



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

MEMORANDUM

DATE: July 23, 2009

SUBJECT: Request for a Time-Critical Removal Action at the Northeast Church Rock Step-Out Area, McKinley County, New Mexico, Navajo Nation Indian Reservation

FROM: Andrew Bain, Remedial Project Manager
Arizona and Navajo Section (SFD-6-2)

THROUGH: Dawn Richmond, Chief
Arizona and Navajo Sites Section (SFD-6-2)

TO: Elizabeth Adams, Assistant Director
Superfund Division
Partnerships, Land Revitalization & Cleanup Branch (SFD-6)

I. PURPOSE

The purpose of this Action Memorandum is to describe the hazardous conditions at a portion of the Northeast Church Rock Mine ("NECR Mine Site" or "Site") that require the proposed interim response actions ("IRA"), which we anticipate will be performed pursuant to a proposed Administrative Settlement Agreement and Order on Consent with United Nuclear Corporation ("UNC") and General Electric Company ("GE"). This Action Memorandum also seeks approval to spend up to \$300,000 in direct costs to oversee PRP actions to mitigate threats to human health and the environment posed by the presence of hazardous substances at the portion of the NECR Mine at which the IRA will be performed (referred to herein as the "IRA Area"). The proposed IRA would include activities in the following areas of concern prior to implementation of the NECR non-time critical removal action involving the majority of the NECR Mine:

- 1) NECR 1 Pile "Step-Out" Areas;
- 2) Unnamed Arroyo #1;
- 3) NECR 1 Pile regrade and cover; and
- 4) Red Water Pond Road characterization area

The Site is located on the Navajo Nation, on Red Water Pond Road, in Coyote Canyon Chapter, McKinley County, New Mexico.

The proposed removal of hazardous substances would be undertaken pursuant to Section 104(a)(1) of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. § 9604(a)(1), and Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP"), 40 CFR § 300.415.

II. SITE CONDITIONS AND BACKGROUND

Site Status: Non-NPL
Category of Removal: Time-Critical
CERCLIS ID: NNN000906132
SITE ID: SR

A. IRA Area and Site Description

1. Physical Location

The Site includes the NECR Mine and all areas where hazardous substances from that mining operation have come to be located. A portion of the IRA Area is located on the Navajo Indian Reservation immediately north of Sections 34 and 35, Township 17 North, Range 16 West in McKinley County, New Mexico. Another portion of the IRA Area is located south of the Reservation boundary and includes the NECR1 Pile and the sedimentation ponds. The IRA Area also includes approximately a 2,000 foot segment of Red Water Pond Road (RWPR) north of the intersection with State Highway 566, as well as the immediately vicinity of this segment of the road. The IRA area and the Site are situated approximately 20 miles northeast of Gallup, McKinley County, New Mexico. See Figure 1 for Site Location Maps.

2. IRA Area Characteristics

The IRA Area consists of an "arroyo" (an intermittent water course), the NECR1 "Step-Out" Areas (soils north and northeast of the 125-acre NECR Mine permit boundary), RWPR and the NECR 1 Pile (see Figure 1). The IRA Area is located primarily within the Navajo Nation Reservation, bounded to the east-northeast by RWPR, north of Sections 35 and 36 and north of NM Rt. 566. A portion of the IRA Area, the NECR 1 Pile area, is located on the mine lease on Section 35, which is Tribal Trust land.

The Unnamed Arroyo #1 ("Arroyo") is situated north-northeast of the former NECR uranium mine. It drains west to east from the Boneyard/Non Economic Material Storage Area to its discharge point into a second, unnamed arroyo (Unnamed Arroyo #2) past the residential area. The Step-Out Area extends approximately 1,000 feet east from the NECR-1 "Step-Out" boundary, and includes Red Water Pond Road to the east.

Contaminated material originating from the NECR Mine has been observed in the Arroyo sediments and has migrated to the step-out areas surrounding several homesites. The four homesites situated within or near the IRA Area were the focus of a Time Critical Removal Action in summer 2007 to remove and dispose of surface soils. At that time, approximately one-half acre was scraped around each homesite. In Figure 4, the un-shaded areas surrounded by the tan fill indicate the previous EPA-mitigated areas or the areas found to be below the Action Level. The NECR mine lease occupies 125 acres and is situated approximately 1/4 mile south-southwest of the homesites.

