



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
SUPERFUND DIVISION
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

August 20, 2012

Sent via Email Only

Red Water Pond Road Community Association
c/o the Executive Committee
Church Rock, New Mexico

RE: Response to Red Water Pond Road Community Association Comments on the
Surface Operable Unit Proposed Plan for the United Nuclear Corporation Superfund Site

Dear Red Water Pond Road Community Association:

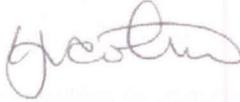
On August 10, 2012, the Environmental Protection Agency (EPA) received the meeting minutes from the August 8, 2012, Red Water Pond Road Community Association (RWPRCA) meeting. These meeting minutes were approved by the Executive Committee, and submitted to EPA by Krissy Russell-Hedstrom representing Skeo Solutions, the Technical Assistance Services for Communities contractor.

During this meeting, members of the RWPRCA discussed the upcoming Public Meetings scheduled on August 29, 2012, and August 30, 2012. The purpose of these Public Meetings is to discuss and present to the community, for review and comment, the Surface Operable Unit Proposed Plan (Proposed Plan) for the United Nuclear Corporation (UNC) Superfund Site. This is another step EPA must undertake towards disposal of Northeast Church Rock (NECR) Mine Waste at the UNC Site. This step was presented in the Non-Time Critical Removal Action Memorandum for the NECR Site dated September 29, 2011. During the RWPRCA meeting discussions, the members formulated some initial comments regarding the Surface Operable Unit Proposed Plan and made some recommendations regarding the Public Meetings.

Please find included with this letter, responses to your comments and recommendations identified in the August 8, 2012, Meeting Notes. The responses are provided by first summarizing the comment or recommendation followed by its corresponding response.

We look forward to working with you. We appreciate your interest, input, and dedication to this project.

Sincerely,



Katrina Higgins-Coltrain
Remedial Project Manager
LA/NM/OK Section

Cc: Sara Jacobs, US Environmental Protection Agency
Earle Dixon, New Mexico Environment Department
Eugene Esplain, Navajo Nation Environmental Protection Agency
James Costello, US Environmental Protection Agency
Krissy Russell-Hedstrom, Skeo Solutions
Chris Shuey, Southwest Research and Information Center
Deborah Steckley, Department of Energy
Yolande Norman, Nuclear Regulatory Commission

Enclosure: Response to Red Water Pond Road Community Association Comments on the Surface Operable Unit Proposed Plan for the United Nuclear Corporation Superfund Site

*The choice of words, “Surface Soil” and “low level threat mine waste,” tend to minimize the level of hazards and toxicity of the mine waste.

EPA Response: Thank you for bringing this to our attention. These words can be changed.

1. Since this proposed plan is specific to the surface and does involve the cleanup of mine waste from the NECR Site, the title can be change to remove the word ‘soil’. This would then be called the Surface Operable Unit Proposed Plan.
2. The term ‘low-level’ can be removed. The use of this term is not intended to define the level of toxicity or risk related to the contamination, but rather to assist the Agency in identifying the need for treatment remedies. EPA agrees that the mine waste at the NECR Site poses an unacceptable risk to human health and needs to be cleaned up. In the NECR Non-Time Critical Removal Action Memorandum, the EPA also decided that the material having the highest concentrations of contaminants will not be disposed on the UNC Site, but will be disposed at an off-site licensed facility.

*The Proposed Plan does not include alternative disposal scenarios other than applying mine wastes in a layer on top of the tailings, such as construction of lined disposal cells.

EPA Response: Yes, this is true. However, in the Region 9 NECR EE/CA process, several alternatives were considered and provided for review and comment prior to selecting disposal of NECR mine waste at the UNC Site in NECR Non-Time Critical Removal Action Memorandum. The UNC Proposed Plan evaluates whether the NECR mine waste is or is not disposed at the UNC Site. Some of the information relied upon in the Proposed Plan, includes an evaluation and review of the disposal of the NECR mine waste and any affects that disposal may have on the ground water cleanup activities or the existing disposal cells at the UNC Site.

1. The proposed plan explains that two locations within the UNC Site property boundary were evaluated as alternate disposal locations. One location was identified as the mill facility area. This area was determined to be too small to accommodate the volume of mine waste that would need to be disposed there. The second area was identified as the portion of land just northeast of the North Cell. This area contains all of the wells associated with the current ground water remedial action. If mine waste were to be placed in this area, all of these well would need to be removed and current ground water remediation would have to stop. This would also limit any future implementation of potential ground water cleanup remedies because the new disposal cell would be placed above the current ground water contamination area.
2. Placement of the mine waste on top of the Tailings Disposal Area will be

constructed with a soil liner that separates the NECR mine waste from the tailings. This layer will be constructed of natural materials, not synthetic, to eliminate the sudden failure risk associated with punctures, rips, settling or shifting. This layer will be compacted to further limit the potential for water infiltration and migration through the mine waste and into the ground water. [NOTE: The layer will meet a hydraulic conductivity¹ of no more than 1×10^{-7} centimeters per second (cm/s)].

