

Environmental Request for Additional Information

Proposed Action (PA)

RAI PA-1

Clarify whether the evaluation in the Environmental Report (ER) is based upon the initial or revised locations of proposed stockpiles SP2, SP3, and SP4 to assess the proposed action's impacts and, if needed, revise the impact analyses in the ER accordingly.

For air quality, as described in ER Section 4.6.4.2, "Proposed Action," air dispersion modeling was conducted for two different locations of stockpiles SP2, SP3, and SP4: the initial locations and revised locations. ER Sections 4.6.4.2 and 5.6.1.2, "Proposed Action Stockpiles," describe the revised locations as a proposed mitigation strategy where the stockpiles are moved further away from receptors to reduce the impacts. However, ER Section 5.6.1.2 does not indicate if the licensee will implement this mitigation. Therefore, it is unclear which stockpile locations should be used to describe the United Nuclear Corporation (UNC) proposal and assess its impacts – the air dispersion modeling results shown in Table 4.6-9 for the initial locations, or the air dispersion modeling results in Table 5.6-1 for the revised locations.

For resource areas other than air quality, it is also unclear if the impact analyses in ER Chapter 4 are based on the initial or revised stockpile locations. ER Section 5.6.1.2 states that relocating stockpiles SP2 and SP3 impacts other resource areas. However, the description in ER Section 5.6.1.2 concerning the impacts on other resources areas for relocating these stockpiles does not appear to be comprehensive.

This information is needed in accordance with Title 10 of the Code of Federal Regulations (10 CFR) Part 51.45(b) and (b)1, which require that the ER describe the proposed action and its potential impacts on the environment.

RAI PA-2

Clarify actions and activities related to the cessation of the UNC Mill Site groundwater corrective action program (CAP) and closure of evaporation ponds.

The License Amendment application (Stantec, 2018), last paragraph of Section 1.2, "License Condition Changes," states, "Cessation of the groundwater (CAP) is necessary to complete EPA's [U.S. Environmental Protection Agency] removal action" and that "UNC has filed permits to install several monitoring and sentinel wells to help support any desired administrative and/or institutional controls to enable the final closure of the groundwater CAP. Equipment and resources will be available onsite to complete closure of the evaporation ponds during construction of the Repository."

UNC should clarify which actions and activities are part of this license amendment request and which are other ongoing or future actions associated with the cessation of the groundwater CAP or closure of the evaporation ponds. This information will assist the U.S. Nuclear Regulatory Commission (NRC) staff in accurately describing the proposed action in the Environmental Impact Statement.

This information is needed in accordance with 10 CFR 51.45(b) and (b)1, which require that the ER describe the proposed action and its potential impacts on the environment.

TRANSPORTATION (TR)

RAI TR-1

Clarify estimated average annual daily traffic counts for local roads.

ER Table 3.2-1 provides estimated traffic counts for routes that would be associated with proposed transportation. A footnote to the table indicates that all traffic counts in the table were estimated from information on the New Mexico Department of Transportation website without providing information about how the traffic counts were estimated or supporting reference information. UNC should clarify who estimated the traffic counts reported in ER Table 3.2-1. If available, UNC should also briefly explain how the traffic counts were estimated and what underlying data were used in these estimates. If values were estimated by the New Mexico Department of Transportation, then explain how they estimated the traffic counts, if known. Explain why estimates were used instead of actual counts. Also, clarify if the traffic count for State Route 566 (NM 566) at the haul road crossing was estimated or based on monitoring as described in the text. Provide full reference information for citations (Note that the 2016 reference to the New Mexico Department of Transportation was not located in the ER Chapter 9 List of References).

This additional information is needed in accordance with 10 CFR 51.45(b)(1), which requires that the ER contain sufficient data to aid the NRC in its development of an independent analysis.

RAI TR-2

Provide the full reference information for reported traffic accident rates.

The traffic accident rates provided in ER Table 3.2-2 do not include full reference information. The source for New Mexico accident rates is listed only as “2016 Traffic Crash Annual Report.” Clarify the sources of the documents either by providing the full reference for the sources of this information (e.g., author, title, year) or an electronic copy thereof, as well as any appropriate additional information as to the provenance and accuracy of the underlying data.

