

U.S. Department of Energy

PROGRAM UPDATE



April-June 2020



The Rise of the
Environmental Justice
Movement

**Downing Leads DOE
Environmental Justice
Program to Prominence**

Integrating
Environmental Justice
into the NEPA Process

Director's Corner



My last Director's Corner was only three months ago, but what an eventful three months it's been. In the short span of time since the COVID-19 pandemic began, so much has changed in our professional and personal lives.

I'm proud to say that despite the challenges, we continue to execute our mission of protecting human health and the environment. By working closely with our contractors, regulators, stakeholders, and other partners, we've been able to not just maintain but advance our work, thanks to outstanding flexibility, teamwork, and communication. Our entire staff has demonstrated a remarkable adaptability and resolve in the face of unprecedented disruption, from the emergency operations staff who leaped into action to IT experts who worked around the clock to provide teleworking support, from communications specialists who have ramped up digital outreach to field crews who have come up with innovative workarounds, and many others. (For more about LM's response to COVID-19, see "LM Remains Flexible and Adaptive in Pandemic Response," page 13.)

And yet throughout it all, we have not lost sight of our core values. Secretary Brouillette and all of DOE remain committed to environmental justice (EJ). This issue of *Program Update* is dedicated to EJ — the fair treatment and meaningful involvement

of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. In these pages, you'll find a historical perspective on the EJ movement; an overview of DOE's efforts to integrate EJ into the National Environmental Policy Act process; a profile of Melinda Downing, DOE's EJ program lead; and a spotlight on Ki'Ana Speights, a former LM intern who is now pursuing a career in EJ.

I especially want to commend Melinda Downing, whose 40-year career at DOE has left a record of achievement and advancement in justice and equality in federal programs and policies. Melinda has served as the first and only manager for DOE's EJ program, which is housed in LM but covers the entire Department. She has touched countless lives over the decades, from students to colleagues and stakeholders, and has greatly expanded the reach of EJ.

In addition to learning more about EJ in this issue, you'll also discover that we have much to celebrate, even during these unsettled times. We have two awards to laud, as the Weldon Spring Site in Missouri won a U.S. Environmental Protection Agency Site Reuse Award and our LM Support contractor achieved the highest level of recognition for DOE safety programs. In this time of social distancing, we've marked the 50th anniversary of Earth Day with a flurry of digital celebrations and launched two new virtual outreach platforms — our STEM with LM webpage and a Facebook account.

My next Director's Corner will be in September. We have in place one of the most thorough recovery plans within DOE, and I look forward to watching it unfold over the coming months. I can't predict what will or won't have changed between now and then, but I'm confident that whatever comes, we will make adaptations to not just fulfill but even exceed our expectations in LM. Now more than ever, take care of each other and execute the mission.

Warm Regards,

Carmelo

Carmelo Melendez



Graduation ceremony for Allen University Environmental Justice Scholars, a program that Melinda Downing has proudly supported since the program's inception in 2017.

LM Goals



Goal 1
Protect human health and the environment.



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



Goal 3
Safeguard former contractor workers' retirement benefits.



Goal 4
Sustainably manage and optimize the use of land and assets.



Goal 5
Sustain management excellence.



Goal 6
Engage the public, governments, and interested parties.

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This issue of *Program Update* is dedicated to the DOE Environmental Justice (EJ) Program. Along with the normal articles detailing LM program activities and achievements, we have included stories highlighting the DOE commitment to incorporate EJ into the Department's policies, programs, and values. You can find articles about the EJ Program on pages 4-11.

Cover: Melinda Downing, manager of the DOE EJ Program, speaks at the 2019 National Environmental Justice Conference and Training Program.

(L-R) Mia Keelys, Congressional Black Caucus; Robin Kelly, U.S. House of Representatives (IL); Lisa Blunt, U.S. House of Representatives (DE); James Clyburn, U.S. House of Representatives (SC); and Dwight Evans, U.S. House of Representatives (PA), at the 2019 Health Disparities Conference.



The Rise of the Environmental Justice Movement



Citizens in Warren County, North Carolina, protest siting of a hazardous waste landfill in their community. (Photo: Ricky Stille)

In 1982, the state of North Carolina decided to locate a hazardous waste landfill in Warren County, a small, predominately African American community. This landfill would accept polychlorinated biphenyl-contaminated soil that resulted from illegal dumping of toxic waste along roadways.

In response, the National Association for the Advancement of Colored People and others staged a massive protest, and more than 500 protesters were arrested. While the Warren County protest failed to prevent the siting of the disposal facility, it did bring national attention to the environmental justice (EJ) movement, which was galvanizing communities across the country seeking social justice and environmental protection.

Following the Warren County protest, people in poor communities created groups to fight environmental burdens that they claimed resulted from being targeted by industry for activities that threatened the environment (e.g., use, storage, and disposal of toxic chemicals that produced high rates of environmental illness).

The Warren County protest and the emerging EJ movement served as the impetus for a number of studies designed to measure the connection between race and hazardous waste-siting decisions. The General Accounting Office (GAO) reviewed the hazardous waste siting decisions in Region IV for the U.S. Environmental Protection Agency (EPA). This region includes Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee — states with a high proportion of minority residents. GAO found that there were four hazardous waste landfills in Region IV. African Americans made up most of the population in three of the communities where landfills were located, and at least 26 percent of the population in all four communities had incomes below the poverty level.

Also springing from the Warren County protest was *Toxic Waste and Race*, a 1987 study that examined the relationship between waste-siting decisions and race. That study concluded that

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The Rise of the Environmental Justice Movement

race was the most significant factor in siting hazardous waste facilities, and that three out of every five African Americans and Hispanics lived in community housing near toxic waste sites.

Another key event in the history of EJ is the First National People of Color Environmental Leadership Summit in 1991. Representatives from hundreds of communities across the country came together in Washington, D.C., to focus attention on the national problem of targeting minority communities for hazardous waste treatment, storage, and disposal facilities.

This summit was the first attempt to bring communities together to discuss their common interests and to seek a common solution.

One of the outcomes of the summit was a consensus document called the *Principles of Environmental Justice*, which laid out a process for maintaining communication and growing the new EJ movement as a national matter.

In 1992, EJ activities around the country led to a call by President George Bush, Sr., to establish an Environmental Equity Work Group, headed by then EPA Administrator William Reilly, to initiate federally sponsored meetings with community leaders to seek EJ solutions. Then, in 1994, President Bill Clinton issued Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.” This was the beginning of efforts by federal agencies to create a policy framework and strategy for addressing unequal environmental impacts.

Historically, minorities have been absent from the rank and file membership of mainstream environmental associations, and these organizations have not often addressed EJ issues.

In the 1990s, mainstream environmental organizations, such as Sierra Club, the Audubon Society, Friends of the Earth, and Greenpeace, began to recruit minority members to serve in staff and decision-making positions. A few, including Sierra Club and Greenpeace, have participated in the EJ struggle by filing briefs or providing information and organizational resources.

Since the 1990s, an international EJ movement is flourishing, having emerged out of various struggles, events, and social movements worldwide. ❖

Implementation of Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations”

EO 12898 directed executive branch agencies to make EJ a part of their decision-making process and to focus attention on the health and environmental conditions in minority populations and low-income populations, with the goal of achieving EJ and fostering nondiscrimination in programs with health and environmental impacts. Specifically, EO 12898 directed executive branch agencies to develop an EJ strategy to:

- Promote enforcement of all health and environmental statutes in areas with minority and low-income populations.
- Ensure greater public participation.
- Improve research and data collection relating to the health and environment of minority and low-income populations.
- Identify differential patterns of consumption of natural resources.



