



Shiprock, New Mexico, Disposal Site **COMMUNITY INVOLVEMENT PLAN**



U.S. DEPARTMENT OF ENERGY OFFICE OF LEGACY MANAGEMENT

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TABLE OF CONTENTS

Section 1: Overview 1

Section 2: Site Overview 2

 2.1: History 2

 2.2: Site Description and Location 3

Section 3: Community Background 4

 3.1: Community Profile 4

 3.2: Community Involvement 5

 3.4: Outreach Materials 6

Section 4: Community Involvement Strategy 7

 4.1: Community Involvement Activities 7

 4.2: Community Involvement Activities Time Frame Summary 9

APPENDICES

Appendix A: LM Regional Contacts A-1



SECTION 1: OVERVIEW

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) developed this *Community Involvement Plan* (CIP) to facilitate communication and encourage community involvement within Navajo Nation communities surrounding the Shiprock, New Mexico, Disposal Site. LM will use the community involvement activities outlined in this plan to ensure that community members are informed and provided opportunities to be involved.

LM plans to support public awareness of the Shiprock site through the following activities:

- ✦ Inform the public about current and planned activities related to the site.
- ✦ Educate the public about site activities.
- ✦ Correct misperceptions about the site.
- ✦ Provide public access to site information, reports, and other documents.
- ✦ Promote the LM tribal webpage as a source of information.
- ✦ Coordinate with Shiprock Chapter House to create a display that provides history of the Shiprock disposal cell and promotes information sharing.

LM will foster communication with Shiprock site stakeholders by:

- ✦ Participating in regular meetings with stakeholders.
- ✦ Sharing information.
- ✦ Remaining open to all input and suggestions.

LM used multiple information sources to develop this plan, including community interviews, site files, and community meeting records.



SECTION 2: SITE OVERVIEW

2.1: HISTORY

In 1954, Kerr McGee built a mill to process locally mined uranium and vanadium. In 1963, Kerr McGee sold the milling operation to the Vanadium Corporation of America (VCA), which operated the site until 1968. The milling operations, which lasted for 14 years, produced waste, including radioactive tailings and sludge comprised of acids and uranium-processing products, that remained on-site after operations ceased. The mill, ore-storage area, and raffinate ponds held the spent liquids from the milling process. In 1983, the DOE and the Navajo Nation entered into an agreement to clean up the site. The agreement included approximately 230 acres leased by the Navajo Nation. By September 1986, DOE consolidated and encapsulated all tailings and contaminated materials in a cell built on top of the old tailings piles.

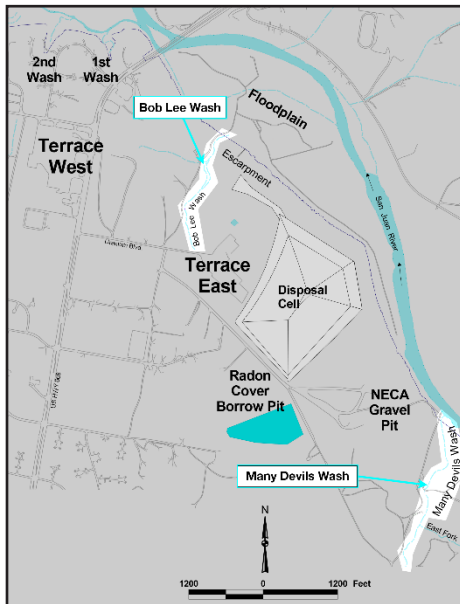
REGULATORY SETTING

Congress passed the Uranium Mill Tailings Radiation Control Act (UMTRCA) in 1978. As a result, DOE remediated 24 inactive uranium ore-processing sites under the Uranium Mill Tailings Remedial Action (UMTRA) Project and in accordance with standards established by the U.S. Environmental Protection Agency (EPA) in Title 40 *Code of Federal Regulations* (CFR), Part 192. DOE encapsulated the radioactive materials in U.S. Nuclear Regulatory Commission (NRC)-approved disposal cells. The NRC general license for UMTRCA Title I sites, which added the Shiprock site in 1996, is established in 10 CFR 40.27



Historical aerial view of the Shiprock Mill, circa 1954.

2.2: SITE DESCRIPTION AND LOCATION



Location of the Shiprock disposal site and the surrounding bodies of water: Many Devils Wash, Bob Lee Wash, and the San Juan River.

