

Intergovernmental Meeting with DOE (Lunch Presentation)
Long-Term Stewardship and Legacy Management Remarks
by Carmelo Melendez, DOE LM Director

Good afternoon. It is a pleasure to be here with you today. Brandt and Tony gave me some advice Monday on what to cover today. Since some friends and colleagues are familiar with our role, while others are not, I will try to cover our roles over this lunch hour. My goal today is to give you an overview of what Legacy Management does and share some observations from my first year leading the office. If I meet the intent, those two guys get the credit, if I do not, I am solely responsible.

The U.S. Department of Energy Office of Legacy Management (LM), established in 2003, manages DOE's responsibilities associated with the closure of World War II and Cold War-era sites the federal government operated to research, produce, and test nuclear weapons and conduct other scientific and engineering research. The operations conducted in this vast network of industrial facilities left a legacy of radioactive and chemical waste, environmental contamination, and hazardous facilities and materials at well over 100 sites. LM is one of 10 program offices in DOE and is led by a career member of the Senior Executive Service. Today a combined team of 500 dedicated federal employees and contractor partners perform long-term stewardship activities for 92 sites nationwide. Since 1989, DOE has taken an aggressive accelerated cleanup approach to reduce risks, cut costs, and ensure the protection of human health and the environment. The establishment of LM is part of that approach. At most DOE sites undergoing cleanup, some residual hazards will remain when cleanup is completed due to financial restraints, inaccessible contaminants, risk conditions that do not warrant further expenditures, construction of on-site disposal cells or an agreed-upon use scenario, for example, cleaning up to an industrial exposure. However, DOE still has an obligation to protect human health and the environment after cleanup is completed. LM fulfills DOE's post-closure obligation by providing long-term management of post-cleanup sites that do not have continuing missions.

Regulatory drivers are statutes or programs that direct cleanup and management requirements at DOE sites. LM currently manages sites with diverse regulatory drivers:

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Resource Conservation and Recovery Act (RCRA)
- Formerly Utilized Sites Remedial Action Program (FUSRAP)
- Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I
- UMTRCA Title II
- Decontamination and Decommissioning (D&D) Program
- Other cleanup or resource management statutes or programs

CERCLA/RCRA sites were radiologically or chemically contaminated by federal milling, processing, research, or weapons-manufacturing operations. At FUSRAP sites the U.S. Army Corps of Engineers is responsible for site surveys and remediation. Once remediation is completed, LM becomes responsible for long-term site management. UMTRCA Title I sites are associated with former ore-processing locations. The remediation of these sites created 19 disposal sites that contain encapsulated uranium mill tailings and associated contaminated materials. UMTRCA Title II sites formerly were commercially owned and are regulated under a U.S. Nuclear Regulatory Commission (NRC) license. For license termination, the owner must conduct an NRC-approved cleanup of any on-site radioactive waste

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remaining from former uranium ore-processing operations. The site owner must also provide full funding for inspections and, if necessary, ongoing maintenance. Once site cleanup is complete, LM accepts title to these sites on behalf of the United States and assumes long-term management. D&D sites were remediated under DOE orders or applicable environmental protection laws and regulations and include sites associated with weapons production or nuclear reactor research. The regulatory driver called “Other” involves locations or facilities where nuclear research or investigations were conducted and are covered under other regulations or programs.

The long-term management of each LM site is designated as one of three categories, based on the actual or anticipated long-term surveillance and maintenance (LTS&M) activities associated with that site. The site category indicates the level of LTS&M activities expected for each site:

- Category 1 activities typically include records-related activities and stakeholder support.
- Category 2 activities typically include routine inspection (any site visit needed to verify the integrity of engineered or institutional barriers) and monitoring/maintenance, records-related activities, and stakeholder support.
- Category 3 activities typically include operation and maintenance of active remedial action systems, routine inspection (any site visit needed to verify the integrity of engineered or institutional barriers) and monitoring maintenance, records-related activities, and stakeholder support.

