



ENCLOSURE

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20545

SEP 24 1979

Docket No. 40-6659

MEMORANDUM FOR: John Linehan, Leader  
Uranium Recovery Licensing Branch

FROM: William S. Bivins, Leader  
Hydrologic Engineering Section, HMB, DSE

SUBJECT: ADDITIONAL HYDROLOGIC ENGINEERING INPUT PETROTOMICS  
URANIUM MILL

Enclosed is additional hydrologic engineering input prepared by T. L. Johnson, which supplements our hydrologic engineering summary of October 26, 1977, transmitted from L. G. Hulman to L. C. Rouse.

We find the tailings beach and downstream toe ditches to be acceptable, subject to the license conditions stated in the enclosure. In light of recent problems with erosion problems on the upstream embankment slope, we recommend that I&E visit the site to assure that the placement of the tailings beach is progressing satisfactorily.

*William S. Bivins*  
William S. Bivins, Leader  
Hydrologic Engineering Section  
Hydrology-Meteorology Branch  
Division of Site Safety and  
Environmental Analysis

*Inspection by I&E  
is being scheduled  
8/12/30/79*

Enclosure:  
As Stated

cc: w/enclosure  
J. Martin  
D. Muller  
W. Kreger  
R. Jackson  
W. Bivins  
L. Heller  
J. Kane  
P. Garcia  
T. Johnson

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ADDITIONAL HYDROLOGIC ENGINEERING IMPACT  
PETROTOMICS URANIUM MILL  
DOCKET NO. 40-6559

At the time of transmittal of the 1977 summary, we concluded that additional information and redesign would be required for the erosion protection of the upstream dam face. In addition, a design change utilizing downstream toe ditches was recently proposed. We have evaluated both issues. The upstream slope protection, in the form of a tailings beach, has been documented by the licensee. Based on our review of the submitted information, we conclude that the beach as proposed is acceptable to preclude damage to the upstream embankment slope due to severe wind-wave activity. As a license condition, the beach and upstream dam face should be inspected periodically by the licensee.

We also evaluated the capability of the ditches along the downstream dam toe to provide adequate discharge capacity and to resist erosion. Based on our evaluation of the information supplied by the licensee we conclude that the ditches are adequately sized and will not erode significantly during a PMF, due to the short duration of flooding on the small drainage area. It is possible that some minor erosion could occur. To accommodate this, periodic maintenance and repair of damaged portions of the ditches will be needed. As a license condition, the licensee should be required to inspect the ditches for signs of erosion, degradation, and aggradation, and to make the necessary repairs to achieve original design conditions. Any area sustaining unusual erosion should be reported to NRC promptly.