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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

OCT 2 9 1979

DOCKET NO.: 40-3453

LICENSEE: Atlas Minerals

FACILITY: Moab Uranium Mill

SUBJECT: AMENDMENT NO. 1 TO SOURCE MATERIAL LICENSE SUA-917

1.0 INTRODUCTION

1.1 Background

By letter dated March 21, 1978, Atlas Minerals requested that Source Material License SUA-917 be amended to authorize the raising of the existing tailings retention system at their Moab Uranium Mill by constructing three separate 12 foot lifts. By amendment dated July 25, 1978, Atlas was given authorization to construct an interior embankment to provide tailings storage capacity while the March 21, 1978 amendment request was being evaluated. To make optimum use of the interior embankment constructed in spring 1978, Atlas requested, by letter dated August 23, 1979, that construction details presented in the original amendment request be revised. The revised specifications call for the construction of a single 12 foot lift on top of the interior embankment.

1.2 Proposed Action

The proposed action is the amendment of Source Material License SUA-917 to authorize modification of the existing tailings retention system as described in the licensee's submittal accompanying the August 23, 1979, request for revision of the original amendment request.

2.0 REVIEW SCOPE

The amendment request and accompanying enclosures were reviewed to evaluate the safety and environmental impacts associated with the proposed modification.

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2.1 Safety Impacts

Safety impacts associated with the proposed modification were reviewed by the staff, with technical assistance being provided by consultants. Hydrologic aspects of the proposed modification were reviewed by NRR, while geotechnical aspects were reviewed by Dr. Terry R. Howard of the University of Idaho. The conclusion reached by the consultants was that the raise will result in safe embankments which meet the criteria of Regulatory Guide 3.11 (see Appendices A & B).

2.2 Environmental Impacts

The proposed raise will result in only a slight increase in seepage over the existing situation. This is because the raise and accompanying modifications will have two opposing effects on seepage. The increase in hydraulic head resulting from the raise will be partially offset by the reduction in pond area occuring as a result of the establishment of a 150 foot beach on the previously riprapped western embankment. The decrease in pond area will act to decrease seepage for two reasons: (1) there will be a corresponding decrease in wetted area through which seepage occurs, and (2) the establishment of the beach on the western embankment will restrict tailings solution to the center of the pond, where tailings slimes act to "seal" the pond bottom. Therefore, the net effect of the proposed raise on seepage is a very slight increase from approximately 92 gpm to 95 gpm. Calculations are presented in Appendix C.

The only effect of the proposed raise on the existing exposed beach area is that, due to the establishment of a beach on the western embankment, an additional 6.5 acres of tailings will be exposed. However, the total resulting beach area of approximately 25 acres will still be considerably less than the conservative estimate of 60 acres assumed in the Final Environmental Statement (FES, NUREG-0453) for assessing radiological airborne releases from the tailings area. In addition, the licensee is required by license condition to take measures to minimize dispersal of blowing tailings in areas not covered by standing water, and to document the effectivenss of the measures by means of a weekly, documented tailings area inspection.

3.0 CONCLUSION

The staff has concluded that issuance of Amendment No. 1 to Source Material License SUA-917 will not constitute an undue risk to the health and safety of the public.

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Therefore, based on the insignificant incremental environmental impacts discussed above and pursuant to 10 CFR 51, Section 51.5, an environmental impact statement, negative declaration, or an environmental impact appraisal need not be prepared. Approval of a license amendment authorizing the proposed embankment raise is recommended, subject to the following license condition:

19. (a) The licensee shall construct the lift for the tailings embankment system to a maximum elevation of 4058 feet above mean sea level in accordance with the statements, representations, and commitments contained in the following documents:

1. "Report of Engineering Design Study, Additions to Tailings Pond-Embankment System, Moab, Utah for Atlas Minerals," dated February 15, 1978.

2. "Contract Specifications and Drawings for Tailings Embankment Expansion Project, Twelve-Foot Raise for Atlas Minerals, Moab, Utah," dated August, 1979.

(b) In addition to the compaction testing specified in the above documents, the licensee shall perform field gradation testing at the frequency of one (1) test for every 5,000 cubic yards of material placed.

(c) Should fill material in addition to that from the designated borrow area be required during construction, the licensee shall perform strength and gradation analyses prior to use to ensure that the additional fill material is at least as good as the designated borrow material. If the material is not, the licensee shall perform additional static and pseudo-static stability analyses to ensure that the embankment still meets the criteria of Regulatory Guide 3.11.

(d) Notwithstanding the frequency specified in the above documents, the licensee shall monitor piezometers on a daily basis during construction. Rises in water level shall be reported to the project engineer immediately for evaluation. Following construction, instrumentation monitoring shall be as specified in the documents listed in section (a) above.

(e) The lateral position of the three piezometers to be installed in the western embankment shall be within five feet of the centerline of the embankment. Piezometer spacing and tip elevation shall be as stated in item (2) of section (a) above.

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(f) The licensee shall maintain at least six feet of freeboard between the embankment crest and the operating level of the ponded liquid. In addition, the licensee shall maintain a minimum beach of 150 feet between the ponded liquid and the dam embankments.

(g) The results of all quality control testing, as required in sections (a), (b), and (c) above, as well as any additional stability analyses required by section (c) shall be submitted to the Uranium Recovery Licensing Branch, U. S. Nuclear Regulatory Commission, Washington, D. C. 20555 within six (6) months of completion of construction. Piezometer data obtained during construction at the frequency specified in section (d) shall also be submitted at that time.

Pete J. Garcia Jr.

Peter J. Garcia
Uranium Recovery Licensing Branch
Division of Waste Management

Approved by: John G. Linehan
John J. Linehan, Section Leader

Enclosures:

Appendix A - Geotechnical Review
(1) "Review of Expansion of Atlas Tailings Retention System," by Dr. Terry R. Howard, University of Idaho (via letter dated 7/11/79)
(2) "Review of Expansion of Atlas Tailings Retention System - Addendum No. 1," by Dr. Terry R. Howard, University of Idaho
"Contract Specifications and Drawings for Tailings Embankment Expansion Project, 12-Foot Raise for Atlas Minerals," by Dr. Terry R. Howard, University of Idaho (via letter dated 9/20/79)
(3) Letter from Dr. Terry R. Howard, University of Idaho, to Pete Garcia, USNRC, dated October 3, 1979

Appendix B - Hydrological Review
Memorandum for John Linehan from William S. Bivins, dated October 16, 1979

Appendix C - Seepage Analysis

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