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Sent:	Thursday, May 27, 2021 6:01 PM
То:	UNC-ChurchRockEIS Resource
Cc:	Waldron, Ashley
Subject:	[External_Sender] Report NUREG-2243 UNC Comment Letter on Draft EIS
Attachments:	NUREG-2243 UNC Comment Letter on Draft EIS.pdf

Attached for NRC's consideration are United Nuclear Corporation's comments on NUREG-2243, "Draft Environmental Impact Statement for the Disposal of Mine Waste at the United Nuclear Corporation Mill Site in McKinley County, New Mexico."

Thank you for the opportunity to review and provide comments on this document.

Sincerely,

Lance Hauer, P.E. Legacy Site Team Leader – Environmental Remediation Global Operations, Environment, Health & Safety GE

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Subject: Sent Date: Received Date: From:	[External_Sender] Report NUREG-2243 UNC Comment Letter on Draft EIS 5/27/2021 6:00:50 PM 5/27/2021 6:01:19 PM Hauer, Lance M (GE Corporate)			
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May 27, 2021

Sent via Email

U.S. Nuclear Regulatory Commission Office of Administration Washington D.C. 20555-0001 ATTN: Program Management, Announcements and Editing Staff UNC-ChurchRockEIS.resource@nrc.gov

Re: Comments on Report NUREG-2243 - Draft Environmental Impact Statement for the Disposal of Mine Waste at the United Nuclear Corporation Mill Site in McKinley County, New Mexico Docket ID NRC-2019-0026

United Nuclear Corporation (UNC) appreciates the opportunity to provide comments to the Nuclear Regulatory Commission (NRC) on the Draft Environmental Impact Statement (DEIS) for the Disposal of Northeast Church Rock (NECR) Mine Waste at the United Nuclear Corporation Mill Site in McKinley County, New Mexico (NRC, October 2020). Attached for NRC's consideration are our comments.

As described in the DEIS, the proposed action is for an amendment to UNC's Source Material License No. SUA-1475 and revision to the NRC-approved Mill Site reclamation plan. Granting the license amendment would authorize UNC to implement the response action approved by the U.S. Environmental Protection Agency (USEPA) in its 2011 Action Memorandum that entails the transfer and disposal of NECR mine waste on the tailings impoundment at the Mill Site. USEPA selected this response action following a detailed assessment of alternatives and comparing these alternatives against statutory selection criteria in the Engineering Evaluation/Cost Analysis (EE/CA) (EPA, 2009). In addition to the DEIS, NRC reviewed the license amendment request and a detailed design of the response action and documented its corresponding safety analysis and conclusions in its Safety Evaluation Report (NRC, 2020).

NRC recommends in the DEIS to grant the license amendment. UNC concurs with this recommendation and offers its comments for purposes of clarifying and correcting information presented in the DEIS. Thank you for consideration of our comments. Please contact the undersigned if you have any questions.

Sincerely,

Lance M. Hauer, P.E. Legacy Site Team Leader

United Nuclear Corporation Comments Report NUREG-2243 - Draft Environmental Impact Statement for the Disposal of Mine Waste at the United Nuclear Corporation Mill Site in McKinley County, New Mexico Docket ID NRC-2019-0026

- 1. Executive Summary, Table ES-1: NRC states that the action results in "Disproportionately high and adverse environmental impacts (but not human health impacts)" for all alternatives, as well as with regard to the cumulative impact. In order to present a more complete and accurate description, the text in the Executive Summary and other sections of the DEIS should be revised to acknowledge the mitigation measures associated with these impacts. More specifically, the following two sentences should be added: "Measures are being taken to mitigate potential environmental justice impacts, including through EPA's offer to provide community members voluntary, permanent, alternative housing. Furthermore, the removal of mine wastes from the former mine area and consolidation of the mine materials over existing mill waste materials on private property, minimizes the footprint of waste disposal units and will allow beneficial reuse of the NECR mine area." The same statement should also be added to line 32, page 4-64 when describing the Environmental Justice Impacts of the Proposed Action, line 43, page 4-65 when discussing Closure Impacts, and as appropriate in Section 4.12.2 when discussing other alternatives considered.
- 2. Section 1.3 Purpose and Need, page 1-6, lines 12-15: The NRC correctly notes that the purpose of, and need for, the proposed license amendment is to allow for the expeditious and safe disposal of NECR mine waste from Navajo Nation land and that this action will protect human health and the environment from actual or threatened releases of this material. This statement, however, does not capture the full purpose of, and need for, the proposed license amendment. As described in Section 1.3, lines 5-8, the license amendment is needed to implement EPA's selected remedy for the CERCLA action at the NECR Mine Site. The "purpose and need" statement should be revised as follows: "The purpose of, and need for, the proposed action, therefore, is to facilitate the implementation of EPA's selected remedy for the NECR Mine Site and to ensure the expeditious and safe removal of NECR mine waste from Navajo Nation land to protect human health and the environment from actual or threatened releases of this material."
- Section 3.12.1 Radiation Protection Standards, page 3-77, line 22: There is a reference to Section 3.12.1.1. However, the document proceeds from Section 3.12.1 to 3.12.2 without a subsection 3.12.1.1 It is unclear whether a section is missing or whether the reference should be changed to 3.12.2.1. This should be modified accordingly.
- 4. <u>3.12.2.3 Portions of the NECR Mine Site, page 3-80, lines 10-12</u>: It appears that the "mSv" dose unit was omitted after presentation of the 3.81 mSv value. "mSv" should be inserted after 3.81 in line 12.
- 5. Section 4.3.2 Other Alternatives Considered (Modifications to the proposed Alternative) Transfer Mine waste to the Proposed Disposal Site Using a Conveyor (Alternative 1A), page 4-9, lines 26-44 and page 4-10, lines 1-3: In this section NRC concludes that the conveyor alternative would not cause the MODERATE traffic flow impacts during transfer operations that would be caused by the

