From:	Nona Baheshone <nbaheshone@outlook.com>
Sent:	Thursday, May 27, 2021 3:01 PM
To:	UNC-ChurchRockEIS Resource; UNC-ChurchRockEIS Resource
Cc:	Tommy Rock; Adriano Tsingine; Brian Curley-Chambers; Clifford Anderson; Dariel Yazzie; Erika Pirotte; Gilbert Dayzie; Harrison Karr; Mae Franklin; Perry H. Charley; Seraphina Nez; Valinda Shirley; Daniel Moquin; Waldron, Ashley
Subject:	[External_Sender] Docket ID NRC-2019-0026.
Attachments:	DURAC Resolution Number 007-21 Transmit Review Comments on NRC DEIS UNC Mill Site McKinley County NM.pdf; DURAC Comments on NRC DEIS 20210524b.pdf

Good Afternoon,

The Diné Uranium Remediation Advisory Commission respectfully submits the attached *Comments and Questions about the Draft EIS for the Disposal of Mine Waste at the United Nuclear Corporation Mill Site in McKinley County, New Mexico.* There are two different email addresses provided in the instructions to submit comments, so I included both. For any questions, please contact me at nbaheshone@outlook.com. Thank you for the opportunity to comment on the Draft EIS.

Nona Baheshone
Executive Director
Diné Uranium Remediation Advisory Commission
P.O. Box 7440
Window Rock, Arizona 86515
928.871.7186

Federal Register Notice: 85FR72706
Comment Number: 80

Mail Envelope Properties (SJ0PR20MB369254EF675E87C65DBA3448C3239)

Subject: [External_Sender] Docket ID NRC-2019-0026.
Sent Date: 5/27/2021 3:01:15 PM
Received Date: 5/27/2021 3:04:16 PM
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Created By: nbaheshone@outlook.com

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Files	**Size**	**Date & Time**
MESSAGE	680	5/27/2021 3:04:16 PM
DURAC Resolution Number 007-21 Transmit Review Comments on NRC DEIS UNC Mill Site McKinley County NM.pdf	342156	
DURAC Comments on NRC DEIS 20210524b.pdf	827471	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
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Resolution of the
Diné Uranium Remediation Advisory Commission

A RESOLUTION TRANSMITTING REVIEW COMMENTS OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE DISPOSAL OF MINE WASTE AT THE UNITED NUCLEAR CORPORATION MILL SITE IN MCKINLEY COUNTY, NEW MEXICO

WHEREAS,

1. The Diné Uranium Remediation Advisory Commission (DURAC) was established by the Navajo Nation Council through enabling legislation CJA-14-17, as amended, to study and reach conclusions about the impacts of uranium mining and uranium processing on the Navajo Nation and to make recommendations to the President of the Navajo Nation and to the Navajo Nation Council for policies, laws and regulations to address those impacts; and,

2. The proposed action of the *Draft Environmental Impact Statement For The Disposal Of Mine Waste At The United Nuclear Corporation Mill Site In McKinley County, New Mexico* is to amend United Nuclear Corporation (UNC)/General Electric(GE)'s Source Material License SUA–1475 to allow for the excavation, transfer and disposal of approximately 1 million cubic yards of Northeast Church Rock (NECR) mine waste on top of the existing tailings impoundment at the nearby UNC Mill Site. The amendment would also revise the NRC-approved tailings reclamation plan and schedule at the NRC-licensed UNC Mill Site. As part of the proposed action, the Draft EIS includes activities that are outside the NRC-regulated UNC Mill Site boundary but are necessary to conduct the proposed disposal activities at the UNC Mill Site. These activities include NECR mine waste excavation and transfer and related supporting activities in accordance with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) under the jurisdiction of U.S. Environmental Protection Agency (USEPA) to facilitate the expeditious and safe disposal of the NECR mine waste from Navajo Reservation land to protect human health and the environment from actual or threatened releases of this material; and,

3. UNC mill site is located on private land in McKinley County. NECR is located approximately one mile of the UNC mill site on the Navajo Reservation land. The nearest residences are located within the Red Water Pond Community approximately 0.5 mile from the UNC Mill Site; and

4. If the application for the license amendment is approved by NRC, the NECR contaminated uranium mine waste will be transported and placed at the nearby UNC mill site. The approval of the license amendment would also revise the NRC-approved reclamation plan and schedule. NECR mine waste would be excavated and transferred in accordance with CERCLA to protect human health and the environment; and

5. Proposed Action - Alternative 1: NRC would allow the transfer and disposal of approximately 1 million cubic yards of NECR mine waste on top of the North and Central Cells of the tailings impoundment at the UNC Mill Site using articulated dump trucks on private and local haul roads on and between the two sites including a crossing of NM 566 at grade. Additionally, UNC proposes to source cover material for the disposal site from four borrow areas:

    - Alternative 1A is the proposed action, except that UNC would convey the mine waste from the NECR Mine Site with an above-grade covered conveyor system to the UNC Mill Site instead of by truck.

- Alternative 1B is the proposed action, except that the cover material for the proposed disposal area would be sourced from the Jetty Area rather than from the four borrow areas;

- Alternative 2 – No-Action: Under the no-action alternative, NRC would not grant the license amendment and would not allow UNC to dispose mine waste on top of the NRC-licensed tailings impoundment at the UNC Mill Site; and,

6. NRC is seeking public comment on the draft Environmental Impact Statement for the proposed transfer of the mine waste from the Northeast Church Rock uranium mine in McKinley County, New Mexico and has extended its comment period through May 27, 2021.

NOW THEREFORE BE IT RESOLVED:

1. Diné Uranium Remediation Advisory Commission herewith transmits its review comments of the *Draft Environmental Impact Statement for the Disposal of Mine Waste at the United Nuclear Corporation Mill Site in McKinley County, New Mexico.*

2. Diné Uranium Remediation Advisory Commission hereby recommends inclusion of written comments of the impacted citizens and residents within the Red Water Pond Community and any other residents within proximity of the proposed action.

3. Diné Uranium Remediation Advisory Commission hereby recommends the United State Government to adhere to the attached review comments of the *Draft Environmental Impact Statement for the Disposal of Mine Waste at the United Nuclear Corporation Mill Site in McKinley County, New Mexico,* and to ensure the uranium mine waste cleanup is done in a safe and timely manner.

CERTIFICATION

I hereby certify that the foregoing resolution was duly considered by the Diné Uranium Remediation Advisory Commission at a duly called virtual meeting at which a quorum was present and the same was passed by a vote of 6 in favor, 0 opposed, and 0 abstaining on this 11th day of March 2021.

Nona Baheshone
Nona Baheshone, Executive Director for Uranium Commission

Motion: Commissioner Dr. Tommy Rock, PhD
Second: Commissioner Seraphina Nez

The changes to the attached NRC DEIS review comments were approved at a duly called special meeting at which a quorum was present and the same was passed by a vote of 5 in favor, 0 opposed, and 0 abstaining on this 26th day of May 2021.

Nona Baheshone
Nona Baheshone, Executive Director for Uranium Commission

Motion: Commissioner Adriano Tsingine
Second: Commissioner-Designee Gilbert Dayzie

Diné Uranium Remediation Advisory Commission

P.O. Box 7440
Window Rock, Arizona 86515
(928) 871-7186

Northeast Church Rock (NECR) Mine

Comments and Questions about the Draft EIS for the Disposal of Mine Waste at the United Nuclear Corporation Mill Site in McKinley County, New Mexico

Part I – January 14 and May 26, 2021
Prepared for Consideration by the Diné Uranium Remediation Advisory Commission by Commissioner Perry H. Charley; Nona Baheshone, MUEP, Executive Director for Uranium Commission; and Dr. Clifford Anderson, PhD, PE, RLS (AZ, CO, & NM) Technical Adviser to the Commission.

Preface to Part I and Part II (DURAC-1)

This document was prepared to facilitate the Diné Uranium Remediation Advisory Commission's (Commission or DURAC) review and consideration of the Environmental Impact Statement for the Disposal of Mine Waste at the United Nuclear Corporation Mill Site in McKinley County, New Mexico, Draft Report for Comment, (Draft EIS, NUREG-2243, Manuscript Completed: October 2020, Date Published: October 2020) prepared by the U.S. Nuclear Regulatory Commission (NRC), Office of Nuclear Material Safety and Safeguards (with electronic access at the NRC's Public Electronic Reading Room at http://www.nrc.gov/reading-rm.html, and publicly available upon written request at the Office of Administration, Multimedia, Graphics and Storage & Distribution Branch, Washington, DC 20555-0001) as part of its environmental review of the United Nuclear Corporation (UNC) request to amend its Source Material License No. SUA–1475 for the former UNC Church Rock uranium mill site located northeast of Gallup, New Mexico.

The purpose of the Commission is to study and reach conclusions about the impacts of uranium mining and uranium processing on the Navajo Nation and to make recommendations to the President of the Navajo Nation and to the Navajo Nation Council for policies, laws and regulations to address those impacts. The Commission shall be guided by traditional Navajo governance and planning, particularly the *Naabik'iyati* "talking things out'' example (2 N.N.C. §110 (M)) and the Fundamental Laws of the Diné. Accordingly, The Commission, as the agent of the Five Fingered People, who in turn are the stewards of the land and its sacred elements (1N.N.C. §205.D.), is guided by Fundamental Laws of the Dine to find ways to return *łeetso* to its natural balance within Mother Earth so that it does not harm the sacred elements or the sacred *liná* of the human beings and animal and plant people that exist on Mother Earth. (1 N.N.C. §205).