This additional information is needed in accordance with 10 CFR 51.45(b)(1), which requires that the ER contain sufficient data to aid the NRC in its development of an independent analysis.

WATER RESOURCES (WR)

RAI WR-1

Provide a detailed explanation for the determination that although scouring might continue to widen and deepen the Pipeline Arroyo, that minimal lateral migration is expected.

ER Section 3.4.2.2.2, “Features,” states that “scour may continue to deepen and widen the arroyo with minimal lateral migration.” However, this statement is in contrast with the stated outcomes of the No-Action alternative as described in ER Table 2.4-1, “Comparison of Predicted Environmental Impacts,” and ER Section 4.4.1.2.1, “No Action Alternative,” which indicate that in the absence of any intervention to stabilize the arroyo “damage to the jetty and continued headcutting toward the jetty could pose a risk of controlled erosion with the potential for tailings exposure and downstream migration.” Clarify the apparent inconsistency in these statements in the ER and describe the methodology used to determine that there would be minimal additional migration of the arroyo. Additionally, clarify the reference to “NRC, 2003” in ER Section 4.4.1.2.1. The referenced report appears to be unrelated to the sentence in which it appears.

This additional information is needed in accordance with 10 CFR 51.45(b) and (b)(1), which require that the ER include a description of the affected environment and discuss the impacts of the proposed action.

RAI WR-2

Provide the most recent surface water quality data for the Upper Puerco River and Pipeline Arroyo.

ER Section 3.4.2.2.3, “Water Quality,” cites historical surface water quality data from a 1986 Gallaher and Cary study. The NRC staff has not been able to locate this reference. A publicly available reference should be provided. Additionally, more recent surface water quality data are necessary to determine whether the findings presented in ER Section 3.4.2.2.3, which are over 30 years old, are representative of current water quality conditions and applicable requirements [e.g., requirements could be administered through the National Pollutant Discharge Elimination System, or separate requirements could be established by the EPA or New Mexico Environment Department]. The data should include total suspended solids, total dissolved solids, radionuclides, uranium concentrations, and all constituents with regulatory limits.

This additional information is needed in accordance with 10 CFR 51.45(b) and (b)(1), which require that the ER include a description of the affected environment and discuss the impacts of the proposed action.

RAI WR-3

Clarify the peak flow rates presented in the ER.

The discussion of sediment transportation and erosion in ER Section 3.4.2.2.4, “Sediment Transportation and Erosion,” mentions peak flow rates that conflict with the peak flow rates in the “Northeast Church Rock 95% Design Report” (referred to as the 95% Design report) (MWH, 2018). The peak flows for existing conditions presented in the ER are higher than those listed in Table 10, “Simulated Peak Flows at Locations of Interest for the Remedial Design,” of the 95% Design Report’s Attachment I.1, “Estimation of Flood Flows for Design of Interim and Final Surface Water Controls for the Removal Action at the NECR Mine Site and Church Rock Mill Site.” Clarify the source data for the baseline peak flow rates as well as a table with pre- and post-proposed action peak flows for the 10-year, 100-year, and probable maximum flood (PMF).

This additional information is needed in accordance with 10 CFR 51.45(b)(1), which requires that the ER contain sufficient data to aid the NRC in its development of an independent analysis.

RAI WR-4

Clarify the methodology used to determine the floodplain for the proposed project area.

ER Section 4.4.1.1, "Surface Water Impacts Analysis," states, "No federally delineated floodplains (Flood Hazard Zone A as identified by FEMA) occur within or adjacent to the Project Area..." However, the NRC staff has identified through ArcGIS a Federal Emergency Management Agency (FEMA) Special Flood Hazard Area Zone A along Pipeline Arroyo within the UNC Mill Site (FEMA, 2019). Provide an explanation for the discrepancy between floodplain determinations included in the ER and that of FEMA and/or update the ER as appropriate.