3. In conjunction with this natural liner, the cap will be constructed as a multi-layer containment system that will be designed based on environmental influences, such as climate, soil type, and waste type. The cap will be designed for durability and stability with an expected goal of lasting at least 200 years with minimal maintenance and of being effective up to one thousand years. The design and construction will also limit the potential for the infiltration of water, provide for controlled surface water runoff and drainage to limit the potential for erosion, and provide for stability through compaction and vegetative growth. That is, the cap covering the waste will be designed to keep water out of the disposal cells, so that there will be very little moisture for the liner to collect.

*The Proposed Plan appears to treat the 2009 EE/CA as if it were a Remedial Investigation/Feasibility Study, and it is not clear if the two are equivalent in scope and rigor. Additionally, the EE/CA was issued in 2009, several years before the development of the current Proposed Plan and may not have considered more recent investigations of the feasibility of disposing mine waste on the tailings pile.

EPA Response: Yes, the proposed plan relied on the technical analysis and data collection activities conducted for the NECR Site and reported in the Removal Site Evaluation Report dated October 2007. In addition, the proposed plan relied on information and technical assessments presented in the NECR Site EE/CA. Additional information was provided in the responsiveness summary and supporting documentation prepared by EPA as part of the Non-time-Critical Removal Action Memorandum for the Northeast Church Rock Mine Site dated September 29, 2011.

1. The proposed plan provides a significant discussion related to the evaluation and investigations that were conducted as part of the NECR Removal Site Evaluation (RSE: 2007) and EE/CA (2009), and how these actions are consistent with and analogous with the remedial investigation/feasibility study (RI/FS) process.
 - a. The purpose of the RI/FS is to assess site conditions, including an evaluation of health risks, and evaluate alternatives to the extent necessary to select a remedy. The NECR RSE and EE/CA address site characterization describing field investigations and studies conducted at the NECR Site. Because the mine waste characterized in the NECR RSE

¹ Hydraulic conductivity is defined as the rate of movement of water through a porous medium. A hydraulic conductivity of 1×10^{-7} cm/s indicates that water will move at a rate of 0.0000001 centimeters over a time of one second.

and EE/CA is the mine waste that will be brought to the UNC Site, it is appropriate to use the information gathered during the NECR investigation. The human health risk evaluation undertaken at the NECR Site as part of the RSE and EE/CA describes the potential risk posed by the mine waste that EPA proposes to bring to the UNC Site if no action were to be taken to encapsulate or otherwise protect the public from that mine waste. Because the mine waste evaluated in the NECR risk assessment is the mine waste that will be brought to the UNC Site, it is appropriate to use the information gathered during the NECR Human Health Risk Evaluation.

- b. The primary objective of the feasibility study is to ensure that appropriate remedial alternatives are developed and evaluated such that relevant information concerning the remedial action options can be presented to a decision-maker and an appropriate remedy selected. In the EE/CA, the short and long-term aspects of the criteria related to effectiveness, implementability, and cost were used to guide the development of the alternatives considered for the disposal of the NECR Site mine waste. In doing this, the remedial action screening criteria were effectively applied to all alternatives being considered. The disposal of the NECR mine waste at the UNC Site was among the alternatives evaluated.
 - c. The part of the remedy selection process known as the detailed analysis consists of an assessment of individual alternatives against each of nine evaluation criteria and a comparative analysis that focuses upon the relative performance of each alternative against those criteria. After going through this remedy development and selection process in the NECR Site EE/CA, EPA selected disposal of the NECR mine waste in the disposal cells in the Tailings Disposal Area at the UNC Site. As explained in the 2011 Non-Time-Critical Removal Action Memorandum, however, that disposal is contingent upon “issuance of an appropriate decision document by EPA Region 6 consistent with the NCP, 40 CFR Part 300.” As provided in the National Contingency Plan (NCP) [40 CFR 300.430(e)(6)], EPA must consider at least a no-action alternative as part of the process of selecting a remedy at a National Priorities List site. Although a no-action alternative was considered for the NECR Site, the EE/CA did not consider a no-action alternative for the UNC Site. Accordingly, this Proposed Plan describes the NCP-consistent analysis that EPA has undertaken with respect to those two remedies: 1) no action to dispose of NECR mine waste at the UNC Site, and 2) disposal of the NECR mine waste within the disposal cells at the Tailings Disposal Area at the UNC Site.
2. The EPA and the other regulatory agencies involved in the NECR cleanup share the community’s concerns that the design of the NECR disposal cells at the UNC Site be robust enough to protect against any migration of contamination to the surrounding land, air, surface water, or ground water. Many community