In making recommendations about the Draft EIS recommendations, the Commission extracted quotations of potential importance from the Draft EIS (as generally indicated by italics text font) and with references to the Draft EIS (with occasional page and line numbers, and section or subsection numbering), with quotations related to the purpose of the Commission to review consistency with existing NN laws or recommended new policies. **Response by the Diné Uranium Remediation Advisory Commission's to the sections of the Draft EIS are in bold paragraphs following each section. Any reference to the text and other information from the Draft EIS should consult and reference the original U.S. NRC Draft EIS and should not rely in this Comments and Questions document as the basis for a full and complete transcription of the Draft EIS.**

1.1 Background (1.1.a)

The proposed project area is defined as the UNC Mill Site and the NECR uranium mine site (hereafter, NECR Mine Site). The locations of the UNC Mill Site and NECR Mine Site are shown in

EIS Figure 1.1-1 as the proposed project area. The proposed action would address the need for disposal capacity to support the cleanup of the abandoned NECR Mine Site under the U.S. Environmental Protection Agency (EPA) Superfund Program. The NRC is reviewing UNC's license application in accordance with the requirements in 10 CFR Part 40, Appendix A, Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes Produced by the Extraction or Concentration of Source Material from Ores Processed Primarily for Their Source Material Content. [pg 1-1, lines 20 to 28]

1.1.1, From the Diné Uranium Remediation Advisory Commission (1 of 1):

The above information from the Draft EIS is included to describe the proposed alternatives, actions, and responsibilities. The Commission understands the Draft EIS proposed action by NRC addresses the acceptance of the mine waste at the UNC mill site only, and the disposal of the waste at NECR mine site is addressed by USEPA is a separate document. The environmental review documentation for the waste disposal at the NECR by USEPA was not reviewed under this Draft EIS review.

1.1.1 UNC Mill Site (1.1.1.a)

UNC operated the Church Rock uranium milling facility from 1977 to 1982 under a license issued by the State of New Mexico. Uranium from the NECR Mine Site (EIS Figure 1.1-1) and other local mines was processed at the mill facility, and residual materials (tailings) were placed in an impoundment. . . [pg 1-1, lines 32 to 35]

1.1.1, From the Diné Uranium Remediation Advisory Commission (1 of 2):

The above information from the Draft EIS is included to describe the proposed alternatives, actions, and responsibilities. The Commission understands processed tailings waste from UNC mill site were placed at the NECR mine site, and that all or a portion of the processed tailings waste has been or will be moved back to the UNC mill site. The Commission remains concerned about the contamination on the Navajo Nation that may have resulted from the time the processed tailings waste was placed within the Navajo Nation. This Draft EIS does not address the waste being moved a second time and returned back to the UNC mill site.

(1.1.1.b)

. . . The local and regional environments were impacted by the July 16, 1979 incident at the UNC Mill Site when the tailings impoundment dam failed and released approximately 350 million liters (L) [93 million gallons (gal)] of tailings into the Pipeline Arroyo and Puerco River drainages and into the underlying alluvium (EIS Section 3.12.1.2) . . . [pg1-1, lines 35 to 38]

1.1.1, From the Diné Uranium Remediation Advisory Commission (2 of 2):

This paragraph references the UNC Mill Site dam break that placed radioactive and chemical

material in the Pipeline Arroyo and Puerco River from the mill site, through the Navajo Nation, through Gallup, NM and into the Nahatá Dziil NN Chapter, at Sanders, AZ. The radioactive and chemical contamination remaining in the Pipeline Arroyo and Rio Puerco River watersheds remains a concern for the Navajo Nation and the Commission. What is being done to address the contamination of the Pipeline Arroyo and Rio Puerco River? What measures are being taken to prevent future breach of tailings dams, or tailings filled embankments, or tailings placed within flood plains, floodways, or flood erosional envelopes of arroyos that are tributary to river systems? Addressing the Pipeline Arroyo and Rio Puerco River and measures to reduce risk of any future tailings breaches or arroyo channel incursions must be a condition to granting the NRC license amendment, if it will be allowed.

1.1.2 NECR Mine Site (1.1.2.a)

The NECR Mine Site is a former uranium mine operated by UNC. As described by EPA (EPA, 2011), after extensive uranium mineral exploration in the 1950s and 1960s, mining development began at the NECR Mine Site in 1967 and ended in 1982. While the mine operated, it served as the principal mineral source for the UNC uranium mill. The NECR Mine Site is located less than 1.6 kilometers (km) [1 mile (mi)] northwest of the UNC Mill Site. The NECR Mine Site is located within an area of approximately 83.8 ha [207 ac], the majority of which {78.3 ha [193 ac]} is located on Navajo Nation land (on the Navajo Nation reservation) and the remaining area is located on Navajo Nation Trust land (EIS Figure 3.2-2) . . . [pg 1-3, lines 11 to 18]

1.1.2 NECR Mine Site (1.1.2.a)

1.1.2, From the Diné Uranium Remediation Advisory Commission (1 of 4):

The above information from the Draft EIS is included to describe the proposed alternatives, actions, and responsibilities. There are homesites located in proximity to the NECR mine site and UNC mill site. These citizens and residents are directly impacted by years of uranium mining and milling and now uranium remediation. They need to be allowed an opportunity by NRC to provide written statements during this Draft EIS comment period because they may not be able to attend the online public meetings. Many residents across the Navajo Nation including residents living near the NECR mine site and UNC mill site do not have access to the internet and with the pandemic public health restrictions, they may not be able to travel to places to use the internet.

1.1.2 NECR Mine Site (1.1.2.b)

. . . Additionally, because tailings material from the UNC Mill Site had been previously authorized by the State of New Mexico for backfilling mine workings at the NECR Mine Site, residual tailings materials had remained in stockpile areas at the mine site that also required remediation. After the NRC assumed licensing authority over the UNC mill tailings, the residual

tailings material at the NECR Mine Site was removed and transferred back to the UNC Mill Site tailings impoundment, and related facilities at the mine site were decommissioned in accordance with the NRC license (SUA–1475) . . . [pg 1-3, lines 27 to 33]

1.1.2 NECR Mine Site (1.1.2.b)

1.1.2, From the Diné Uranium Remediation Advisory Commission (2 of 4):

The knowledge that uranium ore processed by the UNC Mill had been transported back to the NECR Mine Site was not widely recognized except for UNC reporting. Had the processed radioactive ore or tailings remained at the NECR Mine Site the U.S. NRC may have had additional oversight responsibilities at the NECR Mine Site. By moving the processed radioactive ore or tailings back to the UNC Mill Site, the U.S. NRC oversight at the Mill can provide the required agency oversight. It is not apparent in the Draft EIS if there was residual contamination at the NECR Mine site that could have come from the time the Mill processed radioactive ore or tailings resided at the NECR Mine Site. Moisture from the mill processed waste, precipitation and wind were potential drivers for distribution of contamination.

1.1.2 NECR Mine Site (1.1.2.c)

. . . UNC submitted a closeout plan to the New Mexico Mining and Mineral Division in 2004. In 2005, following a request by the Navajo Nation Environmental Protection Agency (NNEPA), the EPA agreed to assume jurisdiction for the mine cleanup and act as the lead regulatory agency for the NECR Mine Site. [pg 1-3, lines 33 to 36]

1.1.2, From the Diné Uranium Remediation Advisory Commission (3 of 4):

This section identifies the US EPA as the lead regulatory agency for the NECR Mine Site, and not the Navajo Nation EPA, the New Mexico Mining and Mineral Division or the U.S. NRC.

1.1.2 NECR Mine Site (1.1.2.d)

In 2011, the EPA approved a non-time-critical removal action under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authority that called for the excavation of waste material from the NECR Mine Site and placement of this waste at the UNC Mill Site, subject to decision documents from USEPA for the UNC Mill Site and an NRC license amendment (EPA, 2011) . . . [pg 1-3, lines 37 to 41]

1.1.2, From the Diné Uranium Remediation Advisory Commission (4 of 4):

The waste removals from the NECR Mine Site and relocation to the UNC Mill Site was approved 10-years ago by the U.S. EPA.

2.2.1 The Proposed Action (Alternative 1) (2.2.1.a)

The proposed action is to transfer and dispose approximately 765,000 m3 [1,000,000 yd3)] of NECR mine waste on top of the North and Central Cells of the tailings impoundment at the UNC Mill Site (EIS Figure 2.2-1). The associated license amendment also would revise the NRC-approved reclamation plan and schedule for the NRC-licensed UNC Mill Site. The proposed UNC schedule to complete the disposal of the NECR mine waste is approximately 4 years (Stantec, 2018a) . . . [pg 2.2, lines 7 to 12]

2.2.1, From the Diné Uranium Remediation Advisory Commission (1 of 4):

The above information from the Draft EIS is included to describe the proposed alternatives, actions, and responsibilities. The Commission did not review the proposed reclamation plan and schedule.

2.2.1 The Proposed Action (Alternative 1) (2.2.1.b)

Additionally, because under the proposed action the NECR mine waste would remain at the UNC Mill Site indefinitely, the potential impacts associated with the long-term performance of the tailings impoundment with the added disposal site (containing NECR mine waste) after the closure of the disposal site are also addressed in EIS Chapters 4 and 5. [pg 2-4, lines 1 to 4]

2.2.1, From the Diné Uranium Remediation Advisory Commission (2 of 4):

The Draft EIS does not propose the waste relocation to the UNC Mill Site as a temporary measure. Both the relocated NECR Mine Site waste and the UNC Mill Site tailings would together require management for long-term performance.

2.2.1 The Proposed Action (Alternative 1) (2.2.1.c)

The mine waste has radiological characteristics comparable to those of Atomic Energy Act of 1954, Section 11e. (2) byproduct material that is regulated by the NRC. The NECR mine waste and the tailings at the UNC Mill Site are similar because both are derived from the same uranium ore material, which contains uranium and its radioactive decay products, including radium (Ra)-226, the primary contaminant of concern for the EPA removal action (EPA, 2013a). The concentrations of Ra-226 in the mine waste fall within the same general range as the concentrations of Ra-226 in the uranium tailings material disposed at the UNC Mill Site, but the mine waste has lower average Ra-226 radioactivity (EIS Section 4.13.1.1). The NECR mine waste

is not subject to NRC regulation as low-level radioactive waste under Atomic Energy Act (AEA) Section 11e. (2) because it is not waste produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content [i.e., it is not 11e. (2) byproduct material], nor is it waste from source or special nuclear material; it is therefore not low-level radioactive waste as defined in the AEA. [pg 2-4, lines 5 to 15, & pg 2-5, lines 1 and 2]

2.2.1 The Proposed Action (Alternative 1) (2.2.1.c)

2.2.1, From the Diné Uranium Remediation Advisory Commission (3 of 4):

The NECR Mine Site waste has lower concentrations of Ra-226 and lower average Ra-226 radioactivity than the UNC Mill Site waste. The NECR Mine Site waste is not subject to NRC regulation, except for some very small quantities of higher concentration Principal Threat Waste (PTW). Page 2-5 Line 3 states NECR mine waste that exceeds 200 pCi/g Ra-226 PTW would not be disposed of at UNC mill site but transported to White Mesa mill site.