This additional information is needed in accordance with 10 CFR 51.45(b) and (b)(1), which require that the ER include a description of the affected environment and discuss the impacts of the proposed action.

AIR QUALITY (AQ)

RAI AQ-1

Revise the emission inventory and associated impact analyses for the UNC proposal (alternatives A to D) to include combustion emissions from mobile sources and construction equipment or provide a basis for not doing so.

ER Section 4.6.2.1, "Description of Effluents," states that the main activities for the UNC proposal are excavating and transporting material. However, criteria [National Ambient Air Quality Standards (NAAQS)] pollutants associated with combustion emissions from mobile sources and construction equipment were not included in the project emission inventory that served as input to the air dispersion modeling that was used for the impact analyses (ER Table 4.6-2, "Release Point Parameters," and ER Table 4.6-6, "Proposed Action and Alternative Modeling Source Groups"). The analysis in ER Section 4.6.2.1 for hazardous air pollutants and volatile organic compounds did not consider the combustion emissions from mobile sources and construction equipment. Revise the emission inventory and the associated impact analysis to include volatile organic compounds and hazardous air pollutants from mobile sources and construction equipment or otherwise explain why these sources were not included. An appropriate accounting for the proposed project's emissions is needed to accurately assess the potential impacts. UNC should revise the emission inventory, revise the initial screening described in ER Section 4.6.2.3.7, "Significant Impacts Analysis," and update the associated impact analyses to include combustion emissions from mobile sources and construction equipment, or provide a basis for not doing so. The impact analysis in the ER includes emissions sources from the entire area within the emission source footprint (i.e., everything within the Boundary Line shown in ER Figure 4.6-1, "Receptor Grid for Air Dispersion Modeling"). If the emission inventory and associated impact analysis is revised in response to this RAI, UNC should include emissions from all sources within this emission source footprint except for those sources exclusively associated with the principal waste threat. In addition, UNC should, to the extent possible, clarify the proposed activities within the following areas contribute to emissions and associated impacts: (i) within the UNC Mill Site boundary shown in ER Figure 4.1-1, "Restricted Use Areas, Proposed Action," and (ii) within the emission source

footprint, minus the Northeast Church Rock (NECR) Mine Site boundary shown in ER Figure 4.1-1).

Responses to requests for additional information (RAIs) AQ-1 through AQ-6 and CC-1 should also consider revisions to the emission inventory. When responding to these RAIs, UNC should consider a similar break down or grouping of the emission sources for the analysis as described for this RAI in the preceding paragraph (i.e., the entire emission source footprint, the UNC Mill Site, and the entire emission source footprint minus the NECR Mine Site).

This information is needed in accordance with 10 CFR 51.45(b), which require that the ER describe the proposed action and its potential impacts on the environment.

RAI AQ-2

Revise the air quality analysis for the UNC proposal (Alternatives A to D) to include emissions from construction activities (i.e., the construction phase) or provide a basis for not doing so.

The air dispersion analysis in ER Section 4.6.2, "Air Dispersion Modeling," excludes emissions from the following construction activities: road construction (source DA5), facility construction (source DA6), and the imported rock stockpile (source SP2). Such activities could generate both fugitive dust and combustion emissions (refer to RAI AQ-1). An appropriate accounting for the proposed project emission levels associated with the construction phase is needed to accurately assess the potential impacts.

This information is needed in accordance with 10 CFR 51.45(b), which requires that the ER describe the proposed action's impacts.

RAI AQ-3

Explain why the air dispersion modeling for the UNC proposal adequately addresses the potential impacts since modeling was not conducted for a scenario that includes all of the emission sources. Otherwise, update the air dispersion modeling based on an emission inventory that includes all of the emission sources.