comments and concerns were received over the extended 24-month discussion period related to the evaluations and alternatives presented in the EE/CA. During this time and in response to these comments, EPA performed additional data analyses.

- a. EPA performed additional evaluations on 11 alternate disposal locations that could potentially be used for disposal of the NECR Site mine waste (EPA, 2011a). These alternate locations included licensed facilities, current Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) Sites with similar mine waste disposal, and locations where new licensed facilities potentially could be built (EPA, 2011a). Evaluations included reviews of the legal and administrative restrictions and procedures that would need to be completed for each of these potential disposal locations. Based on the review, the UNC Site was identified as the most appropriate disposal location.
 - i. Disposal at licensed facilities was determined to present excess risks and to be cost prohibitive due to the long distances that the mine waste would have to be hauled if these other facilities were used. All of these facilities were in excess of 430 miles.
 - ii. Disposal at facilities where similar mine waste is already disposed would require an NRC license amendment to accept the mine waste, and it would also require EPA's determination that the facilities were 'acceptable' under the Off-site Rule. To be identified as acceptable under the Off-Site Rule, a facility must be in compliance with environmental regulations including its disposal permit, and the facility cannot have any releases that are not under remediation or under control; moreover, there can be no releases (controlled or otherwise) from the receiving unit. The UNC Site was identified as preferable to other identified facilities because these other facilities had limited capacity to accept the mine waste, because some of these other facilities were releasing contamination, and because some of these facilities would require NRC license amendments to either accept the mine waste or re-open a closed disposal location to accept the mine waste.
 - iii. Disposal at new locations with the construction of a disposal cell would require that the new areas be investigated to determine their suitability as disposal locations. In addition, permits, either an NRC License or a Resource Conservation and Recovery Act Permit, or both, would be required. Implementation of this option would extend the cleanup process considerably due to additional planning, investigation and permitting requirements.
- b. Various locations within the boundary of the UNC Site, other than the Tailings Disposal Area, were evaluated to determine if these other locations could be used for disposal. Two areas on the UNC Site were identified as potentially large enough to accommodate the volume of mine

waste expected to be excavated from the NECR Site. One location considered is found just to the northeast of the Tailings Disposal Area's North Cell. Disposal in this location would not be acceptable as it would require the plugging and abandonment of all wells associated with the ongoing ground water remedial action. If mine waste were to be placed in this area, all of these well would have to be removed and current ground water remediation would have to stop. This would also limit any future implementation of potential ground water cleanup remedies because the new disposal cell would be placed above the current ground water contamination area. The second location was identified as the mill facility area. This area was determined to be too small to accommodate the volume of mine waste that would need to be disposed.

- c. EPA reviewed documents related to the construction of the Tailings Disposal Area, in order to determine the load effect that the additional mine waste from the NECR Site would have on the tailings already disposed in the Tailings Disposal Area.
 - i. At the request of EPA, engineers contracted by United Nuclear Corporation/General Electric developed computer models that simulated potential settlement of the mine waste. The computer models were also designed to determine if water would be released from the tailings present in the Tailings Disposal Area because of the added weight and pressure that would be added as a result of disposing of the NECR mine waste on top of these tailings (Dwyer, 2011). The models that were developed are based on site documented data and literature values which were evaluated over a variety of scenarios. Based on these scenarios, the additional disposal of NECR mine waste would result in minimal compaction and would not result is the release of excess water from the tailings located within the disposal cells. EPA recognizes the limitations of the simulations and model results. During remedial design, additional data will be collected from the site and will be used to further refine, support, and verify these conclusions.
 - ii. EPA also reviewed the Mill Decommission Report (UNC, 1993) and the Borrow Pit No. 2 Final Reclamation Report (Smith, 1996b). These historic reports describe the manner in which tailings and debris (*e.g.*, concrete, steel, and wood) was disposed within the Tailings Disposal Area. Based on this documentation, it appears that the debris was placed in the Tailings Disposal Area in layers, flattened, mixed and covered with soil, and compacted resulting in a stable cell. This stability is evident in the fact that there has been minimal settlement over the almost 20 years since disposal. Consequently, it is expected that the additional weight that the mine waste from the NECR Site will add to the tailings that are presently in the UNC Site Tailings Disposal Area will have