President Clinton signs EO 12898 on February 11, 1994.



Downing Leads DOE Environmental Justice Program to Prominence



(L-R) Denise Freeman (LM communications liaison); Melinda Downing (EJ program manager); Peter O'Konski (LM deputy director); and Ingrid Colbert (LM Finance, Audits, and Contracts Services).

Melinda Downing has professionally walked the halls of the U.S. Department of Energy (DOE) for years, leaving a proud record of achievement and advancement of justice and equality in federal programs and policies.

During her career, Downing has held various positions and duties, including conception, development, and oversight of the Center for Environmental Management Information in the 1990s. The center served as a citizen call-in resource for the DOE Office of Environmental Management (EM) and was the first of its kind. It offered citizens an opportunity to receive answers to EM-related questions, request documents, and visit an on-site library.

At this same time there was another citizen movement emerging called environmental justice (EJ). The EJ movement arose from an increased awareness of the disproportionately high impacts of environmental pollution on economically and politically disadvantaged communities. Citizens were becoming aware of issues such as social, economic, and political marginalization of low-income and minority populations. EJ was elevated with the National Environmental Policy Act of 1969 (NEPA) and when President Bill Clinton signed Executive Order 12898, "Federal

“Genuine, diligent, and compassionate are words that describe Melinda. Simply stated, she's the sole reason that the Savannah River Site has been able to achieve its EJ goals for over 20 years. She's been a professional mentor to me and has proven her commitment to the EJ Program by her time spent traveling to Aiken, South Carolina, and participating in workshops and community meetings throughout the years. She's not missed one. She cares and it shows.” — de'Lisa Carrico, Savannah River Site

Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (EO 12898) in 1994. EO 12898 directed federal agencies to develop strategies to address the disproportionately high and adverse health and environmental effects of their programs on low-income and minority populations.

This new opportunity was an awakening and inspiration for Downing. The EJ movement brought together three facets of her background: 1) the values of giving back and working hard that her parents stressed to their children, 2) the experiences of growing up in Tennessee as a black child who attended a recently desegregated high school, and 3) empathy for those who experience injustice. In EJ, she found her calling and a new career direction that ultimately opened and addressed the awareness of injustice for DOE.

She serves as the first and only EJ program manager for DOE. Although the program is under the umbrella of the Office of Legacy Management (LM), it is a DOE-wide initiative. Under her leadership, the program supports policies that provide benefits to adversely affected communities. It is Downing's belief that all people, regardless of race, ethnicity, gender, or income, have the right to a clean and healthy environment. Her EJ philosophy seeks three outcomes:

- Fair and equal treatment for all.
- Equitable distribution of environmental burdens.
- Meaningful involvement and participation in decision-making processes.

Using her understanding of EJ issues and the evolution of solutions, she has elevated the EJ Program to one of prominence in DOE

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Downing Leads DOE Environmental Justice Program to Prominence

and in the country. She has created near-term program objectives that include building capacity in affected communities; shifting discourses that centralize the voices of those most impacted by EJ; and strengthening relationships between citizens, environmental and community organizations, educational institutions, and governmental agencies.

Over her more than 40 years of federal service, she has received numerous accolades and awards in recognition of her EJ achievements and her dedication as a public servant. Most notably, she was named the DOE Woman of the Year and received an honorary doctorate from Allen University.

However, Downing's most enduring legacy may be the support and training she has provided to students, educators, and aspiring community leaders through the conferences, workshops, and training institutes she has led and supported through the years, including the National Environmental Justice Conference and Training Program; the Community Leaders' Institutes; the Teaching Radiation, Energy, and Technology Workshop; the Mentors for Environmental Scholars Program; and the Community Capacity Building Through Technology workshops.

She believes her success should be measured through the people who come together to address EJ, their involvement in EJ initiatives, and the gains made to eradicate injustice.

Few individuals are lucky enough to work in a field with complete passion and involvement. Melinda Downing not only has had this opportunity, but she has had the empathy, understanding,

ability, and most of all the courage to move the program forward. As a result of her efforts, DOE maintains one of the most progressive and respected EJ programs in the country.

For more information on the DOE EJ Program, use the following link to view long-term strategy and five-year accomplishment reports: <https://www.energy.gov/lm/services/environmental-justice/environmental-justice-documents>. ❖



Above: Participants at the 2019 Community Leaders' Institute in South Carolina.

Below: Students and community members attending the 2019 Teaching Radiation, Energy, and Technology Workshop.



GOAL 6



Timeline of Environmental Justice at DOE

1980 – Environmental justice (EJ) emerges as a concept in the United States.

1982 – Launch of the EJ movement with a major protest in Warren County, North Carolina.

1990 – Civil rights leaders, environmentalists, and researchers organize the 1990 Conference on Race and the Incidence of Environmental Hazards.

1990 – U.S. Environmental Protection Agency establishes its Environmental Equity Work Group.

1991 – First National People of Color Environmental Leadership Summit is held in Washington, D.C.

1994 – President Bill Clinton signs Environmental Justice Executive Order (EO 12898).

1995 – U.S. Department of Energy (DOE) writes the first *Environmental Justice Strategy* and establishes an EJ Program within the Office of Economic Impact and Diversity (ED).

1997 – Savannah State University receives the Waste Management Education and Enhancing the Environmental Science Program Grant.

2001 – DOE transfers EJ lead from ED to the Office of Environmental Management (EM).

2002 – Second National People of Color Environmental Leadership Summit is held in Washington, D.C.

2005 – DOE transfers EJ lead from EM to the Office of Legacy Management.

2007 – DOE issues updated *Environmental Justice Strategy*.

2008 – DOE issues an *Environmental Justice Five-Year Implementation Plan*.

2011 – White House Council on Environmental Quality issues a Memorandum of Understanding, signed by 17 federal agencies to reinvigorate EJ and create the Federal Interagency Working Group on Environmental Justice.

2017 – DOE publishes the *2017 Environmental Justice Strategy*.

2009-2018 – DOE issues the *Annual Environmental Justice Implementation Progress Report*.

2019 – DOE issues the second *Environmental Justice Five-Year Implementation Plan*.



Former LM Intern Pursues Career in Environmental Justice

Ki'Ana Speights, a former U.S. Department of Energy (DOE) Office of Legacy Management (LM) summer intern, reflects on what environmental justice means to her. Speights graduated this past May from Hollins University in Roanoke, Virginia, with a major in environmental science and a minor in social justice.



Ki'Ana Speights, former LM intern.

Who is your role model for environmental justice? And why?

KS: My role model for environmental justice is Majora Carter. She is a huge leader, visionary, and activist in the greening process for her home in New York. I believe the process of creating change for marginalized people starts where you come from.

What is it about environmental justice that interests you?

KS: I constantly advocate for action on climate change, ways to reduce the carbon footprint, and sustainable practices of resource management. What I've realized studying these topics is that there is inequality in the distribution of impact from environmental change and in the distribution of resources that can create resilience in communities looking to overcome environmental challenges and figure out new ways to survive.

Do you think that the environmental laws, regulations, and policies that are currently in place adequately protect minority populations? Would you change anything?

KS: This depends on the geographic region and the culture. Environmental policy differs all around the world and may not benefit everyone equally. For example, responses to natural disasters are not as immediate in some areas, such as we saw in Puerto Rico after the island was hit by a major hurricane. Environmental policy should change along with the times to fit the situation at hand. There should always be preparation to change along with the changing climate.

Have you experienced or witnessed injustice in your life?

