



DCS

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

WMUR:JJL
Docket No. 40-8084

JUL 25 1980

Rio Algom Corporation
ATTN: M. Lawton
La Sal Route
Moab, Utah 84532

Gentlemen:

The purpose of this letter is to formally transmit information given to your consultant, Dames & Moore, by our consultant Mr. J. Nelson, regarding the data and evaluations needed to support your request for a five foot dam raise.

The following points address the minimum needed to demonstrate stability in accordance with NRC Regulatory Guide 3.11.

1. Drill holes are needed to define the present nature of the embankment and foundation soils beneath the embankment. These holes should indicate any soft or weak zones, any zones of relatively high water content or any zones in which seepage may appear to be concentrated. These holes must extend into the foundation material to a depth to which the impoundment may influence the soil or rock.
2. Shear strength must be measured (preferably by triaxial tests) to adequately characterize the shear strength profile of the embankment. At least two, and preferably three, shear strength envelopes must be determined.
3. Piezometers must be located in the embankment to define the location of the existing phreatic surface. The rise in phreatic surface due to raising the pool should then be predicted.
4. Slope stability analyses should be conducted to demonstrate adequate stability in accordance with Regulatory Guide 3.11.

In addition, hydrologic computations as specified in Regulatory Guide 3.11 (Sections B.2.1, C.1.d&e and C.2.a) must demonstrate the adequacy of the raised embankment to handle the Probable Maximum Flood (PMF) series, including considerations of flood routing. Because the Barium Chloride pond embankment above the tailings impoundment has not been

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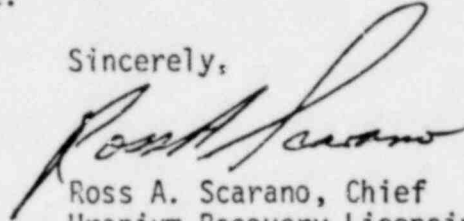
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subjected to a Regulatory Guide 3.11 review, the ability for that structure to manage the PMF series and the effect of a failure of that structure on the flood routing around the raised embankment must also be considered. If your analysis includes a spillway to the lower pond, then a stability analysis for the lower pond would also have to be provided.

As discussed in telephone conversations Mr. Linehan of my staff had with your Mr. Lawton and Mr. Boddy of Dames & Moore, the hydrologic computations on the PMF series do not need to be submitted prior to our making a final decision on your five foot dam raise. However, these computations, along with a proposed plan to handle the PMF series, if your present design proves inadequate, must be submitted no later than September 22, 1980. In the interim, the information you submit in support of the five foot dam raise should use the 100 year storm for hydrologic computations.

If you have any questions on the above matters, please contact Mr. Linehan as soon as possible.

Sincerely,



Ross A. Scarano, Chief
Uranium Recovery Licensing Branch
Division of Waste Management

cc: J. Nelson, CSU
J. Boddy, D&M