

## UNC-ChurchRockEISCEm Resource

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[UNC-ChurchRockEIS.resource@nrc.gov](mailto:UNC-ChurchRockEIS.resource@nrc.gov)

Scoping Comments for United Nuclear Church Rock Mine Waste Project EIS; Docket ID No. NRC-2019-0026

### Background

United Nuclear Corporation's (UNC) requested authorization on September 24, 2018 to amend its license (SUA-1475) to excavate approximately 1 million cubic yards (CY) of mine spoil from the Northeast Church Rock Mine Site and dispose of it at the existing mill site in Church Rock, New Mexico. The proposed action should be carefully evaluated for long-term impacts to all groundwater sources in the area with an eye toward protecting all groundwater currently used being used by residents and local communities, as well as those sources which may be used in the future. *New Mexico Water Quality Act Sections 74—6-1 et seq., NMSA 1978*

The remedial process requires continued data gathering and analysis to characterize scope of the problem and the potential threats to human health and the environment.

In this case, persistent contamination in Zone 3 which has migrated away from the UNC mill site poses a problem which could be magnified by future seepage from the mill tailings. Piling approximately 1 million cubic yards (CY) of mine spoil from the Northeast Church Rock Mine Site on top of the tailings is likely to exacerbate tailings seepage and create a mixing zone composed of seepage from both mine spoil and mill tailings. This proposed remedy, without more, does nothing to contain the movement of contaminants out of the tailings into the groundwater beneath the site.

The inadequacy of the proposed remedy will likely lead to future scenarios in which groundwater plumes extend beyond the site boundaries to reach the water supplies of nearby resident populations. The tribal communities that surround the mine and mill site cannot be sacrificed again, as they were during the uranium production boom and again while awaiting the selection of the current faulty remedy.

The Department of Energy Office of Legacy Management UMTRCA Title II Disposal Site in Bluewater, New Mexico site provides an example of why alternatives should incorporate current best practices that will address long-term seepage to groundwater from mill tailings and why cap and cover methods in unlined cells is an inadequate remedy. The groundwater plumes leaving the Bluewater Disposal Site from covered tailings cells have uranium concentrations exceeding the U.S. EPA and New Mexico drinking water standards of 0.03 milligrams per liter (mg/L) and monitor well water levels have decreased. The combined trends of water quality degradation in shallow and deeper aquifers, and water level decreases in the monitor wells are long-term impacts of uranium milling and remediation methods that require further study.

The cap and cover method for isolating uranium mill tailings is becoming obsolete. The clay radon barrier that is designed to prevent radon emissions from the tailings is subject to erosion. Runoff has collected in ponds on top of the large tailings cell at the Bluewater Site, threatening the effectiveness of this remedy to protect water quality and endangering human health and the environment.

Mine waste must be isolated separately and should not be mixed with mill tailings that have seeped into the surrounding groundwater. Best practices dictate that the two types of waste remain separate for monitoring purposes and long-term legacy management.

An alternative that will allow the reuse and revitalization of Superfund and other contaminated sites is preferred, but permanent damage to the regional hydrology from historic uranium mining and milling may interfere with the reuse of former mill site zones for human habitation unless all the waste can be removed to a licensed repository to permanently reduce toxicity, mobility, and volume.

#### Separate Encapsulation of Tailings and Mine Waste Alternatives

If the goal is to prevent contaminant releases and permanently isolate mine and mill waste, total separate encapsulation of the uranium mill tailings must be considered. The mill tailings should be lined with a primary and secondary lining system, with leak detection features. The containment should be engineered for replacement when the liner reaches the end of its useful life.

Primary and secondary liners can include both synthetic membrane and a two-foot-thick layer of compacted soil, or an equivalent system designed to maximize containment, thereby protecting human health and the environment from new releases of hazardous materials.

Federal and state applicable or relevant and appropriate requirements (ARARs) for groundwater must be evaluated for the proposed remedy which take into account the needs of local resident populations and their rights to clean and sustainable water supplies. Cost-effectiveness must be weighed against the potential for permanent degradation of domestic water supplies. Best practices dictate that long-term maintenance and groundwater monitoring and data collection/evaluation will likely be required to protect the final remedy, along with long-term water management and treatment.

This alternative could also encompass the consolidation and encapsulation of the Northeast Church Rock mine tailings with the Kerr-McGee Quivira mine tailings, apart from the UNC mill tailings for economies of scale and cost-effectiveness.

#### No Action Alternative

The no-action alternative would deny UNC's application to accept waste from the Northeast Church Rock Mine and dispose of it at the UNC mill site.

This alternative should be considered if the mill waste cannot be moved offsite to a licensed repository or if the mine and mill waste cannot be encapsulated in separate locations.

#### Consultation with Affected Communities and Tribal Government

More consultation with Environmental Justice communities such as Red Water Pond Road Community members that have been disproportionately affected by toxic releases from nearby mine and mill sites, ecological damage to their homeland, and job losses following a downturn in the uranium industry.

Tribal consultation with the Navajo Nation should include tribal leaders, agencies, local chapters, and community members. Hearing from a diverse spectrum of local residents will ensure that recommendations are representative of the local populations.

Anna Benally, who has lived in the Red Water Pond Community all her life is worried about the safety of living next to mine waste, especially for her grandchildren. As a child, her family's livestock drank from mine dewatering ponds and uranium haul trucks constantly kicked up dust as they transported the mined ore down Red Water Pond Road for milling in Grants.

She wants a healthy livable community for her children and grandchildren, with a contamination-free home, where all members of her community can safely live a good life.

### Selection of the Remedy

Once alternative remedies have been identified and a final remedy is selected that provides adequate protection of human health and the environment from unacceptable risks by eliminating, reducing, or controlling exposures through treatment, engineering, or institutional controls, ARARs compliance should be assessed with the participation of the impacted communities, along with state and federal regulators.

A remedial plan that encompasses all these elements forms the foundation for further institutional controls. Without a competent remedial plan in place it is not possible to develop an institutional controls program.

### Cumulative Impacts to Human Health

There is also a need to assess the health impacts of ongoing radiation releases in the vicinity of the UNC Superfund site through an examination of disease increases in the surrounding communities with independent research, supported by biological blood data.

Communities like those on Red Water Pond Road have been subjected to toxic releases for over forty years - during the years of uranium production and while they suffer health impacts as they await the selection of a protective remedy and final reclamation of legacy mine and mill sites in their backyard.

### Moratorium on licenses for new uranium mills and in situ recovery methods

Until more effective remedies are identified to prevent permanent degradation of regional water supplies in the future, the licensing of new uranium mills and uranium in situ recovery should be halted.

The absence of a means to permanently isolate the mountains of waste generated by the uranium industry for centuries supports a precautionary approach halting the creation of more uranium waste and the wastelands that arise within our homelands and communities.

Our communities want the opportunity to grow and prosper into the future. Uranium recovery processes threaten such a vibrant future when alternate contaminant levels for constituents of concern or waivers of clean and safe drinking water are permitted, resulting in permanent and irreversible degradation of our water supplies, soils, air quality and our health.

Submitted by:

Laura Watchempino

P.O. Box 407

Pueblo of Acoma, NM 87034