KS: As an African American woman, I experience many injustices in my daily life. Environmentally speaking, I live in a lower-income area in South Carolina. Being in a lower-income area, you are more susceptible to environmental hazards than somebody who lives in a middle- or higher-income area. There is a large dog food plant by our grocery store that releases emissions that are thick and potent in the air, which is not good for respiratory health. However, since my town does not produce a lot of jobs and money, the government has displaced people from their homes to build large factories, such as the dog food plant.

Did your internship with LM change your outlook on your studies and future career path?

KS: Yes, the DOE internship helped shape my focus on environmental justice. The internship helped me steer my path by allowing me to work within marginalized communities. My attendance at the Uranium 101 workshops opened my eyes to the type of work that I would be getting into with environmental justice, advocacy, and outreach.

What are your plans after graduation?

KS: I plan to move to Washington, D.C., and attend American University to obtain a master's degree in ethics, peace, and human rights, with a focus on global environmental justice.

Now that your college life is coming to an end, what will you miss the most?

KS: I think what I will miss the most is spending time with my friends and going on random adventures. Going through the COVID-19 pandemic has made me realize that you should appreciate what you have while you have it. This was obviously not a part of the plan, but it has made me grow a sense of gratitude for my community at Hollins. ❖



DOE Leads Collaborative Effort to Integrate Environmental Justice Into the NEPA Process

The National Environmental Policy Act of 1969 (NEPA) committee of the Federal Interagency Working Group on Environmental Justice (IWG EJ) serves as a model for federal collaboration, focusing on the environmental and human health conditions in minority, low-income, and tribal/indigenous communities, with the goal of achieving EJ.

The committee aims to improve the consideration of EJ issues in the NEPA process through the sharing of best practices, lessons learned, research, analysis, training, consultation, and other experiences of federal NEPA practitioners.

Report gleaned lessons learned from federal agency practices since Executive Order 12898, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” was issued in 1994.

The NEPA committee also undertook a multi-year, multi-agency effort to increase understanding and application of effective EJ and NEPA approaches. The committee fosters consideration of EJ in NEPA reviews through briefings and training sessions with federal agencies, such as DOE, EPA, the U.S. Department of Transportation, U.S. Department of Agriculture, U.S. Department of the Interior, and others. The committee also provides training on effective engagement with the NEPA process for impacted communities and stakeholders. Since 2017, the committee has conducted training at the National Environmental Justice Conference and Training Program, as well as regional workshops across the country. In 2019, the NEPA committee produced the *Community Guide to Environmental Justice and NEPA Methods*, which provides information for communities who want to assure that their EJ issues are adequately considered when there is a federal agency action that may involve environmental impacts.



NEPA committee co-chairs Denise Freeman (left) and Suzi Ruhl (center) conducting a DOE Pilot Environmental Justice and NEPA Training and Workshop on the Promising Practices Report at the Western Area Power Administration in Phoenix, Arizona (2017).

In 2016, Denise Freeman, communications liaison with the U.S. Department of Energy (DOE) Office of Legacy Management (LM), joined Suzi Ruhl, senior counsel with the U.S. Environmental Protection Agency (EPA) Office of Environmental Justice, as co-chair of the NEPA committee (Ruhl has been a founding committee co-chair since 2012). During this time, DOE maintained a leadership role in the development and production of various EJ- and NEPA-related resource materials. For example, LM Director Carmelo Melendez recently issued a *Memorandum for Heads of Departmental Elements: Environmental Justice Evaluation Tools for National Environmental Policy Act Review* (2019), disseminating valuable resources to assist in advancing EJ principles.

The NEPA committee also produced *Promising Practices for EJ Methodologies in NEPA Reviews* (Promising Practices Report), a compilation of methodologies concerning the interface of EJ considerations in the NEPA process. The Promising Practices



A NEPA training workshop at the 2018 National Environmental Justice Conference and Training Program.

Freeman said that as a result of DOE’s participation on the NEPA committee, DOE conducted a review of completed NEPA documents and concluded that the Department had already been using many Promising Practices principles, such as ensuring that stakeholders’ views were considered and also

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DOE Leads Collaborative Effort to Integrate Environmental Justice Into the NEPA Process

documented in final NEPA documents. DOE also found areas of potential improvement, such as using the appropriate scale of analysis (e.g., use of smaller tracts, such as census block groups, versus county-level data) for identifying minority and low-income communities in analyses to show impacts on local populations.

“The collaborative efforts and accomplishments of the NEPA committee amplify the vital role of NEPA in setting a table for all stakeholders, including impacted populations, to produce the most informed government decisions about the environmental justice impacts of federal projects on communities,” said Ruhl.

Freeman and Ruhl may soon hand over the reins to the next generation of collaborative leadership. As a finale to their years of cooperation, they have helped the NEPA committee create an ad hoc team to share information, foster collaboration, and capture promising practices for addressing NEPA and EJ during the COVID-19 pandemic.

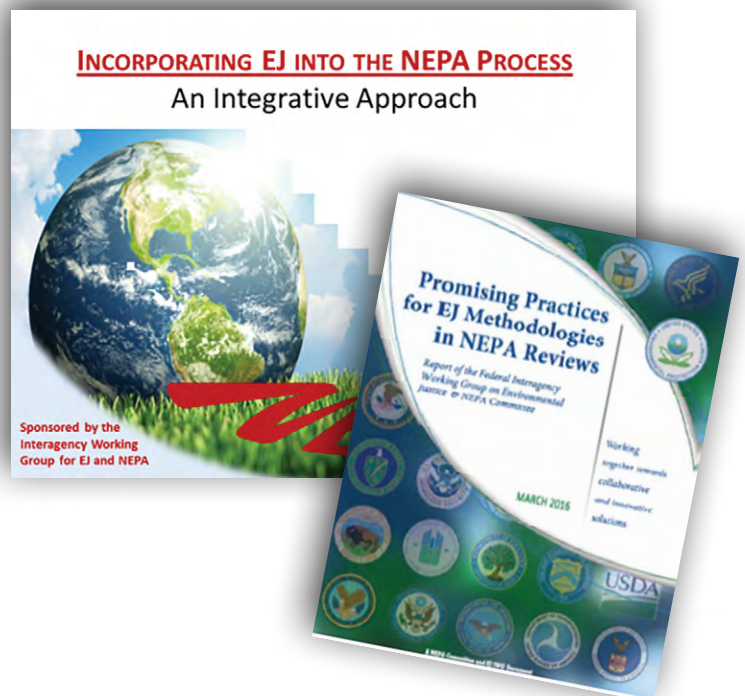
“The NEPA committee has provided a great opportunity for federal collaboration and coordination,” said Freeman. “Together, we have accomplished a myriad of milestones and helped the federal government consider EJ in a more effective and consistent manner.” ❖

For more resources regarding the work of the NEPA committee for the IWG EJ, visit these DOE and EPA sites with links to videos, community guides, data tools, and research resources.

- DOE: www.energy.gov/lm/services/environmental-justice/interagency-activities-and-resources
- EPA: www.epa.gov/environmentaljustice/environmental-justice-and-national-environmental-policy-act



NEPA committee co-chairs, Suzi Ruhl, EPA (center), and Denise Freeman, DOE (third from right), with participants in a NEPA and EJ training at the U.S. Department of Agriculture Animal and Plant Health Inspection Service (2017).





Weldon Spring Site Wins EPA Site Reuse Award

The U.S. Department of Energy Office of Legacy Management (LM) is proud to announce that the U.S. Environmental Protection Agency (EPA) awarded the 2020 Federal Facility Excellence in Site Reuse Award to the Weldon Spring, Missouri, Site. This award recognizes noteworthy restoration and reuse of federal facility sites through innovative thinking and cooperation among federal agencies, states, tribes, local partners, and developers.

