

JAN 11 1974

H. Lowenberg, Assistant Director for Technical Support and
Transportation, L

REQUEST FOR ADDITIONAL HYDROLOGIC ENGINEERING INFORMATION;
DECEMBER 10, 1973 TAR

PLANT NAME: Atlas Uranium Mill

LICENSING STAGE: NEPA Review

DOCKET NUMBER: 40-3453

RESPONSIBLE BRANCH: Technical Support Branch

REQUESTED COMPLETION DATE: December 24, 1973

APPLICANTS RESPONSE DATE NECESSARY FOR

NEXT ACTION PLANNED ON PROJECT: January 23, 1974

DESCRIPTION OF RESPONSE: Answer Questions

REVIEW STATUS: Site Analysis Branch (Hydrologic Engineering) -
Awaiting Information

Enclosed are hydrologic engineering questions on the subject plant,
prepared by L. G. Hulman and E. F. Hawkins, for your transmittal to
the applicant. Much of the information supplied in the applicant's
environmental report and supplement thereto (both dated August 31,
1973) is inadequate, in our opinion, to support conclusions contained
therein, or to allow an independent evaluation to be made of the
areas identified in your TAR.

Original signed by

H. R. Denton

Harold R. Denton, Assistant Director
for Site Safety
Directorate of Licensing

Enclosure:

As stated

cc: See attached page.

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PDR ADOCK 04003453
C PDR

H. Lowenberg

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cc: w/o enclosure
S. Smiley
W. McDonald
J. Panzarella
SS Branch Chiefs

cc: w/enclosure
S. Hanauer
J. Hendrie
R. Chitwood
L. Person
L. Beratan
L. Hulman
W. Gammill

DISTRIBUTION

Docket File 40-3453

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SURNAMES	LGHulman:ab	EFHawkins	WPGammill	HRDenton		
DATES	12/26/73	12/11/73	12/11/73	12/11/73	1/11/74	

HYDROLOGIC ENGINEERING QUESTIONS
ATLAS URANIUM MILL ER
DOCKET NUMBER 50-3453

1. Provide a tabulation of all the ground water level and assay data (data referred to in Appendix A - page 5). Included therein should be location of measurement, date and time of measurements, the elevations at which assay samples were collected, water elevations, and chemical and radiological analyses results.
2. The Dames and Moore Report, your Appendix A, refers to monitor wells. It is not clear, however, whether water level and assay of all the piezometers referenced is continuing, and for what duration. Please explain.
3. On Figure 2, Appendix A, or similar, show the location of the discharge line referred to on page 6 of Appendix A.
4. Provide a description, including sketches, of the discharge facilities of the decant lines. Please explain the purpose of the basin area noted in the southern corner of the tailings pond dike on Figure 2 of Appendix A.
5. Discuss the capability of the embankment to resist erosion from normal operation of the decant facilities, and in the event of a failure of any decant or discharge line. Include a discussion of any maintenance and inspection program of the siltstone cover layer referred to on page 8 of Appendix A.

6. Under the proposed recycling of tailings discharge water referred to on pages 10 and 11 of Appendix A, provide your analysis of the maximum chemical and radiological concentrations that would occur in the tailings pond, in ground water discharge to the Colorado River, and at the closest river intake. Present the bases for your estimates.
7. Provide the bases for your estimate of an average seepage loss of 75 gpm referred to on page 12 of Appendix A, and the bases for the estimate of less than half that rate for the proposed modifications, including the effects of substantially increased water levels. Discuss the sources of your precipitation data and the potential errors in your water balance estimates (page B-3) due to differences in periods used for evaporation and precipitation, and pond discharge. Also, please clarify whether the average monthly intake to the plant (page B-3) includes make-up, and discuss the bases for each parameter used.
8. What provisions will be incorporated to prevent water from being closer than 250 feet of the uppermost dike (pages 12 and 15 of Appendix A)?
9. Your Dames and Moore Report contains several recommendations for modifications of the pond. Is it your intention to incorporate all such recommendations? Please discuss.

10. Your assay of ground water should also include chemical analyses of those constituents involved in your operation, including sanitary wastes. Please provide your program to collect such information, and indicate when you can present preliminary results therefrom to provide a bases for determining effluent concentrations which may reach the Colorado River and/or remain in the ground water.
11. The ion exchange apparently taking place at present may at least partially account for lower downgradient concentrations. However, long-term application of this inherent capability has been known to reach a maximum. With the proposed change in operation that will result in increased concentrations, provide your analyses (including bases) for the long-term ground water concentrations to be expected in the Colorado River, and/or which may remain in the ground water.
12. We cannot agree with your conclusion that floods from Moab Canyon Wash or the Colorado River cannot constitute a threat to the tailings area without further substantiation, including estimates of probable maximum flood discharges for the two streams and your analysis of the channel velocities and velocities on the tailings dike that would occur. Provide the bases for your estimates, including a minimum of two cross sections of each stream and contiguous floodplain, and discuss the ability of

the tailings dike and channel banks to resist such occurrences. Each event on each stream should be considered separately.

13. Your process of daily observing water levels in the tailings pond and, if necessary, adjusting effluent levels appears not to offer adequate assurance that excessively high water levels cannot occur. We will require automatic level control. Please provide your plan for implementing such a requirement, including what provisions you will make for such arrangements with expansion of the tailings pond.