



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region IX
75 Hawthorne Street
San Francisco, CA 94105

Valinda Shirley, Executive Director
Navajo Nation Environmental Protection Agency
Post Office Box 339
Window Rock, Arizona 86515

Re: Navajo Nation Environmental Protection Agency May 24, 2021 Letter to Nuclear Regulatory Commission, regarding Comments on Draft Environmental Impact Statement for Disposal of Mine Waste at United Nuclear Corporation Mill Site

Dear Executive Director Shirley:

The United States Environmental Protection Agency, Region 9 (USEPA) received a copy of your May 24, 2021 letter to the Nuclear Regulatory Commission (NRC) on behalf of Navajo Nation Environmental Protection Agency (NNEPA), with comments on the Draft Environmental Impact Statement (DEIS) for the Disposal of Mine Waste at the United Nuclear Corporation (UNC) Mill Site in McKinley County, New Mexico. As you know, NRC will be responding to comments received during the 353-day public comment period, now extended to November 1, 2021 at the request of Navajo Nation President Nez. The purpose of this letter is to provide information we hope may be of assistance to you and others in the Navajo Nation government during the extended DEIS comment period and to provide clarifying information attached in response to NNEPA's May 24, 2021 comment letter (See Attachments 1 - 5).

USEPA shares your goal of protecting the health of the communities and the environment affected by this project to clean up Northeast Church Rock (NECR) Mine Site and appreciates your ongoing collaboration and leadership. The recently released Ten-Year Plan¹ and previous multi-agency plans have all recognized the impacts of uranium mining on the Navajo Nation and its people. For that reason, USEPA considers our partnership with the Navajo Nation government and the engagement of the Navajo Nation communities we all serve paramount elements of USEPA's effort to clean up the NECR Mine Site. To this end, USEPA relies upon the rigorous science and engineering performed to date at the NECR Mine Site to guide our decisions and strives to accurately convey this information to the communities that rely upon us as regulatory agencies.

¹ Ten-Year Plan: Federal Actions to Address Impacts of Uranium Contamination on the Navajo Nation, 2020-2029.

Collaboration with the Navajo Nation

USEPA has been working with NNEPA and Navajo Nation leadership to address contamination at the NECR Mine Site since 2005. Throughout this time, USEPA has sought to engage with the Navajo Nation government and the affected communities, including the Red Water Pond Road (RWPR) community. Following the 2009 issuance of the Engineering Evaluation and Cost Analysis (EE/CA), USEPA held approximately 10 workshops with Navajo community members, completed additional studies and modeling efforts, and engaged in formal consultations with Navajo Nation leadership in 2009 and 2011. In 2011, following the outreach on the EE/CA, USEPA issued an Action Memorandum that documented the cleanup decision for the NECR Mine Site. On March 5, 2021, USEPA shared a compilation of NECR Mine Site communications between the Navajo Nation government and USEPA with you and Dariel Yazzie, Environmental Program Supervisor of the Navajo Superfund Program (NSP), which highlighted the consultations and engagement between USEPA and the Navajo Nation on this project (see Attachment 4).

In 2013, after an additional comment period and public involvement activities, USEPA (Region 6) issued a Record of Decision (ROD) selecting transfer of the NECR mine waste to the UNC Mill Site. Issuance of this ROD allowed USEPA to begin the design phase of the project. USEPA formed a design review team to assist with oversight. This team included representatives from USEPA Regions 6 and 9, the U.S. Department of Energy, NNEPA, New Mexico Environment Department, a representative from the RWPR Community Association (RWPRCA) assisted by EPA's Technical Assistance Services for Communities (TASC) contractor, and NRC, which conducted its design review as part of the current license amendment process. UNC/General Electric, the company completing the design and submitting the subsequent NRC license amendment, shared all design documents with NNEPA and other members of the design review team for review and comment throughout the design process.

USEPA understands Navajo Nation's concern, expressed in 2008, prior to issuance of the EE/CA, and through today, regarding having many separate repositories on Navajo Nation land. This was an important consideration for USEPA's selected alternative to clean up 125 acres of tribal trust land to residential and traditional uses and to consolidate the NECR Mine waste into an existing repository at the UNC Mill Site. USEPA remains committed to ensuring that the NECR Mine Site remedy is fully protective.

In addition to working to ensure that the NECR Mine Site remedy is fully protective, we are committed to developing additional feasible, protective options for the remaining over-500 abandoned uranium mines that will reduce the total number of repositories on Navajo trust land and ensure the protection of surrounding communities. To this end we have initiated the formation of a disposal options workgroup and appreciate that the NSP has identified staff to participate in that workgroup and to help us investigate disposal options.