The Weldon Spring Site is a former chemical plant and quarry that played a pivotal role in U.S. weapons development in World War II and the Cold War. The 228-acre site, located 30 miles west of St. Louis, was remediated and revitalized for beneficial reuse as a community educational center, restored native prairie, and recreational site.

“Beneficial reuse is a key tenet of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or Superfund program, under which the site was remediated,” said LM Site Manager Ken Starr. “The Weldon Spring Site has been transformed from a contaminated World War II explosives manufacturing plant and Cold War Era uranium processing facility to an educational and recreational site. It is truly an amazing transformation and a tremendous asset to the community.”

The Weldon Spring Site Interpretive Center is an outstanding example of reuse for community benefit, featuring an exhibit hall that informs and educates the public on the historical legacy of the site as well as LM’s ongoing work as stewards and protectors of public health and the environment.

Since opening in 2001, the interpretive center has served more than 346,000 visitors, program attendees, meeting room

users, and event attendees. Interpretive center staff engage with students throughout the school year, providing innovative STEM educational programs.

As an additional service to the community, meeting room space is made available to groups, including: naturalists, hobbyists, crafters, special interest and civic groups, trail users, and many others.

Located outside of the interpretive center is Howell Prairie, the site’s highly diverse, 150-acre, restored native prairie and on-site native plant garden, both of which serve as ideal habitats for various types of wildlife and pollinator species, as well as more than 200 species of native plants. Visitors can learn about regional plants and animals; climb the stairs to the top of the disposal cell to enjoy a 360-degree view; and take advantage of the hiking and biking trail system, including a remediation-era haul road repurposed into the 6-mile Hamburg Trail.

The site’s favorable position in the center of two large conservation areas showcases the importance of creating and maintaining recreational and ecologically rich greenspaces in proximity to major metropolitan areas.

The Weldon Spring Site is an excellent example of LM’s service to the community and commitment to environmental stewardship. The site will become an even greater asset with the construction of a new, state-of-the-art interpretive center and administrative office space scheduled to open in 2021. ❖



Disposal cell at the Weldon Spring Site (2019).



LM Remains Flexible and Adaptive in Pandemic Response

We interviewed U.S. Department of Energy (DOE) Office of Legacy Management (LM) Director Carmelo Melendez about the unprecedented response to the COVID-19 pandemic. He explained how the organization transitioned from a field-centric organization, with sites and offices spread across the country, to one primarily defined by teleworking, all while ensuring that sites remain protective of people and the environment.

Did you have any pandemic plans ready that could be used immediately when the COVID-19 pandemic started?

CM: No, we didn't have any specific pandemic plans ready, but we had a Continuity of Operations plan, which we adapted as a guide on how to proceed. Our emergency operations plans had cursory information about pandemics and were a starting point in LM preparation. LM patterned most of our pandemic planning on the plan that DOE Headquarters developed, which wasn't completed until mid-to-late March. The plans had to be revised to meet the needs of our organization in the ever-changing situation.

How did you deal with physical rehabilitation work in the field? Did you stop work during the pandemic, or did you switch into minimal operation?

CM: We invoked Minimum Safety Operations, or MINSAFE, as soon as the emergency started. We coordinated with regulators and stakeholders as things developed in the first few days. We continued fieldwork at the Rocky Flats, Colorado, and Weldon Spring, Missouri, sites, as well as selected activities at other sites. Our work didn't stop; we were just very judicious and made risk-based decisions on what to stop and what to continue. We reviewed long-term surveillance and maintenance [LTS&M] activities and decisions were made on a case-by-case basis about which operations would stop. Our goal was to maintain good standing with all regulatory and compliance activities

at our sites. This included continuing with projects that were critical to the safe, long-term management of our sites, particularly at our larger sites, where we have federal and contractor workers stationed.

LM is now responsible for 100 sites across the United States, from Alaska to Puerto Rico. We have delayed work at some sites requiring workers to travel overnight to reach a site. In addition, in areas where COVID-19 levels are higher, it is not safe to send workers to a site, or people from outside of an area are asked by local authorities not to come to the area.

However, for more remote sites, LM has maintained contact with regulators and local stakeholders. For example, on March 31, a 6.5-magnitude earthquake occurred in Idaho near the Lowman site, where LM conducts LTS&M on a small uranium mill tailings cell. Fortunately, a local fire chief who is a point of contact for LM in case of an emergency at that site was able to visit and report back that there was no visible damage.

How did the pandemic affect LM's overall work processes? Has telework been used, for example?

CM: LM pivoted from an outside to an internal focus in response to the pandemic, to make sure the safety and health of our employees was our primary goal. Telework moved from voluntary to mandatory for most employees during MINSAFE. In fact, LM was uniquely ready for working remotely, because we are a regional organization maintaining sites across the country. We maintain excellent contact throughout the organization. Yet with COVID-19, we knew any activities that did not undermine our commitment to being protective of human health and the environment and that could be stopped in a controlled, safe way would have to be stopped, and any work that could be completed

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LM Remains Flexible and Adaptive in Pandemic Response

remotely would continue. When the pandemic first started, we had to have everyone fully embrace using technology and make sure we had the resources available to help people work remotely in the most efficient way possible.

Ironically, just prior to shifting to almost complete telework, LM performed a drill in which everyone worked from home for a day. After the drill, help was provided to staff who had trouble logging in remotely. We quickly realized how valuable this exercise was after nearly everyone was working on LM's computer network from home because of the pandemic.

At 16 sites, LM has solar-powered SOARS [System Operations and Analysis and Remote Sites] stations that transmit data using satellites. Among the types of data collected are pump control, flow rate, and in-line pressure for water treatment systems; meteorological data; and visual images from webcams. SOARS has allowed LM to operate some water treatment systems and monitor the condition of sites where we could not send staff during MINSAFE. However, the camera at the Bluewater mill tailings cells was not working prior to LM going into MINSAFE. The Bluewater site is in New Mexico, which has restricted workers from outside the state from traveling to the area to do work. While the SOARS stations have been valuable for some information during the pandemic, it is not ideal, because it is important to maintain the station with in-person staff.

How is occupational safety and health currently regulated under the new conditions?

CM: Because of the pandemic, we've had some reduction in requirements, such as keeping employees' training current in certain areas like the hazardous waste 8-hour refresher and radiological control certifications. These are just two examples of activities where we were allowed to push the refresher training further than the normal year.

Something that has become normal is working from home. With the majority of our workforce teleworking, we needed to help all of our employees set up their home offices in the best manner possible to provide a comfortable place to work. We sent out an ergonomic workstation self-assessment checklist, along with the link to an ergonomics video to give some modification guidelines. We also have an ergonomist on staff to answer questions from employees.

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Left: At the Original Landfill stabilization project at the Rocky Flats Site in Colorado, an equipment operator grades soil on top of a drainage ditch below anchor row three on the landfill's east side. A replacement stand pipe, shown in the foreground, was installed to be able to access seep 10 (spring 2020). Top right: LM subcontractors drill into bedrock through the center of a concrete block placed on the landfill's west side, preparing to install a stabilization anchor (spring 2020). Bottom right: Equipment operators on the landfill's east side place gravel in an interceptor ditch below anchor row three and place backfill soil over completed anchor row four (spring 2020).

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LM Remains Flexible and Adaptive in Pandemic Response

For the few employees still working at job sites, social distancing protocols were instituted into the ongoing construction projects, along with increased use of personal protective equipment and procedures to achieve social distancing. We've included contractual modifications to LM's support contractor and subcontractors. Access control points were enhanced with screening protocols for health status, recent exposure, and to assess employees' readiness for work. Cleanings and disinfecting procedures were instituted for construction offices, equipment, and vehicles, and the number of persons in vehicles and construction equipment was restricted to one person. Additionally, if people had to travel to a job site, local hotel facilities were checked for COVID-19 response activities, such as restriction of social activities and distancing, enhanced cleaning, and reducing lodging to one person per room.