The Shiprock site is on the Navajo Nation in the northwest corner of New Mexico. Land near the site is used for grazing. The San Juan River, which is used for industrial and agricultural purposes, is the main water source in the area. Nearby residences receive water from the Navajo Tribal Utility Authority.

The disposal cell is an asymmetrical pentagon, with a maximum side length of 1,800 feet and a minimum side length of 800 feet. The cell occupies approximately 77 acres of the 105-acre site. A posted wire fence surrounds the cell. The cover of the Shiprock disposal cell is a system designed to encapsulate and protect the contaminated materials. The disposal cell cover comprises: 1) a low-permeability radon barrier (first layer placed over compacted tailings) consisting of compacted sandy silty soils, 2) a layer of granular bedding material placed as a capillary break, and 3) a rock (riprap) erosion-protection layer. The use of these cover materials promotes rapid precipitation runoff to minimize leachate. Rock-lined drainage ditches divert stormwater runoff from the disposal cell to a rock-lined energy dissipation area.

Two minor drainages, Bob Lee Wash and Many Devils Wash, divide the terrace on which the disposal cell and adjacent former mill site are located. At the northeast edge of the terrace, a steep escarpment — approximately 50 to 60 feet high — forms the boundary between the San Juan River floodplain and the terrace area. The horizontal distance from the disposal cell to the San Juan River is about 600 feet.

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escarpment — approximately 50 to 60 feet high — forms the boundary between the San Juan River floodplain and the terrace area. The horizontal distance from the disposal cell to the San Juan River is about 600 feet.

The terrace groundwater system is believed to be the result of past milling operations and irrigation. The alluvial aquifer is north of the disposal cell in the floodplain area between the San Juan River and the base of the escarpment. In 1961, the original site owners drilled a test hole on the terrace about a half-mile northwest of the disposal cell area. This hole, drilled to a depth of 1,850 feet, was not capped. Artesian water flows from this hole, now known as Well 0648, at a rate of about 64 gallons per minute, across the terrace into Bob Lee Wash, which drains to the floodplain and eventually into the San Juan River. Inflow from Well 0648 supplies more than half of the groundwater volume in the floodplain. The floodplain aquifer also receives inflow from the San Juan River and the terrace groundwater system.

Historical milling operations left contaminants in the terrace groundwater system and the floodplain alluvial aquifer. Contaminated groundwater from the terrace infiltrated the upper few feet of the underlying Mancos Shale bedrock and migrated into the alluvial aquifer on the floodplain.

Terrace groundwater has also surfaced in several places as seeps at the edge of the escarpment and in Bob Lee Wash. The contaminants of concern are ammonia, manganese, nitrate, selenium, strontium, sulfate, and uranium.



SECTION 3: COMMUNITY BACKGROUND

3.1: COMMUNITY PROFILE

The Shiprock community, according to the 2020 census, has a population of 7,718 people.

Racial makeup is:

- 95.1% Native American.
- 1.8% Caucasian.
- 1.3% Asian or Pacific Islander.
- 0.3% Black or African American.

Age distribution is:

- 25% under 18.
- 12.8% 65 or older.

Shiprock’s median household income is \$36,747, and per-capita income for the census-designated area is \$17,243. More than a quarter of residents — 26.3% — live below the poverty line.

Educational institutions in Shiprock include:

- Shiprock High School.
- Northwest High School (grades seven to 12).
- Career Prep High School.
- Tsé Bit Aí Middle School.
- Mesa Elementary School.
- Nizhoni Elementary School.
- Eva B. Stokely Elementary School.
- Atsá Biyáázh Community School.
- Diné College.
- San Juan College.
- Navajo Technical University.

Education attainment in Shiprock:

- 14.2% have not graduated high school
- 26.5% have a high school diploma or GED.
- 45.4% have some college or an associates degree.
- 12.9% have a bachelors degree or higher.
- 1.1% have no schooling.¹

¹ Sources: U.S. Census Bureau and TownCharts.



3.2: COMMUNITY INVOLVEMENT

By September 1986, DOE completed all surface remediation, including disposal of residual material and debris, in compliance with EPA cleanup standards and regulations. LM remains involved in the community today by participating in technical meetings, open houses, and other outreach events. Per its mission, LM works and collaborates with affected communities to ensure the protection of human health and the environment. In-person meetings are opportunities for LM to gather with stakeholders to discuss and address their concerns related to ongoing groundwater remediation activities, technical studies conducted on behalf of tribal agencies, and any potential community impacts.