2.2.1 The Proposed Action (Alternative 1) (2.2.1.d)

UNC proposes to install permanent stormwater controls for the proposed disposal site using existing swales and channels constructed on the tailing's impoundment, with improvements and supplemental controls where necessary. Pipeline Arroyo also would be stabilized using a reconstructed rock jetty with a riprap chute, requiring the excavation of approximately 381,100 m3 [498,500 yd3] of soil and 37,000 m3 [49,000 yd3] of sandstone (Stantec, 2019a). Stabilization is required for long-term viability of the proposed disposal site and the tailings impoundment, to address lateral southeastern migration of the arroyo that could erode the embankment. UNC stated that it designed the Pipeline Arroyo stabilization to account for a range of flood events, including the estimated peak rainfall intensity for several flood event durations and frequencies (Stantec, 2019a). [pg. 2-6, lines 34 to 43]

2.2.1 The Proposed Action (Alternative 1) (2.2.1.d)

2.2.1, From the Diné Uranium Remediation Advisory Commission (4 of 4):
Stabilization of the Pipeline Arroyo is required for Alternative 1, with the NECR relocated waste and the UNC Mill Site tailings waste, and Alternative 2 that would have only UNC Mill Site tailings. The stabilization is required to protect the radioactive waste area from erosion caused by water flowing in the arroyo, transport of sediment in the arroyo, degradation of the arroyo bed, and the lateral migration of the arroyo banks at the waste storage area and areas upstream of the waste storage area. Failure of the arroyo stabilization could cause a large quantity of radioactive waste material stored adjacent to the arroyo to enter the Pipeline Arroyo during a time of significant flood flows. Any waste entering the Pipeline Arroyo during a major flow event is likely to be conveyed to the Rio Puerco. Stabilization of

the Pipeline Arroyo is a primary function required to prevent significant downstream contamination for the UNC Mill Site under Alternative 1 and Alternative 2.

2.2.1.2 Site History, Status, and Regulatory Oversight (2.2.1.2.a)

On July 16, 1979, the UNC dam at the tailings impoundment failed and released approximately 350 million liters (L) [93 million gallons (gal)] of tailings that flowed down the Pipeline Arroyo into the Puerco River drainage system and the underlying alluvium. A small emergency retention pond captured approximately 1,000 metric tons [1,100 tons] of solid material from the release (EPA, 2013b). A multi-agency cleanup effort and assessment was conducted and documented in the NRC report entitled "NUREG/CR–2449 Survey of Radionuclide Distributions Resulting from the Church Rock, New Mexico, Uranium Mill Tailings Pond Dam Failure" (NRC, 1981). [pg. 2-8, lines 31 to 37]

2.2.1.2 Site History, Status, and Regulatory Oversight (2.2.1.2.a)

2.2.1.2, From the Diné Uranium Remediation Advisory Commission (1 of 1):

The documentation on the July 16, 1979 UNC Mill Site dam break references the multi-agency clean-up effort after the break, but it does not document the quantity or percentage of radioactive material recovered during the cleanup. The cleanup area extended through the downstream Navajo Nation, through Gallup NM, and into Navajo Nation lands in Arizona. Some reports indicate that less than 50% of the radioactive matter was recovered. The health, cultural and economic damage caused by the dam break still impacts cattle sales and cattle ranchers today. Residents became ill from the contamination. Complete cleanup of the contamination has not occurred.

2.2.2 No-Action (Alternative 2) (2.2.2.a)

Inclusion of the no-action alternative in the EIS is a NEPA requirement and serves as a comparison to the environmental impacts of the proposed action alternative (Alternative 1), including the two secondary alternatives: Alternative 1A and Alternative 1B. A summary of the impacts for comparison is provided in EIS Table 2.4-1. Under the no-action alternative, the NRC would not amend the UNC license. The no-action alternative would not allow UNC to dispose mine waste on top of the NRC-licensed tailings impoundment at the UNC Mill Site. Without approval for this disposal, the mine waste would temporarily remain at the NECR Mine Site until the EPA selects a different remedy under CERCLA that involves a different final disposal alternative for the NECR mine waste. [pg. 2-22, lines 27 to 35]

2.2.2 No-Action (Alternative 2) (2.2.2.a)

2.2.2, From the Diné Uranium Remediation Advisory Commission (1 of 4):

The U.S. NRC will have license authority under Alternative 1 and Alternative 2, and their basic oversight administration would be similar under both alternatives. Under Alternative 2, the NECR Mine Site waste would not come to the UNC Mill Site and the shared oversight with U.S. EPA would be less except for the shared roll in administering protection of groundwater, surface water, and air quality. There is minimal administrative advantage for the NRC to accept the license revision and Alternative 1 except to join the U.S. EPA in the support of the alternative that reduces the "imminent and substantial endangerment" at the Navajo Nation community in the vicinity of the NECR Mine Site. Not addressed in the current Draft EIS are site protection benefits or detriments that could occur by placement of NECR Mine Site waste with lower concentrations of Ra-226 above the UNC Mill Site tailings with higher concentrations of Ra-226.

2.2.2 No-Action (Alternative 2) (2.2.2.b)

EPA previously evaluated several alternatives for the removal of NECR mine waste (EPA, 2009). Alternatives that satisfied the selection criteria included the proposed action and offsite disposal. EPA conducted a subsequent analysis of possible onsite and offsite disposal options that evaluated 14 sites many of which were not viable due to legal or permitting constraints (EPA, 2011b). These sites included the NECR Mine Site, the UNC Mill Site, three other facilities licensed to accept low-level radioactive waste, seven existing UMTRCA (mill tailings) sites that contain similar wastes, and two offsite locations where a facility could be built. Of the sites evaluated, only 2 were shown to be clearly viable: disposal at the UNC Mill Site (part of the proposed action), and disposal at the U.S. Ecology RCRA-permitted disposal facility in Grand View, Idaho (EPA, 2011b). Two other sites (the Waste Control Specialists low-level radioactive waste disposal site in Andrews, Texas and White Mesa uranium mill in Blanding, Utah) were shown to be viable, but less desirable because they would be more difficult and costly to implement. Disposal options at the NECR Mine Site satisfied EPA effectiveness criteria but lacked community acceptance (EIS Section 2.3.1). [pg. 2-22, lines 36 to 46, & pg. 2-23, lines 1 to 3]

2.2.2 No-Action (Alternative 2) (2.2.2.b1)

2.2.2, From the Diné Uranium Remediation Advisory Commission (2 of 4):
The Engineering Evaluation/Cost Analysis Northeast Church Rock Mine Site, Gallup, New Mexico [US EPA,2009] (the 2009 NECR Mine EE/CA) evaluated five alternatives: NECR Mine EE/CA Alternative 1 a "no action" alternative similar to Draft EIS Alternative 2, and four physical action alternatives (No 2 through 5) with NECR Mine EE/CA Alternative 5 described as "Consolidation of the NECR waste into the existing cells on the UNC mill facility." NECR Mine EE/CA Alternative 5 is essentially the same as with the Draft EIS Alternative 1. It would be helpful to acknowledge that NECR Mine EE/CA Alternative 2 is described as "Excavation and off-site disposal of all wastes," was the only alternative of the five to provide: "*Complete removal of all mine waste and tailings off the Navajo Nation and away from the Navajo*

***Nation permanently.*" (see Table 6.4-1, page 6-11 of the Draft EIS). A statement about addressing community concerns related to NECR Mine EE/CA Alternatives 2 and 5 is in the 2011 US EPA document: "Critical Removal Action at the Northeast Church Rock Mine Site, McKinley County, New Mexico, Pinedale Chapter of the Navajo Nation", (Ref: Responsiveness Summary, C, Part I: Summary of Community Comments and Response to Community Concerns), with the following:**

> **"***U.S. EPA considers three principal criteria in selecting Superfund removal actions, including effectiveness, cost, and implement ability. All alternatives evaluated in the EE/CA, except "no action," are implementable and effective in protecting human health and the environment in terms of eliminating direct contact with the contaminants. However, the costs of these alternatives varied greatly, since off-site disposal would increase costs by a factor of almost seven. Alternative 2 was estimated to cost $293,600,000, in comparison to Alternative 5A, which was estimated to cost $44,300,000. Alternatives 3 and 4 left the waste on Tribal Land, which was not acceptable to the Navajo Nation. The U.S. EPA-selected alternative of co-disposal of NECR mine waste at the UNC Mill Site is effective and protective of human health and the environment. This alternative is* ***much more cost-effective*** *than removing all mine waste from the area. On balance, U.S. EPA selected the least expensive alternative that removed waste from Tribal Lands."[***Emphasis Added***]*

While not explicitly stated, the implication is that NECR Mine EE/CA Alternative 2 is: "much less cost effective" and further considerations for waste removal away from the community were not initiated. A more comprehensive Engineering Evaluation/Cost Analysis that includes removing the uranium mine waste from the community would be an appropriate alternative.

2.2.2 No-Action (Alternative 2) (2.2.2.b2)

2.2.2, From the Diné Uranium Remediation Advisory Commission (3 of 4):

The 2009 NECR Mine EE/CA Alternative 2 included the costs for: excavation of all wastes on the NECR Mine Site; off-site disposal of all mine wastes at the US Ecology, Inc. licensed disposal site near Grand View, Idaho.; and site restoration with erosion and stormwater controls, and revegetation. A description of the alternatives considered in 2009 for the NECR Mine Site are contained in the U.S. EPA (2013) Record of Decision: United Nuclear Corporation Site, McKinley County, New Mexico, Part 3 Responsiveness Summary, appear to be applicable to the discussions of Alternative 1 and 2 in the Draft EIS. However, the dismissal of the 2009 NECR Mine EE/CA Alternative 2 from consideration because of cost leaves no alternative(s) in the Draft EIS when "removal of mine waste from the community" is to be included in a comprehensive analysis and evaluation. A section from the US EPA 2013 Record of Decision is repeated here as a quotation from the record.