- a negligible impact on the stability of the tailings cells (EPA, 2011b). Placement of mine waste within the Tailings Disposal Area will be designed and constructed in such a manner that it will promote material stability and reduces the potential for future subsidence and irregular settlement.
- iii. Disposal of the NECR Site mine waste at the UNC Site Tailings Disposal Area is not expected to interfere with or affect the ongoing remediation efforts regarding tailings or ground water at the UNC Site based on the conclusions from these additional analyses and reviews.
- d. EPA reviewed documents related to the historic releases of tailings liquids from the Tailings Disposal Cells into the ground water.
- i. With the cessation of mine dewatering, ground water recharge from this surface water source through Pipeline Arroyo no longer occurs (except during precipitation events). Water levels in all three aquifers under the UNC Site have continued to decline. Current ground water levels in the Southwest Alluvium, Zone 3, and Zone 1 are below the bases of the Tailings Disposal Area cells. Since mine dewatering ceased upgradient of the Tailings Disposal Area, and since the tailings cells were reclaimed, the ground water table lies as much as 17 to 70 ft below the disposal cells in the Tailings Disposal Area. This is important because it means that mine waste from the NECR Site can be stored in the cells at the Tailings Disposal Area without direct contact with the ground water. Presently, these conditions remain unchanged and without a substantial rise in the water table, contact between the ground water and the tailings will not occur (Chester, 2011).
 - ii. In 2004, the UNC Site was investigated to determine whether the tailings continued to release contaminated water from the North and Central disposal cells into the Zone 3 aquifer. Locations where tailings contaminated water could possibly be released were identified and monitored. Since construction, water levels have been measured at these locations; however, too little water is present within these monitoring locations for sampling. This continues to be the case and indicates that an ongoing source of tailings contaminated water is not occurring.
 - iii. Disposal of the NECR Site mine waste at the UNC Site Tailings Disposal Area is not expected to interfere with or affect the ongoing ground water remediation efforts regarding tailings or ground water at the UNC Site based on the conclusions from these additional analyses and reviews.
- e. Consideration of community opposition to onsite disposal within the NECR Site.

*How NRC's regulations and NMED's regulations are applied by EPA Region 6 is not clear.

EPA Response: As part of the development of the remedial alternatives presented in the proposed plan, preliminary applicable or relevant and appropriate requirements (ARARs) were identified. Table 1 at the end of the Proposed Plan identifies the preliminary list of regulations that the remedy will need to satisfy. This table identifies both NRC requirements, which are primarily codified under UMTRCA, and State requirements. In addition, EPA is working closely with NRC and NMED to ensure their regulations are applied appropriately and their concerns are addressed.

*Mine wastes are being transferred from a Region 9 regulated site to a Region 6 regulated site, and this raises questions about differences in rules regulations between the two regions.

EPA Response: Both Region 6 and Region 9 operate under the same regulations. The pertinent regulations in this situation are generally found in Title 40 of the Code of Federal Regulations (CFR) Part 300, also known as the National Oil and Hazardous Substances Pollution Contingency Plan or NCP.

*The methods of transport of mine wastes to the tailings pile and the impacts on the local roads are not addressed in any specificity in the Plan.

EPA Response: True, a transportation plan has not been developed, but will be developed during design. The community will be involved and consulted during the development of the final transportation plan. Community comments and concerns will be incorporated as practicable. In addition, the transportation plan will be incorporated into the UNC Site license amendment process.

1. The specific method of transport is not identified in this proposed plan so as not to restrict this action to one specific means of transport. The transportation action should be consistent with and supportive of the activities that will need to be conducted during excavation and disposal. Transportation activity may result in some inconvenience for and directly impact the local residents during the construction time frame and includes nuisance construction noise, increased truck traffic on local roads, potential traffic detours or re-routing, and potential accidents or spills. The specific means of transportation will be evaluated during the design. The evaluation will include an opportunity for community input
2. Although the specific transportation process has not been identified, the following actions will be taken during remedial action.
 - a. All mine waste will be transported in such a manner to minimize the production of dust. The types of actions that can be used to suppress dust include the use of covers and spraying transportation routes with water. A transportation plan will be developed to identify the routes of travel, times

of operation, and traffic rules. Emergency spill containment and cleanup contingencies will also be included in the transportation plan to address the unlikely event of mine waste spills.

