



ANNUAL PROGRESS UPDATE: FEDERAL ACTIONS TO ADDRESS URANIUM CONTAMINATION ON NAVAJO NATION

U.S. Environmental Protection Agency

CA • July 2022

Introduction

In February 2021 EPA issued the Federal Actions to Address Uranium Contamination on Navajo Nation 2020-2029, also known as the Ten-Year Plan. Part of that plan is to provide annual updates on the status of the milestones associated with the goals outlined in that document. This is the first annual fact sheet to provide updates and includes a summary of 2021 accomplishments and 2022 goals.



U.S. Environmental Protection Agency (EPA) Update

The COVID-19 pandemic significantly impacted EPA and Navajo EPA field activities in 2021. Restrictions to protect public health imposed by the Navajo Nation to manage the spread of COVID-19 as well as EPA's own travel restrictions resulted in no field work on the Navajo Nation throughout much of the year. Though these restrictions prevented field investigations at mine sites in 2021, EPA is still planning to complete 130 assessments by the end of 2022. COVID restrictions also prevented face-to-face community outreach and public meetings which are vital to the process of evaluating and selecting cleanup options in Engineering Evaluation/Cost Analyses (EE/CAs). It is anticipated that these impacts will reduce the number of EE/CAs completed in 2022 from 20 to 10.

Field activities were permitted in several instances to enable interim actions and address contaminated structures. At the request of the Bureau of Indian Education, EPA and Navajo Nation EPA conducted a radiological assessment at the Cove Day School in Red Valley, Arizona, in the Cove Chapter of the Navajo Nation. The assessment found that the interior of the Cove Day School was safe for use by current and past students and faculty who may be at the site regularly. Interim actions at abandoned uranium mines included fencing installed at the Rock Door #1 site to restrict access to waste piles found to have elevated levels of radionuclides. EPA and Navajo Nation EPA completed the assessment of 30 residential structures and found that they were not contaminated and required no further action. Finally, EPA and Navajo Nation EPA continued to work on Voluntary Alternative Housing for the Northeast Church Rock site in anticipation of future construction activities.

Significant progress was made toward meeting goals that did not depend on field work. This included completing draft EE/CAs for 34 mines in the Cove chapter and completing draft EE/CAs for 9 sites in the Eastern Agency. EPA worked closely with Navajo Nation EPA to develop human health risk assessment parameters that are representative of Navajo lifeways and could be used to establish cleanup objectives in the EE/CAs. In addition, EPA and Navajo Nation EPA organized a "Waste Disposal Options Work Group" to identify and evaluate different waste disposal options to be considered in forthcoming EE/CAs. Other updates included moving forward with pursuing EPA field offices in Flagstaff and Window Rock, Arizona to support the cleanup of Navajo abandoned uranium mines and hiring staff to work from these offices. EPA and Navajo EPA collaborated on a shared Data Portal to enhance transparency and promote information sharing across agencies.

EPA awarded the Abandoned Mines Response and Construction Services (AMRCS) contracts to implement cleanup actions at abandoned uranium mines on and near Navajo Nation that are EPA led. This Small Business Set-Aside contract with a capacity of \$220 million over a 5-year duration was awarded to Red Rock Remediation Joint Venture, Environmental Quality Management Inc., and Arrowhead Contracting Inc. Two of these firms are Native American owned businesses.

EPA also issued a Request for Proposal for the Navajo Area Uranium Mines Response, Assessment, and Evaluation Services II (RAES II) contract. This RFP, with an estimated value of \$65 million, is a solicitation aimed at firms capable of performing abandoned uranium mine assessments and other technical work on the Navajo Nation. EPA anticipates awarding this second contract in fall 2022. One significant workforce development outcome under the previous RAES contract was the successful grant applicant development support to Navajo Technical University resulting in a \$2.5 million award from the National Science Foundation to develop a bachelor's degree program for environmental engineering that focuses on AUM remediation work.

In 2021, EPA awarded \$3.8 million to support three drinking water projects to benefit Navajo Nation under an interagency agreement with Indian Health Service. This project was funded under the Water Infrastructure Improvements for the Nation Act's Assistance for Small and Disadvantaged Communities Tribal Grant Program.