As we return to limited operations, LM is embracing guidelines from the Occupational Safety and Health Administration to bring people safely back into the workforce. Meanwhile, employees have to accept that the world has changed, and management needs to prepare the workforce for how to safely return and social distance, as well as a myriad of other things that come with the controls necessary to reduce the risk of spreading the virus.

What experiences do you take away from the pandemic for your future work?

CM: Semper Gumby! Always flexible. 1) Have a good foundational Continuity of Operations plan. 2) Know what work activities must continue based on risk-based decisions with a safety consciousness. 3) Communicate internally and externally with employees and stakeholders.

For those involved in moving the organization to MINSAFE, it was too easy to assume that everyone in the organization understood what was going on. So, it's important to communicate often and cover the same topics multiple times to reassure employees that we can and will get through this together and for employees to understand how work conditions and requirements will change, as LM begins resuming work at more sites. Also, we continue to maintain close coordination with regulatory agencies. This pandemic highlighted the need to be able to respond quickly to changing conditions, and LM was able to gain concurrence from our regulatory agencies in quick order, due to the close relationships maintained through our daily execution of LTS&M activities. ❖



At the Weldon Spring Site in Missouri, U.S. Army Corps of Engineers contractors have completed exterior wall structures and began siding installation on the new interpretive center (spring 2020).



Contractors also installed exterior siding and glass on the southwest side (above) and northwest side (below) of the building (spring 2020).





Legacy Management Support Achieves Highest Level of Recognition for Safety Program

In late March, the U.S. Department of Energy (DOE) Office of Legacy Management (LM) Support (LMS) contractor met the requirements for outstanding safety and health programs.”

LMS was formally recognized with a Star award within the DOE Voluntary Protection Program (VPP). The Star award is the highest level of recognition within the program.

“I’m proud of the work we accomplished in 2019 to reenergize our program and achieve Star status,” said Stephen Browning, program manager and vice president of Navarro Research and Engineering, Inc. “The significant changes that we made in a short time are a huge achievement that reflects the focus and commitment of our workforce and our continued strong partnership with Legacy Management.”

Navarro and its teaming partners hold the LM contract.

“Safety doesn’t happen by itself,” said LM Director Carmelo Melendez. “It took all of us to create a cultural mindset in how we think, plan, execute, and look out for each other. Maintaining this mindset each day will ensure that our priorities remain where they need to be.”

DOE initiated VPP in 1994 to promote safety and health excellence through cooperative efforts among labor, management, and government at DOE contractor sites. Similar to the Occupational Safety and Health Administration safety program, VPP provides several proven benefits to participating sites, including improved labor/management relations, reduced workplace injuries and illnesses, increased employee involvement, improved morale, reduced absenteeism, and public recognition.



To attain Star status, LMS closely coordinated with LM to improve management leadership, employee involvement, work site analysis, hazard prevention and control, and safety and health training.

“It’s really a tribute to the LM and LMS staff and how we work as one team with one mission,” said Emily Millikin, LMS manager of Environment, Safety, Health, and Quality Assurance. “We have a positive safety culture that includes treating people with respect.” ❖



Proud to Present: STEM with LM

LM is committed to supporting science, technology, engineering, and mathematics (STEM) education with exciting programs, hands-on tools, and engaging resources to enhance education about the past, present, and future of U.S. Department of Energy (DOE) Office of Legacy Management (LM) sites.

LM is the steward of legacy sites that played a critical role in America's nuclear history. The new STEM with LM program brings to life the awe-inspiring and world-changing advancements and events of the nuclear age, subsequent cleanup, and ecological transformations of these sites.

The STEM with LM webpage (<https://www.energy.gov/lm/stem-lm>) showcases our robust STEM program, which supports the nationwide effort via school and community events, curriculum development, student and teacher mentoring, internships and graduate programs, interpretive centers, tribal collaborations, and the integration of applied studies and technology of site management activities. Another feature of STEM with LM will allow staff to conduct STEM outreach in their communities via paid hours during and outside of work.

"In today's ever-changing and increasingly complex world, it's more important than ever that we enable our nation's youth with the knowledge and skills to help safeguard our future. LM is staffed with the best and brightest leaders in the field and we are looking forward to using STEM with LM to connect with students and educators. We are excited and honored to motivate, educate, and inspire the next generation of STEM leaders," said Karen Edson, public participation specialist and STEM with LM lead.

The STEM with LM webpage provides students, educators, and parents with resources for use at home and in the classroom. Visitors to the new webpage will find interactive, hands-on activities to celebrate this year's 50th anniversary of Earth Day, links to educational resources, and materials to download. New activities and resources will continue to be developed and added to keep students exploring.

Need help writing a research paper? Want to know more about the history of LM sites, their cleanup, and ongoing long-term stewardship work? Or want to ask a scientist about their career path and how to land a job at DOE? Simple. Ask LM! STEM with LM aims to advance learning by connecting technical experts who are working for the continued protection of human health and the environment with students interested in learning more.

STEM with LM also links visitors to information on LM's public interpretive centers. While the centers are currently closed due to restrictions related to the coronavirus (COVID-19) pandemic, the sites regularly provide on- and off-site STEM programming and events for all ages. In addition, for high school, undergraduate, or graduate students wishing to pursue a future career in STEM, career and internship information is available on the webpage to help inspire the next generation of STEM professionals.

We invite you to ignite your passion for STEM by exploring the possibilities of just how far that passion can take you through STEM with LM. ✦



STEM WITH LM



LM Advances Beneficial Reuse and Pollinator Initiative at Edgemont Site

As a gentle breeze rustles the grass, a perky black-eyed Susan stretches toward the sun, hoping to attract the attention of industrious bees in search of pollen. Growing near a Uranium Mill Tailings Radiation Control Act (UMTRCA) disposal cell, the very presence of this small wildflower is a testament to the care the U.S. Department of Energy (DOE) Office of Legacy Management (LM) provides at managed sites across the country.



A sweat bee (*Lasioglossum* spp.) pollinates a wildflower at the Edgemont site.



Foxglove beardtongue (*Penstemon* spp.) at the Edgemont site.

The 360-acre Edgemont, South Dakota, Disposal Site, located in the southwestern corner of the state, contains a disposal cell spanning about 100 acres and enclosing about 4 million tons of contaminated material from a former uranium processing mill.

The surface of the cell is covered primarily with seeded grasses while the remainder of the site consists of a mix of reclaimed and undisturbed areas covered with native shrubs, grasses, and forbs. This landscape blends in with the surrounding private lands, which are primarily used for grazing and wildlife habitat. A local ranching family grazes its cattle on the site through an LM grazing license. This licensee also provides monitoring for site security and maintains the perimeter fence.

In July 2016, a wildfire burned across the Edgemont site. Firefighters established containment boundaries by bulldozing through part of the site boundary. Subsequent site investigations by LM determined that the wildfire was not only ecologically beneficial, but also provided a stewardship opportunity.

The temporary removal of competing groundcover after a wildfire allows wildflowers and beneficial plant species to establish in places where non-native or invasive species may have thrived. The wildflowers in turn help restore the habitat to a pre-fire condition, which is often healthier than before the fire.

