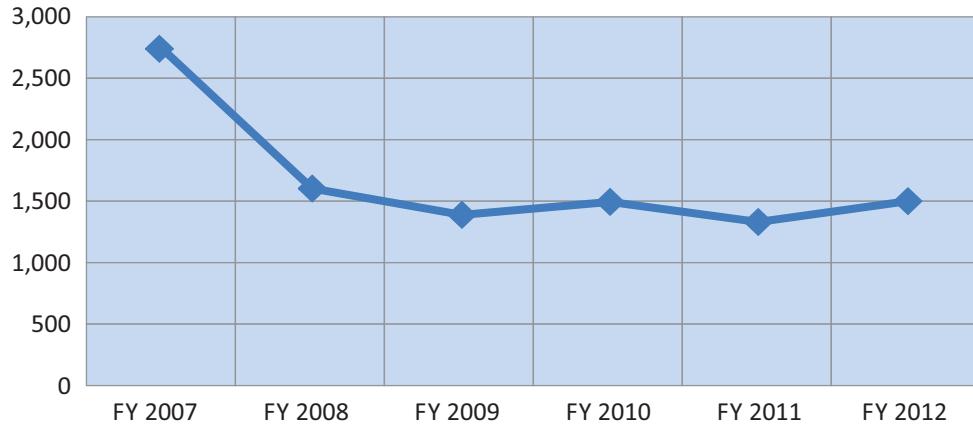
LM also provides information under the routine request provision, in which certain categories of former workers, DOE personnel, and other Federal representatives can request information.

LM endeavors to complete all information requests in a timely manner, according to regulations and statutes. To ensure timeliness, all incoming requests are tracked daily. Statistics are then compiled to create weekly, monthly, and year-end reports to keep LM management informed of response progress. ♦

*LM currently has responsibility for 89 sites in 28 states and Puerto Rico.*



**LM Total Requests**

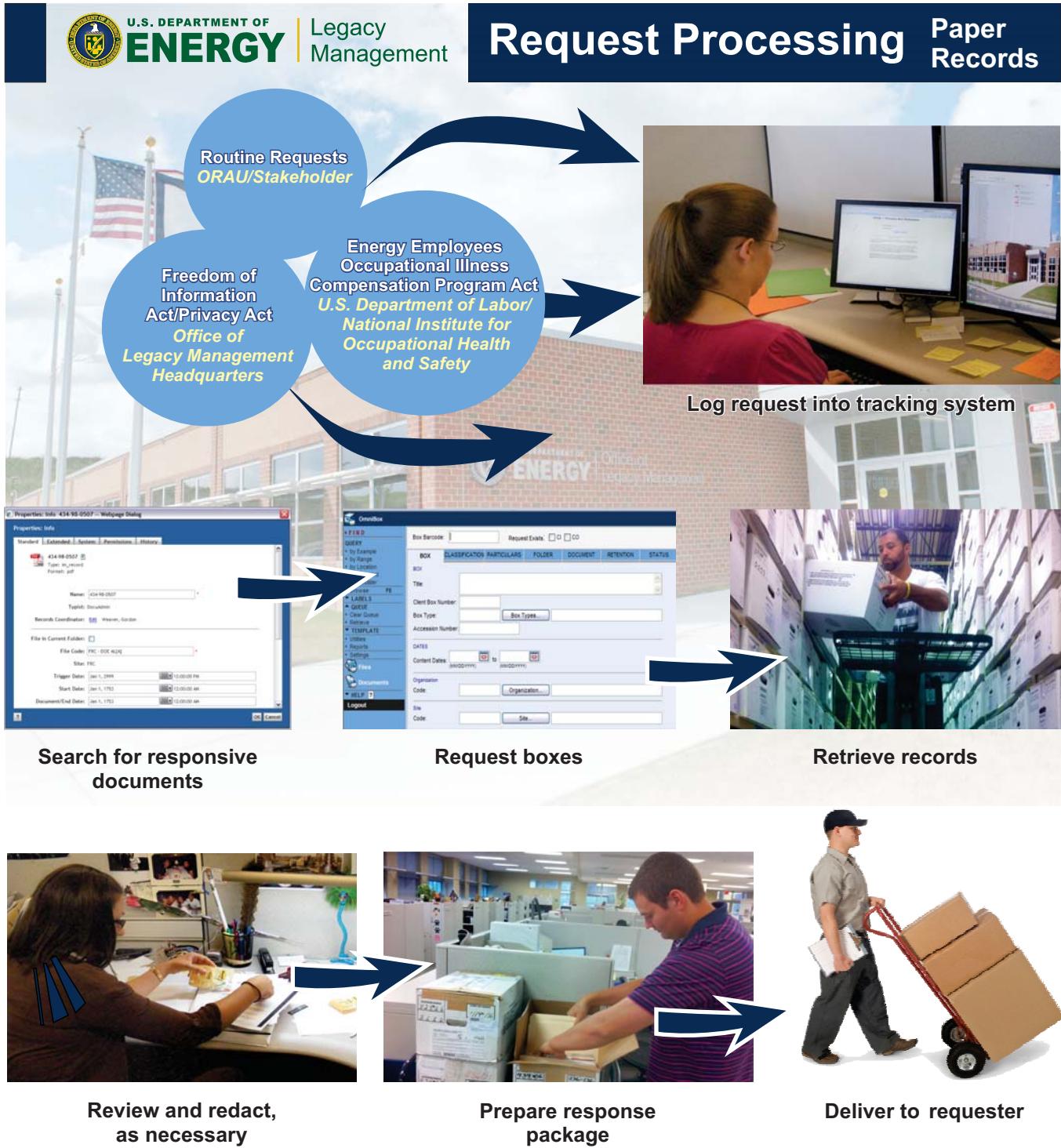




## Program Update

Continued from page 14

### LM Sees Increase in Information Requests





## Anticipated Legacy Management Sites Through FY 2020



Continued from page 9

### LM Continues Work with the Navajo Nation

the Navajo Nation Environmental Protection Agency to remediate contamination found at the Tuba City, Arizona, Highway 160 Site. LM will continue to cooperate on the development of the next Five-Year Plan, consult with the Navajo Nation, and seek additional community input.

More information about Navajo AML reclamation efforts can be found at [http://www.aml.navajo-nsn.gov/AML\\_Files/AMLReclamationPage.html](http://www.aml.navajo-nsn.gov/AML_Files/AMLReclamationPage.html), and about the work of the Navajo AML/UMTRA Department at <http://www.aml.navajo-nsn.gov/index.html>.

Information about the four UMTRCA Title I sites located on the Navajo Nation may be found on the LM website at [http://www.lm.doe.gov/mexican\\_hat/Sites.aspx](http://www.lm.doe.gov/mexican_hat/Sites.aspx) Mexican Hat, Utah <http://www.lm.doe.gov/monvalley/Sites.aspx> – Monument Valley, Arizona <http://www.lm.doe.gov/shiprock/Sites.aspx> – Shiprock, New Mexico <http://www.lm.doe.gov/tuba/Sites.aspx> – Tuba City, Arizona



## 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

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### 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. \_\_\_\_\_

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