

U.S. NUCLEAR REGULATORY COMMISSION

RECORD OF DECISION

LICENSE AMENDMENT TO ALLOW DISPOSAL OF URANIUM MINE WASTE AT UNITED NUCLEAR CORPORATION MILL SITE, MCKINLEY COUNTY, NEW MEXICO

Introduction

The U.S. Nuclear Regulatory Commission (NRC) staff prepared this record of decision (ROD) for the proposed license amendment to allow United Nuclear Corporation (UNC) to dispose of uranium mine waste at UNC's uranium mill tailings disposal site in McKinley County, New Mexico. The mine waste would be excavated from the Northeast Church Rock (NECR) Mine Site and placed in a repository to be constructed on top of the existing mill tailings impoundment at the UNC Mill Site. The amendment also revises the NRC-approved tailings reclamation plan and reclamation schedule for the mill site.

In January 2023, the NRC staff issued a final Environmental Impact Statement (FEIS) (NRC 2023a) for UNC's application for this license amendment (UNC 2019a, 2019b, 2019c, 2019d, 2020). In the FEIS, the NRC staff sets forth its recommendation in accordance with title 10 of the *Code of Federal Regulations* (10 CFR) section 51.91(d) and the National Environmental Policy Act of 1969, as amended (NEPA), for the proposed action and two secondary alternatives (modifications to the proposed action, alternatives 1A and 1B). The NRC staff's recommendation is that the adverse environmental impacts of the proposed action and the two secondary alternatives do not preclude issuing a license amendment.

This ROD satisfies section 51.102(a) of 10 CFR, which states that "[a] Commission decision on any action for which a final environmental impact statement has been prepared shall be accompanied by or include a concise public record of decision." The NRC staff has prepared this ROD in accordance with NRC regulations at 10 CFR sections 51.102(b) and 51.103(a)(1)-(4). In addition, in accordance with 10 CFR section 51.103(c), this ROD incorporates by reference the information contained in the FEIS (NRC 2023a).

Background - UNC Mill Site and NECR Mine Site

From 1977 to 1986, UNC operated the Church Rock uranium mill under a license issued by the State of New Mexico. UNC also conducted mining at the NECR Mine Site between 1967 and 1982, and the mine served as the principal mineral source for the mill. Under the Atomic Energy Act of 1954, as amended, the NRC does not have authority of the mine site. In 1979, the tailings impoundment dam at the UNC Mill Site failed, resulting in a catastrophic release of liquid mill tailings into nearby waterways and the underlying alluvium. After taking corrective actions, UNC resumed uranium milling and eventually placed an additional estimated 3.5 million tons of mill tailings in the impoundment at the site. The U.S. Environmental Protection Agency (EPA) listed the site on its National Priorities List in September 1983 and conducted an investigation and a feasibility study from 1984 through 1988. In 1986, regulatory authority for the UNC Mill Site was transferred to the NRC, and the NRC issued a Part 40 license to UNC for the site. In 1991, the

NRC approved a reclamation plan for the mill site. Except for an area on the south side of the site that has two evaporation ponds for ongoing groundwater cleanup activities, reclamation at the site is complete.

The NECR Mine Site is located less than 1 mile northwest of the UNC Mill Site. The mine site is located mostly on Navajo Nation land and land held by the United States in trust for the Navajo Nation. Mine wastes, including low grade uranium ore, waste rock, and overlying rock and soils affected by mining activities remain at the site. In 2005, in response to a request by the Navajo Nation Environmental Protection Agency, the EPA agreed to act as the lead regulatory agency for the NECR Mine Site cleanup. In 2011, after evaluating available disposal options, the EPA selected a removal action for the NECR Mine Site under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This decision (EPA 2011) specified that the waste material should be excavated from the mine site and placed at the UNC Mill Site. In 2013, the EPA selected a CERCLA remedial action for the UNC Mill Site (EPA 2013), contingent upon NRC approval, to remove the mine waste and dispose of it in a repository on top of the tailings impoundment at the mill site. UNC developed design and supporting technical information and, with EPA approval, ultimately submitted this information to the NRC in its 2018 license amendment request.

The Decision

This ROD documents the NRC staff's decision to issue a license amendment to UNC for the placement of approximately 1,000,000 cubic yards of NECR uranium mine waste in a repository to be constructed on top of UNC's uranium mill tailings impoundment (NRC 2023c). The amendment also revises the NRC-approved tailings reclamation plan for the mill site to allow for placement of the mine waste and associated site modifications to improve drainage on and around the impoundment to prevent erosion. The license amendment authorizes UNC to proceed with its proposal as described in UNC's 2018 license application and under the conditions in its NRC-issued license. This NRC licensing action facilitates an EPA cleanup action under CERCLA at the NECR Mine Site, as documented in EPA's 2013 ROD (EPA 2013).