Collaboration with the Local Community

USEPA has greatly appreciated the engagement of the Navajo Nation government and the community throughout our work on the NECR Mine Site. In addition to the 10 public workshops

cited above, since 2010, USEPA has had a contract with the RWPRCA to assist with communication and outreach with RWPR and surrounding communities. In 2012, USEPA provided the RWPR community with a technical assistance contractor, through our TASC program. USEPA and/or their TASC contractor have participated in well over 100 in-person meetings (prior to COVID) with community representatives over the lifetime of the NECR Mine Site project as well as monthly calls with the RWPRCA Executive Committee. In addition, since 2011 we have been working with the RWPR community on a voluntary alternative housing program in anticipation of cleanup activities.

USEPA Clarifications

This letter provides several attachments, including:

- (1) Clarifications in response to NNEPA's May 24, 2021 comment letter.
- (2) A summary of the NECR design process and links to the design documents.
- (3) A summary of the history of the USEPA actions at the NECR Mine Site and the reasons USEPA selected the cleanup plan for the NECR Mine Site that is currently under review by NRC.
- (4) The March 5, 2021 email from Will Duncan describing the consultations and coordination with the Navajo Nation after issuance of the 2009 Engineering Evaluation/Cost Analysis.
- (5) Several publicly available fact sheets describing the NECR site status and design, including a July 2021 Fact Sheet addressing concerns regarding the NECR remedy.

We hope the information provided in this letter will assist NNEPA in its ongoing review of the DEIS. USEPA will carefully review comments submitted to NRC, including those provided by NNEPA and local community members, and will work with you to address the Navajo abandoned uranium mine sites. We understand the NRC has offered to meet with the Navajo Nation government during the ongoing comment period. USEPA is available to join that meeting and discuss your questions and concerns about the NECR remedy at that time or is happy to meet at a separate time if that would be helpful.

Sincerely,

Enrique Manzanilla, Director
Superfund and Emergency Management Division

cc: Honorable President Jonathan Nez, Navajo Nation
Honorable U.S. Congressman Tom O'Halleran
John Lubinski, Director, Office of Nuclear Material Safety and Safeguards, NRC

Attachments 1 – 5 (described above)

ATTACHMENT 1

Clarifications regarding Statements in NNEPA May 24, 2021 Comment Letter on Draft Environmental Impact Statement

1) AVAILABILITY OF ENGINEERING PLANS:

NNEPA Comment: "...no engineering plans have been released for review"

USEPA Response: The design documents are currently accessible on both the USEPA and NRC websites and links to these documents have been provided to new NNEPA staff on December 23, 2020 and on March 22 and May 21, 2021. NNEPA participated on the UNC/NECR Design Team throughout the design process. Please see the Attachment 2, describing the design process and providing links to the design documents on both the USEPA and NRC websites.

2) CONCERNS REGARDING UNDERLYING STRUCTURE AT MILL SITE:

NNEPA Comment: "The "excellent" design is being added to a FAILED structure..."

USEPA Response: The devastating 1979 spill, one of the largest radioactive releases in United States history, occurred at the UNC Mill Site during mill operations. When a dam at the Mill Site broke, millions of gallons of liquid tailings flowed downstream. Currently, there are no longer any liquid tailings stored at the Mill Site. As a result, an event like the 1979 spill could not occur. The Mill Site is no longer operating and has been closed under the Uranium Mill Tailings Radiation Control Act (UMTRCA). The tailings that remain at the site have drained and are contained within an engineered repository. The design of the combined mine waste repository and mill tailings impoundment considers protection from erosion from wind and storm events as well as natural disasters, such as a probable maximum precipitation event and maximum credible earthquake that could occur near the site. Additionally, provisions for long-term surveillance and maintenance will be required.

3) AIR MONITORING AND DUST CONTROL CONCERNS:

NNEPA Comment: There are no air monitoring, dust control, or safety plans, ROD, RCPP, or SWPPP.

USEPA Response: Dust control and air monitoring plans are included as Appendix Q in the design documents. The Radiation Protection Plan is included as Attachment L-1 to the Health and Safety Plan, included as Appendix L in the design documents. The 2011 NECR Action Memo and 2013 UNC Mill Surface Soils ROD are available on the EPA website. The Stormwater Pollution Prevention Plan is a document required to be submitted by the construction contractor upon award according to the design specifications. As discussed above, all design documents, including drawings and

specifications are located on the USEPA and NRC websites and links to these documents were previously provided to new NNEPA staff and are provided again in Attachment 2 to this letter.