2.2.2 No-Action (Alternative 2) (2.2.2.c)

As explained above, in the September 29, 2011, Action Memorandum for the NECR Site, EPA made its selected removal action contingent upon both modification of the license issued by the NRC for the UNC site, and upon issuance of an appropriate decision document by EPA Region 6 consistent with the NCP, 40 CFR Part 300. This Responsiveness Summary is part of a ROD that is the decision document that documents EPA's decision to go ahead with disposal of the NECR Site mine waste at the UNC Site as called for in the September 29, 2011, Action Memorandum for the NECR Site. Part of this ROD for the Surface Soil Operable Unit of the UNC Site includes a cost-effectiveness analysis (see Section 2.10.7). Generally speaking, EPA has decided that the Selected Remedy for the Surface Soil Operable Unit is cost-effective based on an evaluation of its costs compared to its overall effectiveness. [Ref: U.S. Environmental Protection Agency, Region 6, Dallas, Texas, March 29, 2013, Record of Decision: United Nuclear Corporation Site, McKinley County, New Mexico, EPA ID: NMD030443303, Part 3 Responsiveness Summary, 3.3 Summary of Comments Received During the Public Comment Period and EPA Responses, 3.3.1.14 Alternatives Report and Cost, page 66]

2.2.2 No-Action (Alternative 2) (2.2.2.c)

2.2.2, From the Diné Uranium Remediation Advisory Commission (4 of 4):

If the Draft EIS Alternative 2 (No-Action) is selected, then Draft EIS Alternative 1 would be rejected, and concurrently the 2009 NECR Mine EE/CA Alternative 5 (Consolidation of the NECR waste into the existing cells on the UNC mill facility) would be rejected. The Draft EIS No-Action is not permanent because the Record of Decision calls for another analysis and assessment. If 2009 NECR Mine EE/CA Alternative 2 (Excavation and off-site disposal of all wastes) with a detailed cost estimate of $293,600,000 is also rejected as "much less cost effective" and not worthy of further consideration, then the remaining alternatives for the 2009 NECR Mine EE/CA would be NECR Mine EE/CA Alternative 1 (No-action) with an estimated cost of $0, NECR Mine EE/CA Alternative 3 (Consolidation and Covering of Wastes at the NECR Mine Site) with a detailed cost estimate of $25,800,000, and NECR Mine EE/CA Alternative 4 (Construction of Lined/Capped Repository at the NECR Mine Site with a detailed cost estimate of $32,000,000. Additional costs of $2,700,000 are estimated if the small quantity of principal threat waste (PTW) taken to the licensed facility at Grandview, Idaho or to White Mesa, UT.

Without a cost-effective alternative that modifies or replaces 2009 NECR Mine EE/CA Alternative 2 (Excavation and off-site disposal of all wastes), none of the remaining four 2009 NECR Mine EE/CA alternatives (No. 1, 3, 4 and 5) would remove the NECR Mine Site waste far from the Community, and three of the remaining NECR Mine EE/CA Alternatives (No. 1, 3, and 4) would not remove the NECR Mine Site Waste from the Navajo Nation.

3.12.2.2. UNC Mill Site Tailings Disposal and Tailings Impoundment (3.12.2.2.a)

After the incident, the NRC published an abnormal occurrence report (45 FR 2424) that described the event, the probable consequences, the causes, and corrective actions taken. This included multi-agency oversight of the cleanup effort and actions to prevent recurrence. A subsequent survey of drainage sediments to assess the geographic scope of the tailings release was documented in the NRC report entitled "NUREG/CR–2449 Survey of Radionuclide Distributions Resulting from the Church Rock, New Mexico, Uranium Mill Tailings Pond Dam Failure" (NRC, 1981). Additional assessments following the incident included a biological analysis by the Centers for Disease Control (CDC, 1980) and a health and environmental assessment by NMEID (1983). The CDC report noted that elevated levels of radionuclides in water and sediments had declined significantly over time and posed no significant danger to human health. The CDC made recommendations for further mitigating public doses associated with specific elevated pathways (e.g., consumption of organ meat from livestock that routinely consumed mine dewatering effluents from drainages). NMEID concluded that the spill affected the Puerco River valley environment for a brief period and had little or no effect on the health of local residents. They noted the greater concern at the time was the quality of perennial dewatering effluents in the Puerco River and the quality of natural runoff following thunderstorms or snowmelt (NMEID, 1983). [pg3-78, lines 20 to 36]

3.12.2.2. UNC Mill Site Tailings Disposal and Tailings Impoundment (3.12.2.2.a)

2.12.2.2, From the Diné Uranium Remediation Advisory Commission (1 of 1)

Are the "perennial dewatering effluents," as referenced in the paragraph above, effluents that are likely associated with area uranium mines? Is the NECR Mine one of the likely contributors?

3.12.2.3 Portions of the NECR Mine Site (3.12.2.3.a)

The NECR Mine Site includes areas of contaminated soil that are the focus of the EPA removal and remedial actions (EPA, 2013a; EPA 2011b). Operations at the NECR Mine Site resulted in the accumulation of uranium protore (low grade ore), waste rock, and overburden onsite. The EPA established a risk-based soil field screening level (FSL) of 2.24 pCi/g for Ra-226 to define areas within the NECR Mine Site that represent sources of radioactive material that require remedial action. This screening level corresponds to a cancer risk of 2×10^{-4} for a residential scenario (EPA, 2011b). To protect human health, EPA has set the acceptable risk range for carcinogens at Superfund Sites from 1 in 10,000 to 1 in 1,000,000 (expressed as 1×10^{-4} to 1×10^{-6}). A risk of 1 in 1,000,000 (1×10^{-6}) means that one person out of one million people could be expected to develop cancer as a result of a lifetime exposure to the site contaminants. Although the established EPA Ra-226 screening level for the NECR Mine Site is slightly higher than this range, EPA notes in the remedial action ROD (EPA, 2013a) that under a Clean Air Act rulemaking

establishing National Emission Standards for Hazardous Air Pollutants (NESHAP) for NRC licensees, U.S. Department of Energy facilities, and many other kinds of sites, EPA determined that radon emissions of 20 pCi/m^{2}s results in a maximum individual risk of 1.8 × 10^{-4} and concluded that a risk level of 1.8 × 10^{-4} is essentially equivalent to the presumptively safe level of 1 × 10^{-4} (54 FR 51673). [pg 3-79, lines 34 to 47, and pg 3-80, lines 1 to 3]

3.12.2.3 Portions of the NECR Mine Site (3.12.2.3.a)

2.12.2.3, From the Diné Uranium Remediation Advisory Commission (1 of 1)

How would application of a risk level at 1.0 × 10^{-4} (0.00010) in place of 1.8 × 10^{-4} (0.00018) change the allowable radon emissions level or the risk-based soil field screening level? Would the differences be measurable by normal field procedures? The identified screening level of 2x10^{-4} is two times the maximum risk range for carcinogens as described the Draft EIS.

3.12.5.2. Public Health (3.12.5.2.a)

Health studies within the region surrounding the proposed project area were previously conducted by Federal and State agencies to evaluate the potential health consequences of the 1979 UNC tailings spill (CDC, 1980; NMEID, 1983) (EIS Section 3.12.1.2). The CDC study surveyed livestock that were known to use the Puerco River and its tributaries for drinking, evaluated the public health impacts from consuming livestock, and evaluated the potential health impacts from other exposures to contaminated environmental media. The CDC conducted bioassay surveys of residents that lived near the UNC Mill Site and found that results were consistent with measured values from other known locations in the U.S. and abroad with high background radiation. The CDC concluded that the livestock had elevated concentrations of radionuclides in edible tissues that warranted additional monitoring and investigation but noted that no State or Federal regulations were violated by these elevated concentrations. They described evidence that some of the highest concentrations of radionuclides in the livestock were from animals that drank water from mine discharge rather than impacts from the tailings spill. [pg 3-83, lines 27 to 39]

3.12.5.2. Public Health (3.12.5.2.a)

2.12.5.2, From the Diné Uranium Remediation Advisory Commission (1 of 2)

What kind of current water quality studies need to be conducted now to determine if elevated concentrations of radionuclides in edible tissues is from sources other than background radiation? Have any recent studies been completed? What measures could be implemented to assure cattle ranchers and the public that potential health consequences have been reduced to safe levels. Are alternate sources of water for livestock use needed or are treatment measures feasible?

3.12.5.2. Public Health (3.12.5.2.b)

The NMEID assessment provided a detailed evaluation of available post-spill survey data and concluded that water quality in the Puerco River had returned to pre-spill levels and that the background contaminants of concern from upgradient dewatering operations were potentially hazardous to human health if used over several years as the primary source of drinking water, livestock water, or irrigation water. Therefore, NMEID recommended at the time that the Puerco River should not be used as a primary source of water for human consumption, livestock watering, or irrigation (NMEID, 1983). [pg3-83, lines 40 to 44, and pg 3-84, lines 1 and 2]

2.12.5.2, From the Diné Uranium Remediation Advisory Commission (2 of 2)

See the comments from the previous paragraph (pg 3-83, lines 27 to 39] related to Section 2.12.5.2, From the Diné Uranium Remediation Advisory Commission (1 of 2) on the previous page.

4.2.1.3 Closure Impacts
(4.2.1.3.a)

Beyond closure of the disposal site, the future land use for the UNC Mill Site would remain restricted under EPA CERCLA and NRC UMTRCA authority from uses other than long-term oversight and surveillance of the disposal site. This means that residential and industrial use would be prohibited, and grazing uses would be restricted. Upon the completion of reclamation, UNC's license would be terminated, and the site would transfer to a custodial agency [e.g., the Federal government (DOE) or the State of New Mexico] for long-term surveillance and maintenance. . . [pg 4-6, lines 13 to 19]

4.2.1.3, From the Diné Uranium Remediation Advisory Commission (1 of 1)

What measures could be implemented now or in the future so that a long-term care custodial agency could allow limited or periodic use for grazing?