Bureau of Indian Affairs (BIA) Update

In September 2020, the Hopi Tribe requested BIA to cease all planning efforts related to the construction of an on-Hopi land repository for Tuba City Dump pending internal Tribal communication and further BIA communication with the affected Hopi communities and the Hopi Tribe.

In 2020 and 2021 travel and gathering restrictions related to human health protection (COVID-19 pandemic) delayed the proposed cleanup/closure outreach process to impacted communities on and near Navajo Nation. This was primarily due to the inability to have in-person meetings and the accessibility of virtual communication platforms by impacted Navajo communities.

In 2021, EPA and BIA developed a technical and strategic approach to completing the Administrative Order on Consent (AOC) and have reached substantive agreement on the process. Since finalizing the AOC involves the Tribal consultation process, execution of the AOC is delayed through at least 2022.



Department of Energy (DOE) Uranium Mill Tailings Radiation Control Act (UMTRCA) Program Update

DOE-Legacy Management (LM) worked with Navajo Nation toward securing institutional controls, including drafting a Programmatic Agreement that will allow the Navajo Historic Preservation Office to pre-concur and reduce response time on LM routine UMTRCA onsite activities. Legal review, finalization, and signature of the new agreement is anticipated by the end of 2022.

A subcontractor was hired to fill the Community Outreach Liaison position. The subcontracting company is Navajo-owned, the liaison is fluent in both Navajo and English, and the liaison currently works remotely. The Community Outreach Network office has reopened and accepts visitors with COVID protocols in place.

In Shiprock, DOE-LM has suspended active groundwater remediation and extraction wells are being used on an intermittent basis to keep the pond sediments covered in water. The effectiveness of the current remediation approach is being evaluated and studies will be conducted over the next 2.5 years to inform future remediation efforts. DOE-LM provided outreach materials, written and verbal updates to the chapter house on the Shiprock Disposal Cell. DOE-LM made in-person door to door notifications to residents near the disposal cell alerting them of aerial surveys in the area, and also paid for advertising on Navajo radio and in print to notify residents of the aerial survey work. A public affairs kiosk was set for three days during aerial survey flights to communicate with residents about the disposal cell.

In Tuba City, semi-annual groundwater and surface water sampling and analysis were conducted in accordance with regulatory requirements. A Groundwater Remedy Performance Report was updated, and a Groundwater Compliance Action Plan (GCAP) Work Plan was prepared and submitted to the Navajo and Hopi tribes for review. DOE-LM participated in written and verbal reports to the Tuba City Chapter House meetings to provide UMTRCA Site activities.

In Mexican Hat, a site-specific Baseline aerial survey communication and outreach plan was created. DOE-LM made in-person door-to-door notifications to Halchita residents and businesses, alerting them of aerial surveys in the area. DOE-LM met with Navajo Abandoned Mine Land (AML)/UMTRCA program, US Army Corps of Engineers, Desert Research Institute, and RSI-EnTech to identify additional data or analytical needs prior to engineering alternative design options and the collaborative working group (CWG) has published a draft recommendations report, which recommends additional soil collection, evaluation of impacts of climate change, and computer modeling to better understand and characterize issues contributing to erosion at the disposal site and develop preferred alternatives to ensure the site remains protective of human health and the environment and remains resilient to the forces of erosion. The NRC staff continue to interact with DOE on their evaluation of the tailings impoundment cover at the Mexican Hat site.

At the Monument Valley site, DOE continues the groundwater remedy evaluation and has currently mobilized a drilling rig to install additional monitoring wells to further characterize groundwater near the site.