4) **ALTERNATIVE LOCATIONS FOR REPOSITORY:**

NNEPA Comment: There has never been any negotiating with USEPA for selection of a different locations for repository not on the Navajo Nation or within close boundaries of the Navajo Nation.

USEPA Response: Consistent with the USEPA's consultation policy, Region 9 consulted and coordinated extensively with the Navajo Nation government throughout the course of this effort. See Attachment 3. USEPA selected a response action in accordance with the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 9601 et seq. (CERCLA) and the National Contingency Plan, 40 C.F.R. Part 300 (NCP). For Non-Time Critical Removal Actions, the three criteria USEPA is required to consider include:

1. Effectiveness (protection of human health and the environment),
2. Implementability (logistically practical), and
3. Cost.

Using a licensed facility located farther away was not selected because the UNC Mill Site is protective, implementable, and much less costly (\$44 million for repository at UNC Mill Site vs. \$294 million to transport to Grandview, Idaho licensed facility in 2009 EE/CA). Although the costs for each disposal option have increased over time, the cost ratio is roughly the same (off-site disposal in Grandview, Idaho is still approximately seven times more expensive than Mill Site disposal). Current alternatives and costs for waste disposal are available because they are included in the Quivira Draft Engineering Evaluation/Cost Analysis (EE/CA). The nearby Quivira Mine has similar waste volume and characteristics as NECR and so is comparable in cost and available disposal options. USEPA has also evaluated the cost of disposal at the White Mesa Mill (*see* Quivira Draft EE/CA) and has found that this option, while closer in cost, is significantly more than twice the price of current estimates for local consolidation. In addition, USEPA has learned that the Ute Mountain Ute Tribe has raised concerns about the groundwater impacts of the White Mesa Mill. Causes of observed changes in groundwater chemistry near the White Mesa Mill are currently the subject of a study funded by the USEPA Office of Research and Development.

EPA evaluated other risks when considering the implementability of the alternatives, such as haul route accidents and fatalities. For the Grandview, Idaho disposal facility evaluated, based on traffic fatality statistics per mile for interstates and for two lane roads, an estimated 38 fatalities would be expected, two of which are predicted to occur on Highway 566 between I-40 and the Mine Site. By contrast, the UNC Mill option has a near-zero risk for traffic fatalities (0.2) due to the comparatively low number of miles of truck travel. Similarly, the project construction for the UNC Mill Site disposal option is

estimated to take four years whereas, the Off-Site option evaluated would take nine years to implement due to the extra time required to transport waste material to the distant disposal facility.

ATTACHMENT 2

Northeast Church Rock Mine Cleanup Design Process And Links to Design Documents

Design Review Team: A design review team was formed at the beginning of the design process which began after completion of the March 2013 UNC Mill Surface Soils Record of Decision. The design review team included representatives from USEPA, NRC, Department of Energy (DOE), NNEPA, New Mexico Environmental Department (NMED), and a representative appointed by and a member of the Red Water Pond Road Community Association assisted by USEPA's Technical Assistance Services for Communities (TASC) contractor. The technical staff on the Design Review Team included NNEPA representatives Chandra Manandhar from 2013-2015 and Binod Chaudhary from 2016-2018.

Pre-Design Studies (2013-2014): USEPA embarked on the design process by overseeing pre-design studies at the UNC Mill and NECR Mine Sites. The goal of the pre-design studies at the UNC Mill Site were to adequately characterize current conditions of the UNC Mill including the stability, water content, and other geotechnical properties of the cover, embankment, mill tailings, and soils below the repository to provide input into the design. The goal of the pre-design studies at the Mine Site was to more accurately characterize the mine waste volume and principal threat waste volume. Drafts of the Pre-Design Studies Work Plans and Reports were shared with Chandra Manandhar of NNEPA and Teracita Keyanna, a representative of the RWPRCA, as well as all members of the Design Review Team for Review and Comment on August 16, 2013 and July 21, 2014, respectively.

Design (2015-2018): Design documents including multiple versions of Draft Design Work Plans and 30%, 60%, and 95% design documents were shared with Binod Chaudhary (NNEPA) and the Design Review Team between 2015 and 2018. Comments from all agencies, including NNEPA were consolidated and provided to UNC/GE and their design contractors for incorporation into the design plans and specifications. The USEPA design documents have been on USEPA's website since they were approved in July 2018. In addition, these documents are available, along with all documents submitted as part of the License Amendment Request to NRC, on NRC's UNC Mill Site website.