Under a cooperative agreement, LM works with the Navajo Abandoned Mine Lands (AML)/UMTRA Department to conduct long-term surveillance and maintenance at the four Navajo Nation sites to ensure community and environmental safety.² LM also works with Navajo Nation departments to help identify and protect cultural resources. LM and the LM Strategic Partner (LMSP) work directly with the Navajo AML/UMTRA public information officer to coordinate outreach at the four Navajo Nation sites.



Shiprock residents asking questions during an evaporative pond scoping meeting in September 2019.

In 2007, Congress directed DOE and other federal agencies — including EPA, NRC, U.S. Bureau of Indian Affairs, U.S. Centers for Disease Control and Prevention, and U.S. Department of Health and Human Services — to work collaboratively to address the legacy of uranium mines and former processing sites on the Navajo Nation. The federal agencies developed the 2008-2012 Five-Year Plan, which was the first coordinated effort by the federal government to address abandoned uranium mining on the Navajo Nation. A second Five-Year Plan was completed in 2014 and included a major objective to “support community outreach and information sharing.” A Ten-Year Plan was released in February of 2021.

² In addition to the Shiprock site, the other Navajo Nation sites include: Mexican Hat, Utah, Disposal Site; Monument Valley, Arizona, Processing Site; and Tuba City, Arizona, Disposal Site.



One primary directive to emerge from this planning included developing a network made up of tribal and federal organizations dedicated to community outreach and engagement with the Hopi and Navajo communities. This group, the Community Outreach Network, now shares tribal information and keeps the lines of communication open between all tribal and government entities.

Currently, LM and LMSP, opened an outreach office in Window Rock, Arizona. The office provides a public space to learn about LM and its Navajo Nation sites, the Navajo Nation Five-Year Plan, and the work conducted to address uranium issues on the Navajo Nation.

The Navajo Nation Public Affairs team provides community outreach and assistance to LM, in coordination with Community Outreach Network members, tribal and federal partners, and Navajo Nation leadership. The Public Affairs team uses a variety of methods to share information with community leadership and community members.

3.3: OUTREACH MATERIALS

LM provides informational materials at outreach events, including:

- ✦ Site fact sheets.
 - ✦ Mexican Hat, Utah, Disposal Site.
 - ✦ Monument Valley, Utah, Processing Site.
 - ✦ Shiprock, New Mexico, Disposal Site.
 - ✦ Tuba City, Arizona, Disposal Site.
 - ✦ Working with the Navajo Nation and Hopi Tribe Fact Sheet.
 - ✦ Window Rock, Arizona, Navajo Nation Community Outreach Network Office Fact Sheet.
- ✦ Energy Ant coloring book.
- ✦ Gamma Goat coloring book.
- ✦ Women of the Manhattan Project coloring book.
- ✦ Historical Women in STEM 2017 coloring book.
- ✦ LM overview brochure.
- ✦ LM Strategic Plan brochure.
- ✦ LM video detailing the work conducted on the Navajo Nation.
- ✦ Window Rock, Arizona, Outreach Office Map.
- ✦ Uranium and Radiation on the Navajo Nation Resource List.
- ✦ LM children's brochure.
- ✦ Community Outreach Network.
 - ✦ Uranium and Radiation on the Navajo Nation Resource List.
 - ✦ Information Sheet.

Many Shiprock site projects require a specific project information sheet that details the work being performed. LM distributes and shares these information sheets with the Chapter House, local businesses, and residences near the site.



SECTION 4: COMMUNITY INVOLVEMENT STRATEGY

The goal of this strategy is to facilitate communication between community members and LM, while also providing opportunities for meaningful and active involvement by the Navajo people in Shiprock site activities. The strategy is based on feedback from community involvement interviews, previous community meetings, and comments received from local officials.

4.1: COMMUNITY INVOLVEMENT ACTIVITIES

1. Information on current and proposed site activities.

Activity 1A: Present information at Shiprock Chapter meetings.

Objective:	Present information regarding site activities.
Method:	LM representatives will offer to present an update at Shiprock Chapter meetings. Tools may include presentations, site information fact sheets, and the LM website address detailed site information.
Timing:	Quarterly or as requested by stakeholders.

Activity 1B: Door-to-door notifications.