Information discovered

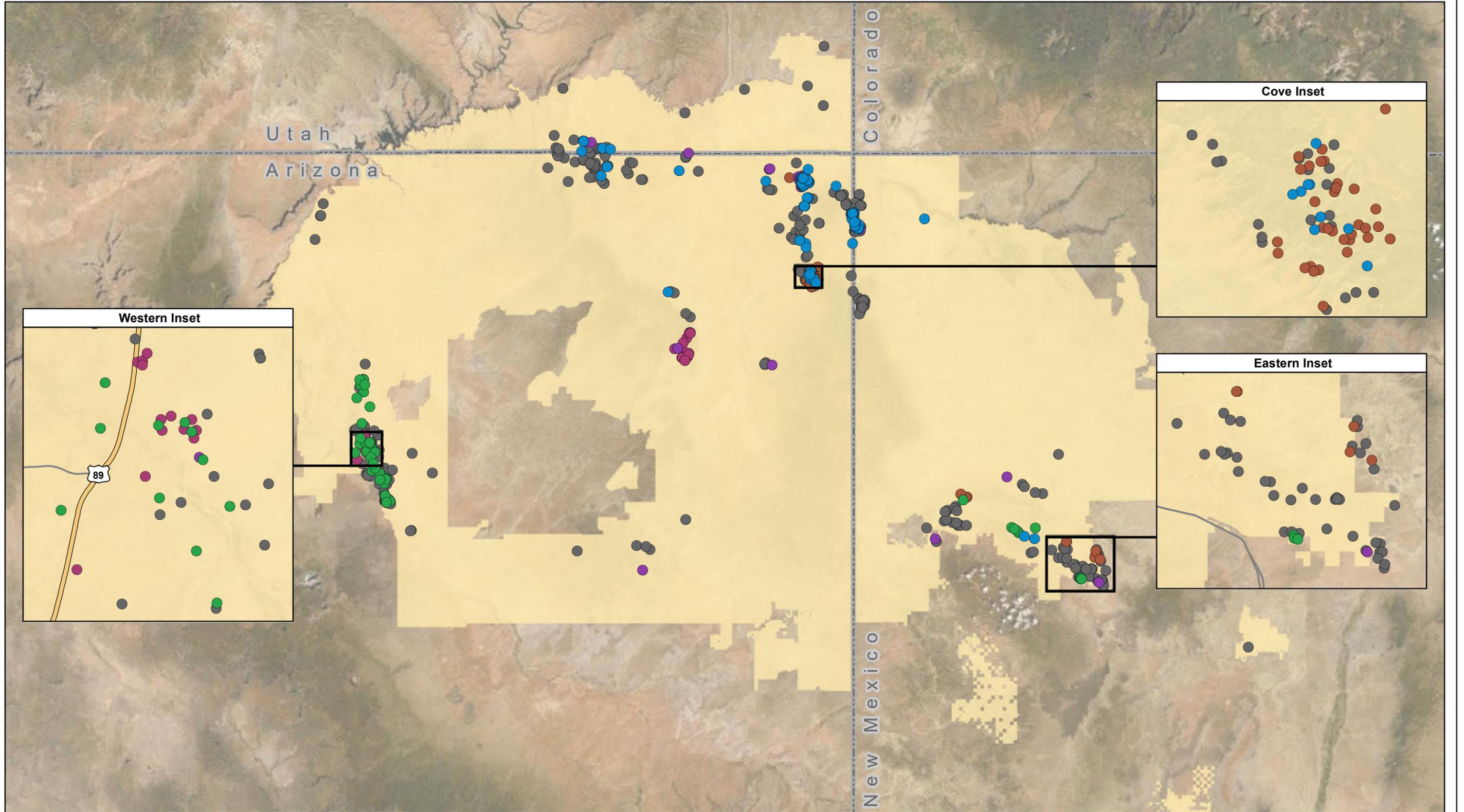


The Mexican Hat Disposal Cell with the Hat Rock formation in the background near Mexican Hat and Halchita, Utah.