Links to Design Documents:

USEPA - <https://www.epa.gov/navajo-nation-uranium-cleanup/northeast-church-rock-mine-technical-reports>

NRC - <https://www.nrc.gov/docs/ML1826/ML18267A235.html>

Links to Design and Overview Fact Sheets

NECR Remedy Design Fact Sheet - https://www.epa.gov/sites/default/files/2021-04/documents/ne_church_rock_design_update_fact_sheet-rev-2020-01-13.pdf

NECR Overview Fact Sheet - https://www.epa.gov/sites/default/files/2020-01/documents/northeast_church_rock_mine_fact_sheet-2020-01-13.pdf

ATTACHMENT 3

NECR History and Current Status

NECR History:

USEPA has understood the significance of the NECR Site as the largest and highest priority site of the more than 500 abandoned uranium mines on the Navajo Nation. We have appreciated the chance to work with the NNEPA Superfund Program throughout the more than 15 years since Navajo Nation's 2005 request that USEPA address the Site. Our efforts to collaborate have continued during the assessment, interim response actions, final response action selection and design phases of work on the NECR Site. From 2006 through 2012, USEPA required UNC to perform a series of actions that removed more than 200,000 tons of contaminated soil from the Red Water Pond Road residential and nearby areas. The materials removed during these interim actions were added to the NECR mine waste pile, which was regraded, covered with clean soil, revegetated and stabilization for short-term protectiveness, until design and cleanup could be completed.

Selection of Response Action - Transfer of Most NECR Mine Waste to UNC Mill Site:

The cleanup plan for the NECR Mine Site selected by USEPA was the subject of a series of meetings and government-to-government consultations with the Navajo Nation from 2006 through 2011. USEPA understood that many representatives of the Navajo Nation and local community preferred the cleanup option that would have moved the waste further from Red Water Pond Road. USEPA's highest priority is protecting public health and the environment. In the decision process, USEPA follows the Superfund Law (Comprehensive Emergency Response, Compensation, and Liability Act (CERCLA)). As required by CERCLA, we only select alternatives that are protective of public health and the environment. Once the protectiveness criterion is met, we consider the additional criteria of implementability and cost. As a result, and as USEPA indicated in its 2011 response to public comments, USEPA did not select, under CERCLA, moving all the waste to a more distant repository, at approximately six times the cost, given that it could be safely contained at the nearby UNC Mill Site.

Key factors in USEPA's decision included:

- (1) **Restoration of Land for Use by Navajo Nation community:** The transfer of the mine waste would free up approximately 125 acres of Navajo Nation tribal trust land for residential and traditional use by the Navajo people.
- (2) **Reduced Footprint of Contamination:** The combined waste would be entirely within the existing footprint of the mill tailings disposal area.
- (3) **Moving Waste Off Navajo Nation:** The Mill Site repository is on private land, nearby but outside of the Navajo Nation in New Mexico.
- (4) **Ensuring Protectiveness with Long-Term Federal Oversight:** The Mill Site will be under long-term federal oversight by both the Department of Energy, Office of Legacy Management and USEPA Region 6.

- (5) **Upgrades to Mill Site Tailings Disposal Area Cover and Storm Water Controls:** As part of the transfer of the mine waste, the repository at the Mill Site would receive significant upgrades to the cover system and stormwater controls in the Pipeline Arroyo.
- (6) **Compliance with CERCLA's Cost Criteria:** The transfer option best addresses the CERCLA criteria of cost; this protective action is approximately one sixth of the cost to take the waste to the Grandview Idaho licensed facility and less than half the cost of taking the waste to the White Mesa Mill.

History of Collaboration and Consultation with Navajo Nation

Prior to the 2009 publication of the NECR Engineering Evaluation/Cost Analysis document, which identified and evaluated alternatives for cleaning up the Site, USEPA worked closely with the Navajo Nation EPA, which reviewed drafts and provided input into USEPA's analysis of alternatives. During the EE/CA public comment period, the Navajo Nation indicated that it supported removal of the NECR mine waste from the Navajo Nation and specifically supported the community's request for Alternative 2, "all mine wastes with concentrations above the Proposed Action Level of 2.24 pCi/g Radium would be excavated and disposed of off-site at a licensed and permitted disposal facility such as at US Ecology, in Grandview, Idaho."