4.5.1.3 Closure Impacts (4.5.1.3.a)

The licensee evaluated how the completed project would respond to potential flooding events. According to the flood hydrology calculations conducted by MWH Global Inc. [(MWH) a UNC contractor], the completion of the proposed project would permanently alter the extents of the Federal Emergency Management Agency (FEMA)-delineated 100-year floodplain and the Probable Maximum Flood (PMF) floodplain. The flood hydrology calculations for the proposed project area after the completion of the proposed action reveal that both the estimated 100-year floodplain and the estimated PMF floodplain extents would overtop Pipeline Arroyo at the

location adjacent to the proposed disposal site, and encroach on the west and north edge of the existing tailings impoundment, as shown in EIS Figure 4.5-1 (Stantec, 2018c; Stantec, 2019a) . . . The NRC staff requested additional information from UNC, and UNC's response confirmed that this is not depicting an area of accumulating water for any storm, but is an artifact of the UNC model and presentation of results (showing a thin layer of overland flow down a gradual slope) (UNC, 2020). [pg4-20, lines 9 to 17, and 20 to 23]

4.5.1.3 Closure Impacts (4.5.1.3.a1)

4.5.1.3, From the Diné Uranium Remediation Advisory Commission (1 of 2)

The Probable Maximum Flood (PMF) for some of the project engineering evaluations seems to have used "Probable Maximum Precipitation Study for Arizona" (2013) prepared for the Arizona Department of Water Resources by Applied Weather Associates, LLC. The storm events evaluated with that study seem to be largely based on storms in south and central Arizona with few recent events for the Colorado Plateau and the Navajo Nation (Figure 5.2, 5.3, 5.5, and 5.6). One justification for creating the Arizona report was to obtain lower Probable Maximum Precipitation (PMP) values, and the Arizona report seems to have succeeded in that goal. The NECR Mine Site and UNC Mill Site are in New Mexico at the eastern extent of the Arizona report area.

4.5.1.3 Closure Impacts (4.5.1.3.a2)

4.5.1.3, From the Diné Uranium Remediation Advisory Commission (2 of 2)

If new weather data based Probable Maximum Flood (PMF) values are to be applied, the "Colorado - New Mexico Regional Extreme Precipitation Study" (2018) for Colorado and New Mexico could be applied because the distribution of applied storms was better located for northwest New Mexico. Applied Weather Associates assisted with the preparation of the Colorado-New Mexico report and the 2018 report seems to give 10 to 20% higher values than when the 2013 Arizona report is applied in northwest New Mexico. The 2018 Colorado-New Mexico report also provides comprehensive and publicly accessible Probable Maximum Precipitation (PMP) verification results not available with the Arizona report. Since the PMF results will need to be reviewed by at least two Federal agencies, it would be appropriate to seek guidance from Federal agencies familiar with PMP evaluations (such as the US Army Corps of Engineers or the USDI Bureau of Reclamation) on appropriate procedures to be used at the Navajo Nation for EPA and NRC projects. It is recommended that the US Army COE and USEPA establish uniform technically verified PMP and PMF procedural guidance (but not uniform precipitation quantities) throughout the Navajo Nation that would be beneficial. Procedures to establish PMP and PMF values should be publicly provided and readily accessible to the Navajo Nation so they can be implemented by tribal agencies for a wide range of Diné projects. The guidance from the CO-NM REPS Project Review Board on PMP

transposition limits, maximation factors, and depth-area envelopment from the 2018 Colorado-New Mexico report (Volume I, Appendix G) needs to be considered when including PMP values at environmentally critical locations.

6.2 Mitigation Measures Proposed by UNC (6.2.a)

Table 6.3-1 Summary of Mitigation Measures Proposed by UNC		
Resource Area	Impact Type	Proposed Mitigation Measures
Visual and Scenic	Potential Visual Intrusions in the Existing Landscape Character	Develop and implement an EPA-approved Dust Control and Air Monitoring Plan to reduce fugitive dust Conduct dust suppression along access and haul roads Minimize site disturbance, where possible Remove access and haul roads, staging areas, and debris Regrade and revegetate disturbed areas with locally sourced soils and native plants Cap the maximum height of the proposed disposal site at 13.1 meters (m) [43 feet (ft)] above the existing ground level Cap the maximum excavation depth of the NECR Mine Site at 15.8 m [52 ft] below the existing ground level

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6.2 Mitigation Measures Proposed by UNC (6.2.a)

6.2, From the Diné Uranium Remediation Advisory Commission (1 of 1)

The Draft EIS provides very little information about the impact of the proposed alternative on the visual and scenic impacts on the surrounding community. One single maximum height value is not enough to identify actual visual impacts. What is the new cover profile in relation to the existing profile? Will the slopes facing the private homes and public roads appear to be higher, or steeper, or longer? What will be the difference in morning shadows at home entrances and adjacent activity areas? Navajo culture is to make early morning prayer and offerings to the east. The time of winter sunlight is also of particular interest. There must be design measures provided that will reduce the visual impact on the nearby residents at their residences and gathering areas?

6.4 Potential Mitigation Measures Identified by the Navajo Nation (6.4.a)

Based on the interest of the Navajo Nation in this proposed action and the proximity of the proposed action to Navajo Nation land and the Red Water Pond Road Community, the NRC staff provides mitigation measures in Table 6.4-1 that the NNEPA has proposed and identified that could potentially reduce impacts. [pg 6-10, lines 2 to 5]

Table 6.4-1 Summary of Additional Mitigation Measures Identified by the Navajo Nation [Resource Areas with "No additional mitigations identified" are not shown]

Resource Area	*Impact Type*	*Proposed Mitigation Measures*
Land Use	*Land Ownership*	*Dispose all mining-related buildings at the NECR Mine Site properly at licensed facilities*
Historic and Cultural Resources	*Disturbance of Prehistoric Archaeological Sites, Cultural Sites, and Sites Eligible for Listing on the National Register of Historic Places (NRHP)*	*Mitigate impacts to Navajo culture by allowing communities near the project area to hold culturally important or sacred ceremonies by their medicine men prior to land disturbance*
Public and Occupational and Health and Safety	*Health Effects*	*Complete removal of all mine waste and tailings off the Navajo Nation and away from the Navajo Nation permanently*

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6.4 Potential Mitigation Measures Identified by the Navajo Nation (6.4.a)

6.4, From the Diné Uranium Remediation Advisory Commission (1 of 1)

The Proposed Action (Alternative 1) is to amend United Nuclear Corporation (UNC) Source Material License SUA–1475 to allow UNC to transfer and dispose approximately 765,000 cubic meters (m3) [1,000,000 cubic yards (yd3)] of Northeast Church Rock (NECR) mine waste on top of a portion of the UNC Mill Site tailings impoundment in northwestern New Mexico. This action will provide complete removal of all mine waste and tailings off the Navajo Nation permanently, but the action will not place the removed mine waste away from the Community. If implemented, the proposed Draft EIS Alternative 1 would permanently eliminate need for future mine waste relocation and reduces the necessity for future action to remove mine waste from the community.

The selection of the Draft EIS No-action Alternative 2 will not remove the mine waste from the Navajo Nation, and a future Environmental Evaluation/Cost Analysis and future action

would be required to facilitate permanent waste placement that would isolate the Community from the mine waste hazards. The estimated cost to implement the Draft EIS Alternate 1 (the UNC Mill site repository alternative that is equivalent to 2009 NECR Mine EE/CA Alternative 5) is $44,300,000, and the estimated cost to implement Draft EIS Alternate 2 (the no-action equivalent to 2009 NECR Mine EE/CA NECR Alternative 1) is $0.

End of the Diné Uranium Remediation Advisory Commission's Comments and Questions about the Draft EIS - Part I.

Northeast Church Rock (NECR) Mine

Diné Uranium Remediation Advisory Commission

Review Comments and Questions about the Draft EIS for the Disposal of Mine Waste at the\United Nuclear Corporation Mill Site in McKinley County, New Mexico

Part II – March 10 and May 26, 2021

Prepared for Consideration by the Diné Uranium Remediation Advisory Commission by Commissioner Perry H. Charley; Nona Baheshone, MEP, Executive Director for Uranium Commission; and Dr. Clifford Anderson, PhD, PE, RLS (AZ, CO, & NM) Technical Advisor to the Commission.

1.1.3 Navajo Nation and Red Water Pond Road Community (page 1 of 1)

Navajo Nation lands surround the proposed project area (ES Figure 2.2-2). Beyond the northeastern boundary of the proposed project area, the Red Water Pond Road Community is situated between the NECR Mine and the Kerr-McGee Quivira Mine (hereafter referred to as the Quivira Mine Site) and is within 0.22 km [0.14 mi] of the UNC Mill Site. The community is within the Coyote Canyon Chapter of the Navajo Nation. Generations in the community have farmed, raised livestock, and have used native plants for food, medicinal and ceremonial use, and livestock grazing. Many community members worked in the nearby mines when they were operating (Bell et al., 2019). [Lines11 to 15, Page 1-4 and Lines 1 to 4, page 1-5]

1.1.3, From the Diné Uranium Remediation Advisory Commission (1 of 3):

Possible relocation of Red Water Pond Road Community Association residents is a topic of significant concern for many of the residents. When commenting on the Draft EIS, several residents have expressed to the Commission members that they would prefer any relocation to be at a culturally similar residential site to the Red Water Pond Road community, and not to a housing area in Gallup, NM. Some may have expressed similar concerns during NRC hearings.

1.1.3, From the Diné Uranium Remediation Advisory Commission (2 of 3)

Section 1.4.3 of the Draft EIS identifies the "relocation of residents of the Red Water Pond Road Community" as an item with "Issues Outside the Scope of the EIS." Many Red Water Pond Road residents may not be aware of the statement that "Actions related to relocation of residents are beyond the NRC's regulatory authority" and that "a cost-benefit analysis of the impacts from relocating nearby residents to either Gallup, somewhere on the Navajo reservation, or a location farther away, are outside the scope of the EIS" as stated in Section "B.5.5 Alternatives – Relocation of Nearby Residents" within the Environmental Impact Statement Scoping Process Summary Report for the Environmental Impact Statement for the Disposal of Mine Waste at the United Nuclear Corporation Church Rock Mill Site in McKinley County, New Mexico (December 2019, page B18).