- b. Perimeter air monitoring stations will be positioned and operated to monitor emissions during construction activities to maintain a safe working environment and to protect human health and the environment.

In addition to the initial comments provided above, several recommendations were made regarding the Public Meetings scheduled for August 29, 2012, and August 30, 2012.

* RWPRCA favors having Katrina Coltrain-Higgins give a slide presentation at both hearings, and to supplement her slides with handouts.

EPA Response: During the August 29, 2012, and August 30, 2012 meetings a short slide presentation on the Surface Operable Unit Proposed Plan will be conducted. Handouts of the slides will be made available to those attending the meeting.

* Regarding the Pinedale hearing, RWPRCA recommends that the agenda should go to 9 p.m. to maximize community input.

EPA Response: Jason Mckinney has coordinated with the Pinedale Chapter House and has made arrangements for the use of the meeting space until 9:00 p.m. the night of the meeting.

* RWPRCA recommends that EPA Region 6 find a much larger venue for the August 30 hearing. The Gallup Public Library is too small.

EPA Response: Jason Mckinney contacted the following locations regarding the use of a meeting room for the August 30, 2012, Public Meeting.

- University of New Mexico in Gallup: Two options were available: an auditorium or a class room. The auditorium is not suitable because it closes at 5:00 p.m. and would require security key card access. The class room is suitable, but can seat the same number of attendees as the meeting space already reserved at the Octavia Fellin Public Library.
- Army National Guard Armory in Gallup: The Armory does have a gymnasium available, however seating would not be provided. Because there is not seating, this location is not suitable for a Public Meeting.
- Sleep Inn in Gallup: conference rooms are not available.
- Gallup Recreation Center: conference rooms are not available
- Gallup Community Service Center: A conference room is available for a fee. At this time, we are not able to accommodate the fee.
- City of Gallup: conference rooms are not available.

Jason confirmed that the meeting space at the Octavia Fellin Public Library is large

enough to fit 50 people. It is EPA's understanding that this room is about the same size as the room at the Pinedale Chapter House, which is reserved for the August 29, 2012, Public Meeting.

The August 30, 2012, Public Meeting will be held at the Octavia Fellin Public Library. During the August 29, 2012, and August 30, 2012, Public Meetings, the same materials will be provided to the attendees, and the same slide presentation on the Surface Operable Unit Proposed Plan will be presented. The EPA decided to conduct two Public Meetings in order to accommodate all interested community members and provide some flexibility for the community when deciding which night would be best for them to attend.

* RWPRCA recommends that EPA (1) schedule an "Open House" from 5 to 5:30 p.m.; (2) start the hearing at 5:30 and go to 8 p.m.; (3) provide index cards so people can write down their comments and questions; and (4) ensure that any comments and questions made by the public during the Open House, and all responses by EPA officials, be preserved and summarized at the start of the hearing so that those comments, questions and responses are incorporated into the record of the hearings.

EPA Response: Prior to each of the Public Meetings, EPA will be available from 5:00 p.m. until 6:00 p.m. This time will be open to any community member that wishes to arrive early to the meeting. This is an opportunity for community members to have one-on-one discussions with EPA regarding the Surface Operable Unit Proposed Plan. All comments, questions and concerns discussed and received during this time will be documented for the record and will be incorporated into the Responsiveness Summary.

The Public Meetings will begin at 6:00 p.m. The start time for the Public Meetings was published in the local papers and will not be changed. If the start time for these meetings is changed, we may not be able to notify all community members that are interested in attending. If community members are not notified, or are unaware of the change, then they may arrive late to the meeting and miss portions of the discussion. We want all interested community members to participate in the Public Meetings.

The EPA will provide the attendees with index cards and/or comment papers during the Public Meeting. These materials can be used by the attendees to write and record comments regarding the Surface Operable Unit Proposed Plan. These written comments will become part of the record and will be incorporated into the Responsiveness Summary.

References

Chester Engineers, 2011. Technical Memorandum Summarizing Two Reports on Zone 3 Tailings Seepage Sourcing and Groundwater recharge, with information Update. August 18, 2011.

Dwyer, Stephen F., 2011. Evaluation of Consolidation And Water Storage Capacity Related To Placement Of Mine Material on the Existing UNC Mill Site Tailings Impoundment. May 2011.

MWH, 2007. Final Removal Site Evaluation Report, Northeast Church Rock Mine Site, prepared for United Nuclear Corporation. October 1, 2007.

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U.S. Environmental Protection Agency, 2009. Engineering Evaluation/Cost Analysis Northeast Church Rock Mine Site, Gallup, New Mexico. May 30, 2009.

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