The NRC staff's decision is based on the NRC's FEIS and safety review. In the FEIS, the staff concluded that the potential impacts from the proposed action and two secondary alternatives would range from "SMALL" to "SMALL to MODERATE" for the resource areas shown in table ES-1 of the FEIS. The NRC staff concluded that the proposed action and secondary alternatives would have disproportionately high and adverse environmental impacts on minority and low-income populations. In particular, Navajo Nation communities are closest to the proposed project area and, for the three-to-four-year duration of the project, would be disproportionately affected by transportation-related impacts, impacts on air quality, increased noise levels, and visual disturbances. The NRC staff concluded that removal of mine wastes from the former NECR Mine Site and placement of these materials in a repository over existing mill tailings on private property would minimize the footprint of waste disposal facilities and allow the Navajo Nation to use the NECR land again.

The NRC staff completed consultation under section 106 of the National Historic Preservation Act by developing a programmatic agreement (PA) to protect cultural and historic properties. The PA is included in appendix A of the FEIS.

In its safety review (NRC 2022), the NRC staff determined that the application met the NRC regulations in 10 CFR part 40, “Domestic Licensing of Source Material,” and appendix A of part 40, stating that the proposed revisions to UNC’s reclamation plan are consistent with these requirements. Additionally, the NRC staff concluded that the mine waste can be disposed of in a manner that will not compromise site reclamation and long-term stability of the mill tailings impoundment. The NRC is imposing license conditions for groundwater monitoring (Condition 30) and reclamation plan modifications and monitoring (Condition 34). The NRC is also imposing a license condition (Condition 37) to require UNC to abide by the terms of the PA.

Regulatory Authority

This action is subject to both NRC and EPA regulatory authority. The NRC licensing action facilitates an EPA cleanup action under CERCLA to protect human health and the environment from actual or threatened releases of residual mining materials from the NECR Mine Site, as documented in the EPA’s 2013 ROD. The NRC has authority over the activities on the mill site related to disposition of the mine waste and improvements to the mill site in accordance with the revised reclamation plan. The EPA has authority over all cleanup-related actions on both the mine site and the mill site. The EPA also has lead authority for implementing the PA. After the cleanup is complete, the mine site (most of which is on Navajo Nation land), would be available for other uses. After completing the proposed modifications to the mill site, placing mine waste on the mill site, revegetating the mill site, and a minimum 5-year period of monitoring (NRC 2023c), the UNC-owned mill site would be transferred to the U.S. Department of Energy for long-term custodianship and continued NRC oversight under a general license. UNC’s specific license for the site would be terminated.

Mitigation Measures

The NRC has taken all practicable measures within its jurisdiction to avoid or minimize environmental harm from the proposed action (license amendment). The NRC is not imposing any license conditions in connection with mitigation measures for this proposed license amendment. UNC has committed to mitigation measures that are described in table 6.3-1 of the FEIS (NRC 2023a). These measures are included in UNC’s proposal, as required or approved by the EPA under CERCLA. The EPA will have authority over UNC’s implementation of these measures and compliance with additional EPA requirements under CERCLA, which incorporate other Federal, State, and Tribal laws (see FEIS section 1.6.2). UNC’s monitoring programs for the proposed project are described in chapter 7 of the FEIS.

Table 6.3-2 in the FEIS provides brief descriptions of mitigation measures suggested by the NRC. FEIS table 6.4-1 lists mitigation and monitoring measures suggested by Navajo Nation agencies or individuals. The NRC is not imposing these measures as requirements, but the EPA has indicated its intent to implement some of the measures during implementation of the project (EPA 2022).

Alternatives

In its environmental review, the NRC staff evaluated the environmental consequences of the proposed action (i.e., license amendment authorizing mine waste disposition and changes to the site reclamation plan), the two secondary alternatives, and the no-action alternative (i.e., not

approving the license amendment). The secondary alternatives are options for modifying the proposed action. Alternative 1A proposes a conveyor system to transfer most of the waste to the mill site, and alternative 1B proposes obtaining cover material from the Pipeline Arroyo instead of four borrow areas. FEIS chapter 2, "Proposed Action and Alternatives," and chapter 4, "Environmental Impacts of Construction, Operations, and Closure, and Mitigative Actions," present the NRC staff's evaluation and analysis of the environmental impacts of the proposed action and alternatives.

Under the no-action alternative, described in section 2.2.2 of the FEIS, the NRC assumes that the NECR mine waste would remain on the mine site for another 10 years while the EPA reassesses how to clean up the NECR Mine Site in a manner acceptable under CERCLA. Section 2.3 of the FEIS describes alternatives that the EPA previously evaluated and found unacceptable under CERCLA. Because EPA found these alternatives unacceptable, the NRC staff eliminated them from further study in the EIS.

