

September 21, 2001

William J. Sinclair, Director
Division of Radiation Control
Department of Environmental Quality
168 North 1950 West
P.O. Box 144850
Salt Lake City, UT 84114-4850

SUBJECT: CONSULTATION REQUEST ON THE ENVIRONMENTAL ASSESSMENT FOR
THE RECEIPT AND PROCESSING OF MATERIALS FROM THE MAYWOOD
FACILITY LOCATED IN MAYWOOD, NEW JERSEY, FOR THE WHITE MESA
URANIUM MILL

Dear Mr. Sinclair:

The U.S. Nuclear Regulatory Commission (NRC) staff is conducting a review of International Uranium (USA) Corporation's (IUSA's) amendment request, dated June 15, 2001, June 22, 2001, and August 3, 2001, to receive and process materials from the Maywood facility located in Maywood, New Jersey.

The NRC staff determined that an environmental assessment (EA) was necessary to document potential environmental impacts to this proposed action. NRC is submitting the enclosed preliminary draft NRC EA as part of the consultation process of the National Environmental Policy Act. Please review this document and provide any comments within 30 days of receipt of this letter. If we have not heard from your office in that time period, the NRC will assume that the Utah Department of Environmental Quality has no comments and NRC will finalize the EA. In addition, if your office has any comments regarding potential hazardous waste issues for this material, please provide them with your letter.

If you have any questions concerning this letter, please contact the NRC Project Manager for the White Mesa site, William von Till, at (301) 415-6251. In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public

Mr. Sinclair

inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Melvyn Leach, Chief
Fuel Cycle Licensing Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Enclosures: Draft Environmental Assessment
Docket No: 40-8681
License No: SUA-1358

C. M. Rehman, IUSA
C.Crist, Ute Mountain Ute Tribe EPA
Terry Brown, US EPA Region VIII

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Distribution: FCLB r/f NMSS r/f FCSS r/f ACNW CNWRA
CCainRIV

DOCUMENT NAME: G:\FCLB\Uranium Recovery Section\IUC-maywood-EA-DEQ.wpd Accession No: ML012780429

OFC	FCLB	FCLB	FCLB	
NAME	Bvon Till*	GJanosko	MLeach	
DATE	9/19/01	9/21/01	9/21/01	

***See previous concurrence OFFICIAL RECORD COPY**

DRAFT ENVIRONMENTAL ASSESSMENT
FOR
INTERNATIONAL URANIUM (USA) CORPORATION'S URANIUM MILL SITE
WHITE MESA, SAN JUAN COUNTY, UTAH

IN CONSIDERATION OF AN AMENDMENT TO
SOURCE MATERIAL LICENSE SUA-1358 FOR THE
RECEIPT AND PROCESSING OF THE
MAYWOOD ALTERNATE FEED

PREPARED BY

THE U.S. NUCLEAR REGULATORY COMMISSION
DIVISION OF FUEL CYCLE SAFETY AND SAFEGUARDS
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS

**DRAFT ENVIRONMENTAL ASSESSMENT
FOR THE
MAYWOOD ALTERNATE FEED REQUEST
INTERNATIONAL URANIUM CORPORATION'S URANIUM MILL SITE
WHITE MESA, SAN JUAN COUNTY**

1.0 INTRODUCTION

1.1 Background and Need for Proposed Action

This action is to evaluate the potential environmental impacts of the proposal for the White Mesa Uranium and Tailings Mill to receive and process material from the Maywood facility located in Maywood, New Jersey. The mill site is located in San Juan County, Utah approximately 8 kilometers (km) (5 miles) south of Blanding, Utah. International Uranium (USA) Corporation (IUSA) submitted a license amendment application by letters dated June 15, 2001, June 22, 2001, and August 3, 2001, to amend its U.S. Nuclear Regulatory Commission (NRC) Source Material License SUA-1358, to allow its White Mesa Uranium Mill near Blanding, Utah, to receive and process up to 600,000 cubic yards (840,000 tons) of alternate feed material from the Maywood site located in Maywood, New Jersey. The Maywood site is being remediated under the Formerly Utilized Sites Remedial Action Program (FUSRAP) by the U.S. Army Corps of Engineers. The materials are by-products from the processing of thorium and lanthanum from monazite sands. IUSA is requesting that the material be received and processed for its source material content. By-products from the extraction of source material will be disposed in lined tailings cells with a groundwater detection monitoring program. A separate Technical Evaluation Report (TER) will be completed by the NRC using the formal guidance, "Final Position and Guidance on the Use of Uranium Mill Feed Material Other Than Natural Ores". The NRC has approved similar amendment requests in the past for separate alternate feed materials under this license.