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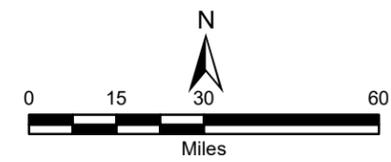
Project Area	Summary of Goals for 2022
Abandoned Uranium Mines - EPA	<p>EPA expects to complete 10 EE/CAs by the end of 2022, falling short of the original target of completing EE/CAs for 20 sites. Completing these EE/CAs will require extensive community outreach, establishing and updating information repositories, conducting public meetings, and coordinating closely with the Navajo Nation government.</p> <p>EPA is planning to conduct treatability studies to evaluate the effectiveness of technologies that can be used to reduce waste volumes which could result in reduced disposal costs. The results of these treatability studies will inform forthcoming EE/CAs.</p> <p>EPA will work with Navajo Nation EPA to develop a plan for expanding the role of the Navajo Nation EPA in overseeing and conducting the assessment and cleanup of mine sites. This is expected to be the first of several iterations of this plan that will evolve with the work and Navajo Nation's growing capacity.</p> <p>EPA will coordinate closely with the DOE DRUM Program, Navajo Nation EPA and Navajo AML throughout the planning phase of DOE's campaign to assess ("Verify and Validate") approximately 168 mine sites that are not currently being addressed by EPA. These field investigations are scheduled to begin in fall 2022.</p> <p>The Nuclear Regulatory Commission has completed a one year long public comment period on the Draft Environmental Impact Statement for the license application for disposal of the Northeast Church Rock Mine waste at the United Nuclear Corporation Mill Site. A license decision is expected in June of 2022. USEPA has continued to work with Navajo EPA to provide alternative housing to community members.</p>
Abandoned Uranium Mines - DOE DRUM Program	<p>The Navajo Nation-AML and DOE will finalize their cooperative agreement for incorporating the Navajo Nation AML roles for the implementation of the DRUM program. Reoccurring bi-weekly technical and monthly update meetings have been established with the Navajo Nation and USEPA Region 9 for collaboration of the DRUM program on the Navajo Nation. The partner agencies (NN-EPA, NN-AML, USEPA and DOE) will finalize DRUM's Verification and Validation (V&V) work plan and risk screening process prior to initiating field activities later in the year. Additional tasks for completing all logistics for accessing mines to perform DRUM's V&V will be complete and the DRUM program plans to begin V&V field activities on the Navajo Nation in the fall.</p>
Former Mills	<p>In Shiprock, DOE-LM will evaluate alternatives for the groundwater remediation system evaporation pond liner. Studies will be conducted over the next 2.5 years to inform future remediation efforts.</p> <p>In Tuba City, DOE-LM will perform a baseline aerial survey of the disposal cell cover for collection of topographic data and photogrammetry. Source characterization drilling and construction of new monitoring wells in the area of the former mill ponds is planned for 2022 and will determine whether this area is a persistent source of uranium contamination in groundwater. Geophysical data will be collected and will be used to predict migration of groundwater contaminants to support the design of a more effective remedy.</p> <p>In Mexican Hat, DOE-LM will perform additional soil collection efforts to better understand and characterize issues contributing to erosional processes on the disposal site. Climatology studies and modeling efforts will be performed to better understand the past, present and future weather patterns impacts on erosion which will inform alternative design options.</p> <p>In Monument Valley, DOE-LM/NLN will develop a Groundwater Compliance Action Plan Addendum in 2022.</p>

Project Area	Summary of Goals for 2022
Former Mills (continued)	<p>At the UNC Church Rock New Mexico site, NRC expects to complete the concurrence process with the appropriate Federal and State entities and issue the license amendment in June 2022.</p> <p>On April 22, 2022, the NRC Commission held a remote meeting in Gallup, NM titled "Discussion of the Ten-Year Plan to Address Impacts of Uranium Contamination on the Navajo Nation and Lessons Learned From the Remediation of Former Uranium Mill Sites." The NRC Chairman and Commissioners also participated in a community meeting with Navajo Tribal community members of the Red Water Pond Road. In order to give the Commission and the NRC staff additional time to consider the UNC Mill Site proposal, the Commission issued direction that the Final Environmental Impact Statement or the Final Safety Evaluation Report will not be issued until further direction is provided by the Commission.</p>
Contaminated Structures	<p>A fact sheet summarizing the Radiological Assessment at the Cove Day School will be distributed to the community in 2022.</p>
Water	<p>EPA expects to make progress on the three water studies identified in the Ten-Year Plan. This will include:</p> <ul style="list-style-type: none"> • Saytah/George Simpson 1 Incline (Tse Tah Area) Stage 1 field investigations which will include a detailed geologic survey. • Claim 28 (Tachee-Blue Gap/Black Mesa Mining District) Stage 2 field investigations which will include installation of monitoring wells or lysimeters, depending on the geology of the monitoring sites. • Northeast Church Rock/Quivira Groundwater Study planning is in preliminary phases of discussion with NNEPA.
Drinking Water	<p>Navajo Nation EPA has primacy for its drinking water program and oversees approximately 170 water systems throughout the Navajo Nation.</p>
Tuba City Dump	<p>In July 2021, BIA determined that obtaining Hopi Tribal concurrence with an on-Hopi land repository is a challenge as the Hopi Tribe prefers an off-Hopi land disposal option. Costs for the off-Hopi land options far exceed the on-Hopi land options. In 2022, BIA and EPA plan to meet with the Hopi Tribal Council to discuss the on-Hopi land options. Completion of Tribal consultation regarding the proposed cleanup/closure approach is delayed through at least 2022.</p>
Health	<p>IHS will work with the new Emergency Department ECHO education program to present information about uranium exposure and toxicity on one of their webinars in 2022.</p> <p>IHS documents mandatory questions of patients to determine possible uranium exposure. The questions were suspended due to COVID-19, but will resume in 2022.</p>
Community Involvement	<p>The Community Outreach Network will resume regular meetings in 2022 to discuss the planning of additional outreach efforts in Navajo communities.</p> <p>The Uranium 101 Workgroup has been on hold during 2021, but will schedule a Uranium 101 Workshop when feasible, given COVID-19 meeting restrictions.</p>
Navajo Workforce Development	<p>EPA anticipates awarding the RAES II contract in fall 2022 to support educational and employment opportunities for Navajo workers and Navajo businesses.</p>