1.1.3, From the Diné Uranium Remediation Advisory Commission (3 of 3):

The residents seem to be unaware that their concerns about relocation expressed during the NRC Draft EIS process may be recorded but will not be addressed because they represent actions beyond NRC's regulatory authority. Rather than having residents express sincere concerns that will not be addressed by the Draft EIS responses, perhaps it would be preferable to clearly communicate the limits of NRC's regulatory authority directly to the residents, and to direct residents to communication with agencies who have the potential to address their relocation concerns.

1.7.3.1 Interactions with Tribal Governments (page 1 of 1)

During the development of this EIS, the NRC staff coordinated teleconferences with the NNEPA, participated in monthly teleconferences with the EPA, NNEPA, and the Red Water Pond Road Community, and provided informational emails to the NNEPA and the Red Water Pond Road Community on the status of the NRC staff's review process. . . In consultation with the NRC, NNEPA recommended that NRC develop and implement an outreach plan to help community members understand NRC regulations and explain the role the NRC plays in the remediation process, and that the EIS be presented in a manner that is consistent with NRC Tribal Policy. The NRC staff has developed a plan specifically to communicate with the Red Water Pond Road Community during the development of this EIS and after its publication. As part of that plan and in response to the NNEPA's request, the NRC staff will continue to facilitate conference calls or online meetings with the NNEPA and local community regarding the role the NRC plays in the remediation process, the purpose and organization of the EIS, and how the EIS relates to the NRC's role. [Lines 33 to 45 , Page 1-14]

1.7.3.1, From the Diné Uranium Remediation Advisory Commission (1 of 2):

1. While NRC reports it met with the affected community members and solicited comments from them, it appears some of the community members were not informed about the specific cleanup actions that were being proposed with the Draft EIS, where not informed about the prior processes and decisions that provided a pathway to preparing the Draft EIS, were not informed about the limits of NRC's regulatory authority, were not informed about factual determinations directly related to the Draft EIS alternatives that were made in 2009 and 2013 by the US EPA.

1.7.3.1, From the Diné Uranium Remediation Advisory Commission (2 of 2):

A. This is the trend of many federal agencies where translations and interpretations do not provide fully functional communication and the agencies rely on Navajo government personnel as a means of public input and comments.
B. Comments from the community representatives clearly state the grassroot people are not properly informed, and as a result have a reduced level of meaningful input into the proposed action for cleanup (onsite disposal), and their voices expressing opposition to both alternatives presented in the Draft EIS is not understood by the NRC or the US EPA.

2.2.1 The Proposed Action (Alternative 1) [DURAC-a] (page 1 of 1)

To address the varying levels of radioactivity in the NECR mine waste, the EPA has established criteria for segregating excavated waste destined for disposal at the UNC Mill Site that are incorporated into UNC's license amendment request (INTERA, 2018; EPA, 2013a). According to

the EPA and UNC, all NECR mine waste that exceeds 200 picocuries (pCi) per gram (g) radium Ra-226 would be considered a Principal Threat Waste (PTW) and would not be disposed at the UNC Mill Site. UNC's proposal is to transport the PTW to the White Mesa uranium mill in Blanding, Utah. However, UNC is not expected to finalize arrangements for disposal of PTW until EPA authorizes UNC to proceed with implementing the remedial action evaluated in this EIS (after NRC completes its review of the current UNC license amendment request). [Lines 3 to 12, Page 2-5]

2.2.1 [DURAC-a], From the Diné Uranium Remediation Advisory Commission (1 of 1):

The Draft EIS anticipates UNC will be permitted to transport PTW (mine waste with radiation exceeding 200 pci/g of radium 226) to the White Mesa Processing site. They did not mention the haulage route, costs, health and safety protocols expected, or identify the Navajo communities located along the proposed haulage routes. Many are secondary highways that may not be suitable to hauling radioactive waste material. It is recommended that the Radioactive and Related Substances Equipment, Vehicles, Persons and Materials Transportation Act of 2012 (NN Code Title 18, Chapter 12-A, §1304 to §1307), a tribal law regulating and restricting the transportation of uranium ore within the Navajo Nation, be amended prior to any transport of radioactive substances.

2.2.1 The Proposed Action (Alternative 1) [DURAC-b] (page 1 of 1)

UNC proposes to install permanent stormwater controls for the proposed disposal site using existing swales and channels constructed on the tailings impoundment, with improvements and supplemental controls where necessary. Pipeline Arroyo also would be stabilized using a reconstructed rock jetty with a riprap chute, requiring the excavation of approximately 381,100 m3 [498,500 yd3] of soil and 37,000 m3 [49,000 yd3] of sandstone (Stantec, 2019a). Stabilization is required for long-term viability of the proposed disposal site and the tailings impoundment, to address lateral southeastern migration of the arroyo that could erode the embankment. UNC stated that it designed the Pipeline Arroyo stabilization to account for a range of flood events, including the estimated peak rainfall intensity for several flood event durations and frequencies (Stantec, 2019a). The NRC staff evaluated the Pipeline Arroyo stabilization plans in detail as part of its safety review, which is documented in a Safety Evaluation Report (SER) (NRC, 2020). [Lines 34 to 45, page 2-6]

2.2.1 [DURAC-b] From the Diné Uranium Remediation Advisory Commission (1 of 2):

The Red Water Pond Road community is located on one of several tributaries of the main Rio Puerco watershed to the south. The permanent disposal cell is proposed to be located at the same area as the July 16, 1979 dam breach of the UNC Mill site tailings pond, when 1000 tons of radioactive mill waste and 93 million gallons of acidic and radioactive tailings wastewater

flowed into the Rio Puerco, with radioactive contamination that traveled 80 miles downstream through the Navajo Nation.

A. The Draft EIS did not report findings about the fluvial geomorphological stability of the proposed repository that will contain 1 million cubic yards of residual mine waste from the NECR mine.

B. The Draft EIS did not indicate whether environmental liners will be emplaced under the repository as mentioned to the Dine Uranium Remediation Advisory Commission by the Church Rock Chapter President. Protection from infiltration of water and release of water to underlying mill waste is important because the proposed long term disposal site will be located directly adjacent to a large tributary area that has an associated arroyo feeding into the Rio Puerco.

2.2.1 [DURAC-b] From the Diné Uranium Remediation Advisory Commission (2 of 2):

C. NRC and USEPA reported in previous meetings with the Navajo Nation that the groundwater flow regime to the northeast could eventually impact windmills and other water sources used by Navajo families. The fluvial geomorphological stability [the geological stability of the land impacted by water flowing in channels and rivers] is uncertain and thus, the morphodynamic [the hydrodynamic study of landscape changes due to water flow and accumulation and the resulting erosion and sedimentation] corridor of surface and subsurface conditions may be at risk. Additionally, there are many unknown subsurface conditions common to mine areas, including abandoned underground workings, high infiltration zones, aquitard diversions, and geological instabilities; and there is a potential for resulting groundwater impacts. Similar mill site groundwater impacts are found at the Shiprock, Monument Valley, Mexican Hat and Tuba City USDOE mill sites.

2.2.1.2 Site History, Status, and Regulatory Oversight (page 1 of 1)

On July 16, 1979, the UNC dam at the tailings impoundment failed and released approximately 350 million liters (L) [93 million gallons (gal)] of tailings that flowed down the Pipeline Arroyo into the Puerco River drainage system and the underlying alluvium. A small emergency retention pond captured approximately 1,000 metric tons [1,100 tons] of solid material from the release (EPA, 2013b). A multi-agency cleanup effort and assessment was conducted and documented in the NRC report entitled "NUREG/CR–2449 Survey of Radionuclide Distributions Resulting from the Church Rock, New Mexico, Uranium Mill Tailings Pond Dam Failure" (NRC, 1981).[Lines 31 to 37, Page 2-8]

2.2.1.2, From the Diné Uranium Remediation Advisory Commission (1 of 2):

The CR-2449 report prepared by prepared by W. C. Weimer, R. R. Kinnison, and J. H. Reeves of Pacific Northwest Laboratory described the shallow soil sampling conducted along the

Pipeline Arroyo and Rio Puerco from 9/24/79 to 10/05/1979, or 70 to 80 days after the dam breach. The referenced report describes the shallow soil sampling for levels of 210Pb, 226Ra, 230TH, and 238U, and includes an Appendix F with revised "Rio Puerco cleanup criteria" proposed by the New Mexico Environment Improvement Division. If there is a report that describes the multi-agency cleanup effort that was conducted, and describes the level of cleanup attained, that report could provide useful information for area residents. The CR2449 report does not provide information about the multi-agency cleanup or the level of cleanup attained. The Draft EIS does document the local groundwater quality monitoring and remediation of the groundwater impacted by the operations at the NECR Mine site, the UNC Mill Site, and the Quivira Mine Site in Section 3.5.4.2., but it does not include downstream Rio Puerco comprehensive watershed and aquifer evaluations.

2.2.1.2, From the Diné Uranium Remediation Advisory Commission (2 of 2):

The Draft EIS does address the local groundwater quality monitoring and remediation of the groundwater impacted by the operations at the NECR Mine site, the UNC Mill Site, and the Quivira Mine, and informs readers that comments and concerns related to the local groundwater quality monitoring and remediation will be addressed during the Draft EIS comment period. It appears that comments and concerns about areas downstream of the currently identified local groundwater and quality monitoring and remediation areas will not be addressed by the Draft EIS because the NRC has determined that the downstream areas are not identifying problems or concerns that are under NRC's regulatory authority, or that the UNC Mill owner has met or will meet their legal obligations at the Pipeline Arroyo and Rio Puerco by the local groundwater quality monitoring and remediation described in the Draft EIS.