The NECR mine is a historic uranium mine and it is considered to be the major source of the soil contamination at the Site. United Nuclear Corporation (UNC) operated the mine from 1968-1982, serving as the principal mineral source for the UNC uranium mill facility, located adjacent to the NECR Mine. The UNC mill facility is a National Priority List site, co-managed by U.S. EPA Region 6 and the Nuclear Regulatory Commission (NRC).

The NECR mine consists of two shafts, two uranium ore waste piles, several mine vent holes and a production well developed at approximately 1,800 feet used to dewater the mine workings during operations. The northwest portion of the NECR Mine, representing a steep 30 to 40 foot face reportedly constructed of mining overburden, is partially located within the Arroyo. The Arroyo travels through the Site between several residences.

The Site is believed to be impacted by wind and water erosion from the NECR Mine during weather events. Both historical sampling, the Removal Site Evaluation (RSE) sampling and Supplemental RSE (SRSE) investigations indicate that elevated levels of Radium-226 are present throughout the NECR Mine area (see Attachment II).

The Arroyo, the NECR1 Step-Out area and RWPR are downgradient and downwind (based on the prevailing wind) from the NECR mine. Another former uranium mine (NE Church Rock I or Quivira, originally operated by Kerr-McGee Corp.) was situated in close proximity to the Site. Materials were reportedly dispersed on RWPR by the haul trucks on their way to the Kerr McGee mill or the road bed may be constructed of waste ore. See Attachment III for the Site Photolog.

Analyses conducted in accordance with the Quality Assurance Project Plan (QAPP) were presented in the RSE Work Plan (MWH, 2006). The SRSE also included 195 static gamma radiation level measurements in the area north of NECR-1 to supplement the 149 step-out static gamma radiation measurements performed during the RSE.

Pursuant to the agreed-upon SRSE work plan, the supplemental gamma radiation survey at NECR-1 extended to boundary delineation as follows:

- To the Unnamed Arroyo #1, to the west;

- To the east-west trending Unnamed Arroyo #2, to the North; and
- To one row of measurements immediately east of Red Water Pond Road.

3. Removal Site Evaluation and Supplemental Removal Site Evaluation

UNC, a Potentially Responsible Party (PRP), conducted the RSE at the NECR Mine with U.S. EPA and NNEPA oversight. In addition to the NECR Mine area, the RSE included soil sampling and analyses of the Arroyo sediments, the residential Step-Out areas and RWPR. Field sampling activities began at the Site in November 2006, conducted by MWH, Inc., as consultants to the PRP. MWH collected additional field sampling in November 2007 and April 2008. The work plan was developed and executed pursuant to an Administrative Order on Consent (AOC) between U.S. EPA and the PRP.

MWH collected analytical samples and conducted gamma surveys during the RSE and SRSE field investigations. The gamma survey consisted of static direct gamma radiation level measurements (gamma survey). This gamma survey method provides the aerial distribution of Ra-226 concentrations in the top six inches of the soil column and allows greater characterization of the areas compared to relying on surface soil sampling alone. The survey was conducted as described in Section 5.3.3 of the RSE Work Plan and is consistent with MARSSIM guidance.

The gamma survey measurements were collected at 80-foot triangular grid nodes cast on a random origin in accordance with MARSSIM, using the same protocol as the other survey areas specified in the RSE Work Plan. The locations of the gamma survey points are shown on Figure 2, *Static Gamma Measurement Locations*. In the area north of NECR-1, the gamma survey was extended west to the Unnamed Arroyo #1, north to the second unnamed arroyo that runs east-west (Unnamed Arroyo #2), and east to the side of Red Water Pond Road. The areas around the homesites where U.S. EPA conducted removal actions were excluded from the gamma survey, as shown on Figure 3, based on U.S. EPA's confirmation sample results. Details of the instrumentation configuration and Standard Operating Procedures (SOPs) are described in the RSE Work Plan.