Preferences Among Alternatives Based on Relevant Factors

In chapter 4 of the FEIS, the NRC staff assessed the potential environmental impacts of the proposed action, including the two secondary alternatives for implementing the proposed action. The FEIS assessed the impacts of excavating the NECR uranium mine waste, transferring the waste from the mine site to the mill site using trucks or a conveyor, placing the waste in a repository to be constructed on top of the existing uranium mill tailings impoundment, and covering the repository with rock, soil, and vegetation. The NRC staff also assessed the potential impacts of the no-action alternative: denial of the license amendment. The staff assessed the impacts of these alternatives in the following areas: land use, transportation, geology and soils, water resources, ecological resources, air quality, noise, historic and cultural resources, visual and scenic resources, socioeconomics, environmental justice, public and occupational health, and waste management. The staff compared the potential environmental impacts of the proposed action, secondary alternatives, and no action alternative in table ES-1 and section 2.4 of the FEIS. In chapter 5 of the FEIS, the NRC staff evaluated the potential cumulative impacts from the proposed action when added to the potential impacts of other past, present, and reasonably foreseeable future actions. Additionally, in chapter 7 of the FEIS, the staff summarized the costs and benefits associated with the proposed action and alternatives. In preparing the FEIS, the NRC staff also considered, evaluated, and addressed the public comments received on the draft EIS.

Based on the analysis in the FEIS, the staff concludes that the environmentally preferable alternative is the proposed action as modified by secondary alternative 2A: obtaining cover material from the Pipeline Arroyo rather than from the borrow areas identified in the FEIS for the proposed action. However, the staff has determined that the differences in impacts between the proposed action and both secondary alternatives are minor and that these alternatives (proposed action, alternative 1A, and alternative 1B) are all environmentally preferable to the no action alternative, which would result in prolonging cleanup of the NECR Mine Site by at least several years.

After weighing the impacts of the proposed action and the secondary alternatives and comparing them to the no-action alternative, the NRC staff determined that the adverse environmental impacts of the proposed action and the two secondary alternatives do not

preclude issuing a license amendment. The staff based its decision on (i) the license application, which includes the environmental report and supplemental documents (UNC 2020), as well as UNC's responses to the NRC staff's requests for additional information (UNC 2019a, 2019b, 2019c, 2019d); (ii) consultation with Federal, Navajo Nation, State, and local agencies and input from other stakeholders, including all comments received on the draft EIS; (iii) independent NRC staff review; and (iv) the assessments provided in the final EIS.

Public Involvement and Navajo Viewpoints

Public Involvement

On February 8, 2019, the NRC published a Notice of Intent (NOI) in the *Federal Register* (FR) to prepare an EIS and conduct scoping (84 FR 2935). Through the NOI, the NRC invited potentially affected Federal, Tribal, State, and local governments; organizations; and members of the public to provide comments on the scope of the EIS. During the scoping comment period, the NRC staff hosted two public meetings in Gallup, New Mexico, on March 19 and 21, 2019. After reviewing the comments received during scoping, the NRC staff prepared a scoping summary report (NRC 2019). The 70-day scoping period ended on April 19, 2019.

The NRC published the draft EIS for public comment in November 2020, announcing the document's availability on November 13, 2020 (85 FR 72706). The public comment period was originally scheduled to close on December 28, 2020. However, in response to requests, the NRC extended the comment period twice and it closed on May 27, 2021 (85 FR 84016, 86 FR 8386). On May 26, 2021, the NRC received a request from the President of the Navajo Nation to extend the comment period through October 31, 2021. The NRC announced on June 17, 2021 (86 FR 32285), that the comment period had reopened, and it ultimately closed on November 1, 2021.

As a result of the Covid-19 pandemic and associated public health emergency, consistent with the practice of several other Federal agencies, the NRC modified its public interactions from in-person meetings to virtual meetings, such as webinars with telephone access. The NRC held three such meetings, which took place in November and December of 2020 and in April of 2021. The NRC staff also established a toll-free number for people to leave comments by voicemail. The NRC staff held separate online or telephone meetings with specific chapters of the Navajo Nation and conducted other outreach with local community members and with Navajo government staff. The NRC staff also developed and aired pre-recorded radio broadcasts about the project on local radio stations, published a detailed newspaper article, and published newspaper advertisements. Appendix B of the final EIS provides more information about the NRC staff's outreach efforts to the public and local communities during the public comment periods. This appendix also contains summaries of and responses to all public comments received during the comment period. The as-received (verbatim) comments, organized in parallel structure to the appendix, are contained in a separate document (NRC 2023b).

Navajo Viewpoints

Navajo Nation lands surround the proposed project area, and nearby Navajo communities have disproportionately borne the environmental and health effects of nearby uranium mining and milling over many decades. Some of the major concerns raised by Navajo people, government,

or organizations were related to water and soil contamination from past mining and milling activities, people's health and the health of their livestock and other animals, the length of time required to identify a cleanup action, moving the waste to a nearby site instead of farther away, appropriate communication and dialog with the Navajo people, and numerous specific aspects of the proposal. Section 1.4.2 of the final EIS contains a description of the issues and concerns most raised throughout the NRC's NEPA process regarding the proposed action or related actions. Table 6.4-1 contains a list of mitigation measures suggested by Navajo agencies, organizations or people. Comments the NRC received from Navajo people, government agencies, or organizations are summarized and responded to in appendix B of the final EIS.

In this Record of Decision, the NRC staff documents its decision to grant UNC's requested license amendment.

Dated at Rockville, MD, this 15th day of February 2023,

APPROVED BY:



Signed by Regan, Christopher
on 02/15/23

Christopher M. Regan, Director
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