LM also maintains a Transitioning Sites category, which consists of sites that will transfer to LM within the next five years. LM often conducts site-specific activities to prepare a site for acceptance into the LM program. Although the date a new site officially becomes LM’s responsibility is important, LM is conducting due diligence by working on sites as much as five years ahead of transition dates. Important transition activities can include developing LTS&M plans, which, depending on the authorities under which the site has undergone remediation, may require approval by regulators such as the NRC or the U.S. Environmental Protection Agency. Other transition responsibilities include identifying and preserving records, and ascertaining that real property instruments, such as administrative institutional controls, are in place. The designation of when transition activities begin at a site will help LM better align its budget formulation, life-cycle planning, and staffing with when work actually begins at future LM sites. As each site in the Transitioning Sites category is formally transferred to LM, it is officially designated as a category 1, 2, or 3 site.

LM wants a greater meaningful involvement by all stakeholders, especially local and tribal members, in all of our activities. I was asked by friends and colleagues if there are any initiatives on which stakeholders—you—could provide policy or technical input. My answer to you is that there are plenty of opportunities in which only self-imposed barriers prevent us from improving the stewardship of our lands within inherited conditions. Beneficial reuse is only one area that comes to mind. Some local communities and State and Tribal Government Working Group (STGWG) tribes have expressed interest in an increased role in long-term stewardship activities. In my eyes—and in my heart—local communities and tribes have a long history and understanding of the environment and are deeply invested in the future of particular sites. Therefore, we need to embrace those interests and experiences

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with a positive bias and not just as a cursory consultation activity. At this point in my remarks, you may misinterpret my comments as too focused on native tribes and pueblos. When I refer to local communities and tribes, I embrace all stakeholders—town, county, state, and NGOs. I recognize we have states within STGWG that also want to have meaningful involvement. I want all state representatives to feel comfortable discussing their concerns with LM, because a solution to any remediation or stewardship problem requires openness to colloquial challenges. Those same new friends and colleagues have asked for my simple observations over the last year concerning barriers to local and tribal participation, so here are my top three things:

1. Need for assertive and frank assessments and communication. Tell me what you like, dislike, want, do not want, and how you can help with things you have to deal with, like internal politics within your governments. We may agree to disagree on one item but let's not let one item overshadow all areas where we can agree on many levels and on multiple issues;
2. Need for local and tribal capacity, which affects the quality of inquiries and responses as well as the response times for collaboration; and
3. Need for a greater thirst for public education and outreach, where we change the focus of the discussion to what can be done at a site, instead of what cannot. Receive us or invite us to sit down and tell you how your site is doing.

I want to share a few examples today to illustrate our commitment. LM takes approaches to long-term stewardship (LTS) that reflect tribal nation values. For example, at the Monument Valley, Arizona, Processing Site, LM successfully remediated a groundwater nitrate plume by using native shrubs that took up the contaminants as part of natural transpiration. This approach of enhancing natural processes for cleanup was important to the Navajo Nation. For Amchitka Island in Alaska, Native Alaskans—Aleuts and Pribilof Islanders—participate in our five-year sampling of marine food resources around the island. Amchitka was the site of three underground nuclear tests between 1964 and 1971, and we want to ensure that the Native Alaskans, who depend on resources in the Bering Sea, that they are safe to eat and use those resources.

LM values working closely with tribal representatives who have legacy sites on their lands. For example, there are four LM sites on Navajo tribal lands—Monument Valley and Tuba City, Arizona; Mexican Hat, Utah; and Shiprock, New Mexico. The Navajo Nation established its Office of Uranium Mill Tailings Remedial Action (NN UMTRA) over 15 years ago to oversee LTS activities. NN UMTRA employs native scientists and engineers to collaborate with LM on treatment options and to oversee LM's implementation of groundwater remediation approaches. LM collaborates and consults with the Navajo Nation through shared site inspections, regular management meetings and technical exchanges, and submittal of technical reports for review. In addition, LM frequently requests NN UMTRA assistance in managing the sites. For example, based on their years of experience and familiarity with land management, NN UMTRA provided valuable insight into erosion control on native soils. LM works closely with NN UMTRA public affairs to engage communities in dialogue and has supported over a dozen outreach events during calendar year 2017 on the Navajo Nation, reaching out to local schools and community members. LM has maintained a cooperative agreement with the Nation for over 20 years. The agreement provides financial support to the Nation for tribal engagement in LTS activities

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and oversight. Our Navajo and Hopi partners are as competent and well intentioned as anybody I have ever met.