Surface soil sampling was also conducted in the three survey areas included in the SRSE. Surface soil samples were collected at approximately 20 percent of the gamma survey points and collected manually as grab samples from 0 to 0.5 feet below ground surface (bgs), as per the RSE Work Plan (MWH, 2006). The locations of the surface soil samples are shown on Figure 3, *Surface Soil Sample Locations*. The samples were submitted to Energy Laboratories, Inc. and analyzed for:

- Radium-226 by U.S. EPA Method 901.1; and
- Total uranium by U.S. EPA Method 6020/200.8.

4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

The residential Preliminary Remediation Goal (PRG) for radium-226 is 0.0124 Pico Curies per gram (pCi/g). The field screening level (FSL) for the Site was 2.24 pCi/g. The Site screening level is the sum of the Site-specific background mean and a risk-based value representing the upper end of the risk range (i.e., the 1 in 10,000 excess cancer risk for radium in residential exposure scenarios). The Site specific background mean was 1.0 pCi/g and the risk-based value was 1.24 pCi/g¹. The entire RSE and SRSE datasets are included as Attachment II.

NECR1 Pile Step-Out Area: 41 samples were collected from the area. Radium concentrations ranged from 0.7 to 28.5 pCi/g (average 4.7 pCi/g); 20 out of 36 primary samples (55%) exceeded the FSL.

Unnamed Arroyo #1: 15 surface soil samples were collected from the Unnamed Arroyo #1 during the correlation sampling in August 2006, and analyzed for Ra-226. Ra-226 ranged from 9.7 to 26.4 pCi/g (averaged 16.8 pCi/g); 100% exceeded the FSL. Ten hand auger holes were advanced each to 3 feet bgs from the edge of NECR-1 to near the confluence with the next arroyo. Ra-226 concentrations ranged from 8.4 to 35.7 pCi/g (average 16.4 pCi/g); all 30 samples exceeded the FSL.

Four additional borings were conducted in the Unnamed Arroyo in April 2008; one advanced to 45 feet bgs. Ra-226 ranged from 1.1 to 7.0, found at a maximum depth of 15 feet. The RSE and SRSE results indicate that soils in excess of the FSL are present to approximately 6 feet bgs at the downstream end of the Unnamed Arroyo #1 to approximately 16 feet bgs near NECR-1 (bgs referring to the bottom of the existing arroyo channel). Observations of the lithologies during drilling indicate that bedrock is present from approximately 25 feet bgs at the downstream end to approximately 45 feet bgs near NECR-1.

Red Water Pond Road: According to the SRSE report, 100% of the gamma radiation measurements (Ra-226 equivalent) performed adjacent to the east and west sides of Red Water Pond Road, as well as the surface soil samples (Ra-226) collected adjacent to the road exceeded the field screening level (FSL) of 2.24 pCi/g. Elevated Ra-226 in soils near and beneath Red Water Pond Road may be associated with the historical use of this road as a haul road for former mine located to the north of the NECR Mine. Due to the proximity of NECR to the southern portion of RWPR and based on local drainage patterns in this area, past operations at the NECR Mine could have caused some impacts. Additional characterization of RWPR is required to assess the scope of future removal activities.

Background: It is notable that the Site-specific background level was determined based on a background survey conducted on August 17, 2006. On that

¹ The residential PRG is 0.0124 pCi/g. This represents the 1 in 1,000,000 risk and is below the analytical detection limit (0.1 pCi/g). EPA policy states that a 1 in 10,000 risk is acceptable as a Removal Action objective, therefore, the PRG was scaled up to the 1 in 10,000 risk range to give a risk-based value of 1.24 pCi/g.

date, 25 surface soil samples were collected from an area located southwest of the NECR Mine. The area was judged to be un-impacted by mining activities and situated upwind from the NECR Mine. The Technical Memorandum background report is included in the Site Administrative Record.

5. NPL status

The NECR Mine is not separately listed on the National Priorities List (NPL). However, the NECR Mine Site is adjacent to the UNC NPL site, and contamination from the mill operations have been disposed on the mine site, and contamination from the mine operations have come to be located at the mill site. In 2006, Navajo Superfund Program conducted a pre-CERCLIS site screening of the NECR Mine (CERCLIS ID No. NNN000906132). The RSE Work Plan determined the need for investigation of the Step-Out Area, and EPA ultimately included the Step-Out area in studies and planning for removal actions at the NECR Mine.