The IUSA site is licensed by the NRC under Materials License SUA-1358 to possess byproduct material in the form of uranium waste tailings and other uranium byproduct waste generated by the licensee's milling operations, as well as other source material from multiple locations.

1.2 Previous National Environmental Policy Act (NEPA) Actions

A Final Environmental Statement (FES) was prepared by the NRC for the license application in May 1979, an Environmental Assessment (EA) was prepared by NRC in September 1985 for license renewal, an EA was prepared by NRC in February 1997 for license renewal, and an EA was prepared for the reclamation plan in February 2000.

1.3 Maywood Site Materials

The Maywood site is being remediated under the authority of the U.S. Army Corps of Engineers. This site began operations in 1895 and over the years monazite sands were processed for thorium, lanthanum, and other rare earth elements. Uranium was not extracted and remains in the process residues. The material is currently located in three pits and is also

being cleaned up from off-site properties. Material in the three pits is licensed by the NRC under STC-1333 for the Stepan Chemical Company. This license covers 19,000 cubic yards of buried tailings.

The average uranium content, based on 4000 samples, ranges from non-detectable to 0.06 weight percent, with an average grade of 0.0018 percent uranium. However, IUSA is proposing to only receive material that contains higher than 0.01 percent uranium. The thorium content of the material ranges from non-detectable to 3,800 pCi/g with an average of 970 pCi/g. The thorium content is relatively low due to thorium extraction at the Maywood site. IUSA states that hazardous wastes regulated under the Resource Conservation and Recovery Act (RCRA) have not been identified in this material. IUSA also proposes that verification sampling at the Maywood site will be implemented to assure that the material does not contain hazardous wastes regulated under RCRA.

1.4 Review Scope

In accordance with 10 CFR Part 51, this EA serves to: (1) present information and analysis for determining whether to issue a Finding of No Significant Impact (FONSI) or to prepare an Environmental Impact Statement (EIS); (2) fulfill the NRC's compliance with NEPA when no EIS is necessary; and (3) facilitate preparation of an EIS when one is necessary. Should the NRC issue a finding of no significant impact, no EIS would be prepared and the license amendment would be granted.

2.0 SITE CHARACTERISTICS

The area surrounding the facility is in an arid climate with an annual precipitation of 30 centimeters (cm) (12 inches) and a mean temperature of 9 degrees centigrade (50 degrees Fahrenheit). Runoff in the project area is directed by the general surface topography either westward into Westward Creek, eastward into Corral Creek, or to the south into an unnamed branch of Cottonwood Wash. The San Juan River, a major tributary to the Colorado River, is located approximately 29 km (18 miles) south of the site.

The population density of San Juan County is approximately 0.6 persons per square kilometer (1.6 persons per square mile). The town of Blanding is the largest population center near the facility with a population of 3162. Approximately 5.6 km (3.5 miles) southeast of the site is the White Mesa Reservation, a community of approximately 320 Ute Mountain Indians. The nearest resident to the mill is located approximately 5 km (3 miles) to the northeast of the mill, which is in the prevailing wind direction.

Approximately 60% of San Juan County is federally-owned land administered by the U.S. Bureau of Land Management (BLM), the U.S. National Park Service (NPS), and the U.S. Forest Service. Primary land uses include livestock grazing, wildlife range, recreation, and exploration for minerals, oil, and gas. A quarter of the county is Native American land owned by either the Navajo Nation or the Ute Tribe. The land within 8 km (5 miles) of the site is predominantly

owned by residents of Blanding. The White Mesa mill site encompasses approximately 202 hectares (ha) (500 acres).

Groundwater beneath the site mainly occurs in three strata: the Dakota Sandstone, the Burro Canyon formation, and the Entrada/Navajo Sandstone. The Burro Canyon formation hosts perched groundwater over the Brushy Basin Member of the Morrison formation. The Entrada/Navajo Sandstones form one of the most permeable aquifers in the region. The aquifer is separated from the Burro Canyon formation by the Morrison formation and Summerville formation. Water in this aquifer is under artesian pressure and is used at the mill for industrial needs and showering. Recharge to the aquifers occurs by infiltration along the flanks of the Abajo, Henry, and La Sal Mountains, and along the flanks of the structural folds. Groundwater in the perched aquifer (Burro Canyon Formation) is monitored by the mill in the groundwater detection monitoring program. Water in this zone flows south to southwest.