proposed traffic modifications on NM 566 described in EIS Section 4.3.1.2 for Alternative 1. This conclusion does not account for the traffic impacts attendant upon the construction and dismantling of the conveyor itself, nor the traffic impacts that would remain under the conveyor alternative. As presented in Attachment 1 to this letter, the construction, removal, and disposal of the conveyor system would require the transport of additional equipment over NM 556 to the work area and require approximately 105 additional truck trips than Alternative 1 (Stantec, 2021). In addition, as noted in Chapter 7 of the Supplemental Environmental Report (Intera, 2018), one of the drawbacks to the use of a conveyor includes size limits for moving debris on the conveyor, such that a truck fleet would still be required to move the larger pieces of mine debris. Furthermore, this alternative does not include construction of a haul road and would increase truck use of the public road by a substantial margin. Section 3.2.2 of the Application for Amendment of USNRC Source Material License SUA-1475, Volume 1 (Stantec, 2018) estimates the transfer of approximately 48,400 cubic yards of mine debris to the mill site. Under Alternative 1A, the mine debris would be transferred to the mill via trucking on NM 566 since Alternative 1A does not include construction of a haul road. As presented in Attachment 1, this would entail approximately 2,017 truck trips and 3,812 miles of travel on NM566 to and from the mill site. Under Alternative 1, which includes construction of a haul road, trucks transporting waste to the mill site would only cross NM566 at one location, which would only entail approximately 715 miles of travel on the public road (Attachment 1). Alternative 1 decreases the truck mileage associated with transporting mine waste on the public road by 81% as compared to Alternative 1A. This information does not alter the overall impact conclusion, but UNC proposes revising the statement on lines 38-39 to acknowledge that "the conveyor alternative would cause MODERATE traffic flow impacts," deleting the following text at lines 40-41: "This change would result in a significant reduction in transportation impacts when using a conveyor; however," and adding the following text after line 37 for the sake of completeness and accuracy of the discussion:

"Under this alternative, a waste haul road would not be constructed and approximately 48,400 cubic yards of mine debris would be transferred by truck on NM 566 to the repository. This would entail approximately 2,017 truck trips and 3,812 miles of travel on NM566. Alternative 1 would only require an approximate total of 715 miles of truck transport on public roads since this alternative contemplates construction of a non-public haul road that minimizes public road use. Trucks transporting material to the mill site under this alternative would only cross NM566 at one location."

6. <u>Section 4.5.1.3 Closure Impacts, page 4-20:</u> This subsection under the Water Resources heading describes changes to the floodplain and notes that the design of the Pipeline Arroyo improvements was evaluated by the NRC staff and documented in a safety evaluation report. Below, UNC describes the approach utilized and has included excerpts from the Northeast Church Rock 95% Design and Appendix I of the design (Stantec, July 2018) approved by USEPA that describe stabilization measures to be employed under a range of flood events. We recommend that NRC consider including this information in the DEIS to provide further detail on these issues and address questions received during the public meeting on the project design.