2.2.2 No-Action (Alternative 2) (page 1 of 3)

Inclusion of the no-action alternative in the EIS is a NEPA requirement and serves as a comparison to the environmental impacts of the proposed action alternative (Alternative 1), including the two secondary alternatives: Alternative 1A and Alternative 1B. A summary of the impacts for comparison is provided in EIS Table 2.4-1. Under the no-action alternative, the NRC would not amend the UNC license. The no-action alternative would not allow UNC to dispose mine waste on top of the NRC-licensed tailings impoundment at the UNC Mill Site. Without approval for this disposal, the mine waste would temporarily remain at the NECR Mine Site until the EPA selects a different remedy under CERCLA that involves a different final disposal alternative for the NECR mine waste. EPA previously evaluated several alternatives for the removal of NECR mine waste (EPA, 2009). Alternatives that satisfied the selection criteria included the proposed action and offsite disposal. . .

2.2.2 No-Action (Alternative 2) (page 2 of 3)

EPA conducted a subsequent analysis of possible onsite and offsite disposal options that evaluated 14 sites many of which were not viable due to legal or permitting constraints (EPA, 2011b). These sites included the NECR Mine Site, the UNC Mill Site, three other facilities licensed to accept low-level radioactive waste, seven existing UMTRCA (mill tailings) sites that contain similar wastes, and two offsite locations where a facility could be built. Of the sites evaluated, only 2 were shown to be clearly viable: disposal at the UNC Mill Site (part of the proposed action), and disposal at the U.S. Ecology RCRA-permitted disposal facility in Grand View, Idaho (EPA, 2011b). Two other sites (the Waste Control Specialists low-level radioactive waste disposal site in Andrews, Texas and White Mesa uranium mill in Blanding, Utah) were shown to be viable, but less desirable because they would be more difficult and costly to implement. Disposal options at the NECR Mine Site satisfied EPA effectiveness criteria but lacked community acceptance (EIS Section 2.3.1). . .

2.2.2 No-Action (Alternative 2) (page 3 of 3)

Within this context, it is reasonable to assume that a principal consequence of the selection of the no-action alternative would be a delay in removing the NECR mine waste, which would therefore generate different or additional public health or related environmental impacts than what has been determined by EPA for the Church Rock project for disposal at the UNC Mill Site. In documenting their non-time-critical removal action for the NECR Mine Site, EPA determined that actual and threatened releases of hazardous substances from the NECR Mine Site, if not addressed by implementing a Non-Time-Critical Removal Action, may continue to present an imminent and substantial endangerment to the public health or welfare or the environment (EPA, 2011a). For this EIS, the NRC assumes that under the no-action alternative, the NECR mine waste would remain on the NECR Mine Site for another estimated 10 years before being disposed at a location other than the UNC Mill Site. [Lines 27 to 46, Page 2.22, and Lines 1 to 14, Page 2-23]

2.2.2, From the Diné Uranium Remediation Advisory Commission (1 of 9):

It may be important to identify the activities, recommendations, and actions already completed by the US EPA when considering no action (the Draft EIS Alternative 2). In 2009, the US EPA, Region 9 completed the *Engineering Evaluation/Cost Analysis Northeast Church Rock (NECR) Mine Site, Gallup, New Mexico* (the NECR Mine EE/CA, SDMS DOCID# 2183626, May 30, 2009). This NECR Mine EE/CA included consideration of five basic alternatives:

NECR Mine EE/CA Alternative 1 – A no action alternative where no treatment, no containment, and no removal action would occur at the NECR mine site. The Alternative was used as a baseline for comparison with the removal described by the other four action alternatives. The alternative is similar to Alternative 2 presented in 2021 with the NRC's Draft EIS. No direct costs to any party or agency are associated with the no action alternative. (Estimated cost = $0.0). NECR Mine EE/CA Alternative 1 (No Action) does not propose treatment, containment, or removal of radioactive mine waste from the community.

NECR Mine EE/CA Alternative 2– Provides excavation and off-site disposal of all waste and would require the following three steps: a) Excavation of all wastes on NECR mine site; b) Off-site disposal of mine waste; and c) Site restoration with erosion and stormwater controls, regrading and revegetation.

2.2.2, From the Diné Uranium Remediation Advisory Commission (2 of 9):

"The action alternatives for the Quivira mines cannot be established until the engineering evaluation/cost analysis (EECA) is approved. Navajo Nation President Jonathan Nez's Statement on DEIS for Disposal of NECR Mine Waste at UNC Mill Site dated 4/12/2021, the principles provided by the Diné Fundamental Laws (NNC, Title 1, Ch2, §201 - §205), and the "Potential Mitigation Measures Identified by the Navajo Nation" in DEIS Table 6.4-1, should be applied at the Quivira mines.

A licensed disposal site in Grandview, Idaho was identified in the 2009 NECR Mine EE/CA as the most feasible site for permanent use as the Alternative 2 (off-site disposal of all waste) repository. Due to the large number of truckloads (35,000 loads) and the long drive to Grandview, Idaho (12 hours), it is estimated that the time period of implementation of Alternative 2 would be nine (9) years. With the large number of transport miles and the possibility of transport incidents the US EPA's NECR Mine EE/CA determined that Alternative 2 presents higher risk to the general public and presents the highest risk of the four action alternatives. A detailed cost estimate for Alternative 2 is in the NECR Mine EE/CA. The NECR Mine waste would be considered RCRA Hazardous Class 1 waste, with a resulting total cost for Alternative 2 estimated to be $293,600,000. This is over five times the estimated cost of the next most costly alternative. The Alternative 2 estimated cost includes 64.9% (~$191 Million) for transportation to the Idaho repository by licensed hazardous waste carriers, 24.9% (~$73 Million) for the repository disposal fee, 4.6% (~$14 Million) for NECR Mine site construction, 3.2% (~$9 Million) for direct labor and materials, and 2.4% (~$7 Million) for designs and plans. Opposition from impacted community to the average of 15 trucks per day traveling each way on the transportation route for nine years could be as significant an obstacle as the extraordinarily high cost of NECR Mine EE/CA Alternative 2. When US EPA compared costs of the 2009 NECR Mine EE/CA Alternative 2 with Alternative 5, Alternative 5 was "much more cost-effective"; and by implication NECR Mine EE/CA Alternative 2 was much less cost effective. If NECR Mine EE/CA Alternative 2 (Relocate to Idaho Repository) must be rejected because it is not cost effective, then NECR EE/CA Alternatives 1 (No Action) 3 (Consolidate and Cover at NECR mine) , 4 (Construct Repository at NECR mine) and 5 (Move to UNC mill site) would be remaining. The US EPA "Post EE/CA Analysis of Alternatives" (2011b, 13 pages) provides a useful summary of some non-feasible sites but does not include a comprehensive evaluation and analysis of alternatives to remove mine waste from the community.

2.2.2, From the Diné Uranium Remediation Advisory Commission (3 of 9):

NECR Mine EE/CA Alternative 3 (Consolidate and Cover at NECR mine site) – Provides for all the mine wastes (871,000 cubic yards or 1.26 million tons) will be consolidated and subsequently contained under a cover on the NECR Mine site. A small quantity of Principal Threat Waste (PTW) could be transported to a licensed off-site repository or processing site, but it could also be retained by a designated area at the NECR mine site. The on-site disposal would require the following five steps: a) Excavation of wastes; b) Consolidation of mine wastes to an area in Drainage Basin 2 (or other suitable on-site location); c) Construction of a cap of consolidated mine wastes; d) Site restoration with erosion and stormwater controls, regrading and revegetation; and e) Long-term maintenance for the NECR mine cap. A liner below the waste would not be provided, and all non-PTW waste would remain on Navajo Nation lands. Construction would occur over three full construction seasons (April through September). The total cost for NECR Mine EE/CA Alternative 3 is estimated to be $25,800,000, and it has the lowest estimated cost of the NECR Mine EE/CA action alternatives. The Alternative 3 estimated cost includes 75.7% (~$19.5 Million) for NECR Mine site construction, 14.1% (~$3.6 Million) for direct labor and materials, 6.8% (~$1.8 Million) for designs and plans, and 3.4% (~$0.9 Million) for off-site Class I hazardous waste transportation and disposal. Alternative transportation and off-site disposal for PTW would add $1 million to $3 million to this cost. NECR Mine EE/CA Alternative 3 (consolidate and cover on the NECR Mine site) does not propose removal of radioactive mine waste from the Navajo Nation.

2.2.2, From the Diné Uranium Remediation Advisory Commission (4 of 9):

NECR Mine EE/CA Alternative 4 (Lined and Capped Repository at NECR mine site) – Provides an above-ground containment of the all the NECR Mine wastes at the NECR mine site using a lined and capped repository. An estimated 871,000 cubic yards (1.26 million tons) of soil would need to be placed in the repository. PTW could be placed in the repository or transported off the Navajo Nation at a licensed processing site. The on-site repository construction would require the following six steps: a) Design, siting and construction of the above-ground repository with liner; b) Excavation of all wastes; c) Placement of mine wastes in the repository; d) Construction of a cap to prevent airborne radon emissions and a liner to prevent infiltration to groundwater; e) Site restoration with erosion and stormwater controls, regrading and revegetation; and f) Long-term maintenance of cap and stormwater infrastructure. All non-PTW would remain on Navajo Nation lands. Construction would occur over four full construction seasons (April through September). The total cost for NECR Mine EE/CA Alternative 4 is estimated to be $32,000,000. The Alternative 4 estimated cost includes 75.5% (~$24.2 Million) for NECR Mine site construction, 15.2% (~$4.8 Million) for direct labor and materials, 6.6% (~$2.1 Million) for designs and plans, and 2.7% (~$0.9 Million) for off-site Class I hazardous waste transportation and disposal. Alternative transportation and off-site disposal for PTW would add $1 million to $3 million to this cost. NECR Mine EE/CA Alternative 4 (a lined and capped repository at the NECR mine site) does not propose removal of radioactive mine waste from the Navajo Nation.