ER Section 4.6.2.3.4, "Proposed Action Versus Alternative Source Groups," describes that Alternative A emission sources for the UNC proposal were split into five source analysis groups to isolate material being transported from the NECR Mine Site and the borrow areas. Air dispersion modeling "scenarios" were conducted for each of these five groups. Alternative C was similarly divided into two source analysis groups, which were modelled as separate scenarios. ER Table 4.6-6, "Proposed Action and Alternative Modeling Source Groups," identifies which emission sources were included in each scenario. ER Figure 4.6-1, "Receptor Grid for Air Dispersion Modeling," shows the modeling domain or area of analysis that was used for each of the scenarios. A single emission source footprint was established that encompassed each of the emission sources (see ER Figure 4.6-1); however, a modeling scenario was not conducted that includes all of these emission sources within this footprint. As a result, the NRC staff needs additional information to verify the adequacy of the current analyses to evaluate the air quality impacts of the potential emissions from the UNC proposal.

This information is needed in accordance with 10 CFR 51.45(b)1, which requires that the ER describes the proposed action's impacts.

RAI AQ-4

Clarify whether the air dispersion modeling results represent peak emission levels. If the results do not represent peak emission levels, provide a basis for this omission or provide such data.

According to the proposed project schedule as described in the 95% Design Report (MWH, 2018, Removal Action Schedule, Appendix K, Figure K-1), the project is estimated to last about 4 years. The number of activities that generate air emissions varies over this 4-year period. ER Section 4.6.2.3.3, "Modeled Emission Rates," states that short-term emission rates were used in the air dispersion modeling with variable emission rates to account for the hours of operation per day. ER Section 4.6.2.3.5, "Hours of Operation," discusses how hours of operations for anthropogenic activities were incorporated into the air dispersion modeling, but it is not clear from this discussion whether the air dispersion modeling results represent the peak emission levels (i.e., a bounding analyses).

This information is needed in accordance with 10 CFR 51.45(b) and 10 CFR 51.45(c), which require that the ER describe the proposed action's impacts and contain sufficient data to aid the NRC staff in its development of an independent analysis.

RAI AQ-5

Provide air dispersion modeling results for the UNC proposal (alternatives A to D) appropriate for comparison to Prevention of Significant Deterioration (PSD) thresholds for the UNC proposal and alternatives or provide a basis for not doing so.

The air quality description in ER Section 3.6.8, "Baseline Air Quality," discusses PSD thresholds as well as Federal and State ambient air quality standards; however, ER Table 4.6-9, "Air Dispersion Modeling Impact Results," only compares the air dispersion modeling results for the UNC proposal and alternatives to Federal and State ambient air quality standards. PSD thresholds are only compared to project-level emissions alone. This differs from ambient air quality standards that are compared to the combined project level emissions along with background pollution levels (as shown in ER Table 4.6-9). Another difference between PSD thresholds and ambient air quality standards is that they are based on different statistical values. Thus, modeling results specific for NAAQS are not comparable to PSD thresholds.

This information is needed in accordance with 10 CFR 51.45(b) and 10 CFR 51.45(c), which require that the ER describe the proposed action's impacts and contain sufficient data to aid the NRC staff in its development of an independent analysis.

RAI AQ-6

Revise ER Figures 4.6-3 to 4.6-6, 4.6-9 to 4.6-12, 5.6-1 to 5.6-4, and 5.6-7 to 5.6.10, or provide NRC with the vector data (or shapefiles) for these figures.

ER Figures 4.6-3 to 4.6-6, 4.6-9 to 4.6-12, 5.6-1 to 5.6-4, and 5.6-7 to 5.6.10 display the air dispersion modeling results (i.e., concentration ranges for PM_{2.5} and PM₁₀) for the UNC proposal and alternatives. However, these figures do not include the location of the nearest residences (e.g., as shown in ER Figure 4.12-1) or other potential receptors. This data is needed to assess impacts by comparing the location of receptors to the air dispersion modeling results. These figures are listed below:

Also, the NRC staff cannot decipher the modeling results information provided in these figures due to the poor quality and resolution of the figures. The NRC staff notes that the Total Suspended Particles (TSP) standard has been revoked, and thus updated TSP data are not needed.

This information is needed in accordance with 10 CFR 51.45(b) and 10 CFR 51.45(c), which require that the ER describe the proposed action's impacts and contain sufficient data to aid the NRC staff in its development of an independent analysis.