Seventy-six groundwater applications, within a 8 kilometer (5 mile) radius of the site, are on file with the Utah State Engineer's office. The majority of applications are by private individuals and for wells drawing small, intermittent quantities of water, less than eight gallons per minute (gpm) (0.02 cubic feet per second), from the Burro Canyon formation. For the most part, these wells are located upgradient (north) of the facility. Stockwatering and irrigation are listed as the primary uses. No wells are completed within the perched groundwater of the Burro Canyon formation within five miles downgradient of the site. Two water wells are completed in the Entrada/Navajo sandstone located 4.5 miles (7.25 km) southeast of the site on the Ute Mountain Ute Reservation. These wells are used as domestic water supply wells and are completed approximately 365 meters (1200 foot) below the ground surface.

In the vicinity of the site, the presence of six animal species and one plant species classified as either endangered or threatened could occur. These include: (1) the bald eagle (*Haliaeetus leucocephalus*); (2) the American peregrine falcon (*Falco peregrinus anatum*); (3) the black-footed ferret (*Mustela nigripes*); (4) the Southwestern willow flycatcher (*Empidonax traillii extimus*); (5) California Condor (*Gymnogyps californianus*); (6) the Mexican Spotted Owl (*Strix occidentalis lucida*), and (7) the Navajo Sedge (*Carex specuicola*) (plant species). While the ranges of the bald eagle, peregrine falcon, and willow flycatcher encompass the project area, their likelihood of utilizing the site is extremely low. The black-footed ferret has not been seen in Utah since 1952 and is not expected to occur any longer in the area. The California Condor, Mexican Spotted Owl, and Navajo Sedge have been added to the list since the 1997 EA. NRC staff contacted wildlife biologists from the Bureau of Land Management and the Utah Wildlife Service to gather local information on the occurrences of these additional species surrounding the mill. The California Condor has only rarely been spotted in the area of Moab, Utah, (70 miles north) and around Lake Powell (approximately 50 miles south). The Mexican Spotted Owl is only found in the mountains in Utah and is not expected to be on the Mesa. The Navajo Sedge has not been observed in the area surrounding Blanding and is typically found in areas of moisture.

No populations of fish are present on the project site, nor are any known to exist in the immediate area of the site. Four species of fish designated as endangered or threatened occur

in the San Juan River 29 km (18 miles) south of the site. There are no discharges of mill effluents to surface waters; therefore, no significant impacts are expected for the San Juan River due to operations at the mill.

3.0 OPERATIONS

The White Mesa uranium mill was developed in the late 1970's by Energy Fuels Nuclear, Inc. (EFN) as an outlet for the many small mines that are located in the Colorado Plateau. After about two and one-half years, the mill ceased ore processing and entered a total shutdown phase. In 1984, a majority ownership interest was acquired by Union Carbide Corporation's (UCC) Metals Division, which later became Umetco Minerals Corporation (Umetco), a wholly-owned subsidiary of UCC. In May of 1997, IUSA purchased the assets of the EFN and is the current owner and operator of the facility. The mill has gone through operation and shut down periods throughout the 1980's and 1990's. The current license specifies a maximum production rate of 4380 tons of yellowcake per year. The facility is currently in operation and since early 1997, the mill has processed 58,403 tons from several additional alternate feed stocks.

The tailings facilities currently consist of four lined cells with leak detection systems (LDS) and a groundwater detection monitoring program consisting of six monitoring wells. These wells are sampled quarterly for chloride, potassium, nickel, and uranium. These constituents are indicator parameters to detect potential groundwater impact. Currently, there is no indication of groundwater impact from the tailing cells based on the groundwater sampling. Environmental monitoring consists of groundwater and surface water sampling, gamma radiation measurements, soil, and vegetation sampling.

4.0 ENVIRONMENTAL EFFECTS

4.1 Transportation Considerations

IUSA does not have a contract to receive this material at this time and therefore, the exact mode of transporting the materials to the mill has not been determined. Transportation may be similar to that of other alternate feed materials shipped to the mill. This would consist of inter-modal containers shipped by rail then by truck. If the maximum volume requested were to be shipped to the mill, IUSA estimates that 7500 rail cars over seven years by rail and 46-86 truckloads per week would occur. It is more likely that 206,000 cubic yards would be shipped which would consist of 46 truckloads per week. The NRC does not expect there to be a significant impact from the transportation of these materials due to exclusive-use containers, the small increase in truck traffic (4 to 7.4 percent), and the transportation of the material in lined, covered containers. Based on this information, a very minor increase in truck traffic from this action is anticipated and therefore, environmental impacts from this increase are expected to be negligible.

4.2 Handling and Processing at the Mill Site

The material will be added to the Mill circuit in a similar manner to that used for normal processing of conventional ore, either alone or in combination with other approved alternate feed materials. The material will either be dumped into the ore receiving hopper and fed to the semiautogenous grinding mill, or run through an existing trommel, before being pumped to the pulp storage tanks. The leaching process may begin in pulp storage tanks with the addition of sulfuric acid.