The Northeast Church Rock 95% Design shows floodplain extents for existing and proposed conditions with the repository in place. In both cases, the 100-year floodplain and the probable

maximum flood (PMF) are modeled to extend to near the toe of the dam, particularly in low areas, and flooding is expected in low areas of the tailings cover. The riprap structure for the Jetty area, as well as the upgrades to channels on the cover of the tailings, are designed with erosion protection to ensure stability attributable to flow velocities from the PMF. The primary design objective for the Jetty Area is to limit headcutting of the arroyo from that pinch point and prevent meandering of the arroyo toward the dam. Smaller storm events are expected to cause natural erosion in other areas of the arroyo, upstream and downstream of the jetty.

The design for the Pipeline Arroyo Stabilization evaluated a range of flood events and will provide protection that can statistically be expected to "...be effective for one thousand years, to the extent reasonably achievable, and, in any case, for at least 200 years..." (40 CFR §192.32). Stantec estimated the design flood event by simulating runoff hydrographs for a corresponding design storm event, where the design storm event was developed as a center peaking rainfall distribution that included the peak rainfall intensity for every duration from 5 minutes to 24 hours, and for design storm frequency or the probable maximum precipitation (PMP) intensity for all durations from 10 minutes to 6 hours.

The Pipeline Arroyo Watershed above the Tailings Disposal Area (TDA) is approximately 18 square miles in area. The estimated PMF in the arroyo reach that runs along the TDA is 27,600 cubic feet per second (cfs) (see Attachment I.1 of Appendix I of the LAR). Figure I.6-1 shows the floodplain extents for the PMF and the 100-year and 5-year floods, estimated with a two-dimensional hydraulic model (HEC-RAS) (see Attachment I.6). The simulated flood extents show that the 5-year storm will be contained in the Pipeline Arroyo, but that the 100-year flood and the PMF will overtop the arroyo. The estimated flood plain extents for the 100-year flood and PMF include the Pipeline Canyon Road that parallels the arroyo north of the TDA. The estimated PMF floodplain extents are also estimated to encroach on the north edge of the TDA and the base of the repository.

The median riprap diameter for the chute is 27 inches. The hydraulic analysis (Attachment I.7) demonstrates that these riprap sizes will provide a factor of safety for the PMF of slightly greater than 1.0. Flood events between the 10,000-year flood and 100-year flood events are estimated to have greater factors of safety as shown in Table I.7-1 (see Attachment I.7).

7. Section 4.6.1.1 Construction Impacts, page 4-31 lines 46-47 and page 4-32 lines 1-3: The New Mexico Department of Game and Fish (NMDGF) has suggested that ground disturbances and vegetation removal activities occur outside of the primary breeding season for migratory songbirds and raptors (March 1 through September 1), and that buffers be established around bird nests during construction. The Federal Wildlife Service (FWS) also recommends that construction activities occur outside the general bird nesting season from March through August. The NRC stated that "fewer nesting activities in the proposed project area would be affected" if these measures were implemented, but ultimately concluded that such measures would not alter the impact conclusions for the relevant ecological resources, stating they "would continue to be SMALL for wildlife and MODERATE for vegetative communities."

For the sake of completeness, this discussion also should disclose the probable negative consequences of implementing seasonal work stoppage as an additional mitigation measure. Depending on the interpretation of construction activities, implementing these recommendations could halt all project activities for a 6- to 7-month period each year and increase the construction period to about 6 years, far greater than the 4-year period described in the DEIS. Extending the construction period by approximately 50% would likely produce a corresponding increase in overall construction impacts. Further implementation costs, project delays, and environmental impacts also may accrue due to the need to demobilize and then remobilize the construction activities on a seasonal basis.

Therefore, UNC requests that the NRC add a sentence to page 3-42, line 6 to describe the potential adverse impacts associated with the NMDFG and FWS additional mitigation measures: "The limitation on certain construction activities during the primary breeding season could significantly increase the construction period and project costs, and increase overall construction related impacts."