RAI AQ-7

Provide an analysis of air quality impacts by proposed project stages for the UNC proposal (alternatives A to D).

ER Section 4.6, "Meteorology, Climatology, and Air Quality Impacts," does not provide an analysis of air quality impacts for the various project stages, including construction, transferring mine waste, and closure of the proposed disposal area. The impact analysis should address the impacts by project stage (e.g., categorizing the emission sources in ER Table 4.6-6, "Proposed Action and Alternative Modeling Source Groups," by the various activities associated with that emission source). Impact analyses for each project stage should address the impacts from the applicable activities being conducted during that project stage and for all of the emissions sources (i.e., the UNC Mill Site, the NECR Mine Site, and the haul roads area; as well as these sources combined.

This information is needed in accordance with 10 CFR 51.45(b), which requires that the ER describe the proposed action's impacts.

RAI AQ-8

Clarify how Navajo Nation air quality requirements were considered.

The License Application Report (Stantec, 2018) references the 95% Design Report (MWH, 2018). The 95% Design Report, Appendix N, contains the Permitting Requirements and Compliance Plan, and it states that regulations set forth in the Navajo Nation Air Pollution Prevention and Control Act will be considered and the means of conformance are addressed in the 95% Design Report, Appendices J and Q. However, neither these appendices nor ER Table 4.6-1, "National Ambient Air Quality Standards and New Mexico Ambient Air Quality Standards," specify what regulations were considered, or whether there are any Navajo Nation Air Pollution Prevention and Control Act standards or regulations, and their interaction (supplemental, more restrictive than) with Federal and State standards.

This information is needed in accordance with 10 CFR 51.45(d), which requires that the ER describe the compliance with applicable environmental quality standards and requirements.

RAI AQ-9

Clarify non-radiological air monitoring and related corrective actions.

- *Clarify when monitoring occurs over the lifespan of the project.*
- *Provide clarification on the UNC response to monitoring results above action levels.*

UNC committed to non-radiological dust monitoring; however, it is unclear when non-radiological monitoring would occur during the project. The License Application Report (Stantec, 2018) contains portions of the 95% Design Report including the Removal Action Schedule (Appendix K of the license application document). Appendix K, Figure K.1-1, "Preliminary Removal Action Schedule," contains the project schedule, which identifies the 600 days when air monitoring would occur (Figure K.1-1, line item 19); however, it is unclear if this schedule applies to only radiological monitoring or both radiological and non-radiological monitoring. The License Application Report, Appendix Q, contains the Dust Control and Air Monitoring Plan. Appendix Q, Table Q.4-1, "Summary of Perimeter Air Monitoring Plan," describes the frequency of non-radiological airborne dust monitoring. This table states that non-radiological air monitoring for particulate matter PM_{2.5} and PM₁₀ starts 2 days prior to construction, occurs 24 hours per day for the first 3 days of significant earthmoving activities, and then occurs continuously during working hours thereafter. However, it is unclear exactly how this description of the non-radiological monitoring would be incorporated into the overall project schedule as presented in Appendix K, Figure K.1-1. Please clarify if non-radiological airborne dust monitoring occurs continuously during working hours over the 600 days specified in Appendix K, Figure K.1-1, or describe when non-radiological airborne dust monitoring occurs within the context of the project duration.

The Dust Control and Air Monitoring Plan, Section Q.4.2, "Nuisance Dust Monitoring," identifies the non-radiological airborne dust action levels and states that the monitoring results will be reviewed and assessed to determine potential health hazards or risks. UNC should clarify what, if any, actions will be taken if the non-radiological monitoring results exceed the action levels.

This information is needed in accordance with 10 CFDR 51.45(b), which requires that the ER describe the proposed action and its potential impacts on the environment.

RAI AQ-10

Identify any mitigation incorporated into the emission inventory used for the air dispersion modeling and specify the mitigation efficiency as well as the basis for this efficiency.