Current conditions at the Site pose an imminent and substantial endangerment (see Sections III and IV) at the Step-Out Area. The proposed Interim Removal Action is expected to complete work at the NECR Step-Out area and Unnamed Arroyo #1 (subject to verification in the Final Status Survey for the full NECR Mine), but will not complete work at the NECR Mine Site, including 125-acre NECR Mine, Red Water Pond Road or other impacted areas.

B. Other Actions to Date

The NECR Residential Removal #1 and #2 occurred at or in the vicinity of the Site in summer 2007. No other CERCLA response actions have occurred at the Site to date. Federal Nuclear Regulatory Commission remedial actions have taken place at the NECR Mine.

Region 9 is in the process of performing an Engineering Evaluation/Cost Analysis ("EE/CA") for the NECR Mine. The proposed EE/CA has been issued for public comment. Public comment was originally set for 30 days, but at the request of the public, has been expanded to 90 days. All comments will be due by September 9, 2009.

C. State and Local Authorities Roles

1. State and local actions to date

No State actions have taken place at the Site; however, some of the State and Tribal actions at the NECR Mine may be relevant to the Site. NNEPA sent a letter to U.S. EPA Region 9 formally requesting that U.S. EPA become the lead agency for the NECR Mine, per a Memorandum of Understanding between Region 9 and the Navajo Nation. Consultations with the State of New Mexico and Navajo Nation in 2005 resulted in correspondence that referred the lead to Region 9. Region 9 issued a letter formally

accepting lead for the NECR Mine on November 7, 2005. Because the Site is a portion of the larger NECR Mine, these discussions satisfy the regulatory requirement of State and Tribal referral.

NNEPA provided U.S. EPA with written correspondence agreeing to the Interim Removal Action Work Plan dated July 15, 2009. A copy of this correspondence will be included in the Administrative Record.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Current Site conditions pose the threat of potential future releases of a hazardous substance, namely radium-226. The likelihood of direct human exposure, via ingestion and/or inhalation of hazardous substances, and the threat of potential future releases and migration of those substances, pose an imminent and substantial endangerment to public health, and/or welfare, or the environment based on the factors set forth in the NCP, 40 CFR § 300.415(b)(2). These factors include:

1. Actual or potential exposure to hazardous substances or pollutants or contaminants by nearby populations or the food chain

As described in Section II.A.4, high concentrations of radium-226 have been detected in samples of residential soils at the Site. Radium is formed when uranium and thorium break down in the environment. Two of the main radium isotopes found in the environment are radium-226 and radium-228. During the decay process, alpha, beta, and gamma radiation are released. Radium may be found in air and water. Radium in the soil may be absorbed by plants.

Analytical results indicate that concentrations of radium-226 identified in these media exceed background and U.S. EPA's PRGs. Acute inhalation exposure to high levels of radium can cause adverse effects to the blood (anemia) and eyes (cataracts). It also has been shown to affect the teeth, causing an increase in broken teeth and cavities. Exposure to high levels of radium results in an increased incidence of bone, liver, and breast cancer. The U.S. EPA and the National Academy of Sciences, Committee on Biological Effects of Ionizing Radiation, has stated that radium is a known human carcinogen (ATSDR, 1999). Inhalation of radium contaminated particulates is of particular concern. Radium emits alpha radiation, which, when inhaled, becomes a source of ionizing radiation in the lung and throat, possibly leading to toxic effects.

Much of the contaminated material in the Site is fine-grained and therefore likely to result in human exposure via inhalation or ingestion. Contamination is readily accessible to on-site full-time residents and potentially nearby part-time and/or full-time residents. Persons occupying or traversing the Site may be exposed to contaminated dust by inhalation or ingestion of contamination sorbed to particulate matter. Incidences of direct contact with natural and mechanically generated dust during these activities account for known contamination exposure scenarios faced at the Site. Radium-226

may be entrained in naturally and mechanically generated dust and/or transported on shoes and clothing of residents passing over contaminated areas. Gardening and other yard work also may result in exposure to contamination.