- 8. Section 4.6.1.3 Closure Impacts, page 4-33, lines 10-11: On page 1.11, the DEIS explains that EPA identified Applicable or Relevant and Appropriate Requirements (ARARs) that would establish substantive requirements for implementation of the EPA CERCLA remedy. The DEIS identifies Table 1 of the 2013 ROD for EPA's CERCLA remedial action as the complete list of ARARs and describes with greater specificity certain ARARs that would apply to the proposed action. For example, EPA has identified as an ARAR the regulation of non-coal mining at New Mexico Administrative Code 37 (NMAC), which establishes requirements for mine reclamation and closeout plans at Sections 19.10.5.507A, 19.10.6.603.A and B, 19.10.6.603.C1 through 9, and 19.10.6.603.D through H. Table 1 of the 2013 ROD included NMSMCRA as a "to be considered" (TBC) requirement. TBCs are not ARARs and are not binding on the remedial action. In Section 4.6.1.3, the DEIS describes the closure activities, including reclamation and revegetation, that would occur as part of the proposed action and on page 4-33, lines 10-11, states that the EPA would ensure that UNC meets other requirements provided in the New Mexico Surface Mining Act Coal Mining Regulations. (NMSMCRA). This reference to the NMSMCRA is inconsistent with EPA's selected ARARs. Accordingly, UNC proposes that NRC revise page 4-33, lines 10-11 to replace the "New Mexico Surface Mining Act Coal Mining Regulations" with the "New Mexico Mining Act and regulations applicable to non-coal mining."
- 9. <u>Table 4.7-1 Mitigation Incorporated into the Proposed Action's Estimated Air Emission Levels, page 4-37</u>: This table appears to be extracted from an addendum to the Supplemental Environmental Report (INTERA, 2018) that describes additional air quality modeling completed by Trinity (Trinity, 2020). This table was designed to show the control efficiency assigned to a source when a mitigation measure was chosen for that source. By copying this table alone into the DEIS, important context has been lost. The line "Stockpiles Covering Stockpiles" could suggest that all stockpiles are covered. For clarity, UNC proposes the addition of the following footnote: "The modeling analysis only assumed stockpile SP1 was being covered during implementation of the action (Trinity 2020)."

- 10. Section 4.8.1.1 Construction Impacts, page 4-44, lines 22 to 24: The DEIS states that "Construction would operate a total of 7 hours a day, with most of the activities occurring during weekday daylight hours (INTERA, 2018); however, construction could occur during weekends, if necessary." It appears that this reference to (INTERA, 2018) may be referring to the following statement related to noise impacts: "Noise impacts are presented as 1-hour energy equivalent sound levels (Leq). Since the facility will operate a total of 7 hours during the daytime only, day-night average sound levels (Ldn) were not reported/used (INTERA, 2018). The 7-hour period referenced in the quoted language pertains only to the estimated operational time of 30-cubic yard articulated trucks hauling mine waste (See Section 4.8-Schedule of the License Amendment Request (Stantec, 2018)) during a typical 8-hour shift for construction personnel that was assumed in support of a noise analysis. There was no intention to imply any reduction to a standard 8-hour work shift. For example, INTERA (2018) states in Section 4.12.1.1.7 on page 189 "Assuming a standard 8-hour workday, a construction worker will be onsite 2,000 hours/year during the removal activities." In addition, page 3-1 of the 95% Design (Stantec, 2018) states "Construction hours are based on five 8-hour shifts per week based on dust control water limitations discussed in Appendix Q and an assumption that a Construction Contractor would elect to conduct the work without the use of labor overtime." Accordingly, the sentence at page 4-44, lines 22-23 should state as follows: "Construction would operate a total of 8 hours a day, with most of the activities occurring during weekday daylight hours (INTERA, 2018); however, construction could occur during weekends, if necessary." In addition, the NRC should remove "Limit construction to 7 hours a day, during the daytime only, and to weekdays whenever possible" in Table 6.3-1 at page 6-7 because UNC did not propose this mitigation measure.
- Section 4.10.1.3 Closure Impacts, page 4-56, line 23: NRC states a maximum excavation depth of 15.8m (15 ft). The conversion from meters to feet is incorrect and the depth specified in Section 4.10.1.3 of the DEIS should be modified to match the depth specified in Table 6.3-1 (i.e. 15.8m (52ft)).
- 12. <u>Table 6.3-1 Summary of Mitigation Measures Proposed by UNC (cont.)</u>, Air Quality, page 6-7: "Suppress fugitive dust at stockpiles by covering them" is specified as a proposed mitigation measure. UNC proposed the covering of piles during construction as represented on Page 2-11, Lines 21-24. For the air dispersion modeling analysis, only stockpile SP1 was assumed to be covered. The referenced language should be modified as follows: "Suppress fugitive dust at stockpile SP1 by covering it."

References

Stantec, 2018, Application for Amendment of USNRC Source Material License SUA-1475, Volume 1, 92 p.

Stantec, 2021, Memo to UNC, UNC Mill Site Draft Environmental Impact Statement (DEIS) Alternative 1A – Conveyor Option to Move Mine Material. May 25

Trinity Consultants, 2020, Modelling Addendum to the Supplemental Environmental Report for the United Nuclear Corporation Source Material License Amendment Request McKinley County, New Mexico, May 11th, 84 p.

Wirt, L., 1994, Radioactivity in the environment; a case study of the Puerco and Little Colorado River basins, Arizona and New Mexico, Water-Resources Investigations Report 94-4192, 26 p. Available online at https://pubs.usgs.gov/wri/1994/4192/report.pdf.