It is unclear what specific mitigation methods were incorporated into the emission inventory in ER Tables 4.6-5, "Proposed Potential to Emit Emission Rates," and 4.6-6, "Proposed Action and Alternative Modeling Source Groups," used as input for the air dispersion modeling for the UNC proposal and alternatives. Text in ER Section 4.6.1, "Meteorology, Climatology, and Air Quality Impacts Analysis," states that the impact analyses assumed that all mitigation methods, best management practices, and environmental protection measures would be followed as recommended. Similarly, ER Section 4.6.2.3.3, "Modeled Emission Rates," states that the emission inventory in ER Table 4.6-5, "Proposed Potential to Emit Emission Rates," includes reductions due to control practices. However, in both cases, identification of specific mitigation, the mitigation efficiency, and the basis for this efficiency was missing. ER Section 5.6.1.1, "General Emission Control Techniques," states that "emission control efficiencies" applied to the haul roads and screening operations are shown in ER Table 4.6-2, "Release Point Parameters." However, the NRC staff was unable to locate that information.

This information is needed in accordance with 10 CFR 51.45(b) and 10 CFR 51.45(c), which require that the ER describe the proposed action's impacts and alternatives available for reducing and avoiding adverse environmental impacts.

CLIMATE CHANGE (CC)

RAI CC-1

Characterize or estimate project level emissions of greenhouse gases for the UNC proposed action and alternatives.

ER Sections 3.6, “Air Quality,” 4.6, “Meteorology, Climatology, and Air Quality Impacts,” and 5.6, “Air Quality,” do not provide any information concerning project level greenhouse gas emissions. UNC should characterize or provide estimated greenhouse gas emission levels for the proposed action and alternatives. These estimates should include emissions from the sources included in the air dispersion modeling (see ER Table 4.6-6) as well as mobile sources and construction equipment discussed in RAI AQ-1 and construction activities discussed in RAI AQ-2.

This information is needed in accordance with 10 CFR 51.45(b), which requires that the ER describe the proposed action and its potential impacts on the environment.

VISUAL AND SCENIC RESOURCES (VS)

RAI VS-1

Provide a recent visual resource management (VRM) classification map for the proposed project area.

ER Section 3.9, “Visual/Scenic Resources,” states that, according to a previous NRC study (NRC, 2009), the NRC staff determined that there are no Class I or Class II VRM areas near the NECR Mine Site. Provide a more recent VRM classification map for the proposed project area or justify why the reference in the ER is sufficient. Also provide the distance from the UNC offices to the Church Rock Outlier Area of Critical Environmental Concern.

This additional information is needed in accordance with 10 CFR 51.45(b), which requires that the ER include a description of the affected environment and discuss the impacts of the proposed action.

RAI VS-2

Clarify whether the key viewpoints depicted in ER Figure 3.9-3 are all constructed features in the vicinity of the NECR Mine Site.

ER Section 3.9 states that the key viewpoints are not representative of individual structures but rather of a portion of sorted, grouped, and ranked structures. In addition, Figure 3.9-3, “Final Key Viewpoints,” is described as a map of the constructed features in the vicinity of the NECR Mine Site. However, it is unclear if Figure 3.9-3 is a map of all constructed features. Clarify how a key viewpoint is defined, what features were included, and what is displayed in Figure 3.9-3. If Figure 3.9-3 does not depict all of the constructed features in the vicinity of the proposed project area, provide a map (or shapefiles) of all constructed features in the area.

This additional information is needed in accordance with 10 CFR 51.45(b), which requires that the ER include a description of the affected environment and discuss the impacts of the proposed action.

SOCIOECONOMICS (SOC)

RAI SOC-1

Provide a copy of the “UNC, 2011” document referenced in ER Sections 4.10.1 and 4.11.2.2.

The licensee refers to a document in ER Sections 4.10.1, “Socioeconomics Impacts Analysis,” and 4.11.2.2, “Alternative A – Proposed Action,” as “UNC, 2011.” No reference is provided in the ER references section for this document. Please provide the full reference to the document (e.g., full title, author, and year of publication) if publicly available, or provide an electronic copy of the document to the NRC staff that can be made publicly available.