Method:	Prior to the beginning of a non-routine projects at the site, Public Affairs staff will travel door to door to the residences that surround the site and provide information materials on the upcoming project. A minimum of one fluent Navajo-speaking person is a member of the team. The Public Affairs team will verbally invite Community Outreach Network members to help with door-to-door notifications.
Timing:	One to two weeks prior to the project beginning.

Activity 1C: Conduct open houses and site tours.

Method:	LM will email and mail information about upcoming site work to elected officials, community leaders, emergency personnel, and tribal partners.
Timing:	Two weeks to one month prior to the project beginning.

2. Timely outreach and information on community meetings, site open houses, and site tours.

Activity 2A: Post flyers in public locations about upcoming community meetings, open houses, and site tours.

Objective:	Post information about community meetings, open houses, and site tours.
Method:	LM will post meeting information at the Shiprock Chapter House public information board, local businesses, and government offices (tribal, state, and federal).
Timing:	As needed.



Activity 2B: Advertise on local radio stations, tribal newspapers, and newsletters.

Objective:	Provide public service announcements on community meetings, quarterly updates, open houses, and site tours as needed.
Method:	LM will purchase advertising with <i>The Navajo Times</i> , KGAK (Gallup), KNDN (Farmington), and KTNN (Window Rock) announcing upcoming community meetings, quarterly updates, open houses, and site tours.
Timing:	First, 15 days prior and, then again, five days prior to site meetings, open houses, and site tours.

Activity 2C: Incorporate social media.

Method:	LM will share public meetings, informational flyers, and videos with Navajo AML/UMTRA and Shiprock social media sites to build awareness with locally based followers.
Timing:	One day to one week before event occurs.

3. Special Events.




Activity 3A: Participate in local events.

Objective:	Participate in local events, such as fairs and flea markets, distributing information about LM and the disposal site.
Timing:	Yearly and/or as events occur.





4.2: COMMUNITY INVOLVEMENT ACTIVITIES TIME FRAME SUMMARY

TOOLS FOR SHARING INFORMATION AND FOR LM TO LEARN FROM THE COMMUNITY			
 <p>Fact Sheets, Presentations, and the LM Website</p> <p>Quarterly or as requested by stakeholders</p>	 <p>Door-to-Door Notifications</p> <p>One to two weeks prior to the project beginning</p>	 <p>Mail and Email</p> <p>Two weeks to one month prior to the project beginning</p>	 <p>Posters and Flyers</p> <p>As needed</p>
 <p>Newspapers</p> <p>First, 15 days prior and, then again, five days prior to site meetings, open houses, and site tours</p>	 <p>Social Media</p> <p>One day to one week before event occurs</p>	 <p>Attend Local Events</p> <p>Yearly and/or as events occur</p>	



APPENDIX A: LM REGIONAL CONTACTS

Site Manager	Mark Kautsky U.S. Department of Energy Office of Legacy Management 2597 Legacy Way Grand Junction, CO, 81503 (970) 248-6018
Assistant Site Manager	Kate Whysner U.S. Department of Energy Office of Legacy Management 2597 Legacy Way Grand Junction, CO, 81503 (970) 248-6550
Site Representative	Joni Tallbull U.S. Department of Energy Office of Legacy Management Shiprock, New Mexico (505) 592-2447
Site Lead	Anthony Farinacci Legacy Management Strategic Partner 2597 Legacy Way Grand Junction, CO, 81503 (970) 462-2725
Program Communication Specialist	Shawn Montgomery U.S. Department of Energy Office of Legacy Management 2597 Legacy Way Grand Junction, CO, 81503 (970) 248-7666
Public Affairs Lead	Jennifer Grossheim Harris Legacy Management Strategic Partner 2597 Legacy Way Grand Junction, CO, 81503 (970) 248-6248
Community Outreach Network Coordinator	Shine Salt Legacy Management Support Contractor Indian Route 12, Suite 10 Window Rock, AZ, 86515 (928) 810-2101



Public Affairs Specialist

Lillie Lane
Legacy Management Strategic Partner
Highway 264 & Indian Route 12, Suite 10
Window Rock, AZ, 86515
(928) 810-2102

Outreach Coordinator

Kayla Bia
Legacy Management Strategic Partner
Highway 264 & Indian Route 12, Suite 10
Window Rock, AZ, 86515
(928) 810-2100



LM site tour with leadership from the Shiprock Chapter House and staff from Navajo Nation Abandoned Mine Lands Department.