4.3 Control of Airborne Contamination

The NRC does not anticipate any unusual or extraordinary airborne contamination dispersion when processing this material. The contamination potential is expected to be comparable to the processing of conventional ores which has been evaluated under previous NEPA actions.

Environmental monitoring will continue and has been evaluated under previous NEPA actions. This includes monitoring of surface and groundwater, airborne particulates, radon, soils, and vegetation, according to the existing License Conditions.

IUSA will continue to conduct a Dust Suppression program in accordance with the License Renewal Application for the White Mesa Mill, sections 2.0 and 4.0 (Umetco, 1991), and the September 11, 1997 Utah Division of Air Quality Approval Order for White Mesa Mill (Air Quality Permit Conditions).

4.4 Groundwater Effects

Material would be handled on the ore pad in a similar manner to conventional ores and other approved alternate feed materials. Potential environmental effects to groundwater have already been evaluated for operations at the mill in previous NEPA documents. Material from Maywood does not contain any additional chemicals that would pose an increase in threat to the groundwater resources above conventional ore. Tailings from the Maywood material processing will be disposed in the lined tailings cells along with other process tailings. A groundwater detection monitoring program is implemented to determine if any leakage from the tailings cells has occurred.

4.5 Cumulative Impacts

NRC staff has found no other activities in the area that could result in cumulative impacts.

5.0 ALTERNATIVES

The action that the NRC is considering is approval of an amendment request to a source material license issued pursuant to 10 CFR Part 40. The alternatives available to the NRC are:

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.

Based on its review, the NRC staff has concluded that the environmental impacts associated with the proposed action do not warrant either the limiting of IUSA's future operations or the denial of the license amendment. The NRC staff has concluded that there are no significant environmental impacts associated with the proposed action. Alternatives with equal or greater impacts need not be evaluated. Therefore, the staff considers that Alternative 1 is the appropriate alternative for selection.

6.0 SUMMARY AND CONCLUSIONS

Based on an evaluation of the environmental impacts of the IUSA amendment request, the NRC has determined that the proper action is to issue a FONSI in the Federal Register. The following statements support the FONSI and summarize the conclusions resulting from the EA.

1. An acceptable environmental and effluent monitoring program is in place to monitor effluent releases and to detect whether applicable regulatory limits are exceeded. Radiological effluents from site operations have been and are expected to continue to remain below the regulatory limits.
2. Present and potential environmental impacts from the receipt and processing of the Maywood material were assessed. No significant impacts have been identified as a result of this action, therefore, the staff has determined that the risk factors for health and environmental hazards are insignificant.

Because the staff has determined that there will be no significant impacts associated with this action, there can be no disproportionately high and adverse effects and impacts on minority and low-income populations. Consequently, further evaluation of Environmental Justice concerns, as outlined in Executive Order 12898 and NRC's Office of Nuclear Material Safety and Safeguards Policy and Procedures Letter 1-50, Revision 1, is not warranted.

7.0 STATE CONSULTATION

*****To be completed after consultation, draft EA to Utah DEQ*****

8.0 REFERENCES

International Uranium (USA) Corporation (IUSA), "Reclamation Plan, White Mesa Mill, Blanding, Utah, Revision 2.0", May 1999.

IUSA, "Groundwater Information Report White Mesa Mill, Blanding, Utah", submitted to Utah Department of Environmental Quality (UDEQ) Divisions of Water Quality (copy to NRC), May 28, 1999.

U.S. Nuclear Regulatory Commission (NRC), "Final Environmental Statement related to operation of White Mesa Uranium Project, Energy Fuels Nuclear, Inc., " NU-REG-0556, May 1979.

NRC, "Environmental Assessment for the Renewal of Source Material License No. SUA-1358, Energy Fuels Nuclear, Inc., White Mesa Uranium Mill, San Juan County, Utah", February 27, 1997

NRC, "Environmental Assessment Prepared by the Uranium Recovery Field Office in Consideration of the Renewal of Source Material License No. SUA-1358, for the Umetco Minerals Corporation, White Mesa Uranium Mill," , September 26, 1985.

NRC, "Environmental Assessment" for the reclamation of the White Mesa Uranium Mill, February 10, 2001.

NRC, "Interim Position and Guidance on the Use of Uranium Mill Feed Material Other Than Natural Ores" NRC Regulatory Issue Summary 2000-23, November 30, 2000.

Umetco Minerals Corporation, 1991, "1991 White Mesa Mill License Renewal," 4 vols., August 1991.

Utah Department of Transportation. Phone conversation with Ms. Vicki Hanshew of the Program Development Division with William von Till of NRC regarding traffic statistics on Highway 191 and through Moab, Utah. December 20, 2000.