This additional information is needed in accordance with 10 CFR 51.45(b)(1), which requires that the ER contain sufficient data to aid the NRC in its development of an independent analysis.

PUBLIC AND OCCUPATIONAL HEALTH (POH)

RAI POH-1

Provide an analysis of expected non-radiological worker injuries and fatalities from the proposed project.

Non-radiological public and occupational health impact information that includes estimates of potential worker injuries or fatalities from the proposed project based on the best available information could not be located in the ER. ER Section 3.11.5, “Occupational Injury Rates and Occupational Fatality Rates,” states that no site-specific occupational health information is available but mentions the availability of general data from the Bureau of Labor Statistics. This section does not provide or summarize any of the data from this or other sources. The ER should provide separate estimates and a discussion of non-radiological worker injuries and fatalities for the activities occurring at each site (i.e., the NECR Mine Site and the UNC Mill Site inclusive of NECR mine waste haul road between the two sites) during each phase (construction, NECR mine waste transfer, and closure of the proposed disposal area) and provide a basis for those estimates.

This information is needed in accordance with 10 CFR 51.45(c), which requires analyses in ERs to be quantitative to the fullest extent practicable and contain sufficient data to aid the NRC in its development of an independent analysis.

COST-BENEFIT (CB)

RAI CB-1

Provide additional details concerning the calculations and assumptions made for the cost comparison calculations for Alternative B and Alternative C, as discussed in ER Table 7.0-1.

Details on the cost comparison calculations for Alternatives B (i.e., using the conveyor system) and C (i.e., using the Jetty Area for material sourcing) are provided in Sections D.1 and D.2, respectively, of ER Appendix D, “Cost Comparison Calculations.” However, ER Appendix D does not provide sufficient information for the NRC staff to (i) independently follow how the cost

estimate for Alternative C in ER Table 7.0-1, “Summary of Estimated Costs for Alternatives,” was calculated, and (ii) understand the rationale for how the values for some of the input parameters {i.e., values for any cost per loose cubic yard, cost per ton, and cost per square meter [or square foot], and cost per meter [or foot] were determined. UNC should provide additional information specifying how the costs in ER Table 7.0-1 were calculated and provide a justification for the sources of information used to establish input parameters used for these cost estimations (e.g., unit costs).

This information is needed in accordance with 10 CFR 51.45(c), which requires that the ER include consideration of the benefits and costs of the proposed action as well as contain sufficient data to aid the NRC in its development of an independent analysis.

REFERENCES

10 CFR 2.390. Code of Federal Regulations, Title 10, *Energy*, Part 2.390. “Public Inspections, Exemptions, Requests for Withholding.” Washington, DC: U.S. Government Printing Office.

10 CFR Part 51. Code of Federal Regulations, Title 10, *Energy*, Part 51. “Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions.” Washington, DC: U.S. Government Printing Office.

FEMA. “FEMA’s National Flood Hazard Layer (NFHL) Viewer.” Washington, DC: Federal Emergency Management Agency. 2019. <<https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd>> (Accessed 10 May 2019)

INTERA. “Supplemental Environmental Report for the United Nuclear Corporation Site Source Material License Amendment Request.” ADAMS Accession No. ML18267A235 Package. Albuquerque, New Mexico: INTERA Geosciences and Engineering Solutions. September 2018.

MWH. “Northeast Church Rock 95% Design Report.” Fort Collins, Colorado: MWH, now part of Stantec Consulting Services Inc. July 2018.

NRC. “Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities, Final Report”. NUREG–1910, Volume 1. ADAMS Accession No. ML15093A359. May 2009.

NRC. “Guidance for Electronic Submissions to the NRC.” ADAMS Accession No. ML13031A056. Washington, DC: U.S. Nuclear Regulatory Commission. 2011.

Stantec. “Application for Amendment of USNRC Source Material License SUA–1475, Volume 1 and Volume 2.” ADAMS Accession No. ML18267A235 Package. Edmonton, Canada: Stantec Consulting Services Inc. September 2018.