In 2014, a presidential memorandum titled *Creating a Federal Strategy to Promote the Health of Honey Bees and Other Pollinators* was issued, directing DOE and other federal agencies to take actions consistent with each agency's mission to support pollinator health on federal lands. DOE responded with the *Pollinator Protection Plan*, and set to work improving habitat, encouraging beneficial pollinators, enhancing nutritional

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LM Advances Beneficial Reuse and Pollinator Initiative at Edgemont Site



(Above L-R): Jerry Sterns, Edgemont grazing licensee. Rip-rap on the site after the July 2016 wildfire. Rip-rap on the site two years after the fire in July 2018. Below: LM Site Manager Tashina Jasso photographs wildflowers growing at the Edgemont site.



resources, and reducing exposure to pesticides. LM utilized the post-fire Edgemont site as a location for implementing the initiative and determined a best path forward for establishing beneficial habitat. Seed mixes designed to attract pollinators were delivered to Jerry Sterns, the site's grazing licensee, who in turn volunteered to re-seed the site.

In total, 50 acres of the Edgemont site were re-seeded with a pollinator mix that included black-eyed Susans, evening primrose, yellow coneflower, maximilian sunflower, nodding bur marigold, prairie spiderwort, purple prairie clover, and bee balm. These plants are important because they are preferred by native bumblebees, which favor large flowers, and sweat bees, which favor smaller flowers.

Readily available food sources are paramount to the success of bee colonies that forage from spring to late summer while preparing for overwintering. With access to preferable food sources, native pollinator species can thrive and help maintain diverse ecosystems, especially those dependent upon pollination by native bees.

The Edgemont site is an excellent example of how to sustainably manage and optimize land use — all thanks to the combined efforts of LM and the Edgemont grazing licensee.

For additional information on the Edgemont site, please visit www.energy.gov/lm/edgemont-south-dakota-disposal-site. ❖



LM Celebrates Earth Day



U.S. DEPARTMENT OF ENERGY
EARTH DAY
 ACTION FOR EARTH!



Wildlife is abundant at many LM sites.

Celebrated every year on April 22, Earth Day is thought to be the largest secular observance in the world, as individuals and organizations from across the globe participate in actions that promote a healthier environment for future generations. This year marked the 50th anniversary of Earth Day. The U.S. Department of Energy (DOE) Earth Day 2020 theme was “Action for Earth.”

For the DOE Office of Legacy Management (LM), Earth Day presents an opportunity to reflect on the office’s stewardship mission.

“I’m glad to be joining DOE in reflection on this 50th anniversary of Earth Day,” said LM Environmental Program Manager Tracy Ribeiro. “Ensuring the future protection of human health and the environment is at the heart of our mission in legacy management. This mission drives us to be better stewards every day at our 100 sites, but Earth Day is an extra reminder of why our work is so important for those that come after us.”

The seeds for Earth Day were sown in 1969 when Senator Gaylord Nelson of Wisconsin, concerned about the onslaught of environmental crises in the 1960s, made plans for a nationwide

day of education and activism. He scheduled the first Earth Day in 1970. Public participation in the event was extraordinary, and a tradition was launched.

“So many things have changed over the past 50 years, from the creation of the U.S. Environmental Protection Agency and environmental regulations, to new advancements in technology and people’s behavior toward the environment,” said LM Reuse Asset Manager Joyce Chavez. “Science has given individuals new information and tools to continue the next generation’s drive to protect and enhance the environment.”

“I’ve seen some great conservation work happen in the U.S. since the 1970s — cleaner air, cleaner water, wildlife species saved from extinction,” said Marilyn Kastens, Ecosystem Management



Restored native prairie at the Fernald Preserve site in Ohio.

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LM Celebrates Earth Day

team lead for the LM Support contractor. “I’m happy to see that Earth Day is still here, as we humans will always need to question the potential impacts of our actions.”

Ribeiro pointed out that the National Environmental Policy Act (NEPA) also celebrated its 50th anniversary this year. “Both NEPA and Earth Day were initiated by the need to make better decisions and improve awareness after several environmental disasters in the 1960s,” she said. “Both spur us to make the earth a better place.”

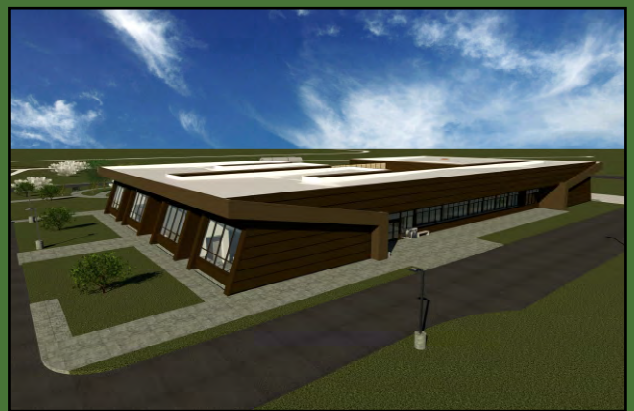
As part of LM’s [Environmental Management System](#) (EMS),

the office incorporates environmental considerations into all aspects of its mission to maximize beneficial reuse of finite resources; minimize wastes and adverse environmental impacts; and meet or exceed compliance with applicable environmental, public health, and resource protection laws and regulations. Individual EMS sustainability teams focus on areas that include energy, electronics, sustainable acquisition, water conservation, resilience, and vehicle and fuel use.

Visit the DOE Earth Day webpage (www.energy.gov/earth-day) for additional Earth Day resources. ❖

New Weldon Spring Interpretive Center Boasts “Green” Features

In 2019, LM and the U.S. Army Corps of Engineers St. Louis District celebrated the start of construction on a new interpretive center and administrative office space at LM’s Weldon Spring, Missouri, Site. The design of the new facility adheres to the 2016 Guiding Principles for Sustainable Federal Buildings, promoting energy optimization, improved water conservation, enhanced use of natural daylight, and compliance with many other eco-conscious standards. The new interpretive center will also have larger meeting room spaces to accommodate more student groups, allowing for increased STEM programming.



An artist's rendering of the new interpretive center at the Weldon Spring Site.



DOE Leadership Development Program Graduates First Class

Leaders instill confidence and a belief in success within their team. Positive leaders empower people to accomplish their goals. Those are key tenets of the U.S. Department of Energy (DOE) Leadership Development Program.

Denise Freeman, communications liaison with the DOE Office of Legacy Management, recently graduated with the first cohort from the program, which was conducted by the Center for Leadership and Innovation at the University of Maryland, Baltimore County. Freeman was one of 40 DOE employees selected for the program, which ran from September 2019 to April 2020. The program consisted of three on-campus sessions (a fourth on-campus session in April was moved online due to the COVID-19 response) as well as online curriculum work, discussions, and exercises.

The program focused on leadership fundamentals — team building, trust, leadership coaching, communication, mastering conflict, and emotional and cultural intelligence. The program is designed to create a common language and consistent focus on strategic alignment across DOE leadership.

Freeman found the cultural intelligence piece to be one of the most useful sessions for herself and many of her classmates. She said the class encouraged meaningful, sensitive discussions of ethnicity and race in the workplace and how cultural perceptions affect the decisions people make.

“It opened a lot of people’s eyes to the pressure that minorities feel to achieve, to give the right appearance,” Freeman said.

“It was incredibly valuable just to have that conversation and increase the understanding of what other people have to go through.”

Kevin Witt, a nuclear safety team lead with the DOE Office of Enterprise Assessments, said getting to know people in the program, learning about their roles, and hearing about their experiences were all valuable takeaways.

“This program opened people up and made them comfortable talking about situations that you can learn from and that can definitely inform you on how to deal with people and challenges as a leader,” said Witt.

Another participant, Ira Witherspoon, a transmission scheduling supervisor in the Western Area Power Administration, felt that one the most important lessons from the course was the emphasis on looking at issues with a “generative lens.”