Activities that occur in contaminated areas that may put persons at risk include walking or hiking, livestock grazing, and modes of transportation including all-terrain vehicle, motorcycle, or on-horseback. Persons may drive their vehicles over contaminated areas as well. This activity may also contribute to exposure pathways via dust generation. Contamination in yards where children play may also be ingested. Children may eat contaminated soils during play activities.

2. High levels of hazardous substances in soils at or near the surface that may migrate

Contaminated soils from the Site may migrate off-site via wind and water transport mechanisms including mechanical dust generation. It is believed that radium in soils at the homesites was transported there from sources including the upgradient NECR Mine. It is likely that this contamination could continue to migrate beyond the Site boundary. Some of the radium daughter particles, such as radon, also have a specific tendency to adhere to dust particles and migrate and may have traveled off-site in historic surface water flows.

3. Weather conditions that may cause hazardous substances to migrate or be released

Rainfall events may lead to transport of the contamination from the mine to areas of concern and the homesites. High soil erosion rates may indicate transport of contamination from the Site constituting a release of hazardous substances and resulting in secondary contamination sources. In addition, contaminants may migrate during high wind events due to the propensity for contaminants to adhere to windborne dust particles.

4. Availability of other appropriate federal or state response mechanisms to respond to the release

The NNEPA has informed U.S. EPA that it does not have the authority or resources to address the Site. Further, the NNEPA has sent a formal request to U.S. EPA, requesting that U.S. EPA address this area through a Time-Critical Removal Action. The State of New Mexico has also deferred the Site to EPA.

IV. ENDANGERMENT DETERMINATION

Actual and threatened releases of hazardous substances from this site, if not addressed by implementing a Time-Critical Removal Action, may continue to present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

U.S. EPA will direct UNC and GE through an Administrative Settlement Agreement and Order on Consent pursuant to Sections 104, 106a, 107 and 122 of CERCLA to conduct response actions. U.S. EPA proposes to conduct technical oversight of UNC and GE. Work will consist of the following activities:

1. **Proposed action description**

U.S. EPA proposes to mitigate the imminent and substantial threats to human health, welfare, or the environment by taking steps to prevent the release of radium-226. The removal action will include the following objectives to prevent direct human contact with environmental radium-226 in arroyo sediments, Step-Out area soils and RWPR (see Figure 4):

Excavation: Remove soils containing Radium 226 (Ra-226) above 2.24 pCi/g (hereafter referred to as the IRA Action Level) from Navajo Reservation lands that are potentially attributable to historic activities at the NECR Mine. Scope includes surficial contamination from the NECR1 Step-Out areas and surficial and subsurface sediment contamination to native soil in the Unnamed Arroyo #1. Conduct confirmation scanning prior to backfilling. Conduct confirmation sampling at a 5% frequency and a minimum of 20 samples prior to backfilling. The IRA does not include a Final Status Survey. A Final Status Survey will be conducted for the entire NECR Mine Site, including the IRA Area, according to MARSSIM guidance, at the conclusion of the response actions selected pursuant to the EE/CA.

Regrading/Waste Deposition/Cover/Drainage: Reclaim the side-slopes of the NECR-1 pad to prevent transport of impacted materials via wind and storm water, place newly excavated soil and sediment on the waste pile, and regrading and covering with clean fill of the NECR-1 waste pile to reduce the chances of drainage of contaminants onto the side slopes and to convey surface drainage into the area designated as Pond 3.

Erosion/Sediment Control: Install erosion and sedimentation controls on the periphery of the north portion of the NECR Mine adjacent to the Navajo Reservation Boundary to prevent transport of potentially impacted material onto the reservation via stormwater (i.e., the unnamed arroyo and the drainage northeast of NECR-1). This will include installing sedimentation basins at the top of the unnamed arroyo on the NECR Mine and within the drainage channel from the northeast portion of the site that drains towards the southern part of Red Water Pond Road. Regrading will be done to redirect runoff to the sediment basin

Temporary Relocation and Services: provide temporary relocation and temporary relocation services for residents of three homesites on the reservation lands in proximity

to the Work pursuant to U.S. EPA's Temporary Relocation guidance and consistent with U.S. EPA's previous experience with the Residential Removal Action.

Investigation: investigate the segment of Red Water Pond Road from the intersection of that road with State Highway 566 and north to unnamed Arroyo #2 (approximately 2,000 feet), as well as the immediate vicinity surrounding it to determine which portions of this area are in need of remediation,

Revegetation: backfill with clean fill, as necessary and revegetate areas impacted by the Interim Remedial Action,

Health & Safety: Implement the Work in a safe manner that is protective of site personnel as well as residents. UNC will offer temporary lodging to three households located in the immediate work area during implementation of the IRA.

Excavation and removal of contaminated soils will achieve the ultimate goal of reducing the radium concentration in the excavation footprint to a concentration that is less than the Site screening level.

2. Contribution to remedial performance

This removal action is expected to complete clean-up activities associated with the NECR Step-Out Site. A subsequent, non-time critical removal action is planned to address the remainder of radium contaminated soils and sediments at the NECR Mine.

The long-term cleanup plan for the site:

It is expected that this removal action will eliminate any threat of direct or indirect contact with or inhalation of hazardous substances at the Step-Out Area addressed in this removal. As discussed below, U.S. EPA expects to conduct subsequent response actions at the larger NECR Mine Site following issuance of the EE/CA, including a Site-wide Final Status Survey.

Threats that will require attention prior to the start of a long-term cleanup:

USEPA has identified imminent threats posed by radium-226 contamination at the NECR1 Step-Out Area Site. The mitigation actions described above will constitute a permanent remedy for the Site.

Sources of the contamination may require long-term cleanup. In future actions, these sources will comprise the NECR Mine. USEPA will continue to coordinate with NNEPA to evaluate the risk of human health effects based on mine wastes exposure pathways that may be present at the NECR Mine. The RSE that was conducted in

November 2006, and the Supplemental RSE completed April 2008, constitute the basis for further action at the NECR Mine Site.

The extent to which the removal will ensure that threats are adequately abated:

The removal of surficial hazardous substances contamination by excavation and disposal will abate the threats described in Section III.

Consistency with the long-term remedy:

The Time-Critical Removal proposed for the Site is consistent with addressing the larger issue of potential exposures posed by the NECR Mine.

3. Applicable or relevant and appropriate requirements (ARARs)

Section 300.415(j) of the NCP provides that removal actions must attain ARARs to the extent practicable, considering the exigencies of the situation.

Section 300.5 of the NCP defines applicable requirements as cleanup standards, standards of control, and other substantive environmental protection requirements, criteria or limitations promulgated under Federal environmental or State environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location or other circumstances at a CERCLA site.

Section 300.5 of the NCP defines relevant and appropriate requirements as cleanup standards, standards of control and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, or contaminant, remedial action, location, or other circumstances at a CERCLA site, address problems or situations sufficiently similar to those encountered at the CERCLA site and are well-suited to the particular site.

Because CERCLA on-site response actions do not require permitting, only substantive requirements are considered as possible ARARs. Administrative requirements such as approval of, or consultation with administrative bodies, issuance of permits, documentation, reporting, record keeping, and enforcement are not ARARs for the CERCLA actions confined to the site.

Federal ARARs determined to be practicable for the Site are:

- U.S. Department of Transportation of Hazardous Materials Regulations 49 CFR Part 171, 172 and 173.
- The RCRA Land Disposal Restrictions (LDRs) 40 CFR 268.40 Subpart D implemented through Title 22 Section 66268.40.
- Uranium Mill Tailings Radiation Control Act (40 CFR Part 192.12 subparts B and C) requirements for residential cleanup levels of tailings sands.

- Native American Graves Protection and Repatriation Act, 25 USC Section 3001 *et seq.* and its implementing regulations, 43 CFR Part 10.
- National Historic Preservation Act, 16 USC 470 *et seq.*; 36 CFR Part 800
- Archaeological Resources Protection Act of 1979, 16 USC Sections 47000-47011; 43 CFR Part 7
- American Indian Religious Freedom Act, 42 USC Section 1996 *et seq.*
- Clean Water Act, Section 402, 33 USC 1342 (NPDES stormwater discharges)
- Clean Water Act, Section 404, 33 USC 1344 (Regulates discharge of dredge or fill material into waters of the U.S.)

Additional Federal guidance to be considered:

- U.S. EPA Directive on Protective Cleanup Levels for Radioactive Contamination at CERCLA sites. OSWER Directive 9200.4-18.

The Site, including the IRA Area, has been surveyed for potential impacts on archaeological, historic and cultural resources. The Navajo Historic Preservation Department approved the proposed removal action with a Cultural Resources Compliance Form dated June 9, 2009.

No State or Tribal ARARs have been identified.

4. Project schedule

The IRA is scheduled to start immediately after approval of the action as indicated by the signature on this memorandum and EPA approval of the Administrative Settlement Agreement and Order on Consent with PRPs UNC and GE. The removal activities are expected to take approximately five months to complete.

B. Estimated Costs

As stated above, U.S. EPA expects to enter into an Administrative Settlement Agreement and Order on Consent with UNC and GE to conduct IRA. U.S. EPA may incur the following costs in its role overseeing or reviewing the response actions to be completed. These are costs for oversight to come from the Regional Removal Allowance through the NECR Site Special Account.

Regional Removal Allowance Costs

START Contractor/USCG PST	<u>\$ 300,000</u>
Extramural Subtotal	\$ 300,000
TOTAL, Removal Action Project Ceiling	\$ 300,000

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Given the site conditions, the nature of the hazardous substances documented on site, and the potential exposure pathways to nearby populations described in Sections III and IV above, actual or threatened releases of hazardous substances from the Site, if not addressed by implementing the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

VII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues with the Site identified at this time.

VIII. ENFORCEMENT

Please see the attached Confidential Enforcement Addendum for a discussion regarding potentially responsible parties (PRPs). U.S. EPA expects the PRP to sign an Administrative Settlement Agreement and Order on Consent requiring the PRPs to pay for all work, and to reimburse U.S. EPA for the oversight costs. The following intramural costs are also recoverable:

Intramural Costs²

U.S. EPA Direct Costs	\$ 100,000
U.S. EPA Indirect Costs (35.28%)	<u>\$ 141,120</u>
TOTAL Intramural Costs	\$ 241,120

The total USEPA extramural and intramural costs for this removal action, based on full-cost accounting practices that will be eligible for cost recovery are estimated to be \$541,120.

IX. U.S. EPA RECOMMENDATION

² Direct costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual costs from this estimate will affect the United States' right to cost recovery.

This decision document represents the selected removal action for the NECR Step-Out Area Site, Coyote Canyon Chapter, McKinley County, New Mexico developed in accordance with CERCLA as amended, and not inconsistent with the NCP. This decision is based on the Administrative Record for the Site.

Because conditions at the site meet the NCP criteria for a Time-Critical Removal Action, USEPA enforcement staff recommends the approval of the removal action proposed in this Action Memorandum. The total project ceiling if approved will be \$300,000, of which an estimated \$300,000 comes from the NECR Special Account. Approval may be indicated by signing below.

Approve: Elizabeth J. Adams July 23, 2009
Elizabeth J. Adams, Assistant Director Date
Superfund Division
Partnerships, Land Revitalization & Cleanup Branch

Disapprove: _____ Date _____
Elizabeth J. Adams, Assistant Director
Superfund Division
Partnerships, Land Revitalization & Cleanup Branch

Confidential Enforcement Addendum

Attachments:

- I. Index to the Administrative Record
- II. Data sheets for NECR1 Step-Out Area and Unnamed Arroyo #1 sediments
- III. Photograph Log

cc: Sherry Fielding, USEPA, OERR, HQ
Steven Etsitty, Navajo Nation Environmental Protection Agency
David Taylor, Navajo Nation Department of Justice
Bill Brancard, New Mexico Mining and Minerals
Steven Spencer, U.S. Department of Interior
Don Williams, USEPA, Region 6

bcc: H. Allen, SFD-9-2
A. Bain, SFD-6-2
H. Karr, ORC-3
C. Temple, SFD-9-2
Mark Purcell, U.S. EPA Region 6
Stanley Edison, Navajo Nation Environmental Protection Agency
Freida White, Navajo Nation Environmental Protection Agency
Michele Dineyazhe, Navajo Nation Environmental Protection Agency
Site File