LM relies on the Northern Arapaho Tribe for technical assistance with the Riverton, Wyoming, Processing Site. Although the tailings were removed 30 years ago, residual groundwater contamination remains due to uranium processing while the mill was in operation in the early 1960s. LM has a cooperative agreement with the tribe for their support on joint sampling events, shared inspections, community outreach events, and review of technical documents. At the request of the tribe, and due to the tribe's history and knowledge of the area, LM is sponsoring a revised risk assessment with the tribe to evaluate potential pathways for exposure, such as the use of native plants during ceremonies. The baseline risk assessment was completed in the late 1990s and LM wants to ensure any changes in land use or tribal activities have not increased risk for nearby residents. The Northern Arapaho Tribe also maintains institutional controls meant to protect people and animals from accessing contaminated groundwater. This is a key function in the multi-prong approach to protect people and the environment at legacy sites.

A common question I get is "*When do you start getting involved with a site being remediated?*" LM typically begins "transition activities" for sites that it will eventually take responsibility for two to five years ahead of the formal transition date. It is actually not uncommon for LM to have more expenditures for sites in the years just prior to transition than after the site comes to LM. Important transition activities include preparing LTS&M plans that are acceptable to regulators and stakeholders; collecting records from when the site was operating and from the cleanup phase; and meeting regulators, local and tribal nation representatives, and other stakeholders to understand their concerns about the site and make the transition from one part of DOE—or from another federal agency—to LM as smooth as possible.

Today, we are performing due diligence on sites we expect to transfer to LM—on tribal lands, such as the Church Rock, New Mexico, Disposal Site; and on non-tribal lands, such as the Wyoming and Texas sites. LM is also approaching transition by looking to work with a few sites prior to the normal transition to LM. I am referring to *forward integration*. At DOE Headquarters, LM is meeting periodically with personnel responsible for the National Nuclear Security Administration's Long term Stewardship program (for example, the Kansas City Bannister Campus), including sharing planning documents that LM used for transition of DOE Environmental Management (EM) closure sites, such as Weldon Spring and Fernald. Also, as part of the EM 45-day review, LM is meeting with the Nevada site office about planning for taking responsibility for LTS&M of closure sites on the Tonopah Test Range (TTR). TTR is being cleaned up pursuant to the Nevada Federal Facilities Agreement and Consent Order. LM already manages two sites—Shoal and the Central Nevada Test Area—that are part of that agreement. As a consequence, LM already has a good working relationship with the regulators in Nevada and Tribal Nation representatives of the Paiutes and Western Shoshone that it hopes it can continue when it begins working at TTR. The target year is 2021.

LM is engaged with the Portsmouth, Ohio, EM team to share lessons learned about developing, designing, maintaining, and achieving community acceptance of disposal cells, such as the On-Site Disposal Facility at Fernald. Numerous visits, presentations, and discussions occurred between the

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Fernald technical staff and the Portsmouth technical staff, as well as discussions with the Fernald community groups and Portsmouth community groups. Although it will be a while before we take responsibility for other EM sites, we anticipate being responsible for 107 sites, up from the current 92, by the end of FY 2021. Stakeholders have the ability to shape long-term stewardship at current and future LM sites.

You may also ask yourselves, if life is not perfect and not all scientific and engineering assumptions are correct during remediation and transitioning, *“What does LM do when it finds unexpected site conditions or contamination at sites that have already transitioned to LM?”* Although LM always hopes that all contamination was found and properly addressed prior to site transfer, it also realizes that this is a possibility. Thus far, LM has taken responsibility for any new contamination found; and we will continue to do so. For example, at the Tuba City, Arizona, UMTRCA mill site, nearly 10 years ago it was discovered that some mill tailings were disposed across the highway from the main site. In this case, EM, LM, and the Navajo Nation, with funding provided in a separate line item, remediated the site and disposed of the waste at the Cheney [Grand Junction] disposal cell in Colorado. Cheney continues to have a cell that remains open for disposal of appropriately designated material. In the case of the Riverton, Wyoming, mill site, it was discovered, during a major flood, that there was more widespread uranium contamination in the unsaturated zone than originally believed. In close cooperation with Northern Arapaho Tribal representatives, LM characterized the nature and extent of the contamination. Because the area was within the LTS&M site boundaries, it was decided that excavation of the material was not practical and we adjusted the expectations for how long natural flushing will need to take place for groundwater at the site to meet compliance objectives. Quality control in our LTS&M program and our commitment are key. We are not looking for an exit strategy. LM is responsible for our sites and our different responsibilities in perpetuity.