“Instead of shooting things down and going negative, you want to think of what’s working and how can you build on that,” said Witherspoon. “Some of this is rehashing concepts that we already knew, but we did deep dives into many issues in order to actually build the strength that’s needed to use these tools in our everyday lives and also in our work lives.”

Laura Biven, a computer science program manager in the DOE Office of Science, said that what made the leadership program unique was the level of diagnostic tests, such as the Meyers Briggs Type Indicator and a 360 assessment, that participants were required to complete. Participants also had coworkers and supervisors complete assessments about them as well.

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Participants in the DOE Leadership Development Program after an escape room session.

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DOE Leadership Development Program Graduates First Class

“You get a lot of data about yourself, who you are, how you behave, what motivates you — as a person and in the workplace as well,” Biven said.

The participants were divided into teams of six for completion of an Action Learning Project. Freeman and her teammates developed a presentation for what they termed the DOE Ambassadors Program, which is summarized by the tagline, “internal awareness for external engagement.”

Biven said the project idea came from discussions during the program about parts of DOE they’d never heard of before.

“The basis of the project was that if DOE employees had a better understanding of key elements of the Department — their

missions, their functions — then we’d be in a much better position to engage with external stakeholders,” said Biven.

Participants said the program provided frameworks, terminology, and ways to think about leadership, how to build trust in teams, how to use empathy as a leadership tool, and how to improve understanding of your strengths and weaknesses so you can help others.

“I have a lot of passion for life, and for others. And it comes out in everything I do,” said Freeman. “I sometimes have to tone that down at work, but this course taught me how to hone those strengths and use them to get the job done. ❖



Be Environmentally Conscious

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

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

Thank you for your assistance.





LM Safety and Health Manager Makes Employee Protection a Top Priority

One team, one mission.

That's the motto Brian Stewart embraced when he became the Safety and Health Program manager for the U.S. Department of Energy (DOE) Office of Legacy Management (LM) last year. Stewart, who oversees site safety for LM employees, DOE contractors, and the public, stepped into his new role with the goal of changing the way the organization thought about safety and health. He made it a priority to collaborate with and support LM site teams and contractors as one unit committed to a strong safety culture.

"When it comes to safety and health, we're working with staff at LM sites to plan the work and work the plan. That means outlining the work with the site teams and contractors before they get on-site and making sure that they follow that plan once the project begins," Stewart said. "We want to do more than simply prepare personnel for a project. Our mission is to help them throughout the project with regular site visits. When you're out on the same site every day, you can easily become complacent and overlook the details. We want to bring a fresh set of eyes to the site to ensure that everything is going as planned."

So far, this approach is working. In support of LM's mission, Stewart and his team have helped the LM Support (LMS) contractor meet the requirements for outstanding safety and health programs, as outlined by the DOE Voluntary Protection Program (VPP). In March, officials awarded LMS with VPP Star status, the program's highest level of recognition.

To attain STAR status, the Safety and Health Team focused on employee engagement, management leadership, work site analysis, hazard prevention and control, and safety and health training. For LM site teams and contractors, this has meant a reduction of workplace injuries and illnesses, an increase in employee involvement, and an overall boost in morale.

While Stewart is proud of his team's early success under the renewed safety culture, he stresses that this is just the beginning. VPP checks on its STAR organizations every three years to keep tabs on what's working and requires constant effort toward improvement of safety and health strategies. For LM to maintain its STAR status, the Safety and Health Program must continue to evolve.

One of the program's latest innovations is a digital Safety Data Sheet (SDS). SDSs are used to keep an online record for each



Brian Stewart, LM Safety and Health Program manager.

chemical stored at LM sites. Stewart explained that while some LM sites require specific chemicals to maintain equipment and monitoring systems, a recent hazard survey revealed an overwhelming number of chemicals at LM sites that were not serving a purpose, creating a potential danger to site workers. He and his team expected to log about 600 chemicals, but the inventory dwarfed that estimate with nearly 1,400 chemicals found.

Digital SDSs will enable the Safety and Health Team to cross-reference chemicals at various sites without having to travel to the site, managing the disposal of excess chemicals to reduce hazards.

Stewart is driven by a sense of purpose to keep the organization's employees and contractors safe while balancing their needs and wants. That mission means staying focused on new ways to enhance LM's Safety and Health Program. After all, it's his job to be on the constant "look out," and he takes his post very seriously.

"We have to continue to improve," Stewart said. "Continue to improve our processes, continue to improve our culture — continue to improve everything." ❖



LM Participates in 46th Annual Waste Management Symposia

Staff from the U.S. Department of Energy (DOE) Office of Legacy Management (LM) contributed to the success of the 46th annual Waste Management Symposia, which was held in early March in Phoenix, Arizona. Waste Management is the premier international conference for information exchange on radioactive waste management and is the largest annual exhibition in the industry.

The theme of this year's conference was: "Reducing Long-Term Environmental Liability Through Efficient, Effective Clean-Up," and the featured site was the DOE Savannah River Operations Office. William (Ike) White, a senior advisor to the DOE undersecretary of science, was one of the plenary speakers.

LM staff presented during sessions and supported the LM information booth in the exhibit hall. LM presentations included:

"Post Closure Challenges and Long-Term Stewardship/Legacy Management," "Tribal Community Outreach," and "Oil and Natural Gas Development Near and Beneath Uranium Tailings Disposal Cells and Other Remediated Sites."

"Waste Management is a great opportunity for us to exchange best practices with industry experts to ensure that we efficiently perform our mission," said LM Site Manager Darina Castillo.

Additional topics featured at the conference included special reserved sessions in the categories of used fuel, decontamination and decommissioning, procurement and contracting, safety, clean-up of legacy sites worldwide, and collaborations between the U.S. Nuclear Regulatory Commission and the U.S. Department of Defense. ❖



The LM team in Phoenix at the 2020 Waste Management Symposia.



Navajo Nation STEM-sation Events Postponed Due to COVID-19 Outbreak



Joni Tallbull, senior environmental specialist with the Navajo Nation Abandoned Mine Lands (AML)/Uranium Mill Tailings Remedial Action (UMTRA) Department, gives a motivational speech to high school students at Monument Valley High School, in Kayenta, Arizona, in November 2019.

Before the COVID-19 outbreak on the Navajo Nation in late March, another round of STEM-sation events was scheduled for the spring 2020 school year. The program had started off the year strong with two successful outreach events at Tohatchi High School and Sanders Valley High School. However, the growing number of positive cases of COVID-19 throughout the Navajo Nation led to strict travel restrictions, early school year dismissal, and the postponement of two upcoming STEM-sation events at the Hopi Junior/Senior High School and Wingate High School.

An estimated 7,500 students have participated in 17 STEM-sation events held at 15 high schools since the first event was held in spring 2018 at Shiprock High School, according to Nathan Tohtsoni, one of the key organizers for the events and the education coordinator for Navajo Transitional Energy Company (NTEC). Tohtsoni believes STEM-sation will continue to grow every year.

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Navajo Nation STEM-sation Events Postponed Due to COVID-19 Outbreak

“The purpose of the event is to promote STEM career fields to our Navajo students, to show them opportunities they have in these fields,” said Tohtsoni. “They don’t have to go to the cities when there are quality STEM jobs here on the Navajo Nation.”

Tohtsoni said one of the most important components of STEM-sation events is Navajo professional representation. For example, at the 2018 Chinle, Arizona, STEM-sation event, Tohtsoni remembers a teacher expressing his appreciation a Navajo professional stood behind every display. From the teacher’s standpoint, this was a game changer for his students.