2.2.2, From the Diné Uranium Remediation Advisory Commission (5 of 9):

NECR Mine EE/CA Alternative 5 (Removal of all NECR Mine waste to the UNC Mill Site repository) – Provides for the disposal of all the NECR waste at a nearby location outside (off-of) the NECR mine area. While several nearby offsite areas were investigated, only the UNC Mill Site was determined to be suitable as an off-NECR repository. Therefore, the NECR Mine EE/CA Alternative 5 is in all major elements the same as Draft EIS Alternative 1 presented in 2021. An estimated 871,000 cubic yards (1.26 million tons) of NECR waste would be moved to the UNC Mill site and placed on top of a cell that contains the UNC Mill site waste. This new material at the UNC Mill would add approximately four feet of waste to the top height of the cell without the NECR Waste. This action requires approval of an NRC permit, and that permit is the basis for the Draft EIS currently submitted for public review with the Draft EIS. The UNC Mill-site repository construction would require the following four steps: a) Excavation and transport of all wastes to the UNC Mill site; b) Design, siting and consolidation in an existing disposal cell on the UNC mill site, or construction of a new repository on the UNC mill site; c) Site restoration with erosion and stormwater controls, regrading and revegetation at the NECR Mine site; and d) Long-term maintenance for the capped repository at the UNC Mill site and new mine waste repository.

2.2.2, From the Diné Uranium Remediation Advisory Commission (6 of 9):

Construction of NECR Mine EE/CA Alternative 5 (Removal of all NECR Mine waste to the UNC Mill Site repository) would occur over four full construction seasons (April through September). The full waste removal and site restoration, regrading, and revegetation at the NECR mine site should eliminate the need for long-term maintenance at the NECR Mine site, and the land would be returned to unrestricted use as determined by the Navajo Nation. Following completion of all repository construction at the UNC Mill site, the UNC Site would become the responsibility of the U.S. Department of Energy's long-term stewardship program, and the DOE would become the perpetual custodian under an NRC general license. The total cost for NECR Mine EE/CA Alternative 5 is estimated to be $41,600,000. The Alternative 5 estimated cost includes 62.4% (~$26.0 Million) for NECR Mine site construction, 18.8% (~$7.8 Million) for transportation of the waste the UNC Mill Site by truck or covered conveyor, 11.5% (~$4.8 Million) for direct labor and materials, 5.4% (~$2.2 Million) for designs and plans, and 1.9% (~$0.8 Million) for off-site Class I hazardous waste transportation and disposal. Alternative transportation and off-site disposal for PTW would add $3 million to this cost. NECR Mine EE/CA Alternative 5 (is included as Draft EIS Alternative 1) removes all wastes from the Navajo Nation. It does provide isolation of all the wastes in a secure repository, but at a site across the Pipeline Arroyo and off the Navajo Nation that is clearly visible from the community.

2.2.2, From the Diné Uranium Remediation Advisory Commission (7 of 9):

The Preferred Alternate for the NECR Mine EE/CA (Section was Alternative 5A (Alternative 5 with the addition of off-site disposal of Principal Threat Waste (PTW) [Ref: NECR Mine EE/CA, page 60, May 30, 2009).

On March 29, 2013, the U.S. Environmental Protection Agency, Region 6, issued a Record of Decision for the United Nuclear Corporation Site, McKinley County, New Mexico (EPA ID: NMD030443303, Operable Unit: OU02, Surface Soil Operable Unit). This decision document presents the US EPA's "Selected Remedy" for the Soil Operable Unit of the UNC Superfund Site (UNC Site 2), in McKinley County, New Mexico. The Record of Decision states Alternative 5 was chosen in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). NECR Mine EE/CA Alternative 5 (Removal of all NECR Mine waste to the UNC Mill Site repository) removes all radioactive mine waste from the Navajo Nation and proposes relocation to the UNC mill site clearly visible from the community.

2.2.2, From the Diné Uranium Remediation Advisory Commission (8 of 9):

The description of US EPA's Selected Remedy was: "To remove the potential threat to human health at the NECR Site, the Selected Remedy will excavate approximately 1,000,000 cubic yards of waste material from the NECR Site to dispose of at the UNC site." (ROD, page 1). Additionally, the Selected Remedy included: "Principal threat waste from the NECR Site will not be disposed at the UNC Site and is not part of this Selected Remedy. The Selected Remedy described in this ROD does not address contaminated ground water at the UNC Site which is being remediated under a separate existing ROD issued by EPA in 1988. . ."

2.2.2, From the Diné Uranium Remediation Advisory Commission (9 of 9):

The Record of Decision contains the following information related to the Draft EIS: "Unless the NRC approves a license amendment for the UNC Site Tailings Disposal Area, the construction described in this ROD will not go forward. If NRC disapproves the request for a license amendment, EPA will stop its efforts to dispose of the NECR Site waste at the UNC Site Tailings Disposal Area, and EPA will evaluate other alternatives." (ROD, Page 8 and 9). If the Draft EIS Alternative 2 (the no action alternative) is selected as the preferred alternative, the license amendment would not be approved by the NRC. The construction described in the ROD would not go forward and the US EPA would need to evaluate other alternatives for disposal of the NECR Site waste. The Record of Decision does not specifically include or exclude removal of radioactive mine waste from the evaluations required if the "no-action" alternative is selected, and additional evaluations need to be performed. Any additional evaluations could include alternatives that remove the mine waste from the community.

3.5.1.1. Surface Water Features (page 1 of 1)

Prior to 1967, Pipeline Arroyo was an ephemeral stream. Between 1967 and 1986, Pipeline Arroyo was the recipient of approximately 140 million m³ [37 billion gallons (gal)] of water from dewatering and discharge from the NECR Mine Site and dominated by discharges of up to 21,198 liters per minute (Lpm) [5,600 gallons per minute (gpm)] from the NECR Mine and the Quivira Mine, resulting in a steady flow in the arroyo (INTERA, 2018; Shuey, et al., 2007). Since 1986, when mine operations ceased, Pipeline Arroyo has become an ephemeral stream again, flowing primarily in response to precipitation events. [Lines 18 to 24, Page 3-22].

3.5.1.1, From the Diné Uranium Remediation Advisory Commission (1 of 1):

There is continued concern about the radioactive contamination of the pipeline Arroyo and Rio Puerco from the Red Water Pond Road community to communities along the Rio Puerco, including the community members of Sanders Arizona. The "93 million gallons (gal) of tailings that flowed down the Pipeline Arroyo into the Rio Puerco River drainage system" from the UNC Dam break that occurred on Monday morning, July 16, 1979 could be considered small when compared to the combined 8 million gallons per day that were pumped from the NECR and Quivira Mines during the 19 years between 1967 and 1986. Community members along the Rio Puerco are advised to avoid using the wells near the river for any purpose because of contamination by heavy metals and radioactivity. In the 41 years since 1979, no process for comprehensive resolution of the Rio Puerco drainage contamination has been presented to the Navajo Nation residents and members.

3.12.2.4 Other Sources of Radiation Exposure (page 1 of 1)

The EPA is administering the cleanup of the Quivira Mine Site, located immediately north of the Red Water Pond Road Community and the Mine Site (EIS Figure 2.2-2) (INTERA, 2018). This includes interim removal actions at the vent holes and restoration of the bridge required to access the site. The EPA is working on and plans to complete an engineering evaluation/cost analysis (EECA) in 2020 to evaluate cleanup options for the Quivira Mine Site (EPA, 2018b). [Lines 18 to 22, Page 3-80]
Additional Information on Quivira Mine Site Remediation is found in 5.1.1.1.3 of the Draft EIS.

3.12.2.4, From the Diné Uranium Remediation Advisory Commission (1 of 2):

The Red Water Pond Road Community has been impacted by the mine waste from both the NECR Mine and the Quivira mines; and to protect the community in the long term, the wastes from both mines should be remediated in accordance with Navajo Nation President Jonathan Nez's Statement on DEIS for Disposal of NECR Mine Waste at UNC Mill Site dated 4/12/2021, the principles provided by the Diné Fundamental Laws (NNC, Title 1, Ch2, §201 - §205), and the "Potential Mitigation Measures Identified by the Navajo Nation" in DEIS Table 6.4-1.

3.12.2.4, From the Diné Uranium Remediation Advisory Commission (2 of 2):

While the action alternatives for the Quivira mines cannot be established until the engineering evaluation/cost analysis (EECA) is approved, any selected alternatives need to include removal of the radioactive mine waste from the community. Any alternative selected for the NECR mine waste, including the Draft EIS alternative, should not preclude a similar action for the Quivira mines waste.

B.5.5 Alternatives – Relocation of Nearby Residents (page 1 of 1)

{NRC} Response: The scope of the NRC EIS will include an evaluation of the environmental impacts of construction-related activities at the UNC Mill Site, transferring NECR mine waste to and placing the mine waste within the proposed disposal site, proposed disposal site closure activities, and the no-action alternative, and any reasonable alternatives. Actions related to relocation of residents are beyond the NRC's regulatory authority. The NRC staff is aware that the EPA has coordinated the relocation of nearby residents during previous remedial activities at the NECR Mine Site with the assistance of the U.S. Army Corps of Engineers. The EIS will discuss socioeconomic impacts from the proposed action and reasonable alternatives; however, a cost-benefit analysis of the impacts from relocating nearby residents to either Gallup, somewhere on the Navajo reservation, or a location farther away, are outside the scope of the EIS. [Page B-18, Lines not numbered, Ref: NRC, Environmental Impact Statement Scoping Process Summary Report at UNC Church Rock Mill, 2019]

B.5.5, From the Diné Uranium Remediation Advisory Commission (1 of 1):

The residents of the Red Water Pond Road Community Association have expressed their concerns about finding a location where their lifeways can be respected, and their family and cultural traditions can be maintained. In recent years there have been advances in solar power, and communications systems that have made living in previously undeveloped sites possible. The Red Water Pond Road community members suggested a relocation site at Black Tree Mesa would be more culturally appropriate (sheep grazing, gathering herbs, near ceremonial grounds, umbilical cords are buried in area, etc.) than to live in a trailer in Gallup.

All participating agencies should assist with relocation that maintains the Red Water Pond Road Community Association's hope for community and personal life balance.

End of the Diné Uranium Remediation Advisory Commission's Comments and Questions about the Draft EIS - Part II.