Another item that has come up is communities or tribal nations being involved in the actual LTS&M of LM sites in their local areas or tribal lands. It is worth mentioning that we want local and tribal members as part of our team. LM employs Native Americans on our staff, as do our contractor partners. For example, Tuba City employs both Navajo and Hopi. We had Native American graduate students do research at LM sites, including, for example, evaluating whether there is plant uptake of radionuclides when plants become established on UMTRCA cells. We were also fortunate to have Native American student interns in Grand Junction. There is no better person to do LTS at a particular location than a person with meaningful involvement in that particular land, culture, and spiritual heritage. Speaking of meaningful involvement let me tell you about the importance of Environmental Justice.

LM is the DOE-wide coordinator for Environmental Justice (EJ) and is also an avid proponent and practitioner of EJ. EJ simply means *“fair and equal treatment and meaningful involvement of all people.”* Everyone deserves to live in a healthy, safe, and clean environment. The relationship between EJ and departmental goals can be summed up in three words: *commitment, fairness, and collaboration*. Our goal is to achieve EJ and foster non-discrimination in programs that substantially affect human health and the environment, like long-term stewardship. DOE takes the position that citizens who are active in environmental decision-making, and have a working knowledge of both the process and substance of an issue, can better protect themselves and help produce decisions that reduce conflict and save limited resources. EJ means that all people who are impacted by a decision have an opportunity to meaningfully

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participate in the process that leads to the decision. When this is accomplished, federal agencies will make more just and cost-effective decisions, which are best-value decisions. EJ is a complicated subject and there is no one size fits all solution. LM, in particular, wants your help and suggestions, because we are always looking for ways to improve and for opportunities for collaboration and partnerships.

I leave you today with one thought and recommendation: If you want change or improvement beyond the status quo and the Seventh Generation Report achievements, then you need to assertively and candidly *reclaim the conversation on stewardship, using your power within*. I learned that “power within” is based on conviction, “power with” is based on cooperation, “power to” is based on choices, and “power over” is based on hierarchy. Governments rarely introduce new norms; they slowly adapt to activists’ ideas. Unfortunately, many activists on both sides of issues turn “power within” into passive-aggressive behavior, finger wagging, and litigation, as they try to convince those in power or authority to change. They ignore three vital tenants—*mutual understanding, empathy, and trust*.

Please continue or start the conversation on LTS for your sites. We will listen, consult, and collaborate with you, as adopted members of your organizations, communities, states, pueblos, and tribes.

Thank you for your time and attention.

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Tribes Associated with Office of Legacy Management Sites

Alaska

- Aleuts

Arizona/Utah/New Mexico

- Hopi Tribal Council
- Navajo Nation

New Mexico

- Zuni Pueblo Tribe
- Jicarilla Apache Tribal Council
- Kewa Pueblo Tribe
- Pueblo de Cochiti Tribe
- Pueblo of Acoma Tribe
- Pueblo of Isleta Tribe
- Pueblo of Jemez Tribe
- Pueblo of Laguna Tribe
- Pueblo of Nambe Tribe
- Pueblo of Picuris Tribe
- Pueblo of Pojoaque Tribe
- Pueblo of San Felipe Tribe
- Pueblo of San Ildefonso Tribe
- Pueblo of Sandia Tribe
- Pueblo of Santa Ana Tribe
- Pueblo of Santa Clara Tribe
- Pueblo of Taos Tribe
- Pueblo of Tesuque Tribe
- Pueblo of Zia Tribe

Utah/New Mexico/Colorado

- Southern Ute Indian Tribe/Ute Indian Tribe / Ute Mountain Ute Tribe/ White Mesa Ute Tribe

Wyoming

- Northern Arapaho and Eastern Shoshone Tribes