In response to Navajo Nation and community concerns, USEPA held consultations with Navajo Nation President Shelly who requested that EPA work more closely with the community, evaluate additional disposal options raised during public meetings and perform additional studies requested during the public comment period to assure that the project would not impact groundwater. USEPA facilitated over ten community meetings and workshops between 2009 and 2011. The topics covered at these workshops ranged from health risks (including speakers from USEPA, NNEPA, UNM, ATSDR, IHS, and the Medicine Man Association), to revegetation. The workshops included facilitated discussions with a Navajo Peacemaker. At the end of this two-year consultation and community involvement period, USEPA undertook additional studies requested by the Navajo Nation and community, which are posted on USEPA's website. USEPA concluded that it was unable to justify selection of Alternative 2 under its CERCLA criteria and documented this conclusion in a response to comments. The selected response action, Alternative 5A includes removing mine waste with the most elevated concentrations (>200 pCi/g Ra-226 or 500 mg/kg Uranium) to a licensed facility further from the Navajo Nation. USEPA's responses to all comments received by Navajo Nation EPA, the community, and others are included in the 2011 Action Memorandum, which selected the UNC Mill Site as the main disposal facility for the NECR Mine waste.

USEPA Region 6 proceeded to complete a 2012 Proposed Plan for the UNC Mill Site to accept the NECR mine waste. NNEPA acknowledged receipt of the Proposed Plan and Administrative Record Index on July 20, 2012. After additional public meetings and a public comment period, Region 6 issued a 2013 Record of Decision, including a responsiveness summary, for the UNC Mill Site approving acceptance of the NECR mine waste. At the request of the U.S. Department of Energy, UNC/GE conducted extensive pre-design studies with multiple borings at the UNC Mill Site to characterize the current conditions of the Mill Site's tailings impoundment, including the soil properties and characteristics, such as strength, water content, and other important factors

relevant to the design of the NECR Mine waste repository. In addition to characterizing the current status of the Mill Site tailings disposal area, the cover, embankment (or former dam), and soils below the tailings repository were evaluated.

USEPA then formed a Design Review Team with standing monthly calls throughout the design period. The Design Review Team included representatives from USEPA Regions 6 and 9, NNEPA, DOE, NRC, New Mexico Environment Department, and a representative from and appointed by the RWPRCA, who was assisted by EPA's Technical Assistance Services for Communities (TASC) contractor. During the design team's work, from 2014 to 2018, Chandra Manandhar and Binod Chaudhary represented NNEPA, as active participants on the UNC/NECR Design Review Team, providing meaningful comments and input on all design deliverables.

Finally, as recently as the August 18, 2020 Ten-Year Plan consultation meeting, Oliver Whaley, then NNEPA Executive Director, commented that NRC should make efforts to accelerate its decision on the License Amendment Request, so that cleanup activities at the NECR Mine Site could proceed.

Ensuring Protectiveness:

Red Water Pond Road residents along with many other communities living and working downstream of the UNC Mill Site were severely impacted by the 1979 release of 94 million gallons of liquid mill tailings waste. This release was one of the largest radioactive spills in the history of the United States and occurred during operation of the Mill Site, when highly contaminated liquid tailings were stored at the Mill Site. Currently, the Mill Site no longer contains liquid waste and, with the engineered cover and stormwater controls, another spill such as the one in 1979 is no longer possible. USEPA, and the national experts we have consulted, have confirmed that there is no danger of a similar release.

In addition, NRC's initial finding in its October 2020 Safety Evaluation Report was that the repository design for adding the NECR waste met that agency's regulatory requirements for safety. Based on all information USEPA has received to date, including initial comments from Navajo Nation EPA and the community during USEPA's public comment process, we continue to believe that implementation of the USEPA-approved design would be protective. Nevertheless, NRC and USEPA will continue to review and consider all public comments submitted during the extended public comment period on the Draft EIS, now scheduled to close on November 1, 2021. If evidence emerges that indicates the selected response action for the NECR Site would not be protective, USEPA would not implement that remedy, unless it could be modified to meet the CERCLA criteria of protectiveness.

If NRC ultimately approves the license amendment after consideration of all comments, and the NECR waste repository is constructed at the Mill Site, both the licensee and USEPA will continue to monitor protectiveness and make any improvements that are needed to ensure its ongoing protectiveness. Once cleanup at the Mill Site is completed, with or without transfer of the NECR waste, the current NRC license will be terminated, and DOE's Office of Legacy Management will take over stewardship of the UNC Mill Site from the licensee. At that time,

DOE, with NRC oversight, will join USEPA Region 6 in ensuring long-term maintenance and protectiveness of the Mill Site.