Wunder, M., 2010, New Mexico Department of Game and Fish Review Comments for the Roca Honda New Mine Permit Application No. MK025RN, NMDGF Project No. 13122, Letter to Mr. J. Hollen, New Mexico Energy, Minerals and Natural Resources Department Mining and Minerals Division, April 20th, 12 p.

Stantec

Attachment 1 to DEIS Comment Letter dated May 27, 2021

То:	Mr. Lance Hauer	From:	Jason Cumbers, PE
	United Nuclear Corporation		Fort Collins, CO
File:	233001369	Date:	May 25, 2021

Reference: UNC Mill Site Draft Environmental Impact Statement (DEIS) Alternative 1A – Conveyor Option to Move Mine Material – Transportation Assessment

As part of the Supplemental Environmental Report submitted with the September 2018 License Amendment Request for the Church Rock Mil site, Stantec prepared a concept-level approach for a conveyor option to place mine materials from the Northeast Church Rock (NECR) Mine on the existing tailings impoundments at the Mill Site. The conveyor option is defined as Alternative 1A in the 2020 Draft Environmental Impact Statement (DEIS) prepared by the NRC. The conceptual-level approach described the conveyor option but did not include all details associated with construction of the conveyor and transfer of mine spoils and mine debris from the Mine Site to the Mill Site and the transportation impacts. This memo provides Stantec's assessment of those impacts.

Based on size, and proposed location, of the conveyor Stantec estimates that it would require about 44 truckloads to deliver conveyor components, plus 17 truckloads of redi-mix concrete materials for the foundations, and 44 truckloads to remove the conveyor system following deconstruction. This would result in 105 additional truck trips to, and from, the site for the conveyor compared to DEIS Alternative 1. Tables 1 and 2 summarize calculations of these truck trips.

Conveyor System Parts	Number of Pieces	Pieces per Truckload	Truckloads
Conveyor	370	13	28
Elevated Structure	35	4	9
Drives	5	5	1
Transfers	5	5	1
Belt	8	3	2
Covers	370	120	3
		Total Truckloads:	44

Table 1 – Conveyor Delivery for DEIS Alternative 1A

In addition to the trucking required to construct the conveyor, use of the conveyor will not allow for transport of mine debris from the Mine Site on the conveyor. This material would still be moved by truck for disposal. The LAR (Stantec, 2018) includes a Mine Site debris estimate of 25,600 CY of buried debris and 22,800 CY of surface debris for a total debris volume of 48,400 CY. Stantec estimates that 24 loose cubic yards (LCY) of

Design with community in mind

May 25, 2021 Mr. Lance Hauer Page 2 of 2

Reference: UNC Mill Site Draft Environmental Impact Statement (DEIS) Alternative 1A – Conveyor Option to Move Mine Material

Conveyor Length (FT)	Foundations Every 15 feet of Conveyor Alignment	Concrete (CY) per pier	Total Volume of concrete (CY)	Maximum 10 CY per Concrete Truck
3,698	247 piers	0.65	161	17 trucks

Table 2 – Conveyor Foundation Materials for DEIS Alternative 1A

Note: Drilled piers are assumed to be 18-inch diameter and 10 feet long.

debris could be placed in each truck and therefore, based on the debris volume, 2,017 truckloads would be required to transport debris from the Mine Site to the Mill Site. At an estimated roundtrip distance on Highway 566 of 1.89 miles, transfer of mine debris would require trucks traveling about 3,812 total miles on the public highway, from the Mine Site to the turnoff to the Mill Site. By comparison, DEIS Alternative 1 would use the proposed haul road and single Highway 566 crossing, which is about 50 feet wide across the right-of-way, equating to 718 truck miles of hauling all mine waste materials, soil and debris, on the public road. Table 3 summarizes the calculations.

Table 3 – Truck Miles on NM Highway 566 for DEIS Alternatives 1 and 1A

Alternative	Mine Waste Volumes Soil and/or Debris (CY)		Haul Volume per Truck (CY)	Estimated Total Truck Loads	Distance Roundtrip on the Public Highway (miles)	Total Miles Driven on NM Hwy 566
1A	48,400	Debris	0.4	2,017	1.89	3,812
1	906,550	Soil and Debris	24	37,773	0.019	718

Stantec Consulting Services Inc.

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jmc http://projects.mwhglobal.com/sites/genecrpreliminarydesign/shared documents/ser support/comments on nrc draft eis_stantec/20210525_supplemental_qtys_memo.docx