- Mines**
- Cyprus Amax (93 Mines)
 - Other Private Companies (40 Mines)
 - Phase 1 Trust (16 Mines)
 - Phase 2 Trust (37 Mines)
 - Tronox (42 Mines)
 - All Other (295 Mines)

Abandoned Uranium Mines on and Near Navajo Nation



- Highway
- Road
- Navajo Nation
- US State



through this investigation will inform a GCAP update to be executed immediately thereafter. DOE-LM informs Cane Valley residents through phone, email, and door-to-door notifications for all maintenance and sampling activities conducted near Monument Valley.

Lastly, DOE reviewed and commented on the NRC issued Safety Evaluation Report (SER) for the proposed license amendment request for the United Nuclear Corporation (UNC) Church Rock New Mexico site, to construct a mine disposal cell atop the existing uranium mill tailings cell. The DOE comments focused on long term sustainment and maintenance of the proposed option.



Nuclear Regulatory Commission (NRC) Update

NRC staff reviewed and provided comments on the Shiprock Performance report. After determining that a deferral would not adversely impact health and safety, NRC concurred on the deferral of groundwater monitoring at the Shiprock, Monument Valley and Tuba City sites due to the COVID-19 pandemic.

In November 2020, the NRC announced the availability of the draft Environmental Impact Statement (EIS) for public comment for the UNC license amendment request. At the request of Navajo Nation elected officials and impacted community members, the comment period was extended several times, ultimately closing on November 1, 2021. During the extended comment period, NRC staff engaged in outreach with the Navajo Nation, which included (but was not limited to) virtual meetings with the public and specific Navajo communities, newspaper articles, and radio broadcasts in English and Navajo.

NRC staff continued to work with the Navajo Technical University faculty to share NRC courseware in support of expanded Science Technology, Engineering and Math (STEM) offerings at the university. In addition, the NRC staff continued participation in Navajo Nation/Hopi/DOE quarterly meetings, as well as the DOE-led Tribal Intergovernmental Relations Group that develops community-targeted information products on DOE legacy management activities, and the multi-agency community outreach network.



UNC Mill Proposed Disposal Site.



Agency for Toxic Substances and Disease Registry (ATSDR) Update

In July 2021, ATSDR delivered a virtual presentation, titled “Communicating About Uranium with Navajo Communities,” to the Navajo Community Outreach Network. The presentation was a recap of community outreach and education activities conducted by Ten Year Plan partners over the past 6-7 years and provided a history of activities for the newer Network members. A Uranium 101 Workshop was scheduled at Cameron Chapter House but was put on hold due to COVID-19. ATSDR will continue participation in the Community Outreach Network and will co-chair the Uranium 101 Workgroup to schedule Uranium 101 Workshop again when feasible, given COVID-19 in person meeting considerations.



Indian Health Services (IHS) Update

IHS personnel have been busy with COVID-19 related health tasks, causing a delay in some plans. However, a pilot project for increased community-based colorectal cancer screening was conducted. The pilot was very successful. The plan is to expand the program across Navajo. In addition, other community based cancer screenings are planned for additional pilot projects.

In the area of specific cancer data for Navajo, IHS signed a new agreement with New Mexico Cancer Programs, so cancer data specific to Navajo Nation can be isolated, extracted, and maintained separately.

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