“You’re a role model to them. When you talk to them, you can tell them your experience,” said Tohtsoni. “The students start to realize if you did it, they can do it. That is the positive benefit of having Navajo professionals at these events.”

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) is part of a partnership of federal and tribal organizations behind STEM-sation, which was started by NTEC and the Navajo Nation Abandoned Mine Lands (AML)/Uranium Mill Tailings Remedial Action (UMTRA) Department. Other sponsors include Arizona Public Service and BHP.

The LM STEM booth provides hands-on activities related to STEM careers to engage in one-on-one interaction with students and teachers. Many organizations set up booths and hand out information related to their organizations, including information about student internship opportunities.

LM also participates in Diné College’s annual STEM-Fest events for the spring and fall semesters in Tsaile, Arizona to promote STEM career fields.

“DOE has really grown with the STEM-sation program, and we would like to see more organizations do the same thing,” said Tohtsoni.

Tohtsoni said he is looking to reschedule the two high school events once restrictions are lifted and schools are back in session. The coordinators typically schedule eight STEM-sation events per year. ❖



LM Site Manager Bill Frazier engages with a student during a STEM-sation event at Thoreau High School, in Thoreau, New Mexico, in April 2019.



LM Support Public Affairs Specialist Chrissy Largo discusses her college and career pathways to a group of students at a STEM-sation event held at the Window Rock High School Bee Hóldzil Fighting Scouts Events Center, in Fort Defiance, Arizona, in March 2019.



Legacy Management Benefits from National Lab Network Collaboration

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) has embarked on a unique collaboration with the National Laboratory Network (NLN) to evaluate, develop, and deploy recommendations to reduce risks at LM sites with the highest relative risk ranking.

The lead lab is Savannah River National Laboratory (SRNL) in Aiken, South Carolina. SRNL is designated as the national laboratory for the DOE Office of Environmental Management and is the nation's only complete nuclear materials management facility. Originally constructed to produce the basic materials necessary for the development of nuclear weapons, SRNL has a rich history in the U.S. defense program. Other labs engaged in the effort include the Pacific Northwest National Laboratory, Sandia National Laboratories, Lawrence Berkeley National Laboratory, Los Alamos National Laboratory, and the SLAC National Accelerator Laboratory.

The collaboration was initiated with the guidance of LM Director Carmelo Melendez, who recognized that the combined expertise of NLN, LM, and LM Support (LMS) could be used to identify scientific and technical opportunities for LM sites.

“The partnership allows us to leverage research and technology of mutual interest for environmental remediation,” said Melendez. “LM will benefit from the professional exchanges while further expanding our access to technical expertise.”

The top ten sites for focus were identified through four key categories:

- **Human Health** – the possibility that people could be exposed to unacceptable levels of site-related contamination.
- **Stakeholder** – the likelihood that the protectiveness of a given site could be affected or questioned in some way based on input from stakeholders.
- **Regulatory** – the likelihood that a site will not attain long-term stewardship compliance goals.
- **Institutional Control** – an assessment of the effectiveness of institutional controls to maintain protectiveness.

The ranking compared relative risks among the 100 LM sites.

The top two sites on the list are both located on the Navajo Nation. The highest ranked site is the Shiprock, New Mexico, Disposal Site, followed by the Tuba City, Arizona, Disposal Site.

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Floodplain at the Shiprock, New Mexico, Site.

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Legacy Management Benefits from National Lab Network Collaboration

A series of eight weekly working group virtual meetings was launched to address risk at both sites.

The Shiprock site meetings began April 16, and the Tuba City site working group will convene after the completion of the Shiprock working group meetings. Participants include LM site managers and public affairs staff; LMS site leads, technical experts, and public affairs staff; NLN experts; and government and community stakeholders.

“The spirit of teamwork and collaboration was instantaneous,” said LM Program Manager Mark Kautsky. “I anticipate many positive actions that will benefit both LM and NLN for years to come.”

At the end of the eight meetings, the teams will develop actionable risk-reduction recommendations, and LMS will provide a recommendations report for each site. The report will be a consensus of the team’s ideas, directly addressing the categories of high risk, with an outline of proposed actions for each recommendation. Based on the site and working group technical expertise, the composition of the NLN team could change slightly when the group begins to consider other LM sites beyond Tuba City and Shiprock. ❖

National Lab Network Focus Sites

1. Shiprock, New Mexico, Disposal Site
2. Tuba City, Arizona, Disposal Site
3. Bluewater, New Mexico, Disposal Site
4. Mound, Ohio, Site
5. Weldon Spring, Missouri, Site
6. Monument Valley, Arizona, Processing Site
7. Fernald Preserve, Ohio, Site
8. Monticello, Utah, Disposal and Processing Sites
9. Grand Junction, Colorado, Disposal Cell and Processing Site
10. Pinellas County, Florida, Site



Distillation Unit at the Tuba City, Arizona, Site.



Middlesex Borough Plans to Put New Jersey FUSRAP Site to Good Use

Middlesex Borough, New Jersey, is working toward acquiring a Formerly Utilized Sites Remedial Action Program (FUSRAP) site for its Department of Public Works, supporting a \$40 million adjacent development and a larger community redevelopment zone. To help make the borough’s plan a reality, the U.S. Department of Energy Office of Legacy Management (LM) has accelerated the process of transferring the southern portion of the Middlesex South, New Jersey, FUSRAP site.

To ensure redevelopment occurs in a timely manner, LM staff has worked closely with colleagues from Middlesex Borough, the U.S. Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers (USACE), and the New Jersey Department of Environmental Protection. The team evaluated various transfer and disposal options against redevelopment schedules and ultimately approved the use of a Finding of Suitability to Transfer (FOST) process to document that the southern portion of the property is environmentally suitable for transfer.

“The coordination and completion of this effort required intensive collaboration from all parties involved,” said LM FUSRAP Site Manager Darina Castillo.

LM Senior Realty Officer David McNeil wholeheartedly agreed, observing that, “the leadership demonstrated by the local, state, and federal agencies involved in this process kept us focused on our shared goal of a smooth and efficient disposition of the Middlesex South site.”

The use of FOST for transfer of a FUSRAP property that is also currently on the National Priorities List (NPL) is unprecedented.

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Left: Current condition of the Middlesex South site. Right: Collaborative decision-making team.

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Middlesex Borough Plans to Put New Jersey FUSRAP Site to Good Use

Transferring a site on the NPL would typically lead to a lengthy approval process involving the EPA administrator and state governor. However, as all remedial actions are complete on the southern portion of the site, the team recognized that the transfer could be accelerated.

The FOST was finalized in March 2020 and requires subdivision of the property in order to demonstrate that the southern portion is environmentally suitable for transfer to the borough under the Comprehensive Environmental Response, Compensation and Liability Act, Section 120(h), "Property Transferred by Federal Agencies."

With the FOST complete, LM is in the process of granting an easement to Middlesex Borough to construct a public road across the property that will not only support the new department of public works building and the adjacent

development but also enhance traffic safety in the area and support the borough's Lincoln Boulevard Redevelopment Plan to revitalize the area.

The Middlesex South site was home to the USACE Middlesex Sampling Plant, established in 1943 by the USACE Manhattan Engineer District to sample, store, test, and transfer ores containing uranium, thorium, and beryllium. USACE completed remediation on the vacant FUSRAP site in 2008. As part of this effort, over 45,000 cubic yards of contaminated material were removed and disposed of off-site, allowing the site to achieve a cleanup goal of unrestricted use for soil. The northern portion of the site will remain under government ownership, while groundwater remedial activities are implemented.

The General Services Administration will serve as the government's agent to transfer the property. ❖

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