
ENVIRONMENTAL ASSESSMENT FOR AN ALTERNATE ON-SITE DISPOSAL CELL
LOCATION
RIO ALGOM MINING, LLC'S, URANIUM MILL FACILITY, AMBROSIA LAKE, NEW MEXICO

Final Report

**U.S. Nuclear Regulatory Commission
Office of Federal and State Materials and Environmental Management Programs
Division of Waste Management and Environmental Protection**

License SUA-1473

Docket 40-8905

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Enclosure 1

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1.0 INTRODUCTION

1.1 Background

In July, 1995, Quivira Mining Company, the predecessor to Rio Algom Mining LLC (Rio Algom), submitted a request to amend License Condition No. 32 for disposal of contaminated byproduct materials in two designated disposal areas to the U.S. Nuclear Regulatory Commission (NRC). Subsequently, in November 1995, the NRC approved the license condition amendment. Disposal Area #2, which is adjacent to the much larger Pond 2 Disposal Cell, is being used for disposal of byproduct material and may reach capacity before demolition and disposal of the remaining mill buildings and material has been completed. The area designated as Disposal Area #1 is now in the Diversion and Discharge Channel north of the Pond 2 Disposal Cell and cannot be used for disposal of byproduct material. The current request is for an alternate on-site disposal cell location.

Rio Algom has submitted a memorandum and Environmental Evaluation (Rio Algom, 2010) which addresses the design, methods, and procedures to be implemented to ensure that byproduct materials are disposed of in the alternate disposal area in a manner that is protective of human health and the environment and in accordance with the Uranium Mill Tailings Radiation Control Act, as amended (UMTRCA), and regulations in Part 40 of Title 10 of the Code of Federal Regulations (10 CFR Part 40).

The Ambrosia Lake site is in the Ambrosia Lake mining district of New Mexico, 25 miles north of Grants, New Mexico. Rio Algom began processing ore in 1958, and processed approximately 33 million tons of ore through 1985. The facility continued to be an active uranium production facility through December 2002. Reclamation of the tailings management facilities commenced in 1989 with work on the top surface of the largest tailings impoundment. Reclamation activities have, at times, included excavation and disposal of unlined evaporation pond residues, contaminated soil cleanup, reclamation of the tailings impoundments, construction of surface water erosion protection features, and demolition of the mill buildings.

Rio Algom proposes to use the former ore-storage area west of the existing mill office as the alternate disposal area. This location was used as the below grade transfer of ore from the mine haul trucks. The area was excavated into bedrock and is approximately 300 feet long by 340 feet wide and 35 feet deep. This area will need to be filled prior to completion of decommissioning activities for safety reasons, to prevent unauthorized dumping, and to control surface water drainage in the area. The planned closure actions for isolation of the materials is intended to provide: (1) control of radiological hazards for 1,000 years to the extent reasonably achievable; (2) limitation of the release of radon-222 from uranium by-product, and radon-220 from thorium by-product materials to the atmosphere so as not to exceed an average of 20 pCi/m²/sec; and (3) a final site that is geotechnically stable and provides protection of water resources for the long term. In undertaking this project, the licensee committed to complying with all applicable Federal and State regulations.

The licensee has indicated that this proposed alternate disposal area design is one component of the overall site decommissioning plan. The licensee has previously addressed, and NRC has approved, the remaining site-wide decommissioning plan elements through separate licensing actions, including closure of tailings ponds 1 and 2, mill demolition, relocation of lined

evaporation pond sediments, soil decommissioning plan, groundwater remediation, and the surface water diversion channel.

1.2 Review Scope

NRC source material licenses are issued under 10 CFR Part 40. In addition, UMTRCA requires persons who conduct uranium source material operations to obtain a byproduct material license to own, use, or possess tailings and wastes generated by the operations. This EA has been prepared in accordance with 10 CFR Part 51, "Licensing and Regulatory Policy and Procedures for Environmental Protection, which implements NRC's environmental protection program under the National Environmental Policy Act (NEPA) of 1969." In accordance with 10 CFR Part 51, an EA serves to: 1) briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement (EIS) or a finding of no significant impact (FONSI); 2) facilitate preparation of an EIS when one is necessary; and 3) demonstrate the NRC's compliance with NEPA when an EIS is not necessary.

NRC staff has assessed the environmental impacts associated with this request for a license amendment to stabilize material in an alternate disposal area, and documented the results of the assessment in this report. Evidence presented herein includes a description of the proposed action and alternatives, a description of the affected environment, and an assessment of the impacts of the proposed action. In conducting the assessment, the staff considered the information in the licensee's amendment request, Environmental Evaluation, and supporting documentation; information in other Rio Algom license amendment documents; communications with Rio Algom and State of New Mexico staff; and information from previous NRC staff assessments, site visits, and inspections.

2.0 NEED FOR THE PROPOSED ACTION

A Reclamation/Decommissioning Plan is required by 10 CFR Part 40. The purpose of this portion of the overall decommissioning plan is to present reclamation design and construction details for an alternate disposal area, and to demonstrate that the design will meet the standards in 10 CFR Part 40, Appendix A for decommissioning a uranium mill site and transfer to the U.S. Department of Energy (DOE) for long-term care.

3.0 THE PROPOSED ACTION

The proposed action is a modification of a license condition in Source Material License SUA-1473, to approve Rio Algom placing byproduct materials, consisting primarily of mill building debris and windblown impacted soils, in an alternate disposal area, and stabilizing them in accordance with NRC standards in 10 CFR Part 40. The cover over the disposal area would consist of a radon/infiltration barrier, overlain by a frost protection layer and rock erosion protection layers. Following approval by NRC of successful remediation of the area pursuant to the Reclamation Plan, the construction will be completed and the site eventually will be transferred to DOE.

4.0 ALTERNATIVES TO THE PROPOSED PLAN

Three alternatives to the proposed action include no action, relocate the power line which is on the north side of disposal area #2 so the capacity of this area could be increased, or select another disposal area at the facility. Disposal of waste materials offsite was considered and rejected in the Environmental Assessment for the Tailings Cell 2 expansion. The off-site disposal alternative is not practical, since the Ambrosia Lake site already had its on-site disposal site reclamation plan approved by NRC amendment of the Rio Algom license in September 1990. Only limited off-site disposal locations exist (e.g., Energy Solutions). Off-site disposal would involve truck and/or rail transportation of radioactive material for significantly greater distances than the proposed action and at much greater cost.

The no action alternative would leave the contaminated materials in place with no remediation. This alternative would significantly expand the contaminated portion of the site and offers no long-term controls for the materials. This alternative would not provide an adequate long-term solution for the uranium byproduct material, but rather would require active maintenance for the life of the waste site. Finally, this alternative would not comply with the reclamation requirements outlined within 10 CFR 40, Appendix A for disposition of byproduct material.

The relocation of the power line located along the northern edge of disposal area #2 would provide more capacity for disposal of byproduct material. However, the estimated cost for the relocation is approximately \$500,000 and would expose workers to occupational risks associated with installing a power line.

The third alternative is the selection of another disposal area at the facility. Other potential disposal areas identified by the Licensee are above grade and further away from the byproduct material to be disposed of. There is no environmental advantage to any other location and below grade disposal of byproduct material is a preferred option (see 10 CFR 40 Appendix A Criterion 3).

5.0 DESCRIPTION OF AFFECTED ENVIRONMENT

5.1 Land Use

The site is located approximately 24 miles due north of Grants, New Mexico, in the Ambrosia Lake valley. Uranium mining started in this area in the mid-1950s, and 17 mines are located within approximately three miles of the site. Land uses within two miles of the site are grazing and mine reclamation activities, according to the 2005 land use survey.

The site is part of the larger Ambrosia Lake mining district, which consists of approximately 30 to 40 mines that are, or were, owned and operated by a number of different companies. Underground mines trend northwest-southeast across the Ambrosia Lake Valley. The Westwater Canyon Member is the principal uranium ore-bearing unit in the region. In order to mine underground, the Westwater Canyon Member was dewatered by pumping all groundwater out and discharging it to the surface. A regional cone of depression has formed within bedrock units as a result of mine dewatering. The bedrock formations above the Westwater Canyon have essentially been dewatered within this cone of depression.

The Ambrosia Lake mining district is rural and sparsely populated. The closest populated area

is the small community of San Mateo (100 residents) located approximately 9 miles to the southeast. The largest incorporated city in the region is Grants, New Mexico (population of 8,806) located approximately 20 miles south of the site. Ninety percent of land use in McKinley County and the Ambrosia Lake area is low-density animal grazing averaging between five and six animals per square mile. The Federal government manages approximately 60% of McKinley County.

The proposed action will be performed on private land that previously has been disturbed by site reclamation activity. Thus, little potential for new disturbance exists.

5.2 Geology

Roughly 22 miles long and 6 to 10 miles wide, Ambrosia Lake Valley is more than 7,000 feet above mean sea level. The northwest-southeast strike of the valley is the result of a regional northwest dip of sandstone and shale units comprising the southern margin of the San Juan Basin. Valley bottom alluvial fill overlies erodible shale of the Mancos Formation, while more resistant sandstones form ridges on either side of the valley. Topography in the valley bottom is limited to low relief, alluvial/colluvial slopes cut by incised ephemeral stream channels.

Rio Algom's mill and tailings facility is located north of the Zuni Uplift portion of the San Juan Basin. The basin is characterized by broad areas of relatively flat-lying sedimentary rocks, dipping to the northeast. Portions of the basin are covered with alluvium and basalt flows. The site is within the Ambrosia Lake Valley, which is formed by the Mesa Montanosa to the west and the San Mateo Mesa to the east. Bedrock geologic units underlying surficial alluvial materials include the Mancos Formation, the Dakota Sandstone, and the Brushy Basin and Westwater Canyon members of the Morrison Formation. The Mancos, generally considered to be an aquiclude, is approximately 250 feet thick in the Ambrosia Lake Valley area. The underlying Dakota Sandstone is approximately 75 feet thick and rests on Brushy Basin shale units. Stratigraphically below the Brushy Basin, the Westwater Canyon is the primary water-bearing unit in the region. All units dip approximately three degrees to the northeast.

The mill site and Tailings Impoundments 1 and 2 are located on the weathered Mancos Formation (saprolite) or on alluvium overlying the Mancos section. The alluvium consists of clay and clayey-sand derived from reworked shales of the Mancos Formation.

Primary structural features affecting local geologic conditions were established during the late Cretaceous (approximately 100 million years ago) to early Tertiary (58 million years ago), and there is little current potential for seismic activity. An NRC-funded re-evaluation of the seismic aspects of NRC-licensed uranium mill tailings sites concluded that the Ambrosia Lake tailings cells could withstand the peak ground acceleration (PGA) for the area, and thus met criterion 4(e) of Appendix A of 10 CFR Part 40, Code of Federal Regulations.

5.3 Water Resources

5.3.1 Surface Water

The principal surface water feature for the mill site, the Arroyo del Puerto, is located within the boundary of the uranium mill facility. The channel is an alluvial channel that was dry prior to mining activities. The channel serves as a discharge for water from the dewatering of the local mines. The channel was diverted from its natural course when an interceptor trench was constructed that was intended to prevent tailings seepage to the groundwater. An ephemeral drainage through the pond area and a paleochannel join the Arroyo del Puerto approximately one half mile down-gradient from the Section 4 Evaporation Ponds area.

5.3.2 Groundwater

The stratigraphic sequence of hydrologic significance at the site consists of, in descending order, the Arroyo del Puerto alluvium (alluvial aquifer), the Mancos Formation, the Tres Hermanos C, B and A (TRC, TRB and TRA) sandstones, the Dakota Sandstone, and the Brushy Basin and Westwater Canyon members of the Morrison Formation. There is no ground water in the TRC sandstone in the outcrop area. Bedrock formations above the Westwater Canyon Member of the Morrison Formation have essentially been dewatered by ventilation holes and mine shafts located to the north and east of Rio Algom's mill and tailings facility.

Bedrock units that have been impacted by tailings seepage are the Dakota Sandstone and the TRB. Most of the seepage from Tailings Cells 1 and 2 migrates laterally through the alluvium and shallow saprolite in the direction of the surface slope to the alluvial aquifer, where it enters an interception trench. Seepage that enters the unweathered bedrock beneath Tailings Cells 1 and 2 slowly migrates through the TRB to the north and northeast of the Facility in the general direction of the dip.

Groundwater in the Ambrosia Lake area is used for irrigation and livestock watering. There are no irrigation or livestock watering wells in the alluvial aquifer in the vicinity of the tailings cells. The alluvial aquifer is not saturated anywhere except near the site. A list provided by the U.S. Geological Survey shows approximately 65 groundwater wells within a 25-mile radius of the facility. The closest groundwater supply well is completed in the Westwater Canyon Sandstone member of the Morrison Formation approximately 1.5 miles west of the site. A large reduction in water use and groundwater withdrawals has occurred in the Ambrosia Lake area over the past 10 to 15 years as a result of the decline of the uranium industry.

The proposed alternate disposal cell is located in the northern portion of the site on a topographic ridge formed by the TRC sandstone. Approximately 45 feet of Mancos Formation shale and 35 feet of the TRC sandstone underlie the proposed alternate disposal cell. Rio Algom has described the nature and quantity of waste to be placed in the alternate disposal cell, the proposed design and operation, the hydrogeologic setting, and no leachate is expected to be produced because the waste is dry and the cell will be capped. The NRC staff has concluded that there will be no impact on ground water beneath the proposed alternate disposal cell.

5.4 Ecology (Flora and Fauna)

By letter dated September 20, 2004, the U.S. Fish and Wildlife Service (FWS) transmitted the Federal list of threatened and endangered species for McKinley County, New Mexico, to NRC staff (FWS, 2004). According to this list, the following threatened and endangered species are found in McKinley County: bald eagle (*Haliaeetus leucocephalus*), black-footed ferret (*Mustela nigripes*), Mexican spotted owl (*Strix occidentalis lucida*) with critical habitat, southwestern willow flycatcher (*Empidonax traillii extimus*), and the zuni fleabane (*Erigeron rhizomatus*). In an email dated June 10, 2010 (FWS, 2010), the FWS updated the Federal list of threatened and endangered species for McKinley County by deleting the bald eagle and adding the yellow-billed cuckoo (*Coccyzus americanus*) and zuni bluehead sucker (*Catostomus discobolus yarrowi*) as candidates for the list. The majority of Ambrosia Lake Valley is classified as Great Basin Grasslands. However, well-documented long-term degradation of this habitat in central and western New Mexico, caused by historically poor grazing practices, has reduced productivity and species diversity on a regional basis. No habitat for the listed species has been identified at the site.

In its Environmental Evaluation of an Alternate Disposal Site (Rio Algom 2010), the Licensee identified Costa's Hummingbird (*Calypte costae*) and the Interior Least Tern (*Sterna antillarum athalassos*); Costa's Hummingbird is a State of New Mexico Endangered species and Interior Least Tern holds Federal and State of New Mexico Endangered Status. The Licensee concluded that although it is possible that there may be migratory or vagrant individuals in the area, the highly disturbed and degraded site conditions coupled with the rare local occurrence frequency make it very unlikely that site reclamation activities will have an adverse affect on Costa's Hummingbird or the Least Tern. NRC staff agrees with this assessment.

5.5 Climate

New Mexico has a mild, arid or semiarid, continental climate characterized by light precipitation totals, abundant sunshine, low relative humidity, and a relatively large annual and diurnal temperature range. Table 1 presents monthly average climatic data from the Grants Airport except for pan evaporation data, which is from the Gallup ranger station. Like the rest of the San Juan Basin, Ambrosia Lake is an arid to semiarid region where evaporation typically exceeds precipitation by a factor of five or more.

Summertime temperatures have been known to be as high as 110° Fahrenheit. Annual precipitation averages less than 9 inches, while annual pan evaporation ranges from 46 inches to 72 inches per year. Primarily, moisture comes as brief, heavy rain showers during summer thunderstorms. These short, high volume events are characterized by abundant runoff and very little infiltration. For this reason, prior to mining activities, groundwater only occurred in those bedrock units beneath the valley floor that have outcrop exposure on surrounding highlands. The highlands are where the overwhelming majority of recharge occurs.

Table 1
Climatic Data

Month	Avg. Tem p (°F)	Avg Max. Temp. (°F)	Avg. Min. Temp. (°F)	Precip . (in)	Snowfall (in)	Wind Speed (mph)	Prevailing Direction	Pan Evap. (in)
Jan	30.2	46.2	14.3	0.50	2.5	7.7	NW	0
Feb	34.9	51.3	18.5	0.42	22	9.2	NW	0
Mar	41.1	58.2	23.9	0.53	1.6	9.8	NW	0
Apr	48.8	67.4	30.1	0.47	0.3	11	W	6.61
May	57.5	76.3	38.8	0.54	0	10.3	W	9.31
Jun	66.9	86.3	47.5	0.57	0	9.9	W	12.12
Jul	71.6	88.2	55.0	1.71	0	8.0	SE	10.50
Aug	69.0	85.1	53.0	1.99	0	7.3	SE	8.70
Sep	62.2	79.7	44.6	1.32	0	7.8	NW	7.95
Oct	51.0	69.4	32.7	1.10	0.4	8.6	NW	5.07
Nov	39.1	56.1	22.1	0.59	0.9	7.7	NW	2.20
Dec	30.8	47.2	14.5	0.63	4.0	7.5	NW	0
Avg/ Total	50.3	67.6	32.9	10.37	11.9	8.7	NW	62.46

Source: Western Regional Climatic Center, 2005

5.6 Socioeconomic

According to the 2000 Census data, the closest population center to the site is Milan, New Mexico, which is 20 miles south of the site and immediately north of Grants, New Mexico (24 miles south of the site). As of the 2000 Census, Milan had a total population of 1,891 people (down from 1,911 people in 1990) with a median age of 29.8 years. Approximately 22 percent of the population is under 18 years old. Approximately 59 percent of the population 16 years old or older is in the workforce, and the median household income is \$24,635. Approximately 29 percent of the population is below the poverty level.

As of the 2000 Census, Grants had a total population of 8,806 people (up from 8,626 people in 1990) with a median age of 34.4 years. Approximately 17 percent of the population is under 18 years old. Approximately 58 percent of the population 16 year old or older is in the workforce, and the median household income is \$30,652. Approximately 22 percent of the population is below the poverty level.

5.7 Historical and Cultural Resources

The entire activity of constructing an alternate disposal area will be conducted on a previously disturbed area of the site. Therefore, no historical or cultural resources are present in the construction area that can be impacted by the action.

5.8 Public and Occupational Health

Rio Algom's environmental surveillance program will continue throughout the construction of the proposed alternate disposal area. The NRC license requires the site to maintain comprehensive environmental monitoring programs that encompass air, soil, sediment, surface water, groundwater, vegetation, radon, and direct gamma radiation. The facility air monitoring network was expanded as two additional ambient air monitoring stations have been installed to collect data to demonstrate that control measures are implemented and effective. The NRC is requiring monitoring of groundwater until license termination. Specifics of the groundwater monitoring program are presented in the Environmental Assessment for the Alternative Concentration Limits (NRC, 2006a). The purpose of this monitoring is to ensure that Rio Algom remains in compliance with the groundwater standards in the license, and that the groundwater contamination will not present an unacceptable risk to human health or the environment in the future. If future data suggests that pollutant concentrations in groundwater exceed acceptable levels, Rio Algom will be required to take action.

5.9 Transportation

Road traffic levels generally are low and much below the traffic levels observed during the full operation of the facility in the past.

6.0 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

The NRC staff has reviewed the Rio Algom Environmental Evaluation of an alternate disposal site for its Ambrosia Lake uranium mill tailings facility and examined the impacts of the proposed activity. Construction activities associated with site decommissioning are occurring at this site with the objective of transferring it to DOE for long-term care. The construction of an alternate disposal area is one of these activities. Potential impacts resulting from this project above and beyond existing conditions are described below.

Incremental increases to existing noise levels resulting from the proposed action (other site activities, highway traffic) will occur. This is considered a minimal impact due to the remote location and sparsely populated area.

The most significant impact resulting from the proposed action is expected to be from fugitive dust. Fugitive dust will be mitigated through the use of dust suppression methods on active disturbed areas associated with the proposed action. The site Health, Safety and Environment Management System provides adequate assurances to control impacts to the environment.

Ambient air monitoring stations have been installed to collect data to demonstrate control measures are implemented and effective.

The proposed action will result in a temporary increase to the employment levels in the Grants area and positive increases in the local economy for the duration of the proposed project.

The proposed action will be confined to existing disturbed areas and will not result in adverse impacts to cultural and historic properties, or to animal and plant habitat, including threatened and endangered species.

The proposed action will reduce overall radiological exposure potential in the area by consolidating materials in one disposal facility. Rio Algom and subcontractors will perform the reclamation under the Ambrosia Lake license, with Rio Algom overseeing the activities and maintaining primary responsibility. The Ambrosia Lake facility has adequate radiation protection procedures and capabilities, and will implement an acceptable program to keep exposure to radioactive materials low. Rio Algom has prepared a decommissioning plan describing the work to be performed, and work activities are not anticipated to result in a dose to workers or the public in excess of the 10 CFR Part 20 limits.

The reclamation activity will improve the overall aesthetics of the area by elimination of the evaporation ponds, revegetation of those areas, and consolidation of contaminated materials in a rock and soil-covered cell.

The proposed action is designed to control potential impacts to surface water during the relocation activities by diverting and containing run-off. The proposed action will control future impacts to groundwater from the alternate disposal area through the action of the infiltration barrier cover. In addition, DOE will propose a groundwater monitoring plan as part of its long-term surveillance plan to be approved by the NRC. As custodian of the tailings after reclamation and termination of the site license, DOE will be responsible for continued monitoring and any needed corrective action under an NRC general license.

In consideration of potential cumulative impacts, there are other uranium processing facilities in the region; however, these sites have completed remediation activities or are at distances that preclude additive impacts to this proposed project. The DOE Ambrosia Lake site, which has been remediated, is approximately 1 mile north of the site, and is currently in a surveillance and monitoring phase. There are two additional former uranium milling and processing sites over ten miles from the Rio Algom mill site. The Homestake - Grants Reclamation Project is approximately 14 miles south and is performing ongoing groundwater corrective actions and continued tailings dewatering activities. The ARCO Bluewater mill site is 3 miles west of the Homestake site. It has been transferred to DOE, and currently is under DOE's surveillance and monitoring program.

7.0 CONSULTATION WITH AFFECTED FEDERAL AND STATE AGENCIES

Because this proposed alternate disposal area occurs completely on site land already disturbed and covered with tailings materials, there can be no impacts to cultural/historic properties, or to

animal habitat. The Fish and Wildlife Service was contacted to update the list of threatened or

endangered species. The New Mexico Historic Preservation Division was not contacted.

The State of New Mexico Environmental Department (NMED) was provided with a draft EA for its input regarding the impacts of this action. NMED will send a letter notifying Rio Algom that a Notice of Intent to Discharge for the proposed activities must be submitted to NMED for review. Rio Algom should also amend the existing Storm Water Pollution Prevention Plan to incorporate any additional activities and pollutant controls dictated by this proposed action. NMED will copy NRC on all correspondence regarding the potential effect to ground water resources in the area of the proposed project.

8.0 CONCLUSION

The NRC staff has reviewed the proposal for an alternate disposal area, and examined its impacts. The potential impacts of the proposed action are limited to the land surface and are temporary during the construction activity. The direct impacts to the surface will be primarily dust generation due to excavation and hauling the material to the disposal area. Fugitive dust from heavy equipment operation will be mitigated through the use of dust suppression methods on haul roads. Impacts at the expansion cell area itself are minimal, since the area is already disturbed from site reclamation activities.

The licensee's implementation of its site Health, Safety and Environment Management System, and NRC license requirements provide adequate assurances to control impacts to the environment. Additional ambient air monitoring stations have been installed to collect data to demonstrate that control measures are implemented and effective.

The NRC staff is considering a request to approve the expansion reclamation plan. The alternatives available to the NRC are to:

1. Approve the license amendment request as submitted; or
2. Amend the license with such additional conditions as are considered necessary or appropriate to protect public health and safety and the environment; or
3. Deny the request.

The NRC staff has prepared this draft EA in support of the proposed action to amend the Rio Algom Ambrosia Lake License to approve the alternate disposal area. Based on its review, the NRC staff has concluded that the environmental impacts of the proposed action are not significant. Therefore, the license amendment does not warrant the preparation of an Environmental Impact Statement, and the impacts do not warrant denial of the license amendment request. Additionally, in the technical evaluation report (TER) being prepared for this action, the staff documents its review of the licensee's proposed action with respect to the criteria in 10 CFR Part 40, Appendix A, and has found no technical basis for denial of the proposed action.

The NRC staff is considering preparation of a Finding of No Significant Impact (FONSI). The following statement supports a FONSI and summarizes the conclusions of the EA.

The proposed alternate disposal area, which includes consolidating, placing, and compacting byproduct materials in a below grade ore storage area, and covering them with an engineered soil and rock cover to limit radon release, limit water infiltration, and reduce erosion, will provide reasonable assurance that its measures will contain the radiological hazards for 1,000 years. This plan is one component of the overall site decommissioning plan. The potential impacts of the proposed action are limited to the land surface and are temporary during the construction activity. Impacts at the alternate disposal area itself are minimal, since the area is already disturbed from site reclamation activities. The NRC staff finds reasonable assurance that the licensee has proposed a design that will meet its responsibilities under the provisions of 10 CFR Part 40, and will recommend approval the plan.

REFERENCES

New Mexico Environmental Department, 2010. "Comments on a Draft Environmental Assessment for a Proposed Alternate On-Site Disposal Cell, Rio Algom Mining LLC's Ambrosia Lake Facility." [ADAMS Accession No. ML102371038]

NRC, 2003a. NUREG-1748, "Environmental Review Guidance for Licensing Actions Associated With NMSS Programs - Final Report," Nuclear Regulatory Commission, Washington, DC, 2003. [ADAMS Accession No. ML031000403]

NRC, 2003b. NUREG-1620, Rev. 1, "Standard Review Plan for Review of a Reclamation Plan for Mill Tailings Sites Under Title II of the Uranium Mill Tailings Radiation Control Act of 1978," Nuclear Regulatory Commission, Washington, DC, 2003. [ADAMS Accession No. ML040560561]

NRC, 2005. Environmental Assessment for the Relocation Plan - Lined Evaporation Ponds at Rio Algom Mining LLC's Uranium Mill Facility, Ambrosia Lake, New Mexico, January 2005; transmitted by letter to Mr. Peter Luthiger dated January 17, 2005. [ADAMS Accession No. ML051680226]

NRC, 2006a. Environmental Assessment for Amendment to Source Materials License SUA-1473 for Groundwater Alternate Concentration Limits, Rio Algom Mining LLC, Ambrosia Lake Uranium Mill Tailings Site, January 24, 2006. [ADAMS Accession No. ML060130091]

NRC, 2006b. Final Environmental Assessment, Soil Decommissioning Plan for Rio Algom Mining LLC's Uranium Mill Tailings Site, Ambrosia Lake, McKinley County, New Mexico, May 15, 2006. [ADAMS Accession No. ML061630291]

NRC, 2007. Environmental Assessment-Final Report for The Tailings Cell 2 Expansion Reclamation Plan-Rio Algom Mining LLC's Uranium Mill Facility, Ambrosia Lake, NM, September 27, 2007. [ADAMS Accession No. ML072670278]

Rio Algom, 2010. License Amendment Request, April 26, 2010. [ADAMS Accession No. ML101190534]

FWS, 2004. Letter to J. Caverly dated September 20, 2004. [ADAMS Accession No. ML042780480]

FWS, 2010. Email to T. McLaughlin dated June 10, 2010, with Listed and Sensitive Species in McKinley County. [ADAMS